CITY OF BURLINGTON
DEPARTMENT OF PUBLIC WORKS

645 Pine Street, Suite A
Post Office Box 849
Burlington, VT 05402-0849
802.863.9094 VOICE
802.863.0466 FAX
802.863.0450 TTY
www.burlingtonvt.gov/dpw

Chapin Spencer
DIRECTOR OF PUBLIC WORKS

M E M O R A N D U M

To: Hannah Cormier, Clerks Office
From: Chapin Spencer, Director
Date: September 15, 2016
Re: Public Works Commission Agenda

Please find information below regarding the next Commission Meeting.

Date: **September 21, 2016**
Time: 6:30 – 9:00 p.m.
Place: **645 Pine St – Main Conference Room**

A G E N D A

		ITEM
1		Call to Order – Welcome – Chair Comments
2		Agenda
3	10 Min	Public Forum
4	5 Min	Consent Agenda

- A Traffic Request Program Status Report
- B Parking Restriction on South Crest Dr
- C Additional Parking on High Grove Court
- D Bus Stop Removal at Pine St & Bank St
- E Parking Restriction @ midblock crosswalk on Mansfield Ave
- F Installing Metered Parking on Pearl St
- G Request to Add Loading Zone on Marble Ave

Non-Discrimination
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5 10 Min Driveway Encroachment Ordinance
- A Communication, D. Roy
- B Commissioner Discussion
- C Public Comment
- D Action Requested –Decision

6 15 Min Parking Removal on Starr Farm Rd
- A Communication, D. Roy
- B Commissioner Discussion
- C Public Comment
- D Action Requested –Decision

7 15 Min Request to Modify Resident Only Parking on South Prospect St
- A Communication, D. Roy
- B Commissioner Discussion
- C Public Comment
- D Action Requested –Decision

8 60 Min Introduction to PlanBVT Walk Bike
- A Presentation, N. Losch
- B Commissioner Discussion
- C Public Comment
- D Action Requested – None

9 30 Min 10 Year Capital Plan
- A Communication, C. Spencer
- B Commissioner Discussion
- C Public Comment
- D Action Requested – Vote on Supporting Plan

10 5 Min Draft Minutes of 7-20-16

11 10 Min Director's Report

12 10 Min Commissioner Communications

13 **Adjournment & Next Meeting Date – October 19, 2016**

CITY OF BURLINGTON
DEPARTMENT OF PUBLIC WORKS

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802.863.0466 FAX
802.863.0450 TTY
www.burlingtonvt.gov/dpw

Chapin Spencer
DIRECTOR OF PUBLIC WORKS

M E M O R A N D U M

TO: PUBLIC WORKS COMMISSION
FM: CHAPIN SPENCER, DIRECTOR
DATE: SEPTEMBER 15, 2016
RE: PUBLIC WORKS COMMISSION MEETING

Enclosed is the following information for the meeting on September 21, 2016 at 6:30 PM at **645 Pine St – Main Conference Room**

1. Agenda
2. Consent Agenda
3. Driveway Encroachment Ordinance
4. Parking Removal on Starr Farm Rd
5. Request to Modify Resident only Parking on South Prospect St
6. 10 Year Capital Plan
7. Draft Minutes of 7-20-16

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Chapin Spencer
DIRECTOR OF PUBLIC WORKS

M E M O R A N D U M

To: Hannah Cormier, Clerks Office
From: Chapin Spencer, Director
Date: September 15, 2016
Re: Public Works Commission Agenda

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- D Action Requested – None

9 30 Min 10 Year Capital Plan
- A Communication, C. Spencer
- B Commissioner Discussion
- C Public Comment
- D Action Requested – Vote on Supporting Plan

10 5 Min Draft Minutes of 7-20-16

11 10 Min Director's Report

12 10 Min Commissioner Communications

13 **Adjournment & Next Meeting Date – October 19, 2016**

MEMORANDUM

September 15, 2016

TO: Public Works Commission

FROM: Damian Roy, DPW Engineering Technician

CC: Norman Baldwin, City Engineer
Dave Allerton, Public Works Engineer

RE: Traffic Request Status Report

New Requests since 7/13/16 =	10
Requests closed since 7/13/16 =	5

RFS BREAKDOWN BY TYPE*

Accessible Space:	0	
Resident Only Parking:	14	
Crosswalks:	15	
Driveway Encroachments:	19	(to be reduced with the adoption of the new Driveway Encroachment Policy)
Signage:	14	
Loading Zone:	5	
Area/Intersection Study:	4	
Parking Prohibition:	10	
Bus Stop:	0	
Geometric Issues:	6	
Parking Meters:	3	
Other:	0	
TOTAL:	90	

9/15/16

MEMORANDUM

September 6, 2016

TO: Public Works Commission

FROM: Damian Roy, DPW Engineer Technician

CC: Norman Baldwin, City Engineer

RE: Request to increase line of sight on South Crest Drive

Background:

The Department of Public Works received a request from South Crest Drive resident Stephen Yorke to evaluate sight lines on the southern end of the street where it bends roughly 45 degrees. Unrestricted parking is currently allowed on both sides of the street creating a narrow travel lane. This narrow travel lane combined with the bend in the road and parked cars blocking sightlines around the bend creates a challenging geometry that many residents of S. Crest Drive feel to be unsafe.

Observations:

South Crest Drive is 30-foot-wide low volume residential street with unrestricted parking on both sides, this road width when reduced by parking can potentially create a 14-foot travel lane for both directions of travel. The city's standard minimum travel lane width for one direction of travel is 9 feet. Most homes are single family with off-street parking available. For the majority of the street, on-street parking is sparse and manageable with the narrowed travel lanes seldom causing issue. The exception to this sparse parking is on the southern end of the street at the Pine Street intersection extending westward up to and often past a 45-degree bend in the road. Here there is daily parking on both sides of the road creating the narrow travel lanes and a near blind spot when approaching the bend. According to both S. Crest residents and the nearby Howard Center located on the opposite side of Pine, the majority of these parked cars are Howard Center employees.

Staff has determined that when on-street parking is full at the bend in the road, vehicles traveling in opposite directions have a maximum possible sight distance of 56 feet, see the

NB 9/9/16

attached existing conditions drawing. By comparison, if 4 on-street parking spaces on the north side of the street were removed centered at the bend then this maximum sight distance would increase to 132 feet, see the attached proposed conditions drawing.

Public outreach has shown that most residents agree that this bend in the road is dangerous and most were happy to learn that the city was looking at restricting parking to increase sightlines. Only one resident spoke out in opposition to the proposed parking restriction stating that the narrowed travel lane and short sightlines had a traffic calming effect. Others expressed concern over the Howard Center's future parking needs as they relate to the completion of the Champlain Parkway fearing that more Howard Center employees will park further into their neighborhood after they lose their overflow parking on the uncompleted parkway. See attached emails.

Conclusions:

At 30 feet wide, South Crest Drive is technically too narrow to allow parking on both sides of the street. This has not caused issue for most South Crest residents as on-street parking is typically sparse and staggered avoiding direct lane-width related conflicts. At the southern end of the street, overflow parking by Howard Center employees create a narrowed travel lane and a blind corner at the 45-degree bend. The narrow travel lane is perceived as manageable by most residents due to relatively low traffic volumes and slow speeds. Staff anticipates that increasing sightlines at the bend in the road will sufficiently increase safety for motorists.

Staff recommends restricting parking at the bend in the road by 40 feet in both directions to increase sightlines. Staff does not recommend restricting parking on one side of the street.

Recommendations:

Staff recommends that the Commission:

- Restrict 40 feet of parking centered at the 45-degree bend on South Crest Drive just west of the South Crest Drive and Pine Street intersection.

North

Request to increase sight lines on South Crest Drive

Existing Conditions

BURLINGTON, VT

BURLINGTON PUBLIC WORKS ENGINEERING DIV.

645 PINE STREET
BURLINGTON, VT 05401
(802) 863-9094

DESIGNED DRR	RFS NO. 5015
DRAWN DRR	SCALE 1"=30'
CHECKED –	DRAWING NO.
DATE	

North

Request to increase sight lines on South Crest Drive

Proposed Conditions

BURLINGTON, VT

BURLINGTON PUBLIC WORKS ENGINEERING DIV.

645 PINE STREET
BURLINGTON, VT 05401
(802) 863-9094

DESIGNED DRR	RFS NO. 5015
DRAWN DRR	SCALE 1"=30'
CHECKED --	DRAWING NO.
DATE	

Requests for Service (/Main.aspx)

#5015 Assigned

New

Technical Services

Traffic Requests

Location: So Crest Dr & Pine St

Per today"s e-mail: I live on Southcrest drive near the corner of pine st, and there is a dangerous intersection that needs attention. The parking allowed on both sides of the street and creates a one car width driving area around a blind corner, I have almost crashed, my roommates have almost crashed there cars and I have also witnesses many near misses. One side of the street needs to be off limits to parking in order to dissipate the danger of this corner.
I acknowledged receipt of e-mail.

Attachments

No Attachments

Browse...

Upload Attachment

Assigned to: Damian Roy

Requested by: Stephen Yorke

Opened: 8/20/2014

Entered By: Helen Plumley

Due: 9/19/2014

Work History

Add Work History

Date	Staff Person	Description
08/26/2014	Colin Brett	staff visited the site to examine existing conditions Details

Dear South Crest Drive Residents

The Department of Public Works (DPW) has received a request from a South Crest resident to improve driver's line-of-sight on South Crest at the first bend in the road just west of the South Crest and Pine Street intersection. The resident states that when vehicles park along the north side of the street a blind corner is created at this bend.

DPW is evaluating the installation of "No Parking Any Time" signs at this bend to help improve driver's line-of-sight. Staff estimates this would remove four on-street parking spaces along the north side.

As part of our evaluation process we are engaging residents of South Crest to gauge whether there might be any issues with eliminating this parking. If you would like to offer any comments regarding this reques please contact me by Monday August 29th.

Thank you!

Damian Roy, Engineering Technician
Burlington Public Works Department
645 Pine St. Burlington VT 05401
Desk: 802.865.5832
Cell: 802.598.8356
Email: droy@burlingtonvt.gov
Web: www.burlingtonvt.gov/dpw

Damian Roy

From: Stephen Yorke <stephen.b.yorke@gmail.com>
Sent: Thursday, August 18, 2016 3:45 PM
To: Damian Roy
Subject: Re: South Crest Drive Sightlines

Damian,

The section of Southcrest Dr that this occurs on is the turn in the road from west to north when entering from Pine st a couple hundred feet from the Pine-Southcrest intersection. during the workweek from 8-5 Howard Center employees park on this turn and it creates a dangerous situation as when cars are on both sides there is only room for one car and you cannot see cars coming in the opposite direction. Everyone who comes over to my house, that I love with any many neighbors have discussed this and agree.
Thank you for responding,
Stephen Yorke

On Thursday, August 18, 2016, Damian Roy <droy@burlingtonvt.gov> wrote:

Hi Stephen,

My name is Damian and I manage the Traffic Request Program for the Department of Public Works. You made a request on August 20, 2014 to evaluate an intersection on South Crest stating parking creates a blind corner. I'd like to get more information regarding this request:

1. What is the exact location where the issue occurs? (Not sure if you were referring to the intersection of South Crest and Pine or the jog further west on South Crest.)

2. How often does this issue occur and at what times of day/week?

3. Have you heard any other residents speak of the same issue?

Even if you don't have these answers any help you could offer is appreciated.

Thank you,

Damian

Damian Roy, Engineering Technician

Burlington Public Works Department

645 Pine St. Burlington VT 05401

Desk: 802.865.5832

Cell: 802.598.8356

Email: droy@burlingtonvt.gov

Web: www.burlingtonvt.gov/dpw

Damian Roy

From: Eugenie Delaney <eugenie.delaney@icloud.com>
Sent: Monday, August 22, 2016 7:55 PM
To: Damian Roy
Subject: South Crest Drive Parking

Hi Damian,

I am so happy to hear that the city will remove parking on the south end of South Crest Drive.

I strongly feel that there should be NO PARKING ON **BOTH** SIDES OF THE STREET from the bend on the south end of South Crest to Pine Street.

There are no homes that need parking on the end of the block and it is VERY DANGEROUS. I have dodged other oncoming vehicles more times than I can count because of poor visibility and with parking on both sides is barely one lane. One time I barely averted a head-on collision. There is plenty of parking for the Howard Center at end of Pine Street and we should not be in DANGER because people block our street.

I thank you for taking the time to get my opinion.

Yours sincerely,

Eugenie Delaney
79 South Crest Drive
Burlington, VT 05401

802-777-2917
eugenie.delaney@icloud.com

Damian Roy

From: Melinda Rouille <melindarouille@gmail.com>
Sent: Monday, August 22, 2016 8:20 PM
To: Damian Roy
Subject: South Crest Drive Parking

Hello Damian,
I can say that the situation on South Crest Drive can be dangerous. When they have the frequent meetings at the Howard Center, it makes it so only one car can get through, it is very dangerous as there are actually two blind curves there, not just one. The plows cannot get through in the winter nor can many other vehicles. If you really want to sol the problem, the section from Pine street up to the curve should be "no parking" and towed at owners expense. I hav had to back up beyond the first curve 2X in the past, b/c cars were coming off Pine Street and there was no other choi but for me to back up. Very dangerous for those turning off from Pine Street. as they may not be able to move out of the way of oncoming traffic if South Crest Drive has a jam, which has happened, and it will only get worse when the Ci Market opens because of the increase in traffic that is already problematic. This is a problem due to Howard Center employees parking there, and I have been told that they are aware of the hazardous parking and risk to others safety. Hopefully, there is a solution that solves it completely, not partially.
Thanks, from property tax payers on South Crest Drive.
Melinda Rouille
John Rouille

Damian Roy

From: Brendan Bush <brendan@brendanbush.com>
Sent: Monday, August 22, 2016 8:48 PM
To: Damian Roy
Subject: South Crest Dr parking

Hi Damian,

We are fully in favor of marking the first bend in the road just west of Pine and South Crest intersection. For what it's worth, the big bend on the Home Ave side of the street is even more dangerous, and often has a big box truck parked there. It's right in front of the big green house that just underwent major siding/insulation/window construction.

Feel free to reach out with any questions, etc.

Brendan Bush & Rachel Moss
84 South Crest Dr.

Damian Roy

From: Tony Shaw <tony@shawrealestatevt.com>
Sent: Tuesday, August 23, 2016 9:32 AM
To: Damian Roy
Subject: North end of South Crest Dr.

Hi Damian,

Thanks for addressing the issue of parking on the south end of South Crest Drive.

I strongly feel that there should be NO PARKING ON **BOTH** SIDES OF THE STREET from the bend on the south end of South Crest to Pine Street, I don't believe any residents of our street use that last leg after the ben to park.

I encountered a driver that nearly sent me and my motorcycle into a neighbors yard right at the bend heading south, the driver never stopped and I was left to collect myself at a complete emergency stand-still. Further - commuters race up and down our street at 8:00 and 5:00 to avoid the wait at Pine & Home, hitting 40-45 mph makes me furious.

I thank you for taking the time to get my opinion.

Thanks much,

Tony Shaw
ShawRealEstateVT
802.343.7226
tony@shawrealestatevt.com

Your referral is the highest compliment I can receive.
Please share my contact information with friends or associates who need a Real Estate agent.

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Damian Roy

From: Sandy McGuire <SandyM@howardcenter.org>
Sent: Friday, August 26, 2016 2:44 PM
To: Damian Roy
Subject: South Crest Comments

Dear Damian,

I am writing on behalf of Howard Center in response to the notification to South Crest residents regarding safety concerns on South Crest Drive at the first bend in the road when traveling West to East from the Pine Street intersection. We are in agreement that there is potential for a "blind corner" on that bend related to cars parked on t North side of South Crest. In our assessment, the issue is cars parked right on the bend (two cars lengths as opposed the suggest four) and is limited to cars parked on the bend as opposed to cars parked on the North side of South Cres Drive closer to Pine Street or further on South Crest.

Thank you for soliciting feedback and please let me know if we can be of assistance.

Regards,

Sandy

Sandra McGuire
Chief Financial & Operations Officer • Howard Center Inc.

Office: 802-488-6900 • Fax: 802-488-6901
208 Flynn Avenue Suite 3J • Burlington, VT 05401
www.howardcenter.org

HOWARD CENTER
Help is here.

HowardCenter.org

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Damian Roy

From: Shawn Nolan <snolanrealtor@aol.com>
Sent: Sunday, August 28, 2016 2:25 PM
To: Damian Roy
Subject: South Crest Dr. Parking, etc.

Hi Damian,

Just a brief note after our telephone conversation last week concerning the dangerous parking at the Pine St. end of c street. As you may recall, allowing the Howard Center workers to park where they have been (both sides of street), creates a dangerous bottleneck in that area that has been a constant issue for me. Only one car can get through at a time, and when cars come barreling through the neighborhood I have been nearly hit more than once while driving between the 2 parked cars.
But FAR more important to me is the fact that even now, Howard Center employees are parking further and further ir South Crest, and when they lose their parking due to the Champlain parkway being built, our neighborhood will becor nothing more than a parking lot for them. This neighborhood will be forever transformed to the detriment of all who reside on the street. Even now, we have become a thoroughfare during peak commute hours with speeding cars com through, both ways, to avoid the Home Ave./ Pine St. intersection.
It is my wish that South Crest Dr. parking be limited to residents and their guests, as we are rapidly losing our sense o safety and community which we once had.

Thank You,

Shawn

Shawn Nolan
46 Southcrest Dr.
802-363-0399

Phone Calls for RFS# 5015, Parking removal on South Crest 8/22/16

- Robert Gutherie, 238-6586, 70 S. Crest, called on 8/22 to say that he believes the parking on the north side of the street at the first bend west of Pine Street should remain as it serves to calm traffic speeds.

- William Westenbaker, 999-0051, 109 S. Crest, called on 8/23 to say that he supports restricting parking around the southern bend in the road and that parking on that end of the street can be dangerous to navigate due to narrow lanes.

- Sean Nolan, 363-0399, 46 S. Crest, call on 8/23 to say that the roadway is too narrow at the south end of the street due to overflow parking from the Howard Center. He fears that with the Champlain Parkway completion the Howard Center will lose its overflow parking on the existing abandoned road and with encroach even more onto South Crest.

MEMORANDUM

September 14, 2016

TO: Public Works Commission

FROM: Damian Roy, DPW Engineer Technician

CC: Norm Baldwin, City Engineer

RE: Additional Parking on High Grove Court

Background:

The Department of Public Works received a request from resident Richard Hillyard of High Grove Court to install two additional parking spaces on High Grove Court. This request was originally received in May of 2013. In October of 2013 the High Grove Court Association voted to not make any changes to parking. After that time, Mr. Hillyard who is the Association's Treasurer contacted DPW to reinstate the original request on behalf of the Association.

Observations:

- Street Characteristics: High Grove Court is a 25-foot-wide low volume residential dead end street with 4 unrestricted on-street parking spaces on the west side. This parking is used by visitors and overflow-of-convenience for residents.

- Public Outreach: Staff distributed flyers to the residents of High Grove to gauge whether installing more parking spaces along the west side of the street would be problematic for anyone. Staff received no negative feedback and one positive response from Mr. Hillyard who was appreciative of staff evaluation of their request.

Conclusions:

Given that High Grove Court is a low volume dead end street and that parking already exists along the west side, staff is not concerned with the additional parking creating a narrowed roadway. Staff sees no reason not to support Mr. Hillyard's request and has determined that three additional spaces can be accommodated on the west side of the street. Staff also recommends that these parking spaces be shifted south to end at the mailboxes on the southern

end and end 14 feet from the sidewalk at the northern end. This will improve sightlines for pedestrians exiting the sidewalk at the southern end of the cul-de-sac. See the attached drawings for clarification.

Recommendations:

Staff recommends that the Commission:

- Extend unrestricted parking on the west side of High Grove Court beginning 14 feet south of the sidewalk curb cut at the cul-de-sac and extending 140 feet southward.

North

Additional Parking on
High Grove Court

Proposed Conditions

BURLINGTON, VT

BURLINGTON PUBLIC WORKS ENGINEERING DIV.

645 PINE STREET
BURLINGTON, VT 05401
(802) 863-9094

DESIGNED DRR	RFS NO. 1452
DRAWN DRR	SCALE NTS
CHECKED NJB	DRAWING NO.
DATE	

North

Additional Parking on High Grove Court

Existing Conditions

BURLINGTON, VT

BURLINGTON PUBLIC WORKS ENGINEERING DIV.

645 PINE STREET
BURLINGTON, VT 05401
(802) 863-9094

DESIGNED DRR	RFS NO. 1452
DRAWN DRR	SCALE NTS
CHECKED NJB	DRAWING NO.
DATE	

Requests for Service (/Main.aspx)

#1452 Assigned

New

Technical Services

Traffic Requests

Location: High Grove Court

Per an email from Richard:
There is room on High Grove Court to add two public parking spaces to the four sanctioned by DPW way back in the late nineties.
At the time the reason for High Grove Court residents only wanting four spots was because of student renters slamming doors and making a racket in the early hours. Since then, most of both parts (High Grove I and High Grove II) of the development are inhabited by owner-occupiers and we"d like to make slight changes to the configuration.
~Current situation: Four parking spaces along the west side of the street, from the curb-cut at the island south towards North Street.
~Proposed: Move the parking sign about six feet south, away from the curb-cut, to offer more visibility (for young children especially on bikes and scooters) and less likelihood of blocking the curb-cut. Extend the space available for public parking by about 12 / 15 yards south towards North Street.
Public parking on the street is predominantly used by visitors, overflow-of-convenience for residents, and often during the day by UVM students and FAHC employees (neither of which is an issue).
There is no desire for resident-only parking.

Attachments

No Attachments

Browse...

Upload Attachment

Assigned to: Damian Roy

Requested by: Richard Hillyard

Opened: 5/14/2013 12:45:10 PM

Entered By: Nicole Losch

Due: 6/13/2013

Work History

Add Work History

Date	Staff Person	Description
04/10/2014	Joel Fleming	Request Status Changed from Closed to New Details
04/10/2014	Joel Fleming	Resident has asked to open this request back up. I will start working on this request in the coming months. Details
10/07/2013	Valerie Ducharme	Complete Details
10/01/2013	Joel Fleming	Staff recieved a email from the residents of the street and they have talked about it and do not want to make any changes to the parking on High Grove Court Details
09/02/2013	Joel Fleming	Staff sent letter out to the effected residents on high grove court. Staff is excepting responses until september 20th. Details

Dear High Grove Court Residents,

The Burlington Department of Public Works (DPW) received a request to increase the amount of available on-street parking on High Grove Court. The request specifies shifting the parking to start several feet further south of the cul-de-sac away from the sidewalk ramp for increased sightlines and safety when exiting the sidewalk and then to extend the parking south to increase the amount of available spaces.

Currently there is 80 feet of parking allowed on the west side of the street, Staff estimate that can be increased to 140 feet and still allow a 10 foot buffer between the parking and the sidewalk ramp on the northern end. This would put the southern end of the parking ending about 4 feet north of the mailboxes.

As part of our evaluation process we would like to open a dialogue with High Court residents. If you have any concerns or questions please contact me by Friday September 9th.

Thank you!

Damian Roy, Engineering Technician

Burlington Public Works Department

645 Pine St. Burlington VT 05401

Desk: 802.865.5832

Cell: 802.598.8356

Email: droy@burlingtonvt.gov

MEMORANDUM

September 15, 2016

TO: Public Works Commission

FROM: Damian Roy, DPW Engineer Technician

CC: Norm Baldwin, City Engineer

RE: Bus Stop Removal and Meter Installation on Pine St.

Background:

The Department of Public Works (DPW) Staff has received a request from Pat Cashman, Director of the DPW Traffic Division, to remove the existing bus stop on the west side of Pine Street just south of Bank Street and to install Smart Meters in its stead once the new Transit Center on St. Paul Street is completed.

Observations:

- *Street Characteristics:* This section of Pine Street is a 43-foot-wide mixed-use collector roadway with on-street smart metered parking on both sides.
- *Public Outreach:* Staff contacted the GMTA Director of Operations Jon Moore who indicated that this bus stop is used as a break area for bus drivers and that the space will no longer be needed after the completion of the new Transit Center on St. Paul Street.

Conclusions:

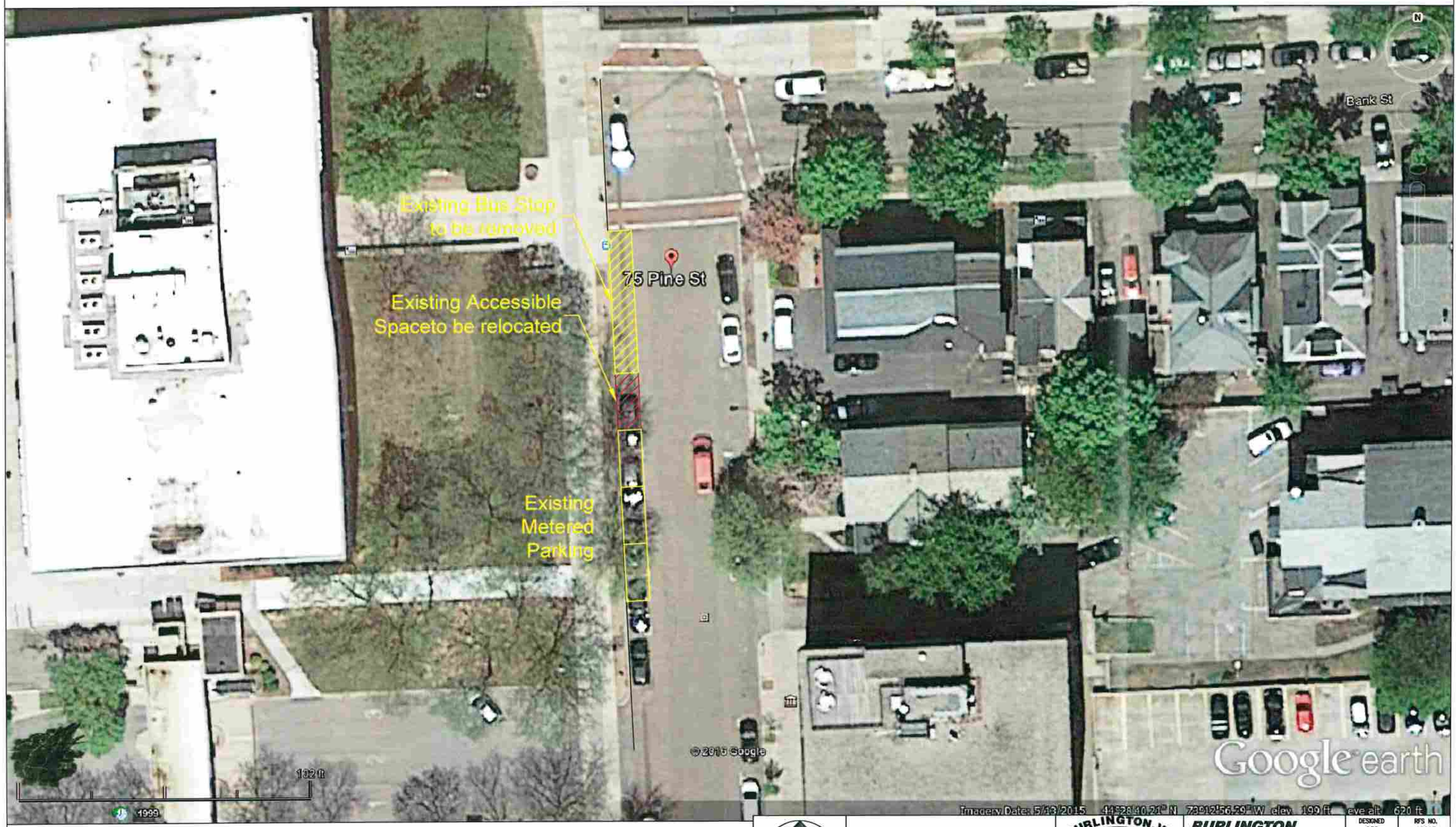
Given that GMTA is the sole user of this bus stop and that they will no longer have need for this space after the completion of the Transit Center, staff recommends removing this bus stop and installing metered parking consistent with the metered spaces in this area. The accessible space that is located immediately south of the existing bus stop should be relocated to the first space south of the crosswalk so that it is as close to the curb cut as possible. The ten feet of space between this accessible space and the crosswalk will accommodate a rear-deployed ramp as per PROWAG standards.

Recommendations:

Staff recommends that the Commission:

- Remove the bus stop, relocate the existing accessible space, and install 2 smart metered parking spaces as indicted on the attached drawing.

NB 9/15/16



North

Bus Stop Removalon Pine St.

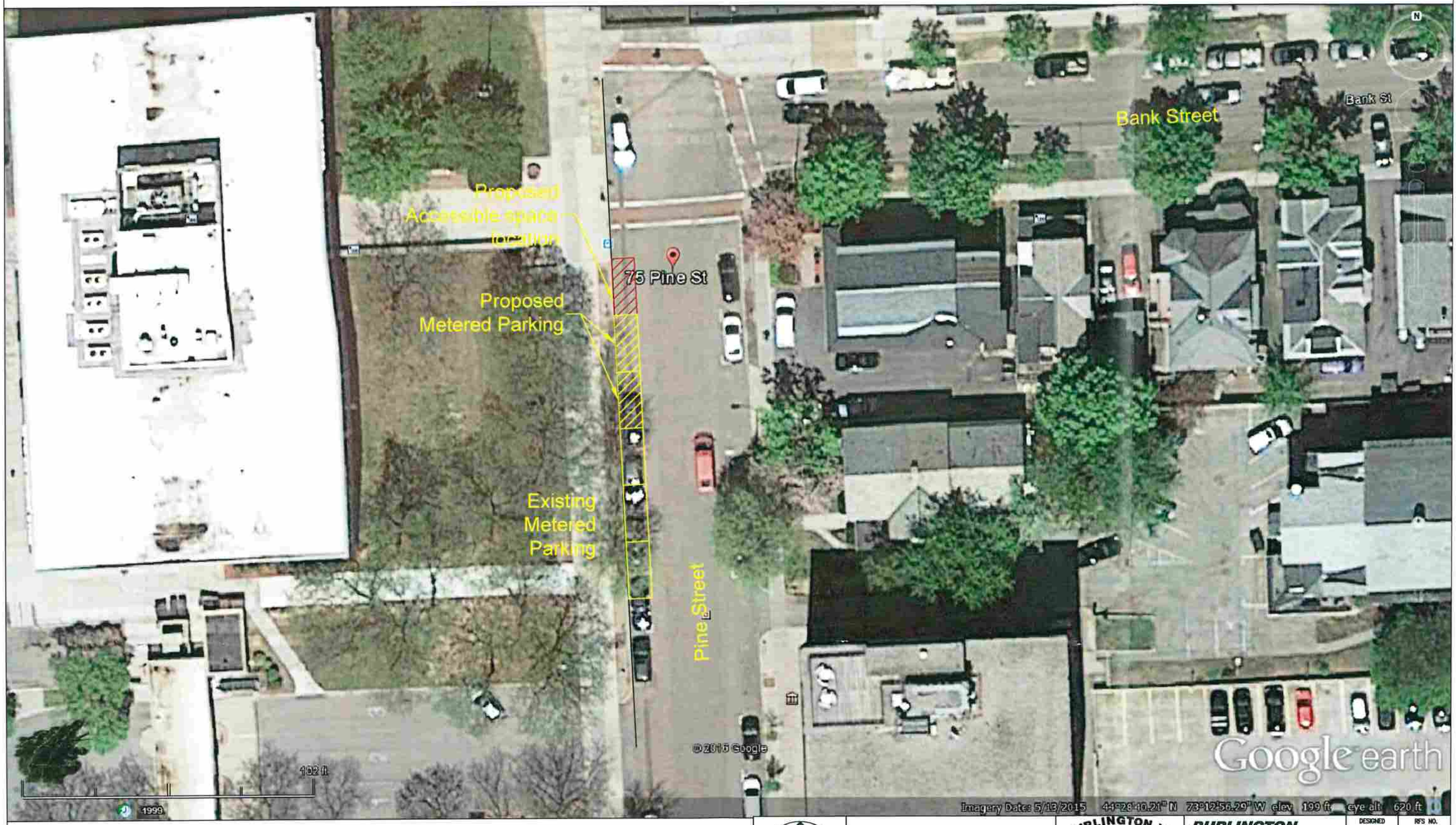
Existing Conditions

BURLINGTON, VT PUBLIC WORKS

BURLINGTON PUBLIC WORKS ENGINEERING DIV.

645 PINE STREET
BURLINGTON, VT 05401
(802) 863-9094

DESIGNED DRR	RFS NO. 12013
DRAWN DRR	SCALE NTS
CHECKED NJB	DRAWING NO.
DATE	



North

Bus Stop Removal on Pine St.

Proposed Conditions

BURLINGTON, VT

BURLINGTON PUBLIC WORKS ENGINEERING DIV.

645 PINE STREET
BURLINGTON, VT 05401
(802) 863-9094

DESIGNED DRR	RFS NO. 12013
DRAWN DRR	SCALE NTS
CHECKED NJB	DRAWING NO.
DATE	

Requests for Service (/Main.aspx)

#12013 Assigned

New

Technical Services

DPW Projects

Location: 75-83 Pine St

Request planning and ordinance support to revert bus break position to metered parking

Attachments

No Attachments

Browse...

Upload Attachment

Assigned to: Damian Roy

Requested by: Patrick Cashman

Opened: 7/14/2016

Entered By: Pat Cashman

Due: 9/30/2016

Work History

Add Work History

No Work History

Damian Roy

From:	Jon Moore <jmoore@ridegmt.com>
Sent:	Friday, August 19, 2016 9:30 AM
To:	Damian Roy
Cc:	Jon Moore
Subject:	Re: Bus Stop @ Pine/Bank

We currently use that stop for driver lunch parking but won't need it once the DTC is open.

Thanks,

Jon Moore
Director of Operations
Green Mountain Transit (GMT)
802-540-2445 (Direct Line)
802-864-2282 (GMT Main Office)

Please note my new email address

On Fri, Aug 19, 2016 at 9:03 AM, Damian Roy <droy@burlingtonvt.gov> wrote:

Morning Jon,

My pleasure on the speed sign. Don't hesitate to shoot those things my way.

Question for you, is CCTA actively using the bus stop on the west side of Pine at the corner of Pine and Bank? If not would you happen to know if any other carriers are?

Thanks!

Damian Roy, Engineering Technician

Burlington Public Works Department

645 Pine St. Burlington VT 05401

Desk: 802.865.5832

Cell: 802.598.8356

Damian Roy

From: richard hillyard <pompeyhccc@hotmail.com>
Sent: Wednesday, September 07, 2016 3:34 PM
To: Damian Roy
Subject: High Grove Court Parking

Hello Damian,

Thanks for your leaflet.
I made the initial request of Nicole and Joel Fleming on behalf of the Board of the High Grove II Condominiu Association, but was later asked to withdraw it.

We then reinstated it, but Joel apparently left.

Our goal is to free up some space on the West side of High Grove Court for additional parking, at least two spaces, more if engineering studies cause more spaces to be recommended.

I don't have anything more to add to your "project" explanation, other than to suggest that a stripe be adde to the north end of whatever parking space you finally advocate - that'll influence "parkers" to keep away from the sidewalk curb-cut which is used by cycling and running children.

I am available at 651-0725 if I can be of further help, but can say unequivocally that the Board representing the seven property owners of High Grove II wholeheartedly support additional parking, and thank you very much for your note.

Richard Hillyard
Treasurer, High Grove II Condominium Association
43 High Grove Court
651-0725

MEMORANDUM

August 8, 2016

TO: Public Works Commission

FROM: Damian Roy, DPW Engineer Technician

CC: Norman Baldwin, City Engineer
Dave Allerton, Public Works Engineer

RE: Mansfield Ave Parking Removal around Crosswalk

Background:

In October 2015 staff evaluated a request to install 3-way stop control at the intersection of Mansfield Avenue and Loomis Street causing all traffic to stop. During staff's evaluation the Mansfield Avenue corridor was determined to have some deficiencies in regards to signage and sightlines pertaining to the midblock crosswalk that provides direct crossing access to Mater Christi School.

Observations:

On street parking is available on the west side of Mansfield Avenue with vehicles routinely parking right up to the crosswalk paint. This practice limits sightlines between pedestrians in the crosswalk and motorists. To alleviate this condition, staff employs the general practice of prohibiting parking 20 feet from crosswalks when evaluating sightlines.

Conclusions:

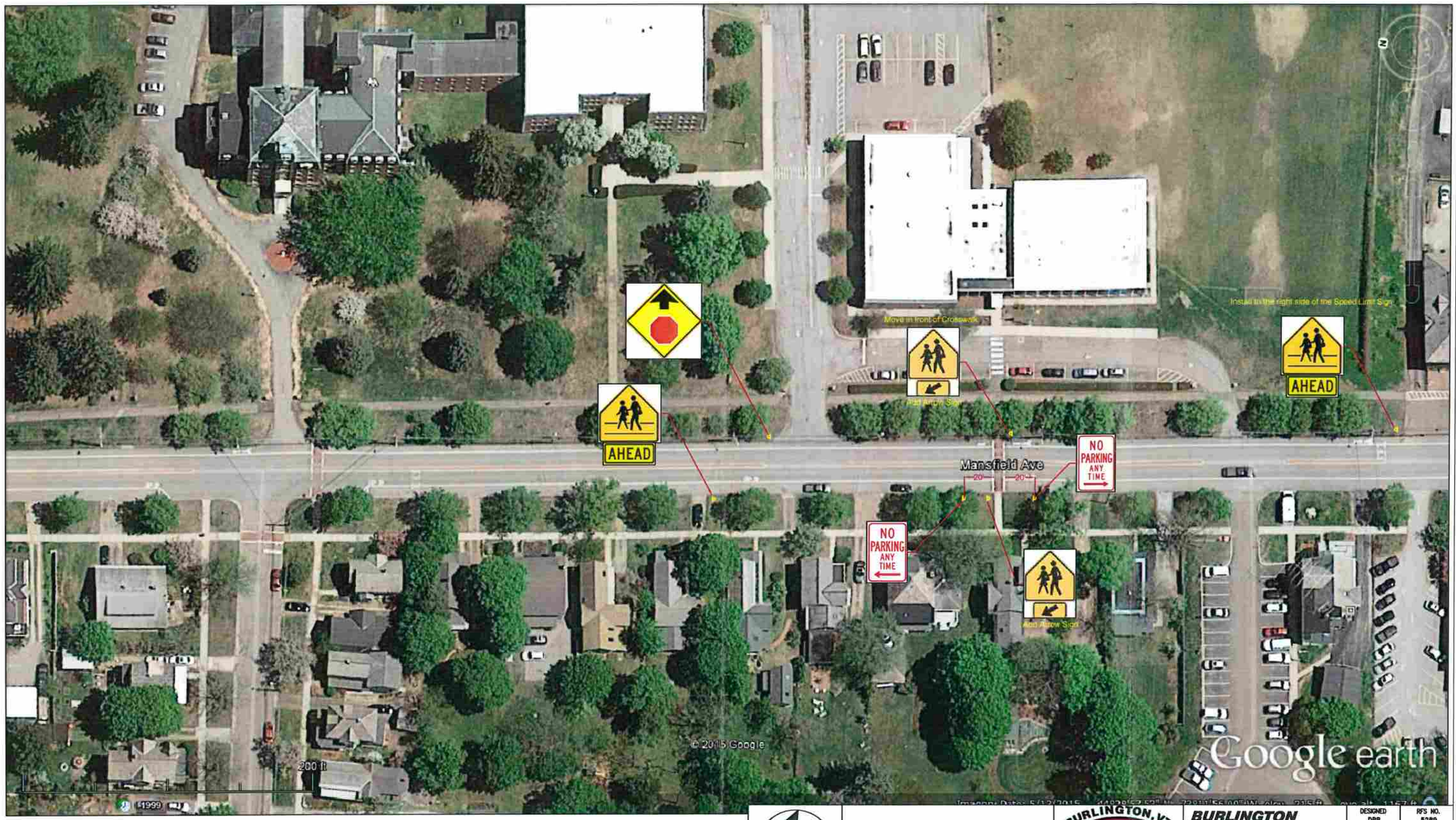
During the 3-Way Stop Control request in October, it was shown that one of the primary reasons for installing stop control was to provide safer crosswalks along Mansfield Avenue especially for school-age pedestrians. In concert with this, prohibiting parking around the midblock crosswalk at Mater Christi School will improve safety for school-age pedestrians and is a standard practice in the city. See the attached drawing showing the parking prohibition along with improved signage for the midblock crosswalk.

NB 9/9/16

Recommendations:

Staff recommends that the Commission adopt:

- No parking on the west side of Mansfield Avenue for 20 feet north and south of the midblock crosswalk at Mater Christi School.



North

Mansfield Avenue Signage

Proposed Conditions

BURLINGTON, VT

BURLINGTON PUBLIC WORKS ENGINEERING DIV.

645 PINE STREET
BURLINGTON, VT 05401
(802) 863-9094

DESIGNED DRR	RFS NO. 5289
DRAWN DRR	SCALE NTS
CHECKED NJB	DRAWING NO.
DATE	

Dear Mansfield Avenue Residents,

The Department of Public Works (DPW) has received a request from a resident to restrict parking around the midblock crosswalk across from Mater Christi School. DPW would restrict parking 20 feet to the north and south of the crosswalk, this would be done to increase sight lines between pedestrians and motorists increasing safety for those using th crosswalk.

As part of our evaluation process we are engaging residents of Mansfield Ave between Loomis Street and Colchester Ave to gauge whether there might be any issues with this parking restriction. If you would like to offer any comments regarding this request please contact me by Friday August 26th.

Thank you!

Damian Roy, Engineering Technician

Burlington Public Works Department

645 Pine St. Burlington VT 05401

Desk: 802.865.5832

Cell: 802.563.5353

Email: droy@burlingtonvt.gov

Web: www.burlingtonvt.gov/dpw

Damian Roy

From: Rob Chandler <rhc8@hotmail.com>
Sent: Friday, August 19, 2016 11:59 AM
To: Damian Roy
Subject: Proposed Parking Restriction on Mansfield Avenue

Dear Mr. Roy,

I live on Mansfield Avenue with my family, and we frequently use the midblock crosswalk that leads to Mater Christi. agree that restricting parking around the crosswalk would better ensure pedestrian safety by improving the sightlines between drivers and pedestrians. As such, I fully support the proposal.

Please let me know if you have any questions or would like any additional information. Thanks.

Rob Chandler
87 Mansfield Avenue

Damian Roy

From: Andy Raubvogel <araubvogel@dunkielsaunders.com>
Sent: Wednesday, August 24, 2016 11:27 PM
To: Damian Roy
Cc: Nancy Kaplan
Subject: Evaluation of proposed Mansfield Ave parking restriction near crosswalk

Damian,

At your suggestion I am writing with comments concerning the proposal to restrict parking 20 feet to the north and south of the crosswalk at the Mater Christi school. We live at 49 Mansfield Avenue, directly adjacent to the crosswal and parking spots at issue, and would likely be the most affected by this change. So here are a few things we would a you to consider:

-- the crosswalk is not heavily used. Most of the children attending the private school do not walk to school and thus not use the crosswalk. While some other neighborhood children (including our daughter) do use the playground next to the school, again the amount of usage is generally light (much lighter than, example, Pomeroy Park). In our 4 years living here, we have never seen or heard of safety problems at the crosswalk addition, the new stop sign and the use of the traffic calming painting and median have all helped to reduce traffic speeds on Mansfield. Thus while we absolutely want the safety of pedestrians to be accounted for, we do not necessarily see the need for this change.

-- If DPW does go forward with the restriction, it should be limited to school hours in order to allow residents to park other times.
In addition, the restriction of 20 feet on either side of the crosswalk seems excessive in terms of the loss of parking a possibly unnecessary. Can it be reduced to 10 or 15 feet? I understand that this may relate to a traffic guideline, but given that the restriction doesn't presently exist we marine there is some discretion in therms of what new restrictio should be imposed. We and other neighbors are already constrained by no parking areas as you go further south, an the spots in front of our house should be available to us and to our visitors (with a visitor's pass).

-- There is a related issue regarding signage and visual clutter.
There are already 3 or 4 separate posts at this location for signage related to biking, the crosswalk, and resident per parking. This would add yet another two signs, for No parking on either side of the crosswalk. Please co-locate as many of these signs as possible to reduce the number of posts. It would also seem that so many signs in one place is confusing to drivers. Why does the biking sign need to be located at this spot? It is completely arbitrary have it there, and so we suggest moving it further down the street to reduce the visual clutter at that location.

Thanks you sincerely for allowing us to provide comments. Please contact me if you have any questions, and add us t any ongoing interested persons list.

Best,

Andy Raubvogel and Nancy Kaplan
49 Mansfield Avenue
238-4312
Araub61@gmail.com

MEMORANDUM

September 9, 2016

TO: Public Works Commission

FROM: Damian Roy, DPW Engineer Technician

CC: Norm Baldwin, City Engineer

RE: Metered Parking Request on Pearl Street

Background:

Staff received a request from Paul Averill practicing dentistry out of 239 Pearl Street to install metered parking along the south side of Pearl Street between South Union Street and Hungerford Terrace to match the metered parking along the north side of this section of Pearl Street. Mr. Averill states that parking has become increasingly difficult for his employees and customers with the completion of the apartment building next door and as more people long-term park outside the downtown core to avoid parking fees.

Observations:

- Street Characteristics: This section of Pearl Street is a 35-foot-wide mixed business/apartment building arterial roadway with 7 10-hour metered parking spaces on the north side and 12 unrestricted parking spaces on the south side leaving two 9½ foot lanes servicing an average annual daily traffic count of 12300 vehicles based on VTrans 1993 survey.

- Off Street Parking: All apartment buildings and businesses have some level of off-street parking options on this section of Pearl Street; although not all businesses have adequate off-street parking for their employees and customers.

- Public Outreach: Staff distributed flyers to the apartment buildings and businesses on Pearl Street between Union and Hungerford on August 11th. John Dubie of Pearl Street Beverage was the sole respondent stating that while he does not have any objection to the metered parking directly, as a firefighter he believes that Pearl Street is too narrow with

NB 9/15/16

too much vehicular, bicycle, and pedestrian volumes to allow parking on both sides of the street.

Conclusions:

Metered parking increases vehicle turnover which benefits businesses. The apartment buildings along this section of Pearl Street all have off-street parking options. There are several businesses on this section of Pearl including Mr. Averill's that would benefit from installing meters.

Recommendations:

Staff recommends that the Commission adopt:

- The installation of 10-hour parking meters on the south side of Pearl Street from Union Street to Hungerford Terrace.

North

10-hour Metered Parking on Pearl Street

Proposed Conditions

BURLINGTON, VT

BURLINGTON PUBLIC WORKS ENGINEERING DIV.

645 PINE STREET
BURLINGTON, VT 05401
(802) 863-9094

DESIGNED DRR	RFS NO. 9965
DRAWN DRR	SCALE 1"=40'
CHECKED NJB	DRAWING NO.
DATE	

Requests for Service (/Main.aspx)

#9965 Assigned

New

Technical Services

Traffic Requests

Location: Pearl St

Requesting Parking meters on the South side of Pearl between Union & Hungerford Terrace

Attachments

Attach Date	Staff	Attachment
01/15/2016 1:45 PM	Valerie Ducharme	View File (/Attachments/2388.pdf)

Browse...

Upload Attachment

Assigned to: Damian Roy

Requested by: Paul Averill

Opened: 1/15/2016

Entered By: Valerie Ducharme

Due: 3/15/2016

Work History

Add Work History

Date	Staff Person	Description
01/15/2016	Valerie Ducharme	See attached letter Details

Paul A. Averill, DDS

802-864-5315 paulaverilldental@comcast.net 239 Pearl Street Burlington, VT 05401

May 7, 2015

Chapin Spencer
Director of Public Works
City of Burlington

Dear Chapin,

As you know from our previous conversations, I believe strongly that we need metered parking on Pearl Street from Union to Hungerford Terrace (South side) to match what is present on the north side of the street. As a result of the devastating fire that destroyed the medical office building next to our practice, parking has become a real problem. In addition to our practice several other offices leased parking from the group next door. (2 other dental practices on our block and Burlington Rehab to name a few) Now that the housing project has started this is no longer possible. It has placed a severe strain on parking in our area and will only get worse once the project is completed and the units are occupied.

Increased metered parking downtown and higher parking fees has also affected the parking situation. Many of the unmetered spots near us are occupied by people working or shopping downtown leaving no spaces for business clients on our block of Pearl Street. (And often parked all day long) We have served patients from the surrounding area as well as those from the downtown area. Most require parking, but some bike and walk to our practice. Presently we are leasing spaces across the street, but if this were ever to end we would be forced to move our practice outside Burlington.

Our practice has been in downtown Burlington for over a hundred and fifteen years, and in its present location since 1958. Over many of these years we have always felt a strong connection with our business and the Burlington community. As of late, we feel that this connection is no longer there as it seems like we are being intentionally forced out. It appears that the total focus on business in Burlington has been on Church street and has not included the many businesses that are within a few blocks of the Marketplace. It seems to me that to have a vibrant and successful downtown it would be necessary to also have a successful business structure in the surrounding area.

As a local business owner I believe we too should be included in the "conversation" to have input to improve our downtown community. I would appreciate the opportunity to discuss this with you in the future.

Sincerely yours,

Paul A. Averill, DDS

CC: Mayor Weinberger

Dear Pearl Street Businesses and Residents,

The Department of Public Works (DPW) has received a request to insta
metered parking on the south side of Pearl Street between South Unic
Street to Hungerford Terrace to match the north side of Pearl Street in
this same block section. Metered parking encourages vehicle turnover
which benefits nearby businesses.

As part of our evaluation process we are engaging residents and busi-
nesses on this block of Pearl Street to gauge whether there might be
any issues with installing these meters. If you would like to offer any
comments regarding this request please contact me by Friday August
19th.

Thank you!

Damian Roy, Engineering Technician
Burlington Public Works Department
645 Pine St. Burlington VT 05401
Desk: 802.865.5832
Email: droy@burlingtonvt.gov

MEMORANDUM

September 9, 2016

TO: Public Works Commission

FROM: Damian Roy, DPW Engineer Technician

CC: Norm Baldwin, City Engineer

RE: Loading Zone Request on Marble Avenue

Background:

Staff received a request from Stuart Sporko, owner of Battery Street Jeans to install a 40-foot vehicle loading zone active 8:00am to 6:00pm on the south side of Marble Avenue in front of his business. Mr. Sporko states that many of his customers, some of them elderly, arrive with boxes of clothes to bring into the store. He says that the loading zone would make this process easier for his customers and that his business received about 4 – 5 such deliveries per day. The Battery Street Jeans' Facebook page states that the store is open from 10:00am to 6:00pm.

Observations:

- *Street Characteristics:* Marble Ave is classified as a 26-foot-wide local residential roadway with one-way traffic traveling in the east to west direction. The roadway has unrestricted parking available on the south side only leaving an 18-foot-wide travel lane, there are a total of 15 existing parking spaces available between Pine Street and Hayward Street. There are 12 residential buildings, several multi-unit, on the street along with 7 Marble Ave (388 Pine Street) housing several businesses.

- *Street Usage:* Staff visited the street on Thursday August 11th and at 7:00am, 10:00am, and 1:00pm to assess parking type and usage. Average utilization is 87% with residents making up the majority of on-street parking. See attached plate count spreadsheet.

- *Off-Street Parking:* All buildings on this section of Marble Avenue have driveways. These driveways are narrow with only width to accommodate one vehicle at a time. Given that most of these buildings are multi-unit dwellings there is a greater need for parking than what the driveways offer. There is a gravel parking lot directly across from

NB 9/13/16

Battery Street Jeans that is owned by Unsworth Properties large enough to accommodate about a dozen vehicles. There is an unauthorized sign in this parking lot that says "Off-Street Parking Lot for 7–19 Marble Ave." According to a representative at Unsworth Properties, this parking lot is intended to serve as the business tenants and customers of Battery Street Jeans and other businesses in the building. Keith Wagner of Wagner Hodgson Landscape Architecture responded to staff's flyer confirming that the gravel lot's use was intended for his employees and Battery Street Jeans.

- *Public Outreach:* Staff distributed flyers to the residents and businesses of Marble Avenue from Pine Street to Hayward Street on August 9th with a deadline to respond to DPW by August 19th. Staff received 5 responses from residents all opposed to installing the loading zone. Most state that parking on the street has become increasingly difficult to find with nearby businesses opening or expanding and that they don't believe that Battery Street Jeans has a legitimate need for a loading zone. They state that on-street parking is extremely limited already and that most renting residents do not have off-street parking options. Other businesses in the area have not expressed a need for a loading zone. See attached emails.

Conclusions:

On-street parking is heavily utilized on Marble Avenue with only 15 spaces servicing approximately 25 – 30 dwelling units. An almost equal amount of parking is available in the gravel parking lot directly across the street from Battery Street Jeans whose customers have access to. No other business has expressed a need for installing a loading zone.

Staff does not support the installation of this loading zone when no other businesses have expressed a need for it and the area residents unanimously oppose it. High parking utilization shows that the available spaces on the street are in high demand for all use and removing a portion of this resource for a singular use is not recommended.

Recommendations:

Staff recommends that the Commission:

- Maintain the current conditions of unrestricted parking on the south side of Marble Avenue from Pine Street to Hayward Street.

North

Request to Install a Loading Zone on Marble Ave.

Existing Conditions

BURLINGTON, VT

BURLINGTON PUBLIC WORKS ENGINEERING DIV.

645 PINE STREET
BURLINGTON, VT 05401

DESIGNED DRR	RFS NO. 11255
DRAWN DRR	SCALE NTS
CHECKED NJB	DRAWING NO.

North

Request to Install a
Loading Zone on Marble Ave.

Requested Conditions

BURLINGTON, VT

BURLINGTON PUBLIC WORKS ENGINEERING DIV.

645 PINE STREET
BURLINGTON, VT 05401

DESIGNED DRR	RFS NO. 11265
DRAWN DRR	SCALE NTS
CHECKED NJB	DRAWING NO.

Requests for Service (/Main.aspx)

#11265 Assigned

New

Technical Services

Traffic Requests

Location: 7 Marble Ave

Mr. Sporko originally requested dedicated parking spaces for his business Battery Street Jeans, after staff informed him that we do not assign parking exclusivity to residents or businesses he requested a 30-min vehicle loading zone. He prefers a 40 foot zone but would settle for a 20 foot zone.

Attachments

No Attachments

Browse...

Upload Attachment

Assigned to: Damian Roy

Requested by: Stuart Sporko

Opened: 5/20/2016

Entered By: Damian Roy

Due: 8/19/2016

Work History

Add Work History

No Work History

ATE COUNT

Location: Marble Ave

Inspector: D. Roy

Date: Thursday 8/11/16			Date:			Date:		
7:00	10:00	13:00	7:00	10:00	13:00	7:00	10:00	13:00
ERX 117	FPK 297	FPK 297						
LT 140	FRF 966	FRF 966						
GCM 832	GCM 832	GCM 832						
GTG 812	GKA 172	FSW 868						
VLS 3783	GGS 550	GKA 172						
GPB 720	VLS 3783	GGS 550						
GPT 717	GPB 720	GPT 717						
GFP 700	GPT 717	BRZ 1536						
BRZ 1536	GFP 700	FLT 243						
GCX 302	BRZ 1536	GCX 302						
346 5411	FLT 243	346 5411						
GGD 969	GCX 302							
6359 XV	346 5411							
	GGD 969							
	6359 XV							
Total Spaces	15	15	15						
Spaces Used	87%	100%	73%						
Resident	13	10	5						
Transient	0	0	1						
Long Term	0	5	5						

Dear Marble Avenue Residents,

The Department of Public Works (DPW) has received a request from Battery Street Jeans to evaluate the installation of a 40 foot loading zone in front of their business frontage on Marble Ave. This loading zone is requested to be in effect from 8:00am to 6:00pm. After that time the space would be open for parking.

As part of our evaluation process we are engaging residents of Marble Ave between Pine Street and Hayward Street to gauge whether there might be any issues with installing this loading zone. If you would like t offer any comments regarding this request please contact me by Friday August 19th.

Thank you!

Damian Roy, Engineering Technician

Burlington Public Works Department

645 Pine St. Burlington VT 05401

Desk: 802.865.5832

Cell: 802.563.5353

Email: droy@burlingtonvt.gov

Web: www.burlingtonvt.gov/dpw

Damian Roy

From: Katey Troutman <krtroutman@gmail.com>
Sent: Tuesday, August 09, 2016 1:23 PM
To: Damian Roy
Subject: Marble Avenue Loading Zone

Dear Mr. Roy, or to Whom it May Concern,

I am a resident of Marble Avenue and I do not support the implementation of the proposed loading zone.

My lease does not permit me to use off-street parking; parking my vehicle on the street is my only option. As currently stands it is often *impossible* or nearly impossible to park on my own street, partially due to the fact that employees of the various businesses and organizations housed at the same building as Battery Street Jean are parking their cars on the street as well. This is evidenced by how empty the street is on Sundays in comparison to the remainder of the week.
Additionally, tourists, ArtsRiot patrons, Battery Street Jeans customers, and attendees of the Truck Stop event housed at ArtsRiot *also* frequently park on Marble Avenue, making it even more difficult for me, and many fellow residents to find parking on my own street. If this loading zone were implemented, the competition for parking would make residing on Marble Avenue very, very inconvenient. As I previously said, my lease does not afford me with off-street parking and I believe that this would severely impact my day-to-day life. I would consider moving residences if this loading zone were implemented given how difficult the parking situation on Marble Avenue *already* is for residents.

I suggest that Battery Street Jeans find a way of better utilizing the existing space they have rather than negatively influencing the day-to-day lives of residents so profoundly. I believe that to implement such a loading zone would create further tension between the residents of Marble Avenue and the customers/employees of the immediate area than already exist. Please, please, please do not allow this loading zone to move forward. The influence and inconvenience of such a project would be dramatic.

Thank you,
Katey Troutman
(8 Marble Avenue)

Damian Roy

From: John Desmond <jpdesmond90@gmail.com>
Sent: Tuesday, August 09, 2016 8:26 PM
To: Damian Roy
Subject: Proposed Loading Zone | Marble Avenue

Damian Roy,

As a resident of Marble Avenue and someone who has lived in this neighborhood for the last sever years, I stand in strong opposition to the proposed loading zone for Battery Street Jeans.

As an employee of Burlington's Public Works Department, I feel I do not need to tell you how park in Burlington is an increasingly complicated issue and the South End is far from an exception. I lov where I live and hope to stay here for years to come, but being a tenant rather than a property owner leaves me at a disadvantage when it comes to competing with businesses and commercial property owners in my neighborhood.

I do not have the luxury of off-street parking and while this did not dissuade me from moving into my current residence initially, there has been a visible increase in the competition for parking between residents, local business, and their patrons, ultimately resulting in more frequent parking-related headaches for my household. Additionally, my slightly non-traditional work schedule would put me at a particular disadvantage as the time of effect for the loading zone would require me to park my car each morning before leaving - while a few minutes of my time to do so may not seem terrible burden, the mandate of doing so daily would become an annoyance very, very quickly.

I want to make clear my stance that the current renaissance in the South End is an undeniably goo thing for both the residential and commercial community as it presents not only opportunities for business development, but also a richer experience for those of us fortunate enough to live in such an exciting part of a truly wonderful city - my only request is that such development does not slow push out those of us who have come to call this street "home".

Regards,

John

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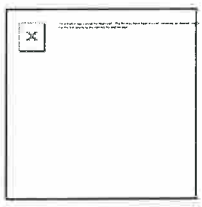

Damian Roy

From: Keith Wagner <hkwagner@wagnerhodgson.com>
Sent: Wednesday, August 10, 2016 3:26 PM
To: Damian Roy
Subject: Loading area in front of Battery Street Jeans

Hi Damian-
Thank you for reaching out regarding Battery Street Jeans (BSJ) request for the 40 loading zone.
I believe there is a number of issues with this concept. I have been a tenant in this building for close to 18 years and t on street parking is critical for not only the businesses in the area but also the residents on Marble Ave. So,
I know why the owner wants this- he wants parking at his door step. Since Rick Davis' non-profit moved into the building, occupying a portion of the old Burlington Furniture space, there has been parking issues. We were told that non-profit would park at Rick's Maltex building and only use 1 or 2 spaces in front of their front door. This is not the case and the landlord is aware of this and has tried to police it.
The gravel lot at the corner of Marble and Pine is for our employees and BSJ to use. But since the non-profit uses up many of the spaces in the gravel lot, it has caused BSJ to start making his own 'misleading' signage about whose to use the gravel parking . In fact, we have many employees park on the street because of this new non-profit. Also, my clien often are forced to park on the street if the lot is full. That being said, everyone is working it out and everything is fin just the way it is.
It is clear to me, that he wants it a loading zone so he can say people are 'dropping off or picking up used clothing for consignment'. He doesn't open most days during the week until close to noon. So, it seems odd to me that he would request the loading zone to be from 8:00 am to 6:00 pm. There is absolutely no reason to compromise the parking fo all, for one individual.
I understand that he wants to make a living, but his convenience should not come at the cost to other(long standing businesses.
The loading zone idea and request should not be allowed. I don't believe we need to make a loading zone ploy into a 'privatized parking' area for Battery Street Jeans.
Thanks again for your inquiry- I appreciate it!

Regards,
H. Keith Wagner, FASLA
Principal

Personal email: hkwagner@wagnerhodgson.com

WAGNERHODGSON
LANDSCAPE ARCHITECTURE

7 Marble Avenue, Burlington, VT 05401
426 E. Allen Street, Hudson, NY 12534

VT 802.864.0010
NY 518.567.1791
F 802.864.6267
W www.wagnerhodgson.com

Damian Roy

From: Jeff Hodgson <jhodgson@wagnerhodgson.com>
Sent: Friday, August 12, 2016 4:20 PM
To: Damian Roy
Subject: Marble Avenue

Damien

As more businesses have moved into the area parking has become tight. I personally do not feel that this loading zon equitable and in fact would make parking in this neighborhood even tighter. Battery Street Jeans doesn't even open until noon, so I'm not sure why he would need it to begin at 8am. Great Harvest bakery gets deliveries frequently out the street. It works because the street is one way but wide enough for a truck to double park and cars can still get by fine.

Jeff Hodgson, FASLA
Partner

Personal email: jhodgson@wagnerhodgson.com

WAGNERHODGSON
LANDSCAPE ARCHITECTURE

7 Marble Avenue, Burlington, VT 05401
430 Warren Street, Hudson, NY 12534

VT 802.864.0010 ext. 101
NY 518.567.1791

W www.wagnerhodgson.com

Damian Roy

From: sara <sara@burlingtontelecom.net>
Sent: Thursday, August 18, 2016 11:59 AM
To: Damian Roy
Subject: Loading Zone in front of Battery Street Jeans

Hi Damien,

I was recently made aware that Battery Street Jeans was seeking to block parking in front of their store. I am a Five Sisters resident and the owner of Great Harvest Bread which shares space in the same building as BSJ.

I think that reducing the parking along Marble Avenue is a bad idea.
When Burlington Furniture moved out of their space earlier this year, one business was divided up into several space When the space was Burlington Furniture, there were only 4-5 employees vying for parking.
Now with the Permanent Fund, Lets Grow Kids, Green State Gardener, and soon Dedalus Wines coming in, there are or more employees looking for parking. Also, many of the homes at the bottom of Marble Ave are multi-family residences which place greater demands on the street's single side parking than single family homes.

BSJ has already asked that employees of neighboring businesses leave two spaces in the parking lot across Marble Av for their customers, and the neighbors are respecting those spaces. I feel that to lose additional spaces will ultimatel affect residents and create more of a headache for all of us.

Respectfully,
Sara Brown
Charlotte Street and Great Harvest Bread Co.

RFS# 11265 – Marble Ave Loading Zone

8/15 – Sam Hemingway, 578-6305, shem9648@gmail.com, owner of 8 Marble Ave called to state that he is opposed to installing a loading zone in front of Battery Street Jeans. His tenants at 8 Marble Ave have very limited off-street parking and rely on street parking. He also states that despite what the sign in the gravel parking lot says that he and his tenants do not have access to that lot.

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DZR
7/13/16

Damian Roy – DPW Engineering Technician
July 12, 2016

DRIVEWAY ENCROACHMENT PILOT STUDY REPORT

Background

The Department of Public Works' (DPW) Driveway Encroachment Pilot Study was active from April 15th 2016 through May 15th 2016 prohibiting parking within two feet of driveways on Henry Street, Weston Street, Loomis Street, Brookes Avenue, and North Williams Street affecting approximately 150 households. The purpose of this pilot study was to measure the positive and negative impacts to on-street parking, driveway ingress/egress, and to gauge residential support for this parking restriction.

During the study, Burlington Police Department (BPD) parking enforcement officers patrolled the area recording violations and issued citations when a complaint was received. After the study, staff distributed approximately 180 Driveway Encroachment Survey Questionnaires with accompanying cover letter. Residents could complete the questionnaire and return it via mail or could follow the link provided on the cover letter to fill out online. Residents were able to complete the questionnaire and return it to DPW on or before June 8th.

Observation Summary

There are currently 18 requests in queue from residents throughout the city to restrict parking around their driveways. These driveways are mainly located in densely populated mixed-unit residential streets where parking is at a premium and often when there is typically 30 to 40 feet of curb space between driveways. Most driver's perceive 35 feet as more space than one vehicle requires and often try to squeeze two vehicles in that space to maximize available parking – leading to driveway encroachment.

Of the 180 surveys distributed, Staff received and reviewed 31 responses from residents. These survey responses and comments are included in the following pages of this document.

The following is a summation of the feedback staff received.

Positive feedback for implementing a Driveway Encroachment Parking Restriction:

- Improved vehicle safety and maneuverability into and out of driveways
- Improved sightlines between vehicles, pedestrians, and vehicles in the travel lane
- Improved quality of life and residential atmosphere

Negative feedback and/or criticism to implementing a Driveway Encroachment Parking Restriction:

- The 2 foot restriction being inadequate in sufficiently improving vehicle encroachment to driveways, suggestions include 3 feet and 5 feet as well as measuring from the curb cut rather than the straight line edge of the driveway.
- Loss of on-street parking as a result of reduced available curb line.
- Loss of on-street parking due to people parking overly cautiously around driveways
- A perceived prejudice towards renters and lower income residents in favor of home owners and higher income residents
- Resident response unanimously supported the idea of line striping around driveways and parking stalls. Residents both for and opposed of the proposed parking restrictions felt that line striping

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the parking limit near driveways would improve awareness of the restriction, increase compliance and efficiency, and lead to more available spaces.

Driveway Encroachment Pilot Study Survey Results

Question #1: Overall, how severe would you describe the issue of vehicles parking too close to your driveway BEFORE the pilot?

Severe	5	17%
Significant	12	40%
Somewhat of an issue	5	17%
Not Significant	3	10%
Not an issue	5	17%

Question #2: Overall, how much improvement to this issue did you experience DURING the pilot?

Greatly Improved	10	32%
Somewhat Improved	7	23%
Could not tell	7	23%
No Improvement	7	23%
Condition Worsened	0	0%

Question #3: Do you feel that sight distances when exiting your driveway were improved?

Greatly Improved	10	33%
Somewhat Improved	7	23%
Could not tell	7	23%
No Improvement	6	20%
Condition Worsened	0	0%

Question #4: Was turning into and out of your driveway any easier?

A lot easier	11	37%
Somewhat easier	8	27%
Could not tell	5	17%
Wasn't any easier	6	20%
Condition worsened	0	0%

Question #5: Do you feel that having line striping around driveways would improve the effectiveness of this parking restriction?

Yes	18	60%
Maybe	4	13%
Neutral	3	10%

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Probably not	1	3%
No	4	13%

Question #6: Do you feel that the amount of available parking was negatively affected during the pilot?

Yes, greatly	6	19%
Yes, somewhat	1	3%
Could not tell	12	39%
Not really	6	19%
Not at all	6	19%

Question #7: If given the choice, would you like to have this parking restriction in effect in your area at all times?

Yes	22	71%
No	9	29%

Question #8: Please feel free to write any questions, comments, concerns, or recommendations you might have for DPW Staff regarding the Driveway Encroachment Pilot Study.

The following responses were submitted via online survey:

1. I have a roommate who I share one off street parking spot with. When the off street spot is unavailable, we rely on street parking. Our options for street parking were considerably reduced during this time, forcing us to drive to other streets to park. However, my off-street parking/house is not on the side of the street where the parking occurs. Therefore, I am unable to say whether it was easier or not to move in and out of the driveway. It seemed like a significant improvement for those residents, though.

2. Parking became even more limited. It seems individuals frequently chose to park in the middle of two spaces in order to make sure that they were not encroaching on a driveway. Also, many individuals who parked even slightly back from a driveway made another space unavailable by doing so. We are renters on Brooke's ave and do not have designated street spots or enough room in our driveway for all of our cars. Life became more annoying during the encroachment study, because of drastically more limited parking options, although we certainly feel for those who have their driveways encroached upon. I feel a potential way to remedy this would be to have clear designated parking spots. This would ensure that individuals both park far enough away from driveways but not too far as to make another spot unavailable

3. Please do not do this. This neighborhood needs to be accommodating of renters and tenants so people can afford to live here. And I say this as a homeowner! I think this driveway rule is prejudicial. You can contact me at 802 . 734.6731 if you have any questions. My name is Margaret Tamulonis and I live on north Willard street.

4. Thank you!! My driveway is opposite the side of the road vehicles can park on....having the 2ft clearance by the driveway allows me to back out more safely, going straight out of my driveway and not risking hitting a car opposite of me. I greatly appreciate this!

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5. Parking isn't that bad on upper Henry but it's nice to be able to park close during busy times so status quo seems fine. We live in the city!

6. This was not at all well advertised or explained. or at the very least it was entirely ignored on my street. I had to report at least two cars during the course of the study for parking way too close or hanging over into the line of entrance/egress from my driveway.

7. This tight parking at driveways is a constant problem on upper North Street, where renters and hospital employees vie for parking day and night. I had no idea there was a program to remedy the issue, and have seen no improvement as the mostly out-of-state young people who park so close to the driveway have no idea there's a program too. Painting lines or creating a fine for parking like this would be more effective.

8. Nothing is different here on north Winooski Ave...parking is still very bad and getting in and out of the driveway can be dangerous and difficult.. had no idea you were even trying this out. Was it in all neighborhoods?

9. Before this pilot, we had cars parked very close to our driveway which made it impossible to safely back out of the driveway into the street. Also, Brookes ave is such a narrow street that having the cars parked so close to the driveway makes turning onto the street from the driveway very cumbersome and challenging. I'm really hopeful that this change happens for we homeowners on the street.

10. My "yes" answer to question #7 is contingent upon the pavement markings. Without the markings, drivers are unsure what exactly is "2 feet", and overcompensated. When this occurred, the parking spaces in front of my home reduced from 3 to 2. Several other curbs have room for two cars, but during this pilot drivers were cautious and parked right in the middle, eliminating several opportunities to meet intended capacity. I also am concerned when I park / my bumper hangs across the end of my own driveway due to lack of available parking, that I would get ticketed/ towed. That is an existing concern regardless of Pilot, as I've been told by Parking Dept. that they do not verify whether the car is the property owners before they ticket/ tow - so anyone could call on my car being in violation of this new rule if they wanted to. Thank you for considering my feedback.

11. Two feet is not enough of a buffer. I live in an area where most residents park on the street and there is no resident only parking situation. People, before and now park at the edge of a driveway apron and sometimes even block part of a driveway apron. It should be a 5 foot setback and it should be enforced.

12. Bigger issue is not having resident permit parking on North Williams. Cars of strangers constantly circling and jockeying, squeezing in, unloading at all times of day and night degrades neighborhood feel.

The following responses were hand-written and sent in by mail:

13. I'm at 54 Brookes. We have historically had extreme difficulty getting out of our driveway especially in the winter. We're on the north side and pulling out is near impossible when the tenants across the street do not pull in close to the curb. I have been told that "if a police cruiser can navigate the street then there is nothing that can be

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done." I have taken to parking in the street when it is snowy because I can't access my very long and accommodating driveway. This is dangerous because I have MS and fall very easily. There is no handicap parking near my house on the street.

14. I wish that we had done this when my kids were little. We never could let them near the end of the driveway because of obstructed views – not that it wouldn't still have been dangerous, but it would have been safer. We have had to drive up on the grass to access our driveway when it's blocked, that's not cool. Also, there are times we can't get out and that's a safety issue. We live with some elements that lend themselves to frequent emergencies. Also, I think most people are willing and understanding – they just don't realize they're blocking a driveway. So marking where to park (and not to park) is going to solve the problem, I think.

15. The minute the signs came down the encroaching began again. We've had two instances of blocking since the signs came down. Both cars were 2 feet over our driveway.

16. There is no parking on our side of Brookes Ave. The parking on the opposite side of Brookes already has "reduced parking" enforced to mitigate previous space issues (not enough egress for those of us with no driveway directly opposite).

17. Two feet is not enough – especially in the winter with snow banks. I am not sure how it will work in the winter at all with snow. How will someone see the lines? I still believe that residential parking for N. Williams would be the best solution, as Damian supported several years ago, but it was defeated at a meeting that N. Williams St. residents were not informed of.

18. Post permanent ordinance and add parking distance to curb. Adding a parking distance from curb would improve site distance up and down street! Limiting SUVs and trucks would help site distance also (within 20' of a curb cut). I have a Toyota Prius that cannot see over SUVs and trucks when backing out of my driveway. Also, make permanent ordinance, add signage for residential parking, sign posts.

19. Why are you spending tax payer money on such studies?

20. Parking on the lower end of Loomis St. (between Weston and Willard) was severely impacted. Curbs where 2 cars should fit had only 1 car parked – generally because people were overly cautious (left 4' of space rather than 2'). 95% of the time I am able to park my car directly outside of my house, whereas during the survey period this was reduced to 50% - I often had to park at the top of the block (near Prospect & Mansfield) where my car is both out of eyesight and earshot (it's been broken into before). In my opinion, too many street parking permits are provided to students – why should every student who is squished into a 6-bedroom house receive a permit? There are not enough spaces on the street as it is to match the permits.

21. Isn't the 2 foot restriction already part of city code? Lower Henry seems to have more issues than upper Henry but we've experienced more encroachment the past 6 months – usually depends on how many vehicle that renter have / amount of on-street parking.

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Quantifying the Affirmative versus the Negative.

Each question except questions #7 and #8 on the survey was designed to have five multiple choice answers, two answers in the affirmative, one neutral, and two in the negative. In order to derive a clear consensus from these questions, a point system can be applied to quantify overall public opinion of the Driveway Encroachment Pilot Study by assigning a number of points to each answer:

For Example, answering "Severe" to question #1 yields a +2 to the affirmative, "Significant" +1 to the affirmative, "Somewhat of an issue" 0 or neutral, "Not Significant" -1, "Not an issue" -2. These point values are then multiplied by the number of responses for that choice.

Question #1: Overall, how severe would you describe the issue of vehicles parking too close to your driveway BEFORE the pilot?

Severe	5	17%	(5x2) = 10 points
Significant	12	40%	(12x1) = 12 points
Somewhat of an issue	5	17%	(5x0) = 0 points
Not Significant	3	10%	(3x1) = 3 points
Not an issue	5	17%	(5x2) = 10 points

From this example we can derive 22 points in the affirmative for Driveway Encroachment and 13 points in the negative for Driveway Encroachment. Applying this system to the survey questions will yield the following:

Question #1:	22 points in the affirmative 13 points in the negative	
Question #2:	27 points in the affirmative 7 points in the negative	
Question #3:	27 points in the affirmative 6 points in the negative	
Question #4:	30 points in the affirmative 6 points in the negative	
Question #5:	40 points in the affirmative 9 points in the negative	
Question #6:	18 points in the affirmative 13 points in the negative	(note: affirmative/negative answers to question #6 are reversed purposely)

The summation of these numbers show:

164 points in favor of applying the Driveway Encroachment Parking Restriction
54 points not in favor of applying Driveway Encroachment Parking Restriction

Based on this point system, DPW estimates that public opinion is 3 to 1 in favor of applying a Driveway Encroachment Parking Prohibition. This result is mirrored by Question #7 showing 71% in favor, 29% opposing – nearly a 3 to 1 ratio.

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Conclusions

Based on resident's feedback, the two foot parking restriction is a clear improvement for safe access into driveways and onto the street system when on-street parking is on the same side of the street. The restriction alleviates the challenge of having a driveway encroached or blocked resulting in severe inconvenience and diminished quality of life. Conversely for properties without off-street parking options, this restriction represents a direct reduction in available spaces. These residents also expressed a diminished quality of life as they are less likely to find parking close to their homes. These conflicting needs are the main source of disparity between these two groups.

All Burlington residents should have reasonable access to their homes and the street system. A blocked driveway or a driveway that is encroached such that it is impossible or unsafe to navigate is unacceptable. Staff would seek to both restrict parking away from driveways while minimizing the subsequent loss of parking. This may best be achieved through the practice of painting parking brackets around driveways on problematic streets. Several residents have commented that the total amount of available parking spaces were reduced when drivers parked too far away from driveways, exceeding the two foot restriction and further reducing the available number of parking spaces. Visually defining the parking restriction by painting brackets would provide drivers a visual reference that would promote more efficient parking and minimize the potential loss of parking.

To achieve this, Staff proposes to:

- Implement a city-wide ordinance restricting parking adjacent to all driveways and curb cuts by two feet as measured by the straight line edge of the driveway.

While this proposed ordinance would be in effect throughout the city, painting brackets would only occur on streets that meet certain characteristics and at locations where residents have expressed encroachment to be a significant issue. Staff has identified the two primary characteristics that lead to driveway encroachment and affect a resident's ability to safely access their driveway or the roadway to be:

- A high rate of parking occupancy during peak times, at or above 90%
- The street travel width 18 feet or less
- A documented history of multiple violations at a specific location

Note: This list can be expanded on if it is deemed to not adequately encompass enough streets experiencing chronic driveway encroachment.

Recommendation

Staff recommends the Commission adopt the following amendment to the Burlington Code of Ordinances Appendix C, §7 and to Chapter 20-55 General Prohibitions:

7 No-parking areas.

(a) No person shall park any vehicle at any time in the following locations:

(1) – (538) As Written.

(b) No person shall park any vehicle at any time in front of another person's driveway and within two feet of another person's driveway as measured from the straight-lined edge of the driveway.

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20-55 General Prohibitions.

(a) No operator or driver of any vehicle shall stop, stand or park the same in any of the following places, except when necessary to avoid conflict with other traffic or in compliance with the direction of a police officer or official traffic sign or except momentarily to pick up or discharge a passenger:

(1)-(3) As Written.

(4) In front of another person's driveway and within two feet of another person's driveway as measured from the straight-lined edge of the driveway.

MEMORANDUM

September 7, 2016

TO: Public Works Commission

FROM: Damian Roy, DPW Engineer Technician

CC: Norm Baldwin, City Engineer

RE: No Parking zone on Starr Farm Road

Background:

Staff has received several requests via SeeClickFix to evaluate the parking conditions on the eastern end of Starr Farm Road. Throughout the year but especially when school is in session, parking overflow from the Flynn Elementary School and Kindred Transitional Care and Rehabilitation park on the Starr Farm greenbelt area and/or partially on the roadway between Grey Meadow Drive and North Avenue. This has caused extensive erosion of the greenbelt and is in violation of General Prohibition 20-55 (6). The public has expressed concern that the street is too narrow to allow parking either on the roadway or on the greenbelt area.

Observations:

- *Street Characteristics:* Starr Farm Road is a low volume 25-foot-wide connector street providing access to several residential neighborhoods on the western end along with two nursing homes and an elementary school on the eastern end. Parking is currently restricted on the north side of the street starting at North Avenue extending westward 100 feet and on the south side of the street starting at North Avenue extending westward 660 feet. See the attached ordinances and drawings for reference.

- *Street Usage:* Parking occurs primarily along the north side of the street on the greenbelt beginning 100 feet west of North Ave and extending westward up to the Starr Farm Nursing Center. This parking is most heavily utilized during the school year during pick-up and drop-off operations and during sporting events but can also be observed to a lesser extent throughout the day during the school year.

KJB 9/15/16

- *Off-Street Parking:* Both the Flynn Elementary School and Kindred Transitional Care and Rehabilitation have off-street parking options for their customers. The school has a dedicated drop-off area on the west side of North Avenue with 17 short term parking spots but this is inadequate as parents often choose to exit their vehicles and escort their children to classes. The general practice for most parents who do this is to park on the north side of Starr Farm Road.

- *Public Outreach:* Staff visited the School and Kindred Transitional Care several times to talk to their management. During these visits staff learned of the existing parking behaviors and communicated the issues with both facility representatives. Kindred Transitional Care was aware of the issues created by the greenbelt parking but stated that parking on the roadway would be a worse condition as the road width would be challenging for emergency vehicles which frequent the facility. The school principal commented that parents do not feel safe parking on the roadway and choose to park in the greenbelt instead.

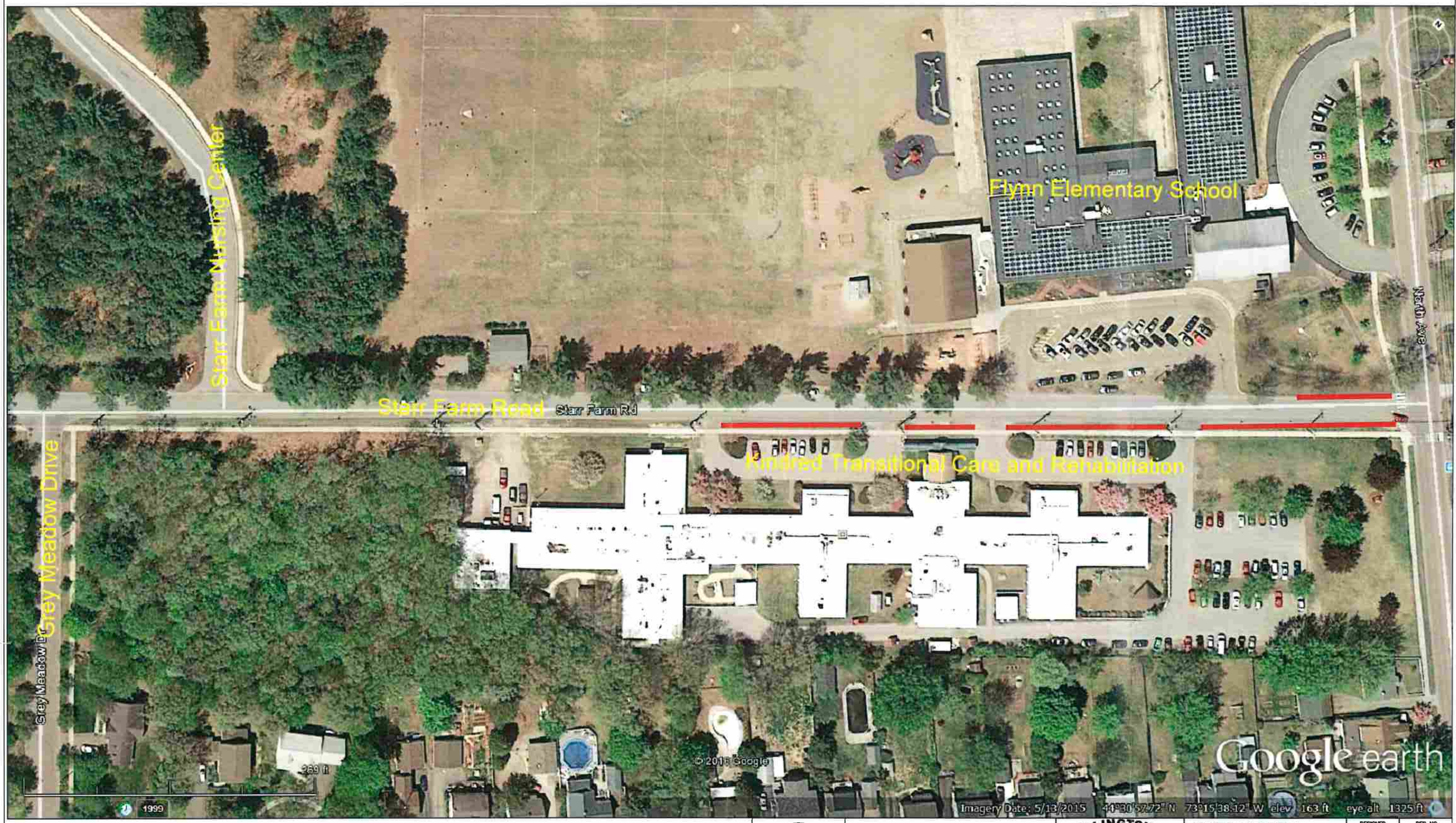
Conclusions:

Under current conditions, it is legal to park on the north side of the street as long as the vehicle is on the roadway. The street is too narrow to accommodate parking on one side of the street. The existing street is 25 feet wide and we would need at least 26 feet of roadways width to accommodate on-street parking on one side. DPW is highly concerned with children and elderly entering and exiting parked vehicles on a narrowed roadway. DPW recommends restricting parking along both sides of Starr Farm Road beginning at North Avenue and extending west until Grey Meadow Drive where the residential area begins.

Recommendations:

Staff recommends that the Commission:

- Restrict parking on the north and south sides of Starr Farm Road from North Avenue extending west to Grey Meadow Drive.



North

Starr Farm Road Parking
Existing Conditions

BURLINGTON, VT

BURLINGTON PUBLIC WORKS ENGINEERING DIV.

645 PINE STREET
BURLINGTON, VT 05401

DESIGNED DRR	RFS NO. 12288
DRAWN DRR	SCALE NTS
CHECKED	DRAWING NO.
DATE	

North

Starr Farm Road Parking
Proposed Conditions

BURLINGTON PUBLIC WORKS ENGINEERING DIV.
645 PINE STREET
BURLINGTON, VT 05401
(802) 863-9094

DESIGNED DRR	RFS NO. 12288
DRAWN DRR	SCALE NTS
CHECKED NJB	DRAWING NO.
DATE	

Starr Farm Road Existing Traffic Ordinance

20-55 General prohibitions.

(a) No operator or driver of any vehicle shall stop, stand or park the same in any of the following places, except when necessary to avoid conflict with other traffic or in compliance with the direction of a police officer or official traffic sign or except momentarily to pick up or discharge a passenger:

(6) On any sidewalk or in any crosswalk; or on the greenbelt, so-called, being that area of a public street located between the roadway edge and the sidewalk, or, if no sidewalk exists, between the roadway edge and the adjacent property line;

7 No-parking areas.

No person shall park any vehicle at any time in the following locations:

- (324) On the north side of Starr Farm Road, for a distance of 100 feet west of North Avenue.
- (333) On the south side of Starr Farm Road, for a distance of 660 feet west of North Avenue.
- 458) On both sides of Starr Farm Road beginning one hundred fifty (150) feet east of the easternmost section of Pleasant Avenue extending west two hundred (200) feet west of the bikepath.

Requests for Service (/Main.aspx)

#12288 Assigned

Investigation

Technical Services

Traffic Requests

Location: Starr Farm Road Burlington, VT

Parking along Starr Farm Road

is the section of road by Flynn school across from the nursing home legal parking? If so can we get some signs or other mods to help get the cars fully off the road for parking and make them real spots? The section across from the nursing home is frequently full during the summer days (even with plenty of open spaces in the lots) and are often out in the road enough where meeting car traffic has some challenges. I have seen a few close calls.
View SeeClickFix

Attachments

No Attachments

Browse...

Upload Attachment

Assigned to: Damian Roy

Requested by: See,Click,Fix

Opened: 8/6/2016 12:57:01 PM

Entered By: SeeClickFix

Due: 8/9/2016 12:57:01 PM

Work History

Add Work History

Date	Staff Person	Description

08/25/2016	Norm Baldwin	given the roadway does not have a curb and there is physical opportunity to purl over onto the greenbelt, people are parking on the greenbelt, there is a general city prohibition for parking on the greenbelt and it is impractical to sign for a general prohibition. I have requested the Police department to issue warning tickets and subsequent violations a ticket be issued with a fine. With the Street only wide enough to accommodate one lane of parking and two lanes of travel, public works staff will be advancing a proposal to prohibit parking on on the north side of the street at the Public Works Commission this coming Septembers Meeting. I have forwarded this to the attention of our Engineering Technician Damian Roy to evaluate and prepare this item to be heard at the Commission. Details
08/25/2016	Norm Baldwin	Request Status Changed from Closed to Investigation Details
08/10/2016	Valerie Ducharme	closed until contact info is provided. Details
08/08/2016	Damian Roy	No contact information provided by the requestor. Closing until name, number and/or email is provided. Details

Burlington, VT (/burl...

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Looking to get your government on SeeClickFix?
Check the "who's watching" section below to see who's already here!
GET STARTED!

Acknowledged by: Burlington, VT

Parking on lawns or yards · Acknowledged

2-58 Starr Farm Road Burlington, Vermont • Show on Map

Issue ID: 2877906
Viewed: 19 times
Neighborhood: Burlington
Reported: about 5 hours ago

REPORTER
An anonymous SeeClickFix user
Civic Points: 0

DESCRIPTION
Continues

Share 0 0 0

NEARBY ISSUES

Pothole

Parking on lawns or yards

proper license ??

Pothole

4 COMMENTS

IT Department (Verified Official)
RFS 12636 assigned. If received outside of normal business hours, we will investigate this issue on the next business day.
about 4 hours ago · Flag

ACKNOWLEDGED **Bill Ward Director of Code Enforcement** (Verified Official)

Issue acknowledged. I will be changing this to "on Street Parking violations" so it gets routed directly to the Burlington Police Parking unit.

The area where the cars are parking is part of the greenbelt and it is something the Parking Unit has been monitoring. The greenbelt is the area between the curb and the sidewalk, or if there is no sidewalk, between the curb and the adjacent property line. Yard parking is when the vehicle is off the city right-of-way away and fully on the adjoining property.

We will make sure the Police Department Parking Enforcement Unit knows about your concern.

about 4 hours ago · Flag

Bill Ward Director of Code Enforcement (Verified Official)
This issue was recategorized from Parking on lawns or yards to On street parking violations.
about 4 hours ago · Flag

Jiberjab (Registered User)
I agree that this area needs some attention. However, I think we need to be a bit more visible in the expectations for the area. Just ticketing everyone can result in a very poor outcome especially for some who have done this for several school years without an issue. Often this area is needed for a very short term need for drop off at the school or special activities. This is

4 TOTAL VOTES VOTE!

- Main
- Photos and Videos 1
- Notified 3
- Follow
- Flag Issue

NEARBY ISSUES

Pothole
Reported by Holt

Parking on lawns or yards
Reported by An anonymous SeeClickFix user

proper license ??
Reported by Gil

Pothole
Reported by Holt

Parking on lawns or yards
Reported by BTVtaxpayinghomeowner

Here's who's watching this area. Want to set up a FREE watcher account for yourself or your organization?
FREE SETUP!

not all day parking. If this is not acceptable then we need some collaboration with the school district to ensure adequate parking for the parents, family and friends attending school functions and the staff of the school in addition to the nursing home across the street. Convert some of this space to parking if necessary but there is an obvious need to address here and ticketing is not the answer.
35 minutes ago Flag

NEW COMMENT

Write a comment...

I want to...
◉ Leave this issue **Acknowledged**

Attach: Photo Video Comment

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Burlington, VT (/burl...

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Acknowledged by: Burlington, VT

Restore green space? - Acknowledged

2-58 Starr Farm Road Burlington Vermont • Show on Map

Issue ID: 2816636
Viewed: 71 times
Neighborhood: Burlington
Reported: on 08-19-2016

REPORTER
BTVtaxpayinghomeowner
Civic Points | 5620

DESCRIPTION

Can the City please look into restoring the green space on Starr Farm Rd in front of the elementary school?

Share 0 0 0

NEARBY ISSUES

Parking on lawns or yards

Pothole

Parking on lawns or yards

proper license ??

2 COMMENTS

IT Department (Verified Official)
RFS 12409 assigned. If received outside of normal business hours, we will investigate this issue on the next business day.
08-19-2016 · Flag

ACKNOWLEDGED DPW (Verified Official)
Issue acknowledged assigned to Street Department
08-19-2016 · Flag

NEW COMMENT

Write a comment...

I want to...
◉ Leave this issue **Acknowledged**

Attach: Photo Video Comment

5 TOTAL VOTES VOTE!

Main
Photos and Videos
Notified 3
Follow
Flag Issue

NEARBY ISSUES

Parking on lawns or yards
Reported by An anonymous SeeClickFix user

Pothole
Reported by Holt

Parking on lawns or yards
Reported by An anonymous SeeClickFix user

proper license ??
Reported by Gil

Pothole
Reported by Holt

Here's who's watching this area. Want to set up a FREE watcher account for yourself or your organization?
FREE SETUP!

Burlington, VT (/burl...

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Acknowledged by: Burlington, VT

Parking on lawns or yards · Acknowledged

2-58 Starr Farm Road Burlington, Vermont • Show on Map

Issue ID: 2856733
Viewed: 73 times
Neighborhood: Burlington
Reported: on 08-31-2016

Tagged: road safety

REPORTER
An anonymous SeeClickFix user
Civic Points: 0

DESCRIPTION

Please install barriers to Starr Farm Rd adjacent to Flynn Elementary school to prevent parking on the grass or construct an appropriate drop off lane. Child safety and Environmental issue.

Share 0 0 0

NEARBY ISSUES

Parking on lawns or yards

Pothole

Parking on lawns or yards

proper license ??

7 COMMENTS

IT Department (Verified Official)
RFS 12538 assigned. If received outside of normal business hours, we will investigate this issue on the next business day.
08-31-2016 Flag

ACKNOWLEDGED Street Patrol (Verified Official)
Acknowledged
08-31-2016 Flag

Street Patrol (Verified Official)

This vehicle was already ticketed by 9:30 this morning by the Burlington Police Department parking unit.
08-31-2016 Flag

CLOSED DPW (Verified Official)
Content blocked by rejections
08-31-2016 Flag

REOPENED BTVtaxpayinghomeowner (Registered User)
Please Enforce no parking from the hours of 7:30-8:30 and 2-4.
08-31-2016 Flag

ACKNOWLEDGED DPW (Verified Official)

5 TOTAL VOTES VOTE!

Main
Photos and Videos 1
Notified 3
Follow
Flag Issue

NEARBY ISSUES

Parking on lawns or yards
Reported by An anonymous SeeClickFix user

Pothole
Reported by Holt

Parking on lawns or yards
Reported by An anonymous SeeClickFix user

proper license ??
Reported by Gil

Pothole
Reported by Holt

Here's who's watching this area. Want to set up a FREE watcher account for yourself or your organization?
FREE SETUP!

Burlington, VT (/burl...

Follow this Place

Looking to get your government on SeeClickFix?
Check the "who's watching" section below to see who's already here!
GET STARTED!

Parking along Starr Farm Road · Archived

Starr Farm Road Burlington, VT • Show on Map

Issue ID: 2772084
Viewed: 154 times
Neighborhood: Burlington
Reported: on 08-06-2016

Tagged: signs, traffic

REPORTER
An anonymous SeeClickFix user
Civic Points: 0

DESCRIPTION

is the section of road by Flynn school across from the nursing home legal parking? If so can we get some signs or other mods to help get the cars fully off the road for parking and make them real spots? The section across from the nursing home is frequently full during the summer days (even with plenty of open spaces in the lots) and are often out in the road enough where meeting car traffic has some challenges. I have seen a few close calls.

Share 0 0 0

NEARBY ISSUES

Unstable bridge sides

Parking on lawns or yards

Pothole

Pothole

11 COMMENTS

Post a New Comment

IT Department (Verified Official)
RFS 12288 assigned. If received outside of normal business hours, we will investigate this issue on the next business day.
08-06-2016 · Flag

ACKNOWLEDGED **DPW** (Verified Official)
Issue acknowledged assigned to Technical Services
08-08-2016 · Flag

DPW (Verified Official)
In order to proceed with t his traffic request we would need some contact information via phone number or e mail. Please provide or call us with information.
08-08-2016 · Flag

BTVtaxpayinghomeowner (Registered User)
Issue# 2619380 posted on 6/22 as well, acknowledged by code enforcement, no follow-up to date.
08-08-2016 · Flag

BTVtaxpayinghomeowner (Registered User)
photo from today

08-10-2016 · Flag

0 TOTAL THANKS SAY THANKS!

Main
Photos and Videos 1
Notified 3
Flag Issue

NEARBY ISSUES

Unstable bridge sides
Reported by Azur Moulaert

Parking on lawns or yards
Reported by An anonymous SeeClickFix user

Pothole
Reported by Holt

Pothole
Reported by Holt

Parking on lawns or yards
Reported by BTVtaxpayinghomeowner

Here's who's watching this area. Want to set up a FREE watcher account for yourself or your organization?
FREE SETUP!

CLOSED DPW (Verified Official)
Closing this issue until contact info is provided - please call 863-9094 x 3
08-10-2016 Flag

REOPENED BTVtaxpayinghomeowner (Registered User)
Why does a concerned citizen need to provide DPW with their contact information when reporting activity on City property. Providing my name and contact information removes any anonymity through SCF and prevents this issue from being transparent to everyone else interested in this issue. Why is DPW and Code Enforcement trying to dismiss this reporting?
08-10-2016 Flag

CLOSED DPW (Verified Official)
The reason is - no means to contact person for more information - we need to research the whole problem to find the proper solution
08-11-2016 Flag

REOPENED BTVtaxpayinghomeowner (Registered User)

If DPW and CE is not dismissing this report, then please do not close the issue until it has been researched and been resolved. Not sure why it was closed again or what additional information you could possibly need from the reporting citizen? Certainly seems like the City is trying to ignore this issue. This tact has been used to close other issues that Burlington wishes to ignore.

This is illegal parking on City property. Seems to be heavily used by the nursing home across the street (Parking on grass also occurring around their parking lot as well). This is not a new issue and occurs every day; This is damaging to City property, an environmental issue effecting Lake Champlain, and a SAFETY issue. There is no sidewalk on this side of Starr Farm; Parents and Children going to Flynn often walk in the road and visitors to the nursing home often walk into traffic from between parallel parked cars. NEEDS TO BE ADDRESSED, NOT DISMISSED BY BURLINGTON OFFICIALS.

Burlington City Ordinances prohibit parking on the property of another without permission. This happens every day.

"Preserving outside green space like lawns, sidewalk "green belts" and tree and planting areas is important because they beautify our neighborhoods, muffle noise, clean the air, give oxygen, slow down storm water and make a healthy environment for all of us. Erosion of green space has been shown to increase run-off of toxic products. This "non-point source pollution" has been cited by the EPA as a major contributor to pollution of lakes and waterways. Preservation of grassy areas helps to keep Lake Champlain clean and healthy. Please do your part for the Lake!"
-https://www.burlingtonvt.gov/CodeEnforcement/Yard-Parking

I hope DPW and CE will look into this. I hope the City enforces their codes on City property as they would to any property owner on private property.

08-11-2016 Flag

Pat Cashman (Registered User)
There appears to have been an error in posting our response with our response being associated with a different report. I'm going to paste that response here using my user account far the sake of timeliness. If there are any concerns or questions I am available at 863-0460 and I will continue to monitor this issue. Thank you, Pat Cashman Assistant Director for Traffic and Parking. Thank you for communicating with us on this issue.
I would like to preface my input with an assurance that the request for contact information by DPW to the initial poster was in no way intended to stifle input but instead an attempt to assist the poster with initiating a solution to their observed issue. Specifically; parking on Starr Farm Road. To restrict parking on Starr Farm Road beyond what is already restricted would require an ordinance change, which would require personnel from the DPW Engineering Services branch to work with the requestor to fully flesh out and understand the problem, provide public notice, develop a staff position, and take through the Public Works Commission. It was with the best of intentions we here at DPW sought contact information in order to move on to the next step in working together to define the problem and initiate a solution.
In order to answer the initial question from the initial post; "Is the section of road by Flynn school across from the nursing home legal parking?" – The answer is "yes" based on our assumption that the poster is referring to the North side of Starr Farm Road more than 100 feet from the intersection with North Avenue. This is with the qualification that parking off the surface of the road on the greenbelt is against ordinance throughout the city so any such parking would have to be on the road surface. In this case the greenbelt would be within 9' 9" of the edge of the road as that is the limit if the public right of way on Star Farm Road. The only sections of Starr Farm Road that are currently restricted from parking per ordinance are:
Appendix C, Sect 7, para 324: On the north side of Starr Farm Road, for a distance of 100 feet west of North Avenue.
Appendix C, Sect 7, para 333: On the south side of Starr Farm Road, for a distance of 660 feet west of North Avenue.
Appendix C, Sect 7, para 458: On both sides of Starr Farm Road beginning one hundred fifty (150) feet east of the easternmost section of Pleasant Avenue extending west two hundred (200) feet west of the bike path.
If the original poster would like to seek an ordinance change in order to extend existing "No-parking Areas" or create additional "No-parking areas" then we would certainly invite their or any other resident's participation in initiating that process with our Engineer Services personnel. Our Engineering Services personnel can be reached through DPW Customer Service at 863-9094.

In regards to the second issue raised subsequently in this See, Click, Fix pertaining to parking on the greenbelt. Such parking is already precluded by ordinance in Section 20-55 "General Prohibitions" and, as it relates to parking in the public right of way, is subject to enforcement by the Burlington Police Department. DPW has been in communication with BPD on this issue requesting a review for enforcement in this area as this appears to be an enduring problem. Thank you for identifying this area for attention.
08-15-2016 Flag

CLOSED **BTVtaxpayinghomeowner** (Registered User)
Thank you.
08-16-2016 Flag

Comments are closed for archived issues.

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GET STARTED!

Acknowledged by: Burlington, VT

Parking on lawns or yards · Acknowledged

2-56 Starr Farm Rd Burlington Vermont • Show on Map

Issue ID: 2619380
Viewed: 523 times
Neighborhood: Burlington
Reported via: mobile application
Reported: on 06-22-2016

Tagged: bad driving

REPORTER
BTVtaxpayinghomeowner
Civic Points: 5620

DESCRIPTION

Illegal parking on City property. Seems to be heavily used by the nursing home across the street. This is not a new issue, but is damaging to the property. Burlington City Ordinances prohibit parking on the property of another without permission.

"Preserving outside green space like lawns, sidewalk "green belts" and tree and planting areas is important because they beautify our neighborhoods, muffle noise, clean the air, give oxygen, slow down storm water and make a healthy environment for all of us. Erosion of green space has been shown to increase run-off of toxic products. This "non-point source pollution" has been cited by the EPA as a major contributor to pollution of lakes and waterways. Preservation of grassy areas helps to keep Lake Champlain clean and healthy. Please do your part for the Lake!"
-https://www.burlingtonvt.gov/CodeEnforcement/Yard-Parking

Share 0 0 0

NEARBY ISSUES

Parking on lawns or yards

Pothole

Parking on lawns or yards

proper license ??

6 COMMENTS

IT Department (Verified Official)
RFS 11779 assigned. If received outside of normal business hours, we will investigate this issue on the next business day.
06-22-2016 Flag

ACKNOWLEDGED **Code Enforcement** (Verified Official)

Issue acknowledged. We are evaluating this further. The Police and and Code Enforcement cannot ticket yard parking in Wards 4 and 7 because the ordinance it is specific to Wards 1, 2, 3, 8 and parts of 5 and 6.

This issue will have to be determined based on the zoning ordinance. We will have to review the files to determine if this was ever an accepted area for parking. Initial review indicates it is not a new issue. The Google Earth image attached shows cars parked in this area in October 2014.

We will post an update when the evaluation is complete.

9 TOTAL VOTES VOTE!

Main
Photos and Videos 3
Notified 3
Follow
Flag Issue

NEARBY ISSUES

Parking on lawns or yards
Reported by An anonymous SeeClickFix user

Pothole
Reported by Holt

Parking on lawns or yards
Reported by An anonymous SeeClickFix user

proper license ??
Reported by Gil

Pothole
Reported by Holt

Here's who's watching this area. Want to set up a FREE watcher account for yourself or your organization?
FREE SETUP!

06-23-2016 Flag

Jessica (Registered User)
This area is heavily used for parking when school is in session. There is not adequate parking for the school
07-06-2016 Flag

Holt (Registered User)
Content blocked by rejections
07-20-2016 Flag

BTVtaxpayinghomeowner (Registered User)
follow-up?
08-08-2016 Flag

BTVtaxpayinghomeowner (Registered User)
Photo from today

08-10-2016 Flag

NEW COMMENT

Write a comment...

I want to...

◉ Leave this issue **Acknowledged**

Attach: Photo Video Comment

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(https://market.android.com/details?id=com.seeclickfix.ma.android)

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Language: English ▾

MEMORANDUM
September 7, 2016

TO: Public Works Commission

FROM: Damian Roy, DPW Engineer Technician

CC: Norman Baldwin, City Engineer

RE: Resident Only Parking on South Prospect

Background:

The Department of Public Works (DPW) has received a request from Perry Laroque of 308 South Prospect Street to install full time resident only parking on the north side of South Prospect Street from Henderson Terrace to Cliff Street. Per staff's instruction, Mr. Laroque generated a petition showing support for full time resident parking from the property owners on this section of South Prospect. The petition listed 7 names accounting for 6 properties out of the 8 properties on this block resulting in 75% favor of his request. DPWs Standard Operating Procedure for Resident Parking specifies at least 51% of property owners must support a resident parking request per the Resident Parking Study.

Observations:

This section of South Prospect is primarily residential with close proximity to the UVM campus. Parking is allowed on the east side of the street with signs designating Resident Only Parking from 12am to 6**am**. City ordinance sec.27(c)(2) specifies this section of South Prospect as Resident Only Parking from 12am to 6**pm**. Staff believes that this is a typographical error in the ordinance. The ordinance was originally intended to reduce college student parking in the late night hours in an attempt to reduce noise and disruption to residents.

Staff conducted plate counts depicting the level and type of parking usage on the street, see attached. This information shows that parking is heavily utilized during the day by long term and transient parkers with usage above 85%, meeting the Resident Parking Study's recommendation of a minimum of 85% usage.

In May 2016 staff prepared a recommendation to present to the Public Works Commission where staff concluded that a hybrid solution would best balance the public's need for parking as well as providing parking for the residents and their guests. This hybrid prohibition would instate 24/7 resident only parking along with 4-hour time-limited parking between 8am and 5pm available for non-residents between Henderson and Cliff. This hybrid prohibition would allow residents to park in the time-limited zone unrestricted while non-

NB 9/15/16

residents have the ability to park in the zone but for no longer than 4 hours. Parking Enforcement has committed to checking the zone during this time period recording what cars are parked and then returning at a later time to check if the zone again. If a vehicle is found to be parked within the zone for longer than 4 hours it would receive a $75 ticket. Other communities such as Portland ME, Ithica NY, and Charleston SC have installed this type of hybrid solution to balance parking needs. See the attached picture showing signage from Ithica NY indicating this type of prohibition. Staff then distributed this recommendation to the South Prospect residents in preparation for the June PWC meeting. Residents did not respond favorably to staff's recommendation and requested we suspend our presentation to the commission and hold a meeting to better understand staff's recommendations and to voice their needs and concerns. Staff held neighborhood meetings on June 21st and September 7th. After much conversation regarding balancing the needs of the neighborhood against the needs of the general public, a mutually agreeable proposal was developed.

Conclusions:

This section of South Prospect is heavily utilized for parking representing a significant need for this space during the day. It is also recognized that residents need to have adequate and reasonable access to their homes. To balance these needs, staff recommends installing full time resident parking along with the hybrid prohibition that limits non-residents to a 4-hour parking limit once per day from 8am to 5pm while allowing permitted residents to park unrestricted. It is staff's position that these two restrictions will provide reasonable access to residents of the street and parking during the day for the general public.

Recommendations:

Staff recommends that the Commission adopt:

- Installing full time resident parking and 4-hour parking for non-residents on South Prospect from Henderson Terrace to Cliff Street from 8am – 5pm as shown on the attached drawing.

North

South Prospect
Resident Parking
Existing Conditions

BURLINGTON PUBLIC WORKS ENGINEERING DIV.

645 PINE STREET
BURLINGTON, VT 05401

DESIGNED DRR	RFS NO. 9779
DRAWN DRR	SCALE NTS
CHECKED NJB	DRAWING NO.
DATE	

North

South Prospect
Resident Parking
Proposed Conditions

BURLINGTON PUBLIC WORKS ENGINEERING DIV.
645 PINE STREET
BURLINGTON, VT 05401

DESIGNED DRR	RFS NO. 9779
DRAWN DRR	SCALE NTS
CHECKED NJB	DRAWING NO.
DATE	

2 HOUR
PARKING
8 am - 5 pm
Mon - Fri
ONCE PER DAY
ZONE 3
REGISTERED
RESIDENTS EXEMPT

ATE COUNT

Location: S. Prospect,Henderson-Cliff Inspector: D. Roy

Date: 3/31/16			Date: 4/7/16			Date: 4/8/16		
7:00	10:00	13:00	7:00	10:00	13:00	5:30	10:00	13:00
	391-795	BFD 909	ESY 752					
	B54427R	GMD 243	FSM 452					
	GNY 323	FGB 737	GRH 352					
	GHA 576	FWY 669	U26170					
	FGB 737	FAX 777	KZ3739					
	FWY 669	334 GXA	51012					
	FAX 777	GDA 211	334 GXA					
	334 GXA	GNY 903	830 AKB					
	GDA 211	EST 721	391 795					
	GDG 840	GAP 171						
	GMD 243	FML 520						
	EST 721	FXA 275						
	GAP 171	366 GWK						
	FML 520	123519						
	FXA 275	FNP 763						
	366 GWK	9076M						
	7M91	51012						
	FNP 763	GRH 702						
	9076M	U26170						
	51012	GRH 352						
	GRH 702	GRW 114						
	U26170	GLG 589						
	GRH 352	GBS 197						
	GRW 114	FSM 452						
	GLG 589							
	GBS 197							
	FSM 452							
Total Spaces	28	28	28					
Spaces Used	96%	92%	32%					
Resident	21%	18%	32%					
Transient	18%	11%	0%					
Long Term	57%	57%	0%					

Petition to Change Parking Regulations on the 300 block of South Prospect

We, the undersigned, are in FAVOR of changing the current parking regulations from "Resident Only 12am-6am" to "Resident Parking Only" on the 300 Block of South Prospect Street (from Henderson to Cliff St.)

Name	Address	Email	Phone	Signature
✓				
✓				
✓				
✓				
✓				
✓				

Requests for Service (/Main.aspx)

#9779 Assigned New

Assigned to: Damian Roy **Requested by:** Perry Laroque

Technical Services Traffic Requests

Opened: 12/15/2015 **Entered By:** Damian R

Location: 308 S Prospect St

Due: 4/15/2016

Perry is looking to A: confirm what the parking regulation is on this section
of Prospect, and B: wants to either change the parking regs for Prospect to
limit or eliminate UVM students taking up all the parking or to acquire RPP
for his household. He is at the corner of Prospect and Henderson and his
driveway is on Henderson.

Work History Add Work Histor

Date	Staff Person	Description
04/11/2016	Damian Roy	Mr. Laroque has expanded his request to installing full-time resident only parking on South Prospect from Henderson Terr. to Cliff Street. He has submitted a petition to staff supporting this request. Details

Attachments

No Attachments

Browse... No file selected.

Upload Attachment

Damian Roy

From: perrytomtom@hotmail.com on behalf of Perry La Roque <perrylaroque@hotmail.co
Sent: Thursday, April 07, 2016 10:56 AM
To: Damian Roy
Subject: RE: 300 Block South Prospect Petition

I just need enough time to get our neighbors there. There is a lot of interest in attending to see this change through. Thanks!

Perry LaRoque
(608) 215-3175

From: droy@burlingtonvt.gov
To: perrylaroque@hotmail.com
Subject: RE: 300 Block South Prospect Petition
Date: Thu, 7 Apr 2016 14:45:49 +0000

The next Public Works Commission meeting is on April 20th but as of today I'm not certain I will be able to get it on th agenda. Once I make the agenda, I will let you know.

Damian Roy, Engineering Technician
Burlington Public Works Department
645 Pine St. Burlington VT 05401
Desk: 802.865.5832
Cell: 802.598.8356
Email: droy@burlingtonvt.gov
Web: www.burlingtonvt.gov/dpw

From: perrytomtom@hotmail.com [mailto:perrytomtom@hotmail.com] **On Behalf Of** Perry La Roque
Sent: Thursday, April 07, 2016 10:44 AM
To: Damian Roy
Subject: RE: 300 Block South Prospect Petition

Any update on the meeting?
Perry LaRoque
(608) 215-3175

From: droy@burlingtonvt.gov
To: perrylaroque@hotmail.com
Subject: RE: 300 Block South Prospect Petition
Date: Tue, 22 Mar 2016 12:43:08 +0000
Hi Perry,

The April meeting will be held on Wednesday the 20th. It is difficult to judge how much weight the Commission lends resident input, in my experience it definitely makes a difference when one interest is heavily supported at the meeting. The Commission also considers staff's recommendations which are based on empirical evidence whenever possible and are not always in line with resident's interests. If you are wondering if it would be beneficial to have yourself and your neighbors attend the April meeting then yes it is.

Please keep in mind, that I can offer no guarantees at this time that your request will be heard at the April meeting, although that is my goal. As we get closer I will keep you apprised of my progress.

Best,
Damian

Damian Roy, Engineering Technician
Burlington Public Works Department
645 Pine St. Burlington VT 05401
Desk: 802.865.5832
Cell: 802.598.8356
Email: droy@burlingtonvt.gov
Web: www.burlingtonvt.gov/dpw

From: perrytomtom@hotmail.com [mailto:perrytomtom@hotmail.com] **On Behalf Of** Perry La Roque
Sent: Monday, March 21, 2016 6:18 PM
To: Damian Roy
Subject: RE: 300 Block South Prospect Petition

Thanks Damian. How much weight is given to the will of the residents on the block? Are we likely to get this changed? People are very concerned about the current parking regulations and feel strongly that they are changed. When is the April meeting?

Thanks,

Perry
Perry LaRoque
(608) 215-3175

From: droy@burlingtonvt.gov
To: perrylaroque@hotmail.com
Subject: RE: 300 Block South Prospect Petition
Date: Mon, 21 Mar 2016 13:45:12 +0000
Hi Perry,

Thank you for providing the petition. I will begin the process of evaluating your request with the goal of having it presented at the April Commission. If I am successful in making the agenda, I will be notifying you and the others on t petition of the meeting date and time so that you may attend. At the meeting, you may speak during the public forum or during the agenda item.

I'll be in touch, any questions feel free to ask.

Damian

Damian Roy, Engineering Technician
Burlington Public Works Department
645 Pine St. Burlington VT 05401
Desk: 802.865.5832
Cell: 802.598.8356
Email: droy@burlingtonvt.gov
Web: www.burlingtonvt.gov/dpw

From: perrytomtom@hotmail.com [mailto:perrytomtom@hotmail.com] **On Behalf Of** Perry La Roque
Sent: Sunday, March 20, 2016 1:17 PM
To: Damian Roy
Subject: 300 Block South Prospect Petition

Hi Damian,

I have attached our neighborhood petition to change the parking regulations along the 300 block of South Prospect from "Resident Only 12am-6am" to "Resident Only". You will see that 6 out of the 7 permanent residential property owners (one resident could not be reached) have signed the petition and have communicated their strong support for this change to me. The only two other properties on the block, whic are owned by landlords, could not be reached, but regardless, this petition represents 66% of the property owners on the street voting in favor of the changes. Please let me know if you need the original copy of the petition.

If the Commission meeting is open to the public, I would like to attend in order to be available to further advocate on behalf of the permanent residents of our block.

Thanks for all of the help,

Perry LaRoque
308 South Prospect Street
Perry LaRoque
(608) 215-3175

From: droy@burlingtonvt.gov
To: perrylaroque@hotmail.com
Subject: RE: Your Request
Date: Fri, 18 Mar 2016 17:26:06 +0000

Yes this is for residential properties only. If you'd like to start your own petition that is fine, just make sure that it specifies the time restriction (at all times) and has a place for:

- Signature
- Printed name
- Address
- Email Address
- Phone number

The sorority members themselves do not have a vote on this petition. Only the owners of the property. Planning and Zoning should have listed who that would be or perhaps the sorority sisters can point you in the right direction.

Damian Roy, Engineering Technician
Burlington Public Works Department
645 Pine St. Burlington VT 05401
Desk: 802.865.5832
Cell: 802.598.8356
Email: droy@burlingtonvt.gov
Web: www.burlingtonvt.gov/dpw

From: perrytomtom@hotmail.com [mailto:perrytomtom@hotmail.com] **On Behalf Of** Perry La Roque
Sent: Friday, March 18, 2016 1:21 PM
To: Damian Roy
Subject: RE: Your Request

Great. This is for residential addresses only, correct? So UVM wouldn't have a vote?

I am pushing for "Resident Only" so should I just create my own? Otherwise, I can wait.

Thanks.

Perry

From: droy@burlingtonvt.gov
To: perrylaroque@hotmail.com
Subject: RE: Your Request
Date: Fri, 18 Mar 2016 15:42:21 +0000

Yes you will need to fill out a petition showing 51% support from the *property owners*. I'm working to create a standardized petition form that will include a section showing the different RP times offered so that each person can indicate which time restriction they support. You will need to collect signatures from the properties on South Prospec beginning at Henderson and ending at Cliff Street. So 307 S Prospect to 369 S Prospect (according to googlemaps).

I should have a standardized petition form made hopefully early next week if you'd like to wait and pick it up. If we move quickly, I might be able to get this on the April Public Works Commission agenda.

Damian Roy, Engineering Technician
Burlington Public Works Department
645 Pine St. Burlington VT 05401
Desk: 802.865.5832
Cell: 802.598.8356
Email: droy@burlingtonvt.gov
Web: www.burlingtonvt.gov/dpw

From: perrytomtom@hotmail.com [mailto:perrytomtom@hotmail.com] **On Behalf Of** Perry La Roque
Sent: Friday, March 18, 2016 11:17 AM
To: Damian Roy
Subject: RE: Your Request

Thanks for reaching back out. I was traveling to Boston and went through a Dead Zone.

I wanted to know about the process for changing the parking in front of our house from Resident 12am-6a to Resident Only. You mentioned a petition with 51% of the people that share the block. We are on a stran block, so I'd like to know who is included. I am confident we can get an almost unanimous vote. We've alre talked to most of our neighbors about it.

Thanks!

From: droy@burlingtonvt.gov
To: perrylaroque@hotmail.com
Subject: Your Request
Date: Fri, 18 Mar 2016 15:03:54 +0000
Hello Perry,

I must apologize, after our phone conversation the other day I usually take notes on what was said so when go back to that request I don't miss anything. However after our conversation I was immediately pulled int something else and now I can't remember the second part of your request. Resident parking permits for Henderson I got, could you reiterate the second half of your request here in email. That would help me out

Thanks,
Damian

Damian Roy, Engineering Technician
Burlington Public Works Department
645 Pine St. Burlington VT 05401
Desk: 802.865.5832
Cell: 802.598.8356
Email: droy@burlingtonvt.gov
Web: www.burlingtonvt.gov/dpw

Walk Bike planBTV

WALK BIKE MASTER PLAN
BURLINGTON, VT

DRAFT FOR PUBLIC REVIEW: JULY 1, 2016

DuBois & King, Inc.
STREETPLANS — Miami · San Francisco · New York
GPI — Greenman-Pedersen, Inc.

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MANY THANKS

To the Burlington City Council and the hundreds of residents and business owners that participated in the creation of this plan.

To the organizations that funded this plan.

- Vermont Agency of Transportation (VTRANS)
- AARP Vermont
- Chittenden County RPC

To the two committees that helped guide the process:

The Technical Committee provided guidance on the plan's goals, public involvement process, priority improvements, strategies, and performance measures. With leadership from the Burlington DPW, the Committee included representatives from:

- Local Motion
- VTRANS
- AARP Vermont
- Chittenden County Regional Planning Commission
- CCTA

The Advisory Committee provided additional strategic guidance around priority improvements, strategies, and public involvement. Members of this Committee served as liaisons in outreach and communications efforts. They are also responsible for submitting the final Master Plan to the City Council for Adoption. Members include representatives from:

- Local businesses
- Residents from each of the 4 districts
- City Councilors
- Burlington Walk-Bike Council
- Burlington School District
- Burlington Advisory Committee on Accessibility
- University of Vermont Transportation & Parking Services
- Vermont Department of Health
- Representatives for relevant City Departments such as the Police and Fire Departments, Planning & Zoning, Community & Economic Development, and Burlington Parks, Recreation & Waterfront

(full bleed photo representing active transportation here - showing multiple modes)

Burlington's first comprehensive plan focused on walking and biking.

Welcome to Burlington's first comprehensive plan focus on walking and biking. In the pages ahead, this document will provide background information about the planning process, examine existing conditions, and make recommendations for how Burlington can improve pedestrian and bicycle conditions. While this plan is specifically focused on walking and biking, it serves as a compliment to past and ongoing planning efforts in Burlington, and throughout the region, including:

- Ongoing planBTV South End process (Draft plan released June 2015)
- 2016 Chittenden County Regional Planning Commission (CCRPC) Regional Bicycle and Pedestrian Plan
- 2016 Vermont Comprehensive Energy Plan
- 2015 planBTV Parks, Recreation & Waterfront Master Plan
- 2014 Burlington Bike Path Intersections Scoping Study
- 2014 North Avenue Corridor Study
- 2013 planBTV: Downtown and Waterfront Master Plan
- 2011 Comprehensive Transportation Plan for the City of Burlington
- 2011 Chittenden County Bike Share Feasibility Study
- 2011 Colchester Avenue Corridor Plan
- 2011 North Winooski Avenue & Archibald Street Intersection: Pedestrian Safety & Mobility Evaluation
- 2010 Final Report of the Waterfront South Access Project
- 2010 Chittenden County Transportation Authority Transit Development Plan
- Ongoing advancement of the Shelburne Road Rotary Redesign Project

For additional information on these related planning efforts, please visit: www.burlingtonvt.gov

STARBUCKS COFFEE
SHOPPING MALL

STEPHEN & BURNS

skirack.com

STOP

LET'S DO THIS.

Making Burlington a more walkable, bikeable place will improve quality of life for everyone.

When it comes to walking and biking, Burlington has a lot to be proud of. With access to forest, mountains, lakes, and river, Burlington's appeal for outdoor recreation is hard to match. The Burlington Bike Path is a tremendous asset to the City's parks system and is an immensely popular attraction during the summer, fall and spring and, increasingly, the winter months. Church Street Marketplace is a vibrant hub of pedestrian activity, surrounded by a walkable downtown with well-preserved historic architecture. Compact development patterns make Burlington inherently conducive to travel on foot and by bike. Indeed, the city has been awarded Silver level Bicycle Friendly Community and Walk Friendly Community designations, and in 2013 endorsed a community effort to "Go for Gold." The Queen City is consistently rated as one of the most livable and creative small cities in America.

Still, like many communities across the country, Burlington is experiencing growing demand for safer streets with better walking and biking options. Burlington's vision for becoming a more walkable, bikeable place has been articulated in every transportation-related plan adopted in the past decade. Many city agencies and non-profits are already working toward the ambitious goal of making Burlington the best small city for walking and biking on the East Coast. But up until now, Burlington has not had any dedicated plan defining strategies and priorities for walk/bike-related investments. As Burlington's first comprehensive plan devoted to improving pedestrian and bicycle conditions, this plan creates a road map to help Burlington rapidly transform into a place where walking and biking are viable, and enjoyable, transportation options for people of all ages and abilities, all year round. Why are walking and biking important for Burlington? First, people care about it! Even with limited infrastructure and no comprehensive plan in place, census data shows that more Burlington residents that are getting to work by bike or on foot. Second, safer walking and biking conditions will improve the quality of life for everyone. A growing body of data from around the country documents that growth in walking and biking brings a host of environmental and economic benefits tied to reduced traffic congestion, reduced vehicle emissions, lower road maintenance costs, savings in healthcare costs, increased independence for those who can't drive, and more. Cities around the nation are paying attention - in September of 2015 the Surgeon General even issued a national Call to Action, urging communities to improve access to safe and convenient places to walk and wheelchair roll for people of all ages and abilities. In the pages ahead, we'll take a closer look at what improved walking and biking conditions can do for Burlington, set goals for walk and bike improvements, and outline a path to help Burlington reach those goals. This plan has been a long time coming. Let's do this, Burlington!

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LETTER FROM MAYOR

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LETTER FROM PUBLIC WORKS DIRECTOR

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EXECUTIVE SUMMARY SECTION HERE

Executive Summary to include:

- Plan Vision and Goals, with overarching success metrics
- Selection of priority actions related to infrastructure/ engineering, including those related to bike parking and bike share
- Simplified, summary map of key investments
- Selection of priority actions related to policy, education, encouragement, enforcement, equity, and evaluation/planning

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EXECUTIVE SUMMARY SECTION HERE

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VISION

IMAGINE A FUTURE WHERE...

- ...Burlington's Streets were safe enough that parents could let their kids walk or bike to school, to the park, or to a friend's house without worry; and that older adults could comfortably walk or bike from their house to community destinations such as the grocery store, or the pharmacy.

- ...walking, biking, and taking the bus were the preferred choice for students and adults living or working in Burlington, all year round.

- ...Burlington's transportation network improved our local economy and quality of life, leading people to stay in Burlington and invest in our community.

GOALS

THIS PLAN IS ABOUT 2 THINGS:

- CREATING SAFER STREETS FOR EVERYONE
- AND, MAKING WALKING AND BIKING A VIABLE (AND ENJOYABLE) WAY TO GET AROUND TOWN.

GOAL:

CREATING SAFER STREETS FOR EVERYONE...

We will eliminate traffic-related fatalities and serious injuries by 2026.

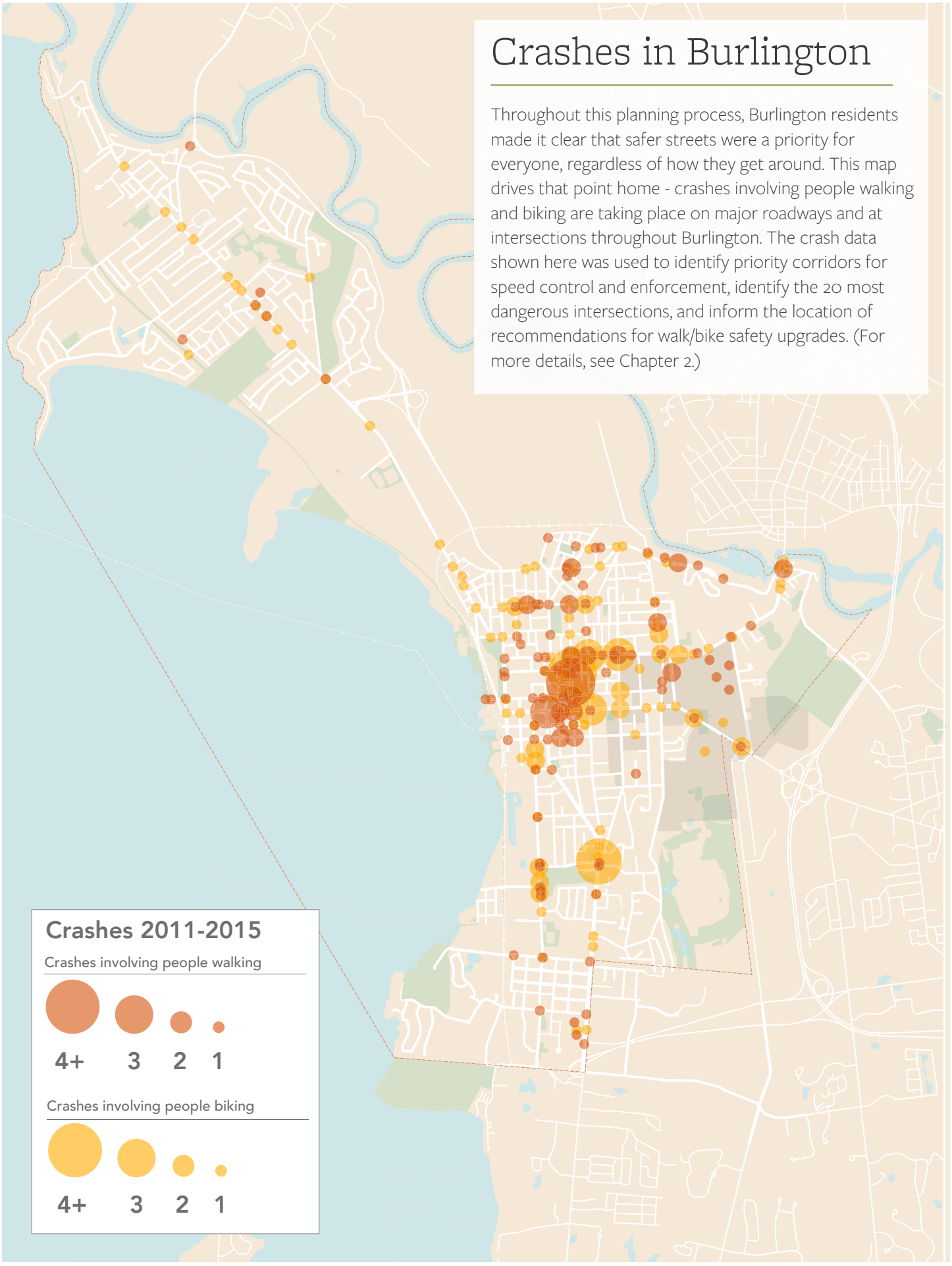
Traffic-related deaths and injuries are preventable. It isn't accurate to call serious collisions "accidents" - for the most part these incidents are the result of factors that we can change, such as unforgiving roadway designs and poor behavior.

To achieve the ambitious goal above, Burlington must approach the issue of street safety from multiple angles – creating infrastructure that emphasizes safety, predictability, and the potential for human error, along with targeted programs related to education, enforcement, and more.

This safety goal has been developed in the spirit of Vision Zero principles. For more information about Vision Zero and what it means, see the Policy and Protocol Action Plan in Chapter 3.

Crashes in Burlington

Throughout this planning process, Burlington residents made it clear that safer streets were a priority for everyone, regardless of how they get around. This map drives that point home - crashes involving people walking and biking are taking place on major roadways and at intersections throughout Burlington. The crash data shown here was used to identify priority corridors for speed control and enforcement, identify the 20 most dangerous intersections, and inform the location of recommendations for walk/bike safety upgrades. (For more details, see Chapter 2.)



GOAL:

MAKING WALKING AND BIKING A VIABLE (AND ENJOYABLE) WAY TO GET AROUND TOWN...

By 2026, reliance on drive-alone trips will be low, and alternative modes will make up the majority of commute trips in Burlington.

Mode share (also called mode split or modal share) is a way to measure the percentage of travelers using a particular type of transportation.

In the United States, it is difficult to measure exactly how many people walk and bike for transportation. The best data available for understanding Burlington's mode share comes from the U.S. Census Bureau's American Community Survey (ACS), which only asks for information about a person's journey to work. We know that getting to work is only a small part of the picture of a person's transportation habits - commuting to work constitutes approximately 20% of all person miles of travel in the United States. Additionally, the framework for collecting journey to work data has changed over time. In the year 2000 and prior, journey to work data was collected as part of the decennial census. Today, it is collected through the ACS, which is a more frequent survey from a smaller pool of people than the decennial census. This variation makes it difficult to make a clean comparison to recent data and data collected in the year 2000 and before.

Though not perfect, these data sources can help us understand trends in how people move around Burlington. This plan recommends that Burlington work with local and regional partners to collect more detailed data about transportation habits going forward (see details in Chapter 4). For now, we can use census data to set the goal of shifting mode share to the point where alternatives to driving alone make up the majority (51%) of Burlington's commute trips by 2026.

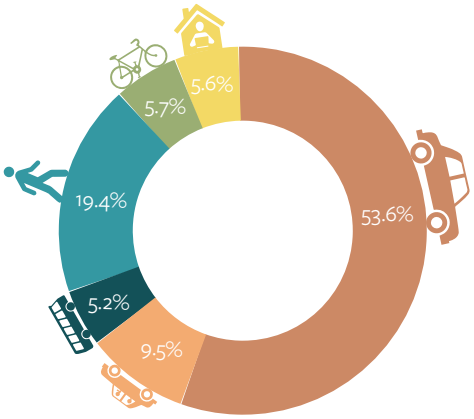
Our Mode Share Goal

Burlington's 2026 Mode Share Goal

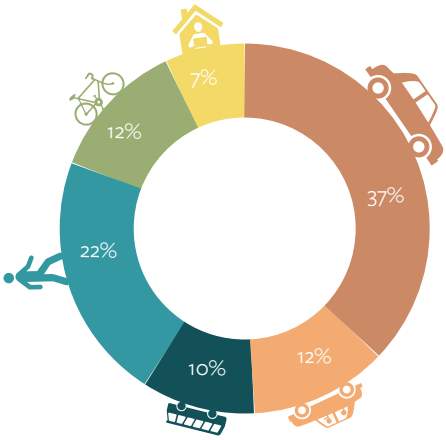
Burlington's mode share goal sets a target in which reliance on drive-alone trips is low, and use of alternate modes (carpooling, transit, walking, biking, and even telecommuting) makes up over half (or 51%) of commute trips.

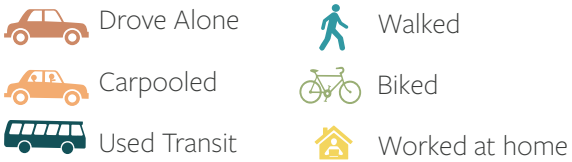
In the chapters ahead, we'll provide details on what Burlington's mode share looks like today, and why increased use of alternative modes benefits everyone. We'll also outline specific projects and actions to help the city meet this ambitious goal. The mode share goal will serve as a baseline to help the city determine if progress is being made towards the larger plan vision of making walking and biking a viable (and enjoyable) way to get around town.

Burlington in 2013*



2026 Mode Share Goal





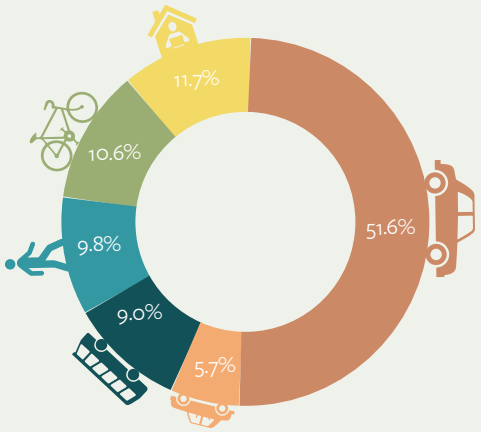
How does Burlington's target stack up with goals in leading cities?

Davis, CA

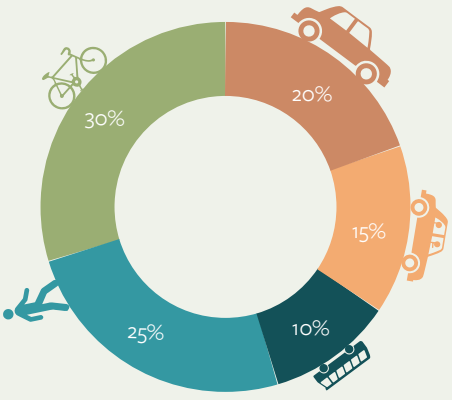
30%

The City of Davis Bicycle Action Plan set a target for 30% bicycle mode share by 2020 (working from a 2013 mode share of 20%).

Boulder, CO - 2013*



Boulder, CO - 2035 Target**



** 2013 data based on 2009-2013 American Community Survey 5-year estimates*

** City of Boulder 2014 Transportation Master Plan (note "working from home" was not detailed in the goals)

PART 1:
WHY?

...do we want to create safer streets for everyone, and make walking and biking a viable (and enjoyable) way to get around town?

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Photo by Nic Anderson

...BECAUSE OUR CITY HAS ASKED FOR THIS.

Burlington residents have called for better walking and biking conditions in every transportation-related plan adopted in the past decade.

The Transportation Plan envisions a balanced investment in complete streets that will function safely for all users, with street design guidelines that have been widely applied on projects in recent years.

The Downtown and Waterfront Plan envisions green and healthy streets for the downtown district.

The redevelopment of the Burlington Town Center, in keeping with the Downtown and Waterfront Plan, may provide a much needed north-south bicycle connection through the heart of downtown.

The Burlington Parks, Recreation & Waterfront Master Plan notes "Connection" as a key focus area, and calls for better linkages to Burlington's parks and waterfront bike path through improved cycling infrastructure (including more east-west links), consistent wayfinding, and improved sidewalks. As a parallel effort, Burlington Parks, Recreation & Waterfront also completed a Scoping Study in 2014, focused on creating recommendations for improvements at 12 roadway crossings with the Burlington Bike Path.

The draft South End plan (undergoing revisions at this time) envisions a highly pedestrian centric arts hub, and a walkable, bikeable Pine Street corridor.

For more details and analysis of public input for this plan, see Chapter 2.

Because a walkable, bikeable city benefits *everyone*.

Beyond responding to a clear community priority and increasing safety, walking and biking investments will also bring economic, environmental, and health-related benefits that will improve quality of life for everyone in Burlington.

Families

Walking/biking increase household purchasing power. Households in automobile-dependent communities devote 50% more—an extra $3,000 on average—to transportation than households in communities with better bike and pedestrian facilities.*

Young Adults

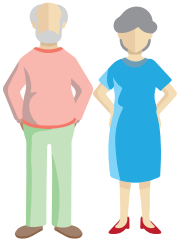
Walk/bike investments help attract and retain talent. Bike friendliness can be a factor in where people decide to live and work. In 2009, Portland, OR surveyed recent transplants who bike to work, and 62% of respondents said the city's bike friendliness was a factor in their decision to move there.*

Small Business Owners

Human-friendly streets boost retail performance. After the construction of a protected bike lane on 9th Ave. in NYC, local businesses saw a 49% increase in retail sales. On other streets in the borough, the average was only 3%.*

Major Employers

Better walk/bike conditions contribute to a healthy and happy workforce. The more often an employee cycles and the longer the distance traveled, the lower the rate of absenteeism.*



Older Adults

Walking/biking keeps people fit, healthy, and socially connected as they age. An adult cyclist typically has a level of fitness equivalent to someone 10 years younger and a life expectancy two years above the average.*

Teens

Walking/biking can help set teens up for healthy lives. Adolescents who walk or bike to school watch less TV and are less likely to smoke than their peers who are driven to school. They also get more overall physical activity.*

Young Children

Walking/biking improves kids' academic performance.

Studies have shown that girls who walk or bike to school perform better on tests. Longer commutes were associated with higher test scores, regardless of how much exercise kids got outside of school.*

Our Local Environment

Walking/biking reduces greenhouse gas emissions.

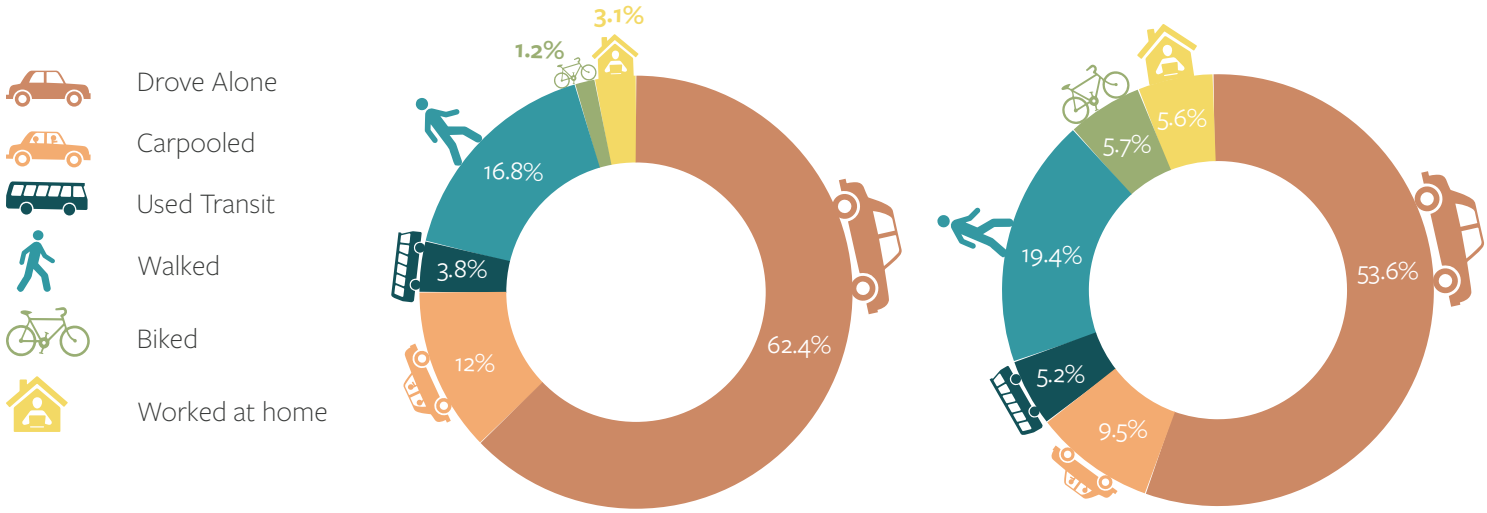
A 5% increase in the walkability of a neighborhood is associated with a per capita 32.1% increase in active travel, 6.5% fewer miles driven, 5.6% fewer grams of NOx emitted, and 5.5% fewer grams of volatile organic compounds (VOCs) emitted.*

**Data sources provided in Appendix.*

...BECAUSE PEOPLE ARE WALKING & BIKING MORE.

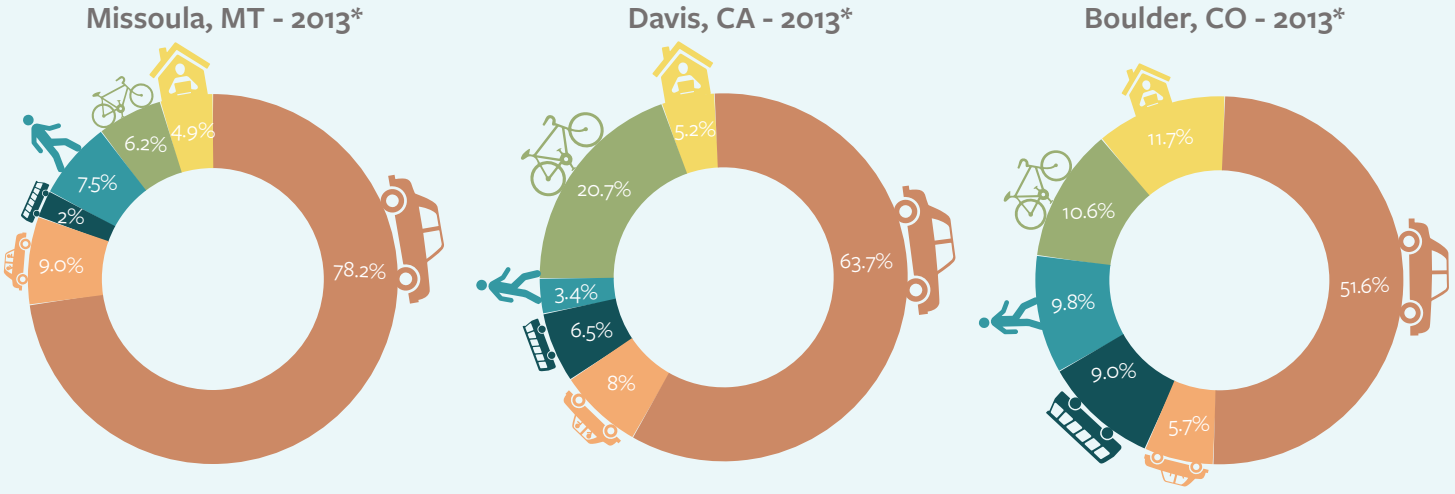
Burlington has seen a significant increase in the percentage of people commuting by public transit, biking or walking.

Journey to work



Compared to other parts of the country, Burlington boasts a high rate of people walking to work. The percentage of people walking or biking to work in Burlington has grown overall since the year 2000, but Burlington can still do better. Comparison of ACS 5-Year Estimate data for 2009 and 2013 in Burlington actually shows a slight decline in people walking to work (from 21.1% to 19.4%). And, while bicycle mode share is growing, it does not yet match the high percentages shown in the leading cities below.

How does Burlington's mode share stack up with that of leading cities?



Source Notes: Year 2000 data is based on the 2000 Census. Year 2013 data is based on 5-Year Estimates from the American Community Survey - a more frequent survey from a smaller pool of people. Though not a perfect source or comparison, these data points can help us get a snapshot of mobility trends in Burlington, and in other cities of similar size and/or climate that are leaders in walk/bike mode share. For more info on data sources and limitations, see page 22.

...BECAUSE BURLINGTON'S INFRASTRUCTURE ISN'T KEEPING UP WITH DEMAND

Recent projects are building momentum, but as the data below and on the previous page illustrates, Burlington's infrastructure still isn't good enough to making walking and biking a viable way to get around town.

95 miles of city streets

130 miles of sidewalk

12.2 miles of shared use paths

0 miles of protected bike lanes

12% of streets have bike lanes (11.9 miles total)

3% of streets have shared lane markings (2.9 miles total)

"Gold Level" Bike-Friendly cities are doing much better, typically featuring

65% of arterial streets with bike lanes.

To achieve the recognition and high levels of walk/bike mode share that other leading cities benefit from, Burlington will have to do better.

Of course, it isn't *only* about infrastructure. Burlington has a rich landscape of events, programs, and policies that support a culture of walking and biking. For more on these non-infrastructure elements, see Chapter X.

...BECAUSE BURLINGTON'S STREETS DON'T FEEL SAFE.

51%

of Burlington residents over the age of 45 feel that the City's streets are unsafe for cyclists.*

The 5 Streets that Feel Most Unsafe

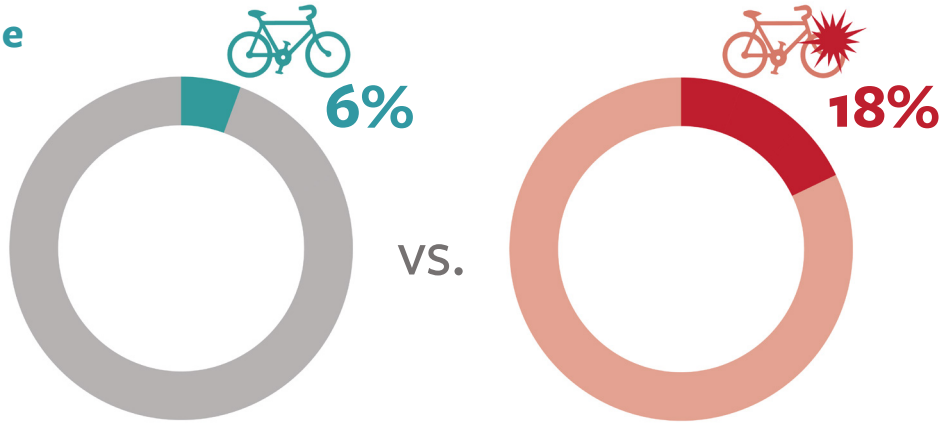
We asked over 500 Burlingtonians of all ages to tell us what streets felt the most unsafe for walking and biking. Here's what we heard:

- **Shelburne Road**
- **Pine Street**
- **North Avenue**
- **Battery Street**
- **Main Street**
- **Plus a "Dis-Honorable mention" for North/South Winooski Avenue (#6)**

High injury rate for people riding bikes in Burlington underscores the need for safer streets

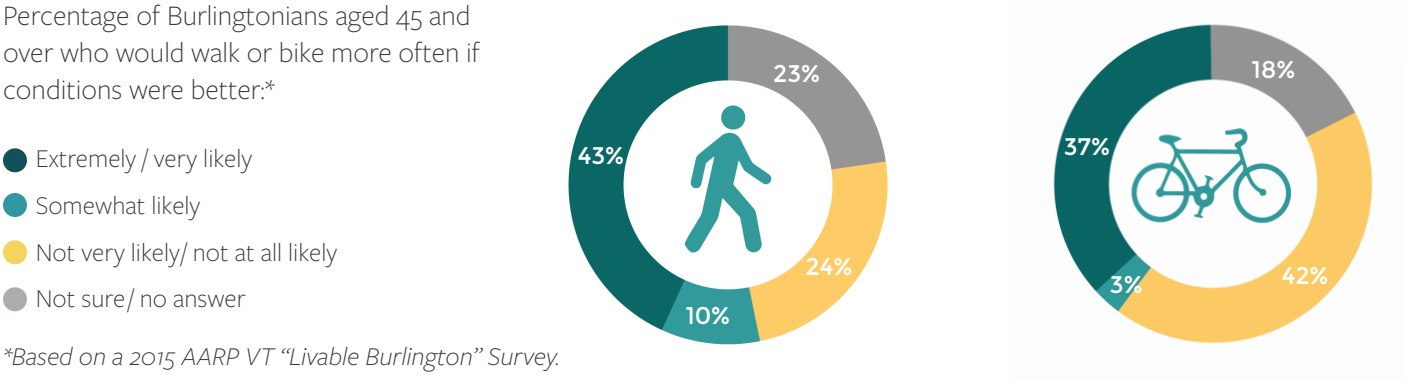
In 2013, about **6% of people regularly rode a bike** to work in Burlington.

But, of 771 traffic-related injuries in Burlington since 2011, **18% involved people riding bicycles.**

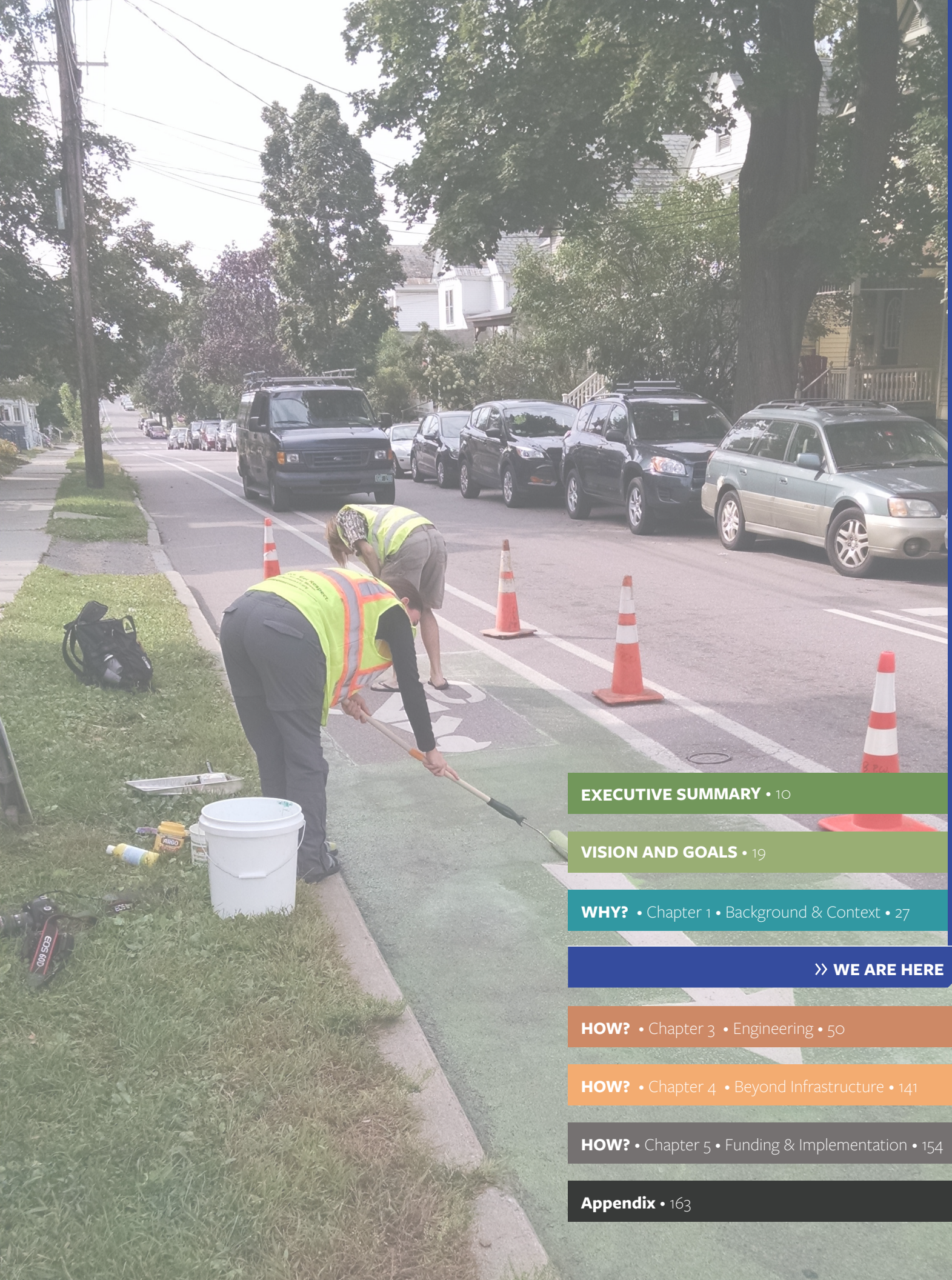


Burlington residents would walk or bike more often if conditions were better.

Percentage of Burlingtonians aged 45 and over who would walk or bike more often if conditions were better:*



Based on a 2015 AARP VT "Livable Burlington" Survey.



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How Public Input Helped Shape the Plan

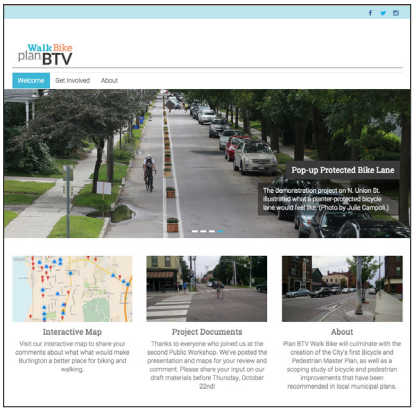
Through the activities described on the following pages, people shared many diverse opinions, concerns, and hopes about walking and biking in Burlington. The left column below summarizes the topics and issues that came up repeatedly across activities, from surveys to focus groups. The right column explains how this plan responds to what we heard from the community.

What we heard...	What we did
"Burlington needs a **dense, connected bikeway network**, that includes 'low-stress' **protected facilities** appropriate for **people of all ages and abilities**."	Created a bold plan that sets ambitious goals for making Burlington a more walkable and bikeable place, and positions Burlington to achieve Gold-level status as a walk and bike friendly community in the next 5 years.
"**Safety** is a huge priority. It should be the major focus of the plan."	Identified safety as a top priority in the plan vision, and set an ambitious goal to eliminate traffic-related fatalities and serious injuries by 2026.
"Burlington needs **safe intersections** for all modes. Intersections should be a major focus of the plan's pedestrian projects, in particular."	Structured walk recommendations around improving Burlington's most dangerous intersections (identified through crash data analysis and public input). And, outlined recommendations for an extensive network of low-stress bikeways that include protected intersections.
The plan must address **"gateway" areas** in and out of Burlington from South Burlington, Winooski, etc.	Recommended stronger and safer connections, with protected bikeways/ shared use paths at all entry/exit points on the cities border.
"**Speeding** is a major issue of concern, as is **aggressive driver behavior**."	Recommended target actions for enforcement. And, outlined a plan for infrastructure that will calm traffic on key corridors throughout the city, bringing speeds in line with Burlington's urban context.
"The plan must **embrace the winter climate** and integrate best practices for year-round maintenance of pedestrian and bicycle facilities."	Integrated best practices from cities that are leaders in active transport for winter climates (such as Montreal) in a special Winter Action Plan (see Chapter 3).

What we heard...	What we did
The network should minimize hills and **respond to grades**.	Recommended east-west cycling connections, like climbing and protected bike lanes to make cycling more appealing and unfavorable topography less intimidating.
"**Maintenance matters.** Poor pavement conditions of sidewalks and bike lanes reduces safety and mobility for people walking and biking."	Outlined best practices for maintenance of walking and biking infrastructure. Recommendations also call out the need for sidewalk maintenance funding reform and include strategies for reducing maintenance costs long-term.
"Puddles splash pedestrians and create hazards for people biking. We should aim to integrate **green infrastructure** into projects to **alleviate flooding**."	Outline tools for integrated green infrastructure into active mobility upgrades including planter-protected bike lanes, rain-garden curb extensions, and more street trees.
"Enforcement is important, but so is **engineering**. A sign with a low speed limit will not be enough to **encourage slow, careful driving** if the street is designed like a drag strip."	Established principles in Chapter 2 for using street design to "enforce" desired speeds and improve safety. This chapter also identifies focus corridors for speed control and enforcement, and outlines design tactics.
"Drivers are not the only ones who need education about safety and courtesy. Pedestrians feel threatened by **people biking on sidewalks** or **riding the wrong way** in streets and bike lanes."	This plan recommends bold infrastructure upgrades that will support "good" behavior - safer and more direct bike routes will discourage sidewalk and wrong-way riding. The plan also outlines strategies for education around safe walking and biking habits in Chapter 4.
"Talk is cheap. We **need to see projects hit the ground. NOW.**"	First, we invited people to experiment with and experience options through demonstration projects. A demonstration project policy will accompany this plan, enabling residents and organizations to continue to test recommendations. The 12-month Priority Action Lists in Chapter 3 set DPW up to make change all over the city in the next year, with little else than paint. Finally, the plan recommends pilots for key projects and outlines a path for implementation of many projects over 5 years.

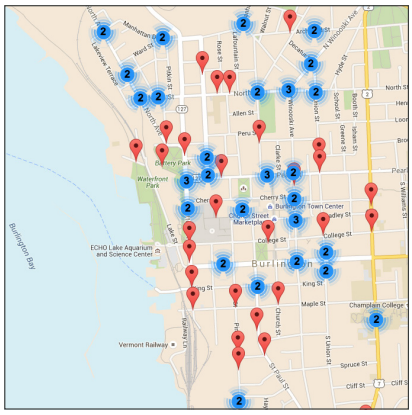
Summary of outreach activities

ONLINE OUTREACH



Dedicated Project Website

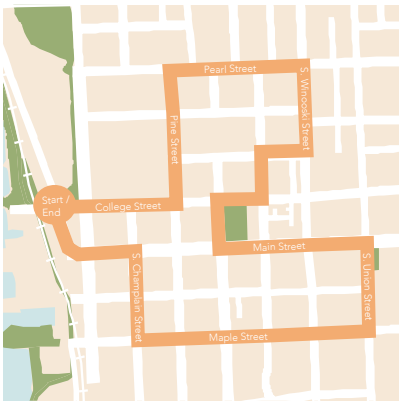
Social Media



Interactive map

The website and social media platforms were used to spread the word about the plan and disseminate materials such as the PlanBTV Walk/Bike Survey. The website featured an interactive map which allowed people to provide geo-located comments about walk/bike issues and ideas. Comments from the interactive map helped inform the list of top 20 priority intersections for upgrades and specific bike facility recommendations (see Chapter 3 for recommendation details).

HANDLEBAR + WALKABOUT SURVEYS INVOLVED:



Walk and bike tours.

Studying existing conditions.

Recording observations.

The Handle and Walkabout Surveys invited members of the public to participate in walking and biking tours to discuss and document existing conditions. The surveys helped us identify important routes for bikeway upgrades, observe conditions at dangerous intersections, and document existing bicycle parking. Importantly, these tours provided an opportunity for members of the public to impart "insider" information that might not be readily available in past plans and maps, such as the locations of informal footpaths around schools and parks (shown on the maps in Chapter 3).

PLANBTV WALK/BIKE SURVEY

The 24-question PlanBTV Walk/Bike Survey provided important information about existing conditions and community priorities for walking and biking in Burlington. The Survey was distributed through the mailing lists of the organizations on the Steering and Advisory Committees, and was promoted through public events and public workshops for the plan.

Who took the survey?

Over 540 people completed the survey between July and December of 2015. Survey responders were:

- Nearly all were full time residents of Burlington, 66% owned their own home and just under 30% rented.
- 67% work in Burlington, and over 65% have a commute of less than 5 miles. Commutes of this length are well suited to walking or biking.
- Seasonal bicycle commuters. Over 60% of respondents bike to work (compared to 5.7% citywide). But, a large percentage (62%) only bike seasonally, suggesting that improved winter infrastructure could have a big impact in Burlington's mode share.

66%

of 540 survey respondents said that they don't bicycle in Burlington because they don't feel safe.

TOP PRIORITIES FOR INFRASTRUCTURE*

- **Safer and easier intersections crossings**
- **Improvements to increase comfort and safety for people walking** (shade trees, wider sidewalks, fewer curb cuts, landscaping, plowing/ timely snow and ice removal, seating, separation from traffic)
- **Traffic calming and lower speeds**
- **More bike lanes**, paths, trails that are **protected** or separated from car traffic
- A more connected/ **continuous bicycle network**

What does this tell us?

It's all about speed control and infrastructure! For more information about how street design is related to speed and safety, see Chapter 3.

TOP PRIORITIES FOR PROGRAMS*

- Far and away, the top priority was **education and enforcement campaigns to improve driver behavior**
- **Traffic calming and lower speeds***Note that respondents were allowed to select more than one option for each category, resulting in percentages that total over 100%.*

What does this tell us?

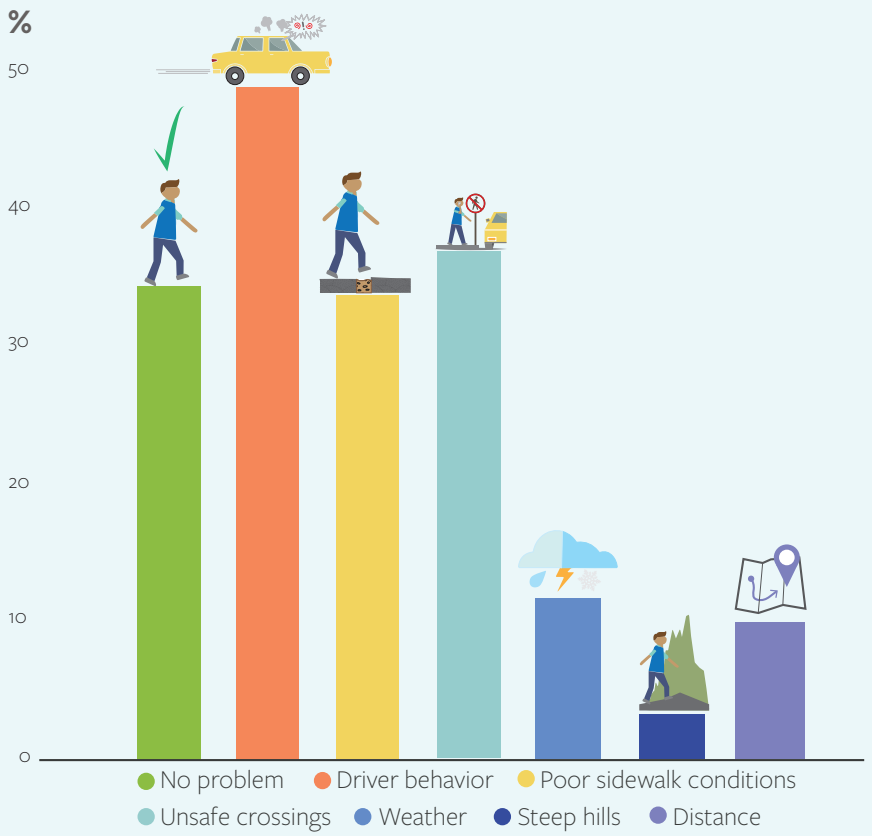
Conflict between people walking/biking and people driving is a major pain point. Survey respondents feel that aggressive driver behavior and high speeds are major threats to safety. Safer street design is a major priority to address these concerns. Although enforcement is important, street design sends strong signals about how to move through a space. See Chapter 3 for visual examples.

What makes you feel unsafe or uncomfortable walking around Burlington?

On a scale of 1-10, most survey respondents said they felt very safe walking (8-9 rating). Of the factors that make people feel unsafe or uncomfortable walking, driver behavior was the biggest problem, followed by unsafe crossings and poor sidewalk conditions. Survey respondents said that the most important infrastructure upgrades that would encourage them to walk more were:

- Safer, low-stress intersection design
- Better conditions (including benches, shade trees, etc.)
- More traffic calming/speed reductions
- More off-road trails and paths

They also noted the need for increased education around and enforcement of laws protected pedestrian priority. Recommendations related to education and enforcement can be found in Chapter 4.

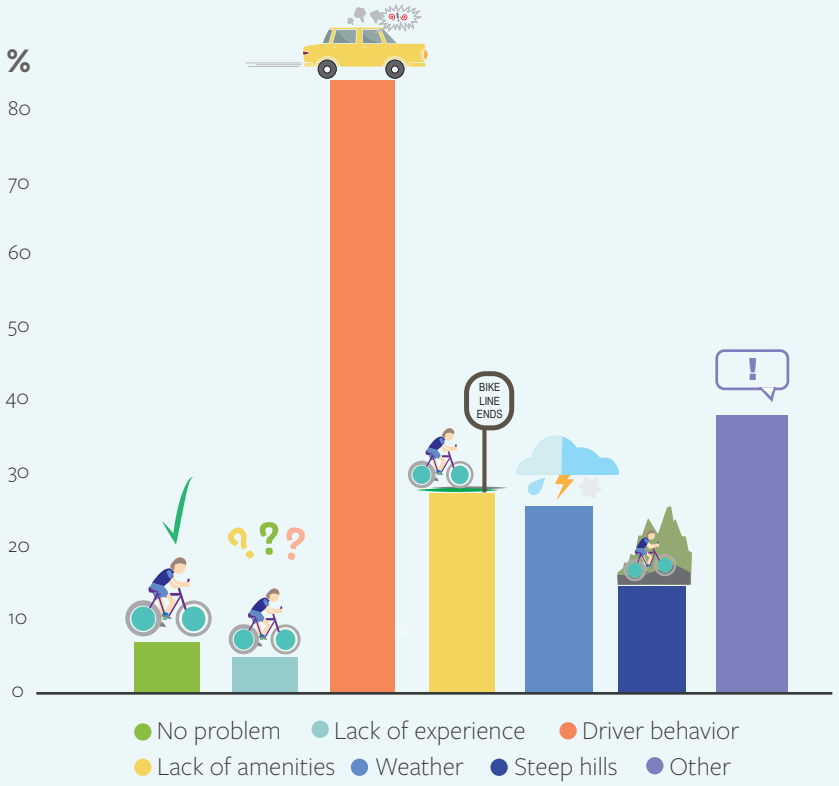


What makes you feel unsafe or uncomfortable biking in Burlington?

Although most survey respondents were confident and frequent cyclists, they reported feeling only moderately safe biking in Burlington. Driver behavior was listed as the main reason for feeling unsafe. To improve safety, respondents called for:

- More protected bike lanes and paths
- A more connected and continuous bicycle network throughout the city
- Additional signage reinforcing rules protecting cyclists
- More traffic calming/speed reductions
- Education and enforcement campaigns to improve driver behavior

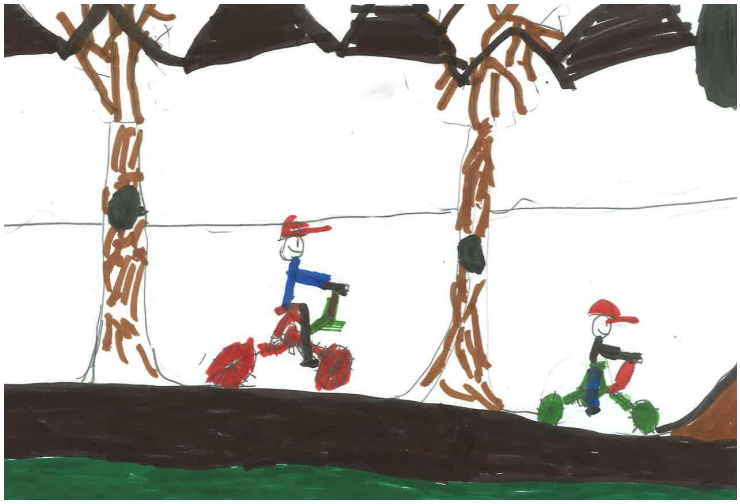
These desires are reflected in the recommended projects and actions in Chapters 3 and 4.

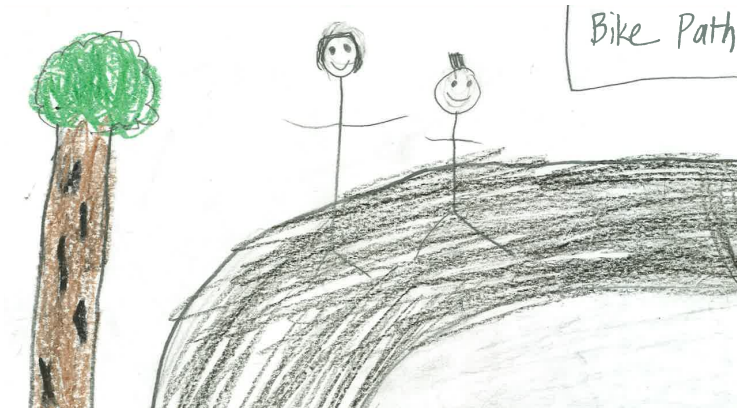


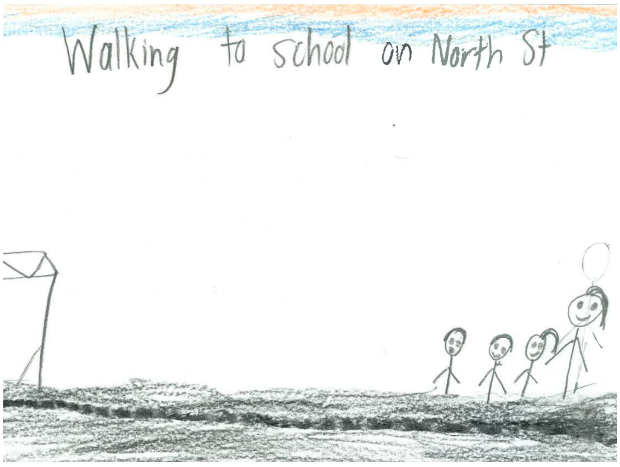
STUDENT SURVEY

With the help of their teachers, students from the Sustainability Academy completed an adapted version of the survey to share information about their walking and biking habits. Here's what we learned:

- Nearly all students enjoyed walking or biking around Burlington with their family, and many walk to school regularly.
- Favorite places to walk and bike included parks and playgrounds, the waterfront bike path, and on neighborhood streets in order to run errands.
- Most students do not walk or bike around Burlington by themselves or with friends, because their parents do not think it is safe for them to do so.







PUBLIC WORKSHOPS

The project team hosted in-person workshops to obtain input around key project milestones:

- **July 2015** - This initial Public Workshop defined the project's scope and approach. One key workshop activity used the "25/10" framework to rapidly define people's top priorities. For this exercise, everyone wrote down a single priority idea for making Burlington a better place to walk and bike. Each idea was passed around the room and scored on a scale of 1-5 by whichever 5 person happened to wind up with the idea in hand (1 indicated a less important idea and 5 indicated an idea with potential for high impact). The following page highlights the ideas that emerged with the highest scores.
- **September 2015** - This Public Workshop recapped public input to date and presented draft recommendations for improvements across the 5 E's. In small groups, participants had the opportunity to ask questions and provide specific feedback on draft proposals. Following the Workshop, the project team posted all draft materials on the project website for an additional 1-month comment period.
- **January 2016** - This Public Workshop provided an opportunity for the team to present revised recommendations, answer questions, and collect additional public input on the proposals in the plan.

These Public Workshops were a critical component of the planning process, and were supported by the many other online and in-person outreach strategies described in this section of the document.

If you could pick one priority project or policy to make Burlington more walkable or bikeable, what, and where would it be?

TOP PRIORITIES FOR **BETTER WALKING**

- Calm traffic and improve pedestrian crossings on S. Winooski Ave., especially near City Market (potentially using a 4-to-3 lane conversion).
- Install ADA accessible crosswalk and signal activators at key intersections citywide.
- Upgrade crossings at all major streets to have rapid flashing beacons, and follow-through on enforcement of pedestrian priority at these crossings.
- Widen sidewalks and narrow streets where pedestrian volumes are high, so that cars will be forced to drive 20 miles per hour.
- Add sidewalks on Leddy Dr. to connect Leddy Park and Leddy Beach with the Ethan Allen Shopping Center.
- Time pedestrian crossing signals so that walkers don't have to wait so long to cross.

TOP PRIORITIES FOR **BETTER BIKING**

- Create a two-way protected bike lane on N. Champlain from Pearl St. to Manhattan Ave., taking away one lane of traffic.
- Focus on adding more protected bike lanes citywide!
- Create protected bike lanes on North Avenue.
- Add protected bike lanes to S. Winooski Ave., through a 4-to-3 lane conversion.
- Provide protected bike lanes and/or a bike boulevard to get out of town commuters into the city safely.
- Create a protected North-South bike lane connection to enhance access to downtown and grocery stores.
- Legalize bikes crossing with pedestrians when the pedestrian signal comes on.

FOCUS GROUPS

In order to expand outreach and obtain input from underrepresented groups, the project team hosted Focus Groups with the VNA Family Room, a community resource center in the Old North End.

As parents of small children or new arrivals to America, Focus Group participants provided a unique perspective on walking/biking and street safety. While some bike regularly, most said they rely heavily on transit, driving, or walking. Common destinations included:

- Parks and playgrounds, especially Battery Park
- Old North End commercial corridor on North Street
- Local schools, especially H.O. Wheeler Elementary
- The Ethan Allen Homestead, which is a major hub for services and activities including summer camps

Walking was a key transportation mode for all attendees. When asked about specific streets or intersections that feel unsafe for walking, participants mentioned:

- Shelburne Road, and the Shelburne Rotary area
- North Avenue
- The intersection of Manhattan Ave. and 127
- Crossing to Battery Park from the Old North End
- Intervale/Elmwood intersection
- North Street crossings, such as at Murry St.
- Gateway areas from Winooski (such as the Winooski Bridge) or South Burlington.

Of the participants who did bike regularly, many stated that they typically bike on the sidewalk because they feel unsafe riding on the street. They noted that creating more protected bicycle routes should be a priority of the plan, and that affordable access to bikes and equipment would be helpful.

Participants also noted that there is a need to educate drivers about how to share the road with cyclists. Participants had positive experiences with Open Streets BTV and felt that doing more Open Streets events would be a great thing for Burlington.

Finally, participants noted that personal security is an important consideration when discussing pedestrian safety. Several people said that they feel unsafe walking around some parts of Burlington at night due to poor lighting and a high prevalence of people loitering and openly drinking on the sidewalk.

The planning team used "Demonstration Projects" to expand outreach and test possibilities for enhanced pedestrian and bicycle infrastructure.

Demonstration Projects refer to short-term or pop-up installations created with donated, borrowed or low-cost materials. For PlanBTV Walk/Bike, the Department of Public Works partnered with Local Motion and dozens of volunteers to create a series of Demonstration Projects in Burlington's Old North End and South End neighborhoods. These projects expanded the conversation about walking and biking beyond the traditional public workshop framework, allowing residents, business owners, and city agencies to physically experience and react to new types of pedestrian and bicycle infrastructure. To maximize public input, the project were installed during Burlington's popular South End Art Hop and Open Streets BTV events.

SOUTH END DEMONSTRATION: PARKLET AND PEDESTRIAN SAFETY UPGRADES @ ART HOP

The demonstration at Pine St. and Kilburn St. showed how the city might make walking safer and easier. The project featured a new "parklet" for sitting and socializing (pictured top left) and an artistic curb extension to reduce crossing distance for pedestrians (pictured bottom left). The parklet space included a tent with interactive activities to generate conversation and collect public input about walking and biking in Burlington.

OLD NORTH END DEMONSTRATION: BETTER BIKE LANES @ OPEN STREETS BTV

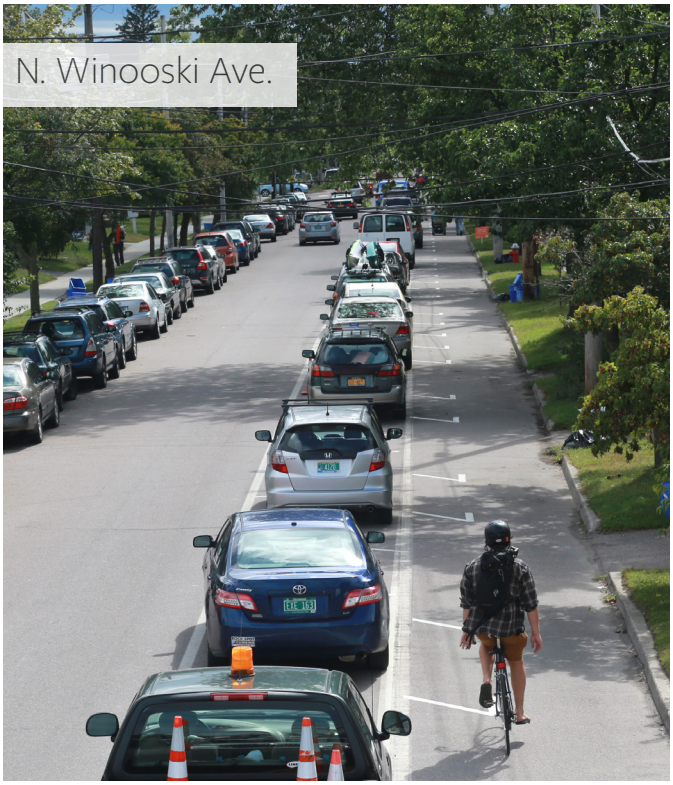


Photo by Julie Campoli

This demonstration project showcased various options for enhanced bike lanes on several streets adjacent to the Open Streets BTV route.

For this demonstration, the team created:

- Burlington's first parking-protected bike lane along one block of N. Winooski Ave. (pictured top left);
- A planter-protected bike lane on N. Union St. (pictured bottom left);
- Connections between the two protected bikeways - with a Neighborhood Greenway on Grant Street (pictured bottom right) and intersection treatments at Union and Pearl (see photos on following page)

Adjacent to the demonstration projects, volunteers set up outreach booths to talk to people about the plan and ask them about their priorities for a more walkable, bikeable Burlington.

Photo by Julie Campoli

MOVING TO PERMANENT ENHANCEMENTS AT THE UNION & PEARL INTERSECTION

Volunteers used temporary paint to add high-visibility lane markings to Union Street, providing a safe transition for cyclists crossing the intersection at Pearl.

Just 6 weeks after the demonstration project occurred, Burlington Public Works installed permanent pavement markings at the intersection.

Photos above by Julie Campoli

Photo by Nick Meltzer

WHAT WE LEARNED

The demonstration projects represented an unprecedented collaboration between Burlington's government agencies, advocates, local businesses, and residents, and they helped our team gather input for the plan. They also allowed a broad base of people not normally involved with the technical planning process to experience new and unfamiliar street design types. If this were the only outcome, then the projects could be considered a success!

Yet, beyond raising awareness and gathering input, our team learned what didn't work. Some aspects of the designs tested were imperfect. For example, the number of parking spaces moved off the curb on N. Winooski Ave. limited visibility for motorists turning into driveways located along the west side the street. Such conflict points between people driving and cycling could be ameliorated by changing the design approach, which underscores the value of testing design in the first place.

That said, the conversations we had with people during the demonstrations helped us deepen our understanding of what people like about protected bikeways, and what their interests and concerns are for more permanent infrastructure. Of course, there are many ways to design protected bike lanes besides the parking and planter-protected types shown in the demonstrations. Public input during the demonstration underscored that adding protected facilities remains a high priority for people in Burlington.

In addition to sparking important community conversations, the demonstrations allowed our team to gather some hard data. The Chittenden County Regional Planning Commission (CCRPC) collected vehicle speed and volume data on North Winooski Ave. and North Union St. from Friday, September 11 through Wednesday, September 23. The data allowed us to see how vehicle traffic was affected with and without the demonstration projects. Here is what we learned:*

- Volumes of vehicles did not change significantly; in fact volumes on both Union and Winooski were slightly higher during the pilot than on the following weekend, possibly due to re-routing of traffic during the Open Streets BTV event.
- Vehicle speeds were significantly lower during the demonstrations, as shown in the graphs to the right.

Thus, the two demonstrations showed that each of the primary corridors has additional capacity for motoring, and that redesigning the street with protected bikeways could lead to a much higher percentage of drivers observing the speed limit!

**Speed data (right) was collected in partnership with CCRPC. Data is limited to between the hours of 10:00 a.m. on Saturday through 4:00 p.m. on Sunday. Demonstration project data was collected during these hours September 12 to 13; Normal Conditions data was collected during these same hours on September 19-20.*

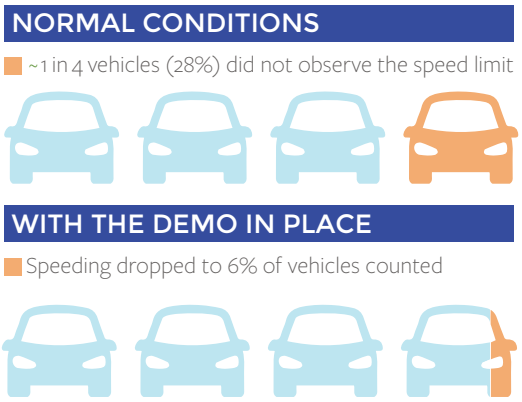
IDENTIFYING PRIORITY LOCATIONS FOR PROTECTED BIKES LANES

During the Demonstrations, Local Motion surveyed over 330 people to determine their top priorities for the location of protected bike lanes. As you'll see in Chapter 2, this plan recommends protected bike lanes at all of the Top 5 priority locations:

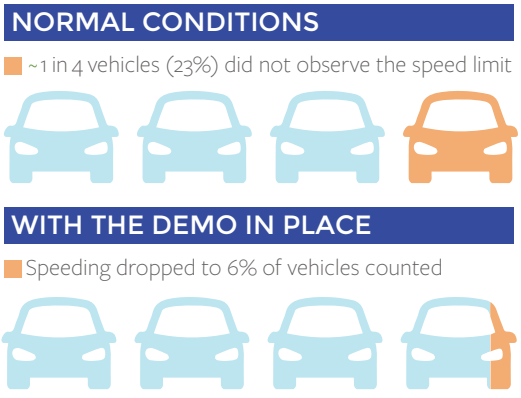
- ✓ **Main St.**
- ✓ **Pearl St./Colchester Ave.**
- ✓ **Winooski Ave./Union St.**
- ✓ **North Ave.**
- ✓ **Battery St.**

THE DEMONSTRATION PROJECTS RESULTED IN A MUCH HIGHER PERCENTAGE OF DRIVERS OBSERVING THE SPEED LIMIT.*

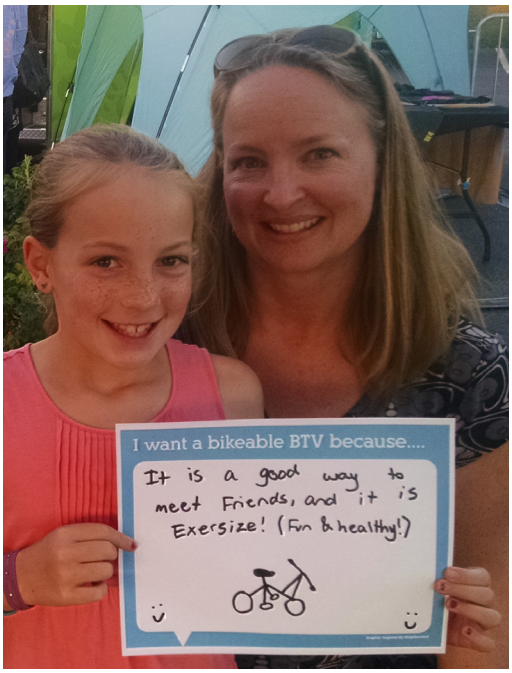
SPEEDING ON N. WINOOSKI AVE.



SPEEDING ON N. UNION ST.

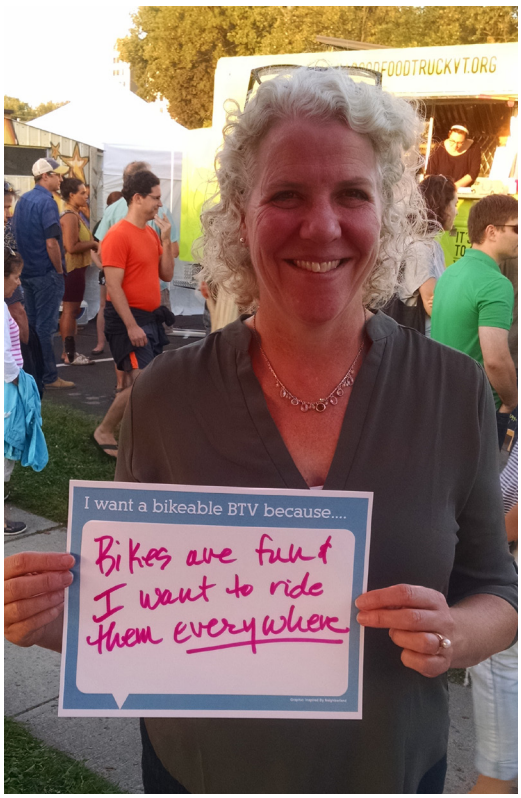


Burlington's residents want their city to be a more walkable, bikeable place because...



"Active transportation is more sustainable, and it saves me money!"

"Biking is good for my health and overall well-being."

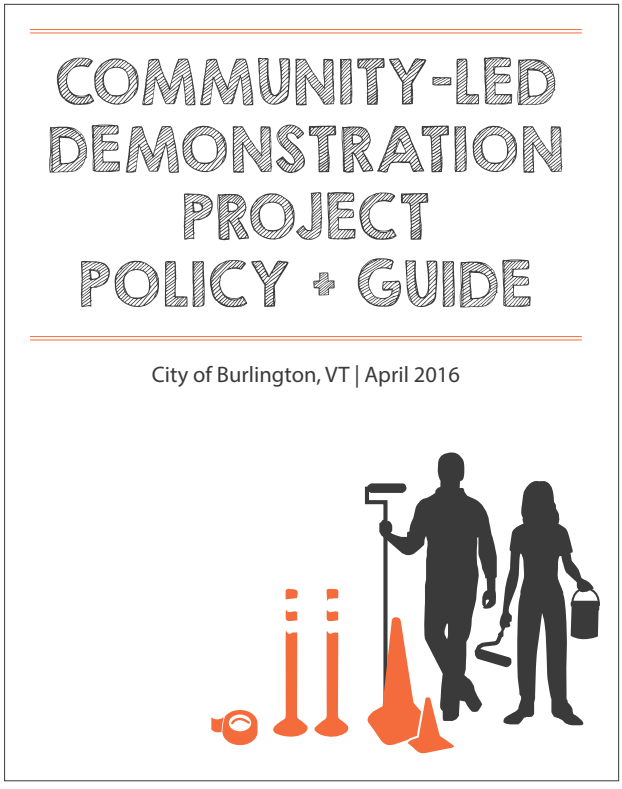


WHAT'S NEXT?

The City of Burlington is developing a guide and policy framework to help individuals and community organizations spearhead more short-term demonstration projects.

This guide and policy support Burlington's existing pilot project ordinance. That ordinance (Article 1 Chapter 20 Section 3) allows the Department of Public Works to implement temporary traffic and parking projects on public streets in order to evaluate the merits and impacts of proposed street design projects. This new policy breaks the process into even smaller segments, making it easier for everyday residents, advocacy organizations, and community groups to spearhead short-term demonstration projects (lasting from 1-7 days) alongside DPW and other agencies.

The September 2015 Demonstration Projects certainly helped inform the walk-bike master planning process. Ideally, the community-led projects authorized by this new policy will continue to inform city-led projects, including the temporary initiatives authorized by the pilot project ordinance.



PART 2:
HOW?

...do we create safer streets for everyone, and make walking and biking a viable (and enjoyable) way to get around town?

THE 6 ES

This plan is organized around "6 Es". Each E represents an element that will help us achieve the community's vision for walking and biking, and reach the bold goals outlined at the start of this plan:

- Eliminating traffic-related fatalities and serious injuries by 2026.
- Shifting mode share so that by 2026, reliance on drive-alone trips will be low, and alternative modes will make up the majority of commute trips in Burlington.

The E's offer a framework for how we'll reach these goals through: engineering, evaluation & planning, education, encouragement, enforcement, and equity. Following through with the recommended actions in all of these areas will position Burlington to meet the plan goals and become the best city on the East Coast for walking and biking.

It is important to note that implementing recommendations in this plan (particularly those in Chapter 4) will require a collaborative effort between DPW and other city and regional agencies, Neighborhood Planning Assemblies, non-profit organizations, and local businesses and residents.

CHAPTER 3

Refers to infrastructure such as intersection upgrades, sidewalks, trails, shared-use paths, and bike lanes.

CHAPTER 4

EVALUATION & PLANNING

Focuses on planning for walking and biking as viable modes of transportation. This involves creating a comprehensive plan, like the document you're reading now. It also involves establishing metrics for measuring success, and funding adequate staff and advocacy resources to accomplish goals.

EDUCATION

Refers to non-infrastructure related programs that help people of all ages and abilities gain the skills and confidence to walk or bike for transportation. It also involves educating all road users about rights and responsibilities.

ENCOURAGEMENT

Refers to programs that celebrate walking and biking and establish both modes as a normal parts of everyday life and transportation. Examples include events such as Open Streets BTV or Bike to Work Day.

ENFORCEMENT

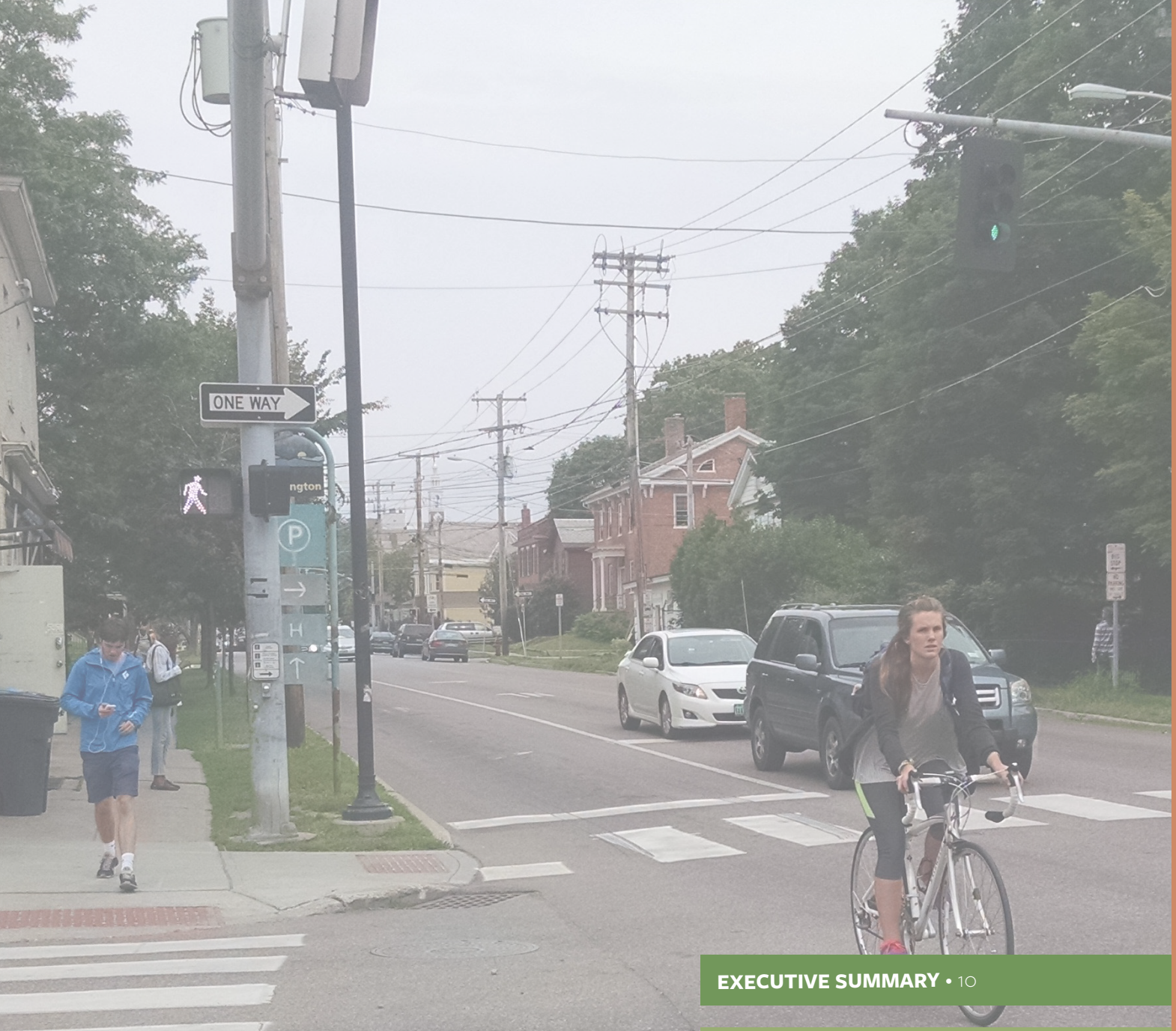
Focuses on making sure the road is safe for all users. This involves establishing laws and regulations that treat people walking or biking equitably within the transportation system. It also involves efforts to be sure that law enforcement officers understand these laws, know how to enforce them, and apply them equitably to ensure public safety.

EQUITY

Walking or biking should be viable options for people throughout Burlington. For the purposes of this plan, we've defined equity in terms of:

- Geography – the distribution of walking or biking improvements and programs within the community
- Social/Demographic factors – the distribution of walking or biking improvements across diverse populations

Equity is also related to enforcement, as it is essential that rules are enforced in an equitable manner.



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DESIGNING SAFER STREETS

Streets are often the most vital yet underutilized public spaces.

Infrastructure that accommodates the needs of all road users is perhaps the most tangible characteristic of a walk- or bike-friendly community. The presence (or absence) of safe streets and crossings is a key factor in people's decision to walk or ride a bike when they run errands or travel to work or school. Engineering is also a key determinant of people's behavior when they drive – a posted speed limit of 25mph or a "Pedestrian Crossing" sign will not be enough to encourage slow, careful driving if the street is designed like a drag strip.

The streets of the most advanced walk- and bike-friendly communities provide well-connected walking and bicycling networks that feature safe pedestrian crossings, bikeway facilities of varying types, and shared use paths. These facilities are supported by amenities such as benches, street trees, water fountains, and secure and convenient bicycle parking. Finally, these communities benefit from proactive policies that help them maintain existing infrastructure.

To realize the plan vision and achieve Burlington's mode share and safety goals, Engineering will be a critical focus area. Infrastructure for walking and biking emerged as the biggest area of needed improvement in Burlington's 2013 "Go for Gold" Blueprint. It also stood out as a major priority at public workshops and in the PlanBTV Walk Bike survey. (For more details on how public input helped shape the plan, see Chapter 2).

Chapter 3 of the plan presents recommendations for infrastructure projects that will increase safety for all people, whether they are driving, biking or walking. In addition to responding to issues and concerns we heard throughout the planning process, the recommendations in this chapter are guided by existing conditions analysis and current research and best practices, both of which are described further in the pages ahead.

WE ARE HERE

ENGINEERING

EVALUATION & PLANNING

EDUCATION

ENCOURAGEMENT

ENFORCEMENT

EQUITY

For definitions of the "6 E's" framework guiding this plan, please see page 49.

Creating a Cycle of Sustainable Transportation Investments

PEAK TRAFFIC

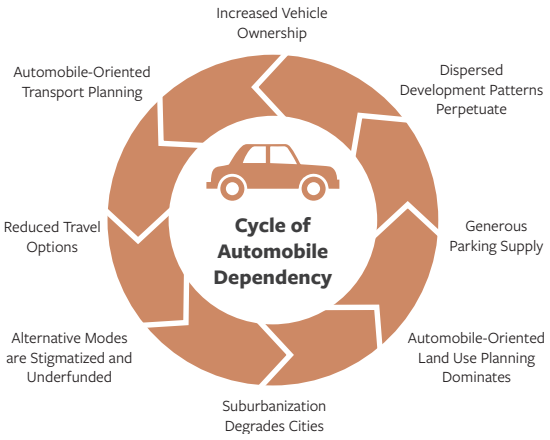
Based on a long history (since 1975) of consistent data collection on vehicular traffic volumes, it is clear that Burlington hit "peak traffic" in most locations between 1995 and 2000. Since then, traffic volumes have declined on ALL of the city's streets for which data is available. (See graph at the bottom of the page.) After a 50+ year period of transportation planning where it was always a baseline assumption that vehicular traffic would grow, our planning of the street network should respond to this change, and consider the right design of our streets and intersections given these well documented trends.

ASKING THE RIGHT QUESTIONS

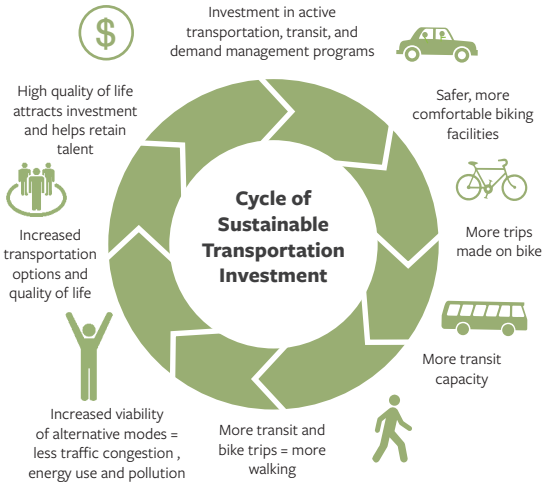
In looking at projects that may change the balance of space allocated to vehicles and people walking or biking, the question to ask should not be limited to "What will happen to the traffic?" We should also ask: "What will happen if we provide an attractive, low stress bikeway in this corridor? What will happen if we make safe and accessible street crossings for people walking or taking the bus? What are the outcomes for transportation access and choice? Will these changes reduce need for peak hour traffic capacity or parking?"

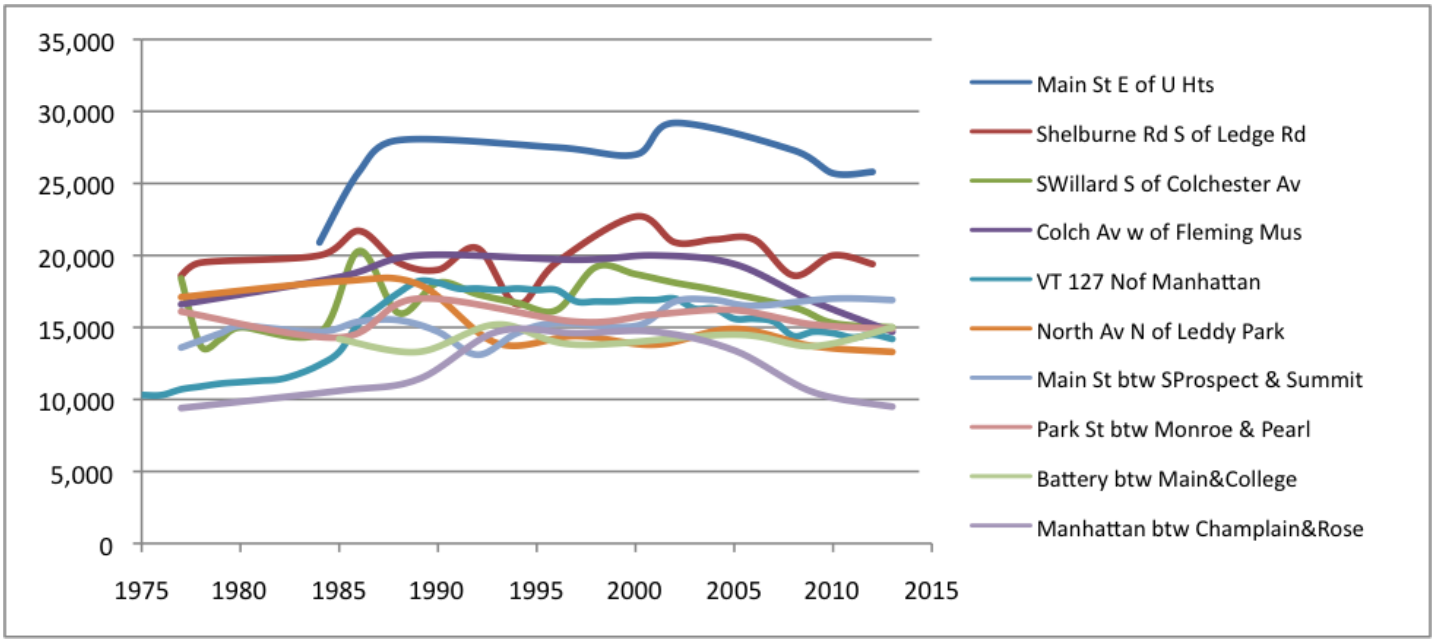
Designing safe streets for all modes will help make walking and biking a viable (and enjoyable) way to get around town. When coupled with other land use and urban design policies, walk/bike improvements can help communities instigate a sustainable cycle of investments that reinforce a safe, low-cost, and healthy transportation system.

Vicious Cycle



Sustainable Cycle





The Connection Between Design, Speed, and Safety

Image by Wes Craiglow.

"Vision Cone" image by NACTO: www.nacto.org

WIDE, OPEN STREETS = HIGH SPEEDS

The image comparison to the left illustrates the impact that street design has on vehicle speed. The wide, unobstructed lane in the top photo encourages high speeds. The narrow, tree-lined street at the bottom is designed to enforce the slow, careful driving that would be desirable on a neighborhood, residential street. This comparison graphic was created by Wes Craiglow, Deputy Director of Planning and Development for the City of Conway, AR. But, these principles are not unique to his community. The data collected during the Demonstration Projects described on page 42 demonstrated the same principle. For the demonstration, volunteers placed temporary planters in the bike lane buffer on S. Union St. to "enforce" the existing narrow lane striping. With the lanes narrowed, the rate of vehicle speeding dropped from about 25% to 6%!

HIGH SPEEDS = DANGEROUS STREETS

The series of images on the lower left illustrate that As a driver's speed increases, his peripheral vision narrows severely. There is a direct correlation between higher speeds, crash risk, and the severity of injuries.

LOWER SPEEDS ≠ LOWER CAPACITY

Reducing speed on city streets does not reduce their capacity to handle emergency vehicle or peak hour traffic. In fact, the optimal speed for traffic efficiency is around 25 mph due to the ability of drivers to safely follow the car ahead more closely and make efficient use of street space. It is also worth considering that the urban street network's capacity is primarily constrained by a relatively small number of bottleneck intersections, and changing the width of travel lanes will have little effect on the overall performance of the street network.

SAFE STREETS DESIGN PRINCIPLES

In addition to the concepts discussed on the previous pages, recommendations in this Chapter are based on best practices for safe street design, summarized in the principles below.

ACCESS + MOBILITY FOR ALL

Streets should allow people to travel in a safe, dignified, and efficient manner no matter their age, gender or level of ability. Though the focus of this plan is on improving conditions for walking and biking, recommendations must also consider the needs of people driving. Streets must allow for harmony between multiple modes - allowing for safe and efficient movement of trucks, public transit, and emergency response vehicles.

ENVIRONMENTAL SUSTAINABILITY

Sustainable streets protect and enhance natural ecosystems with tools including greenbelts, pervious pavements, and bioswales to control stormwater. Street trees are a vital part of sustainable streets: they provide shade, filter the air, and slow traffic. Street trees have been shown to be associated with lower crime rates, higher household income, and increase home values. Integrating ecological considerations into street design can also ease maintenance costs, as uncontrolled stormwater can damage street surfaces over time.

The Dekum Bike Corral in Portland, OR features rain gardens and an "eco roof" shelter. Photo and project by Buster Simpson.

SAFETY + SECURITY

Streets should be designed to reduce or eliminate traffic-related fatalities or serious injuries. As described on the following page, vehicle speed is one of the most significant factors in crash severity, and controlling speed will have a big impact on street safety. Street safety is also closely connected to public life - well-lit streets that encourage walking and biking throughout all hours of the day provide more "eyes on the street," and increase people's sense of security.

LAND USE CONTEXT

Street design should both respond to and influence the character of neighborhoods, advancing the community vision for the future. Street design is inherently connected to land use - compact land use patterns and connected multi-modal streets support transportation options. Options reduce demand for drive-alone trips, easing parking pressure and traffic congestion. In Burlington, this can be seen in many Neighborhood Activity Centers that provide essential services within walking distances of people's home and/or place of employment.

CLIMATE CONSIDERATIONS

Street design should respond to local environmental factors such as climate. Recommendations for improving walking and biking conditions in Burlington must embrace the city's winter climate and integrate best practices for providing safe walking and biking options year-round.

Image at right by Annie Follett, via Local Motion Facebook Page Winter Bicycle Commuter Photo Contest.

COMFORT

When creating new walk and bike infrastructure, comfort is an important consideration. For example, sidewalks should be made as wide as practical and retrofitted to be fully ADA accessible. They should feature amenities such as benches and shade elements. Bikeways should allow people on bikes to be separated from the sidewalk. They should be designed to allow people on bikes to pass each other safety and ride two abreast wherever possible. These are just a few examples of how consideration for comfort can inform design.

Image by People for Bikes: peopleforbikes.org

CONNECTIVITY

A dense, connected street network helps make walking and biking viable modes of transportation. Intersection density is one of the most important ways to create slower, safer streets - high ratios of intersections are associated with fewer the fatalities. Cul-de-sacs and dead-end streets should be avoided; they create indirect routes that cause people to drive longer distances and discourage walking and biking. Where existing cul-de-sacs cannot be connected to the street grid, multi-use paths should be used to at least improve connectivity for people walking and biking. Connectivity also matters for the network of walk/bike facilities within the street grid. For example, bike lanes or sidewalks that suddenly drop off discourage people from biking or walking.

Action is essential! In Fall 2015, DPW completed a handful of small projects that improved safety with paint. Burlington should continue acting fast. The 12-Month Priority Implementation Plan outlines more small projects that can be implemented in the next year. For large projects, Burlington should look for opportunities to use "pilot" projects to test options and inform public decision making.

ECONOMIC DEVELOPMENT

Streets are an economic asset to cities. Well-designed streets have been shown to generate higher revenues for businesses and increase home values. Streets should be designed to support a mixture of commercial and cultural activities, and leveraged to attract economic opportunities and attract talent.

ACTION!

Burlington can start improving safety now with low-cost materials. The 12-Month Priority Implementation Plans outline dozens of small projects that can be implemented quickly with little else than paint. For large projects that require significant capital planning and investment, Burlington should look for opportunities to use "pilot" projects to test options and inform public decision making.

ACTION PLAN

The following pages outline actions in the realm of engineering that will help Burlington apply the safe streets design principles and meet the goals outlined in this plan. These recommended actions are then followed by three chapter sections focusing on sub-areas of the city: New North End, Downtown | Old North End | Campus Area, and the South End. Each sub-area section contains an analysis of existing conditions and a 12-month Priority Action List, which sets up DPW and its partners to make change all over the city in the next year, with little else than paint. Sub-area sections also include maps with recommended projects for five-year and longterm time frames. Moving the recommendations in this chapter from paper to pavement will help make Burlington the best small city for walking and biking on the East Coast.

The City of Palo Alto is pilot testing neighborhood traffic circles as a tool to create streets that self-enforce appropriate speeds. Photo by Josh Mello.

#1. Engineer and design city streets to self-enforce appropriate target speeds.

Street design sends the strongest signal of how to move through space. To increase safety, engineer and design city streets to self-enforce a maximum target speed of 25mph or less along major corridors and 20mph or less on neighborhood and downtown streets. The Priority Streets for Speed Control map on page 63 illustrates recommended locations for creating corridor, neighborhood, and downtown "slow zones." Treatments in these priority locations might include a variety of traffic calming measures including raised crossings, walk/bike roadway markings, or signage.

Roundabouts are one great way to achieve lower speeds, and they are a tool that should be closely considered for intersections in slow zone areas in particular. Roundabouts come in many sizes and styles, and each type has a place on Burlington's streets. For more details, see the Field Guide to Roundabouts in the Appendix of this Guide.

Signal timing is another important factor in designing streets to self-enforce target speeds. Modify signal timing to reduce off-peak speeding and increase exclusive pedestrian crossing times (including lead pedestrian intervals) along and across all priority corridors and intersections by 2026.

Success Metric: All crashes (walking, bicycling, driving) resulting in serious injuries decrease 50% by 2021, 100% by 2026 (achieving the plan goal outlined at the start of this document).

Responsibility: City of Burlington Department of Public Works; VTrans

#2: Improve safety at all 20 priority intersections.

Focus investments on all 20 priority intersections identified in the Citywide Walk Plan Priorities at the start of this chapter, detailed in the Chart on page 65. Use the interim and permanent infrastructure treatments outlined in the Illustrated Glossary of Safe Streets Treatments found in the Appendix of this plan.

Success Metric: All 20 of the Burlington's most dangerous intersections are improved by 2026, or two per year for the next 10 years.

Responsibility: City of Burlington Department of Public Works; VTrans

#3: Provide a connected network of sidewalks and safe intersections.

This action can be implemented with the following approach:

- Provide a sidewalk on at least one side of every street in Burlington.
- For new development, do not allow cul-de-sacs to be built except where natural features or linear rights of way (river, wetlands, rail line etc.) exist.
- New development should achieve, at a minimum, an intersection density of 140 intersections per square mile.
- Automate all pedestrian signals in downtown Burlington.
- Retrofit existing parking lot driveway curb cuts so that pedestrians and bicyclists are clearly visible and have the right-of-way at conflict points; limit the number and width of proposed curb cuts and driveway access points to maximize safety by giving priority to pedestrians.
- Where paths do not currently exist, disconnected streets and cul-de-sacs should be retrofitted to include bicycle and pedestrian access, with a priority where such connection would provide access to a low-stress facility, such as a protected bikeway or shared use path.
- Upgrade key intersections to include ADA accessible ramps and crosswalk and signal activators.

Success Metrics:

- XX miles of new sidewalk miles implemented by 2026
- Ensure that all crosswalks are provided no more than 500 feet apart, Except where unique land use or topographic conditions dictate fewer crossings
- Walking mode share increase to 20.5% by 2021, 22% by 2026

Responsible Parties: Burlington Department of Public Works; Burlington Planning Department; Burlington Community and Economic Development Office; CCRPC; VTrans; and property owners, including major institutions (UVM, Champlain College etc.)

#4: Create a dense, interconnected bicycle network that serves the needs of people of all ages and abilities.

By implementing the projects recommended in the network maps in this plan, Burlington can:

- Increase the total bicycle network to at least 43 street miles, or at least 45% of the city's 95-mile street network by 2026.
- Provide a shared use path, neighborhood greenway, or protected bike lane connection to every school in Burlington by 2026.
- Provide a bikeway connection to every Neighborhood Activity Center, major employer, and adjacent communities by 2026.
- Provide at least 12 miles of on-street protected bikeways by 2026.
- Provide 90% of Burlington's residents with a bikeway facility within a 1/4 mile of their home by 2026.

As new bikeway projects are implemented to create this network, the City should add wayfinding at key decision points to indicate the best way to get to major destinations and areas of the city (for example Downtown, or the New North End). Burlington should develop a simple template bicycle wayfinding sign that can be installed at major decision points as new bicycle facilities are added to the network.

Success Metrics:

- Cycling mode share increases to 9%, by 2021, 12% by 2026
- Implement at least 28 miles of new bikeway miles by 2026.
- 65% of the city's bikeway miles are classified as low-stress routes by 2026.

Responsible Parties: City of Burlington Department of Public Works; Burlington Planning Department; Burlington Parks, Recreation, and Waterfront Department; Burlington Police Department; Burlington Fire Department; Burlington Community and Economic Development Office; CCRPC; and VTrans

Fell Street Bike Lane in San Francisco.

#5: Leverage walk/bike projects to add green infrastructure to Burlington's streets.

Integrate green infrastructure (permeable paving materials, rain gardens, street trees, garden walks etc.) into complete streets design and neighborhood greenway projects to control stormwater, reduce the heat island effect, and enhance beauty.

Success Metrics: Urban runoff is reduced by at least 80% compared to prior conditions along streets that receive green infrastructure treatments.

Responsible Parties: Burlington Department of Public Works; Burlington Planning Department; Burlington Parks, Recreation, and Waterfront Department; CCRPC; and VTrans

#6: Improve and Expand Bicycle Parking Citywide.

Build more high-quality, secure bicycle parking spaces, including bicycle racks, on-street bike corrals, shelters, bike lockers, and bike rooms / stations within public buildings and parking garages. Require more secure indoor bicycle parking for multi-family residential development and covered bicycle parking at major community destinations. Create and conduct a bi-annual bicycle parking survey for multi-family residential and commercial properties.

These mandates may be achieved by revising Chapter 8, section 8.2.2 of Burlington's zoning code and expanding DPW's Bicycle Parking Assistance Program to include on-street bike corrals and bike shelters. (See Bicycle Parking Recommendations on page 135 for more details.)

Success Metrics:

- In addition to those racks installed on private property, the city should install at least 100 high-quality bicycle parking spaces in the public right of way per year, or 1,000 new spaces by 2026.
- Annual bicycle theft reduced 50% by 2026.
- A high-capacity "station" is built within 3 years of plan adoption. See additional metrics related to bike parking on page 135 of this plan.

Responsible Parties: Burlington Department of Public Works; Burlington Planning Department; Burlington Parks, Recreation, and Waterfront Department; and property owners, including major institutions (UVM, Champlain College etc.).

Bike Share station in Aspen, CO. (Photo by Frias Properties of Aspen.)

#7: Implement a robust bicycle sharing system.

Work with key institutional partners such as the University of Vermont and Champlain College to create a public bicycle share program. The first step is to build from the 2011 Chittenden County Bike Share Feasibility Study to conduct a detailed, localized study to guide implementation. The study should recommend a preferred fleet system and include detailed guidance on station locations, with a phased plan for roll out. It should also provide recommendations related to funding and maintenance. Once a detailed study has been completed, Burlington should seek program funding through public health and transportation organizations, as well as local corporate and foundation sponsors. Once funding is solidified, Burlington can implement a cost-effective, high-density, equitable bike share system for Burlington's residents and visitors.

Success Metrics:*

- Complete a bike share implementation study and begin funder outreach in 2017.
- Implement a bicycle sharing system by 2021. Achieve a maximum spacing distance of 1,000 feet between station within the coverage area.

Responsible Parties: Burlington Department of Public Works; Burlington Planning Department; Burlington Parks, Recreation, and Waterfront Department; and property owners, including major institutions (UVM, Champlain College etc.).

**Note that the target timelines listed above assume the City leads this effort. If the City is able to serve as a leader and convener, but approach bike share implementation with a coalition of highly involved partners, implementation can and should be expected to occur much faster.*

#8: Create more walk priority or walk-exclusive spaces.

The Church Street Marketplace in Downtown Burlington is a much-loved walk-only zone. Stretching for 4 blocks, the Marketplace is a hub of activity with over 100 places to eat or shop, as well as year-round programming from festivals to street entertainers. In lieu of a fully closed street, many communities around the country are creating "shared streets". Also referred to as a "woonerf," a shared street is designed to encourage very low vehicle speeds and prioritize the needs of people walking and biking. (See the Illustrated Glossary of Safe Streets Treatments in the Appendix of this document for more detail.)

Burlington should look for opportunities to create new pedestrian priority or pedestrian-exclusive public spaces for people walk, play, and socialize. One way to do this is by creating a placemaking program that incentivize neighborhoods and business owners to spearhead public realm improvements (such as parklets or pedestrian plazas). More details about this approach can be found in the Policy and Protocols Section of the plan. At the same time, the City of Burlington should consider shared and pedestrian-priority streets as a part of its street design toolkit. The sub-area sections of this plan propose several new shared street conditions: intersection upgrades at the North, Murray and Rose Street intersection, the South Winooski Avenue and Bank Street intersection, and along Bank Street are examples.

Success Metrics:

- Create and implement a placemaking program by 2018.
- Measure economic gains for business and property owners following installation of projects.

Responsible Parties: DPW, CEDO, Department of Parks, Recreation & Waterfront, and NPAS

Lawson Lane in Burlington. (Photo by Rainy_J Tripadvisor.)

#9: Support investment in a Downtown Alley Walk.

The 2013 PlanBTV Downtown and Waterfront Plan notes that are several contiguous blocks of alleys moving east to west through downtown, towards the Lake. Some of these alleys have restaurants and businesses tucked away along them - Lawson's Lane is a primary example. The Downtown and Waterfront Plan recommends that the City emphasize and further activate this fledgling "Alley Walk," by adding interesting lighting and supporting investment in additional storefronts and outdoor dining spaces. The Lawson/Mechanics Lane Alley Walk, and others, could become a distinguishing asset in downtown Burlington, with signage to help make the connection from downtown to the Lake.

Success Metrics:

- [Forthcoming]

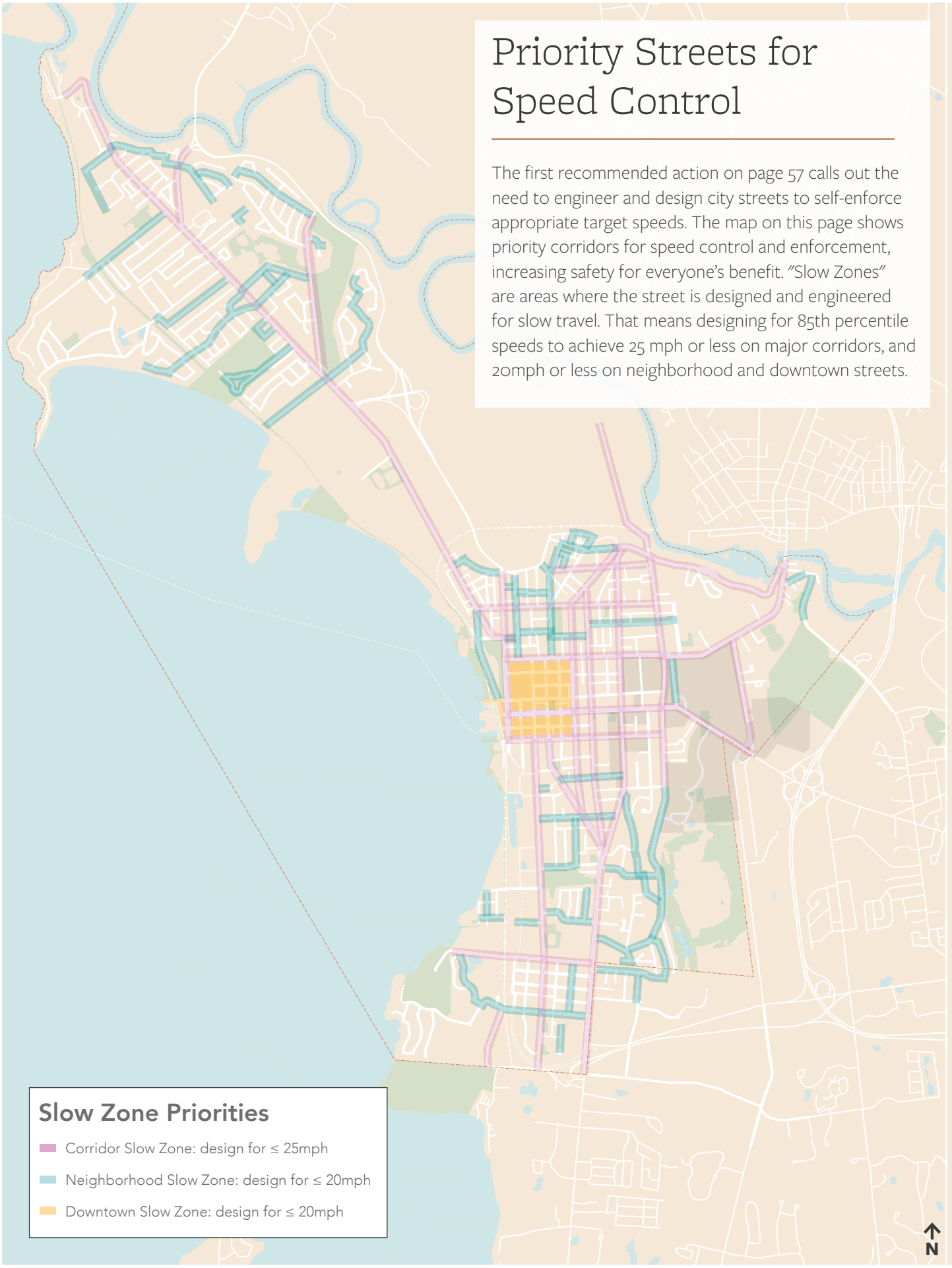
Responsible Parties: DPW, CEDO, local businesses, and private property owners.

THE MULTI-MODAL DAY

The chart below illustrates how public transit, walking and biking can work together to create a "Multi-Modal Day".

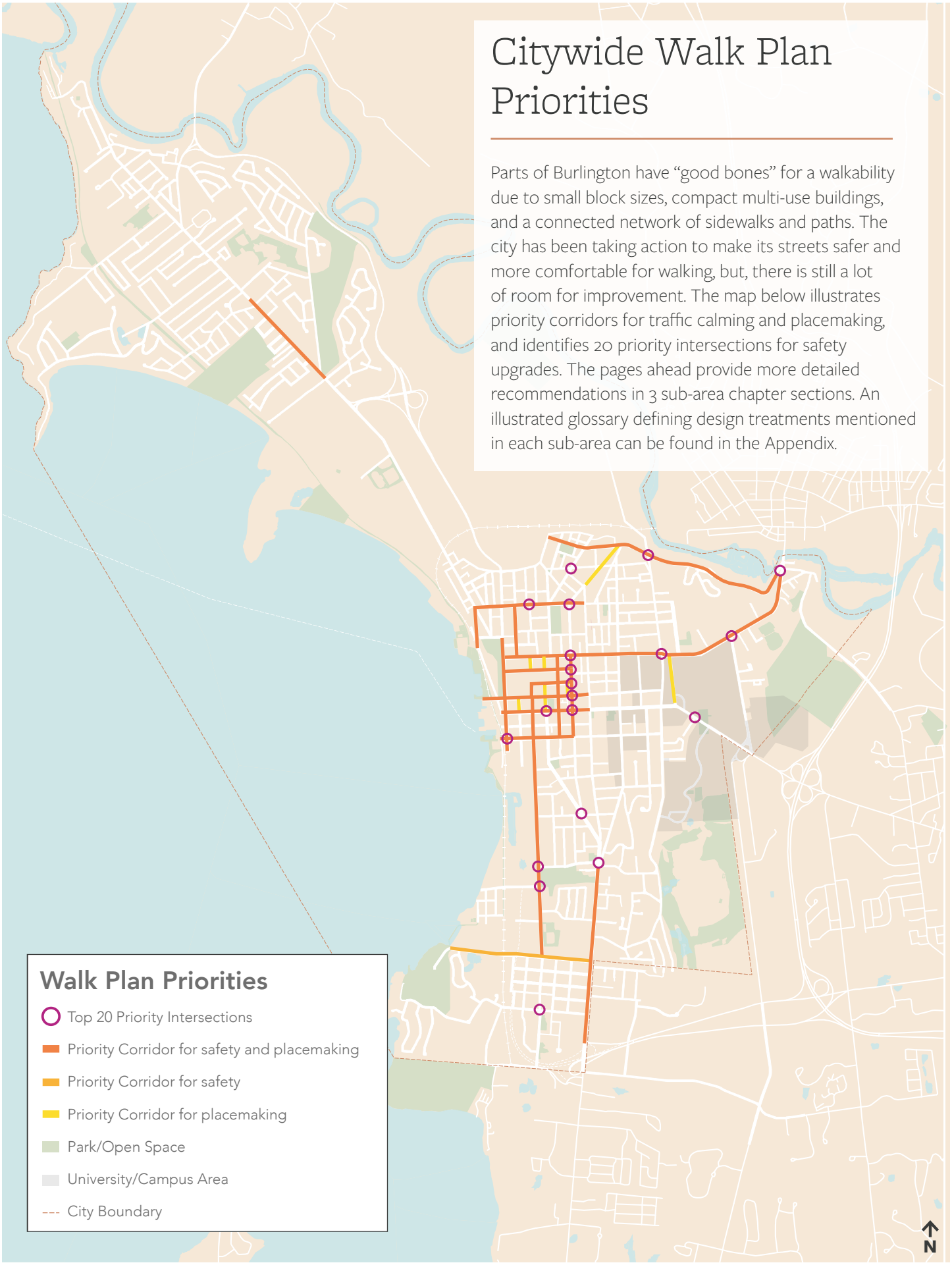
Priority Streets for Speed Control

The first recommended action on page 57 calls out the need to engineer and design city streets to self-enforce appropriate target speeds. The map on this page shows priority corridors for speed control and enforcement, increasing safety for everyone's benefit. "Slow Zones" are areas where the street is designed and engineered for slow travel. That means designing for 85th percentile speeds to achieve 25 mph or less on major corridors, and 20mph or less on neighborhood and downtown streets.



Citywide Walk Plan Priorities

Parts of Burlington have "good bones" for a walkability due to small block sizes, compact multi-use buildings, and a connected network of sidewalks and paths. The city has been taking action to make its streets safer and more comfortable for walking, but, there is still a lot of room for improvement. The map below illustrates priority corridors for traffic calming and placemaking, and identifies 20 priority intersections for safety upgrades. The pages ahead provide more detailed recommendations in 3 sub-area chapter sections. An illustrated glossary defining design treatments mentioned in each sub-area can be found in the Appendix.



Of the 80 crashes at intersections from 2011-2015, more than three quarters (61) of these happened at 17 of the 20 priority intersections listed on the map on the previous page, and in the chart below. The additional three locations in the priority list were added based on public input. Each of these locations has its own story, and deserves further study and research. The City should develop a plan for each intersection, and consider short term/low cost pilots to seek low-cost and rapid interventions. When evaluating options for each intersection, roundabouts and mini traffic circles should be closely considered - roundabouts offer many benefits and can be pilot tested in some scenarios. (See pages 174-175 in the Appendix for more information about roundabout types and potential opportunity sites.) As long-term projects are implemented, the City should continue to work towards upgrading intersections to include ADA accessible features. The chart below summarizes key issues, potential solutions, and next steps for each of the Top 20 Priority Intersections.

Top 20 priority intersections for safety upgrades

LOCATION	KEY PROBLEMS	IDEAS TO CONSIDER	NEXT STEPS
1. Bank and South Winooski	Conflicts at driveway crossings (City Market and Simons gas station); vehicle speed and lighting also factors	Reduce speeds thru lane re-assignment; Land use/urban design/access changes to reduce driveway crossing distances and conflicts.	2016 Corridor Study planned; demos/pilots of curb extensions and lane reassignment while study is developed
2. Archibald and Intervale	Turning traffic failing to yield to pedestrians in crosswalk; lighting; snow removal also factors	Curb extensions or median islands to reduce speeds and enhance visibility	Pilot projects to evaluate options
3. College and South Winooski	Turning traffic failing to yield to pedestrians in crosswalk; lighting; speed also factors	Mini roundabout; reduce crossing distance and/or speeds with curb extensions	2016 Corridor Study; demos/pilots of curb extensions and lane reassignment while study is developed
4. Main and South Winooski	Turning traffic failing to yield to pedestrians in crosswalk; long crossing distance and speed also factor	Advance or exclusive pedestrian phase; roundabout; reduce crossing distance and/or speeds with curb extensions	Great Streets initiative; 2016 Corridor Study; demos/pilots of curb extensions while design is developed
5. Main and St. Paul	Turning traffic failing to yield to pedestrians in crosswalk; long crossing distance and speed also factor	Roundabout; reduce crossing distance and/or speeds with curb extensions	Great Streets Initiative 2016 (Downtown TIF project); demos/pilots of curb extensions while design is developed
6. Riverside: Intervale to Hillside	Conflict points in parking lots and at driveway crossings create unsafe conditions for people walking or biking	Enhance visibility of walkers; reduce speeds to reduce conflicts; land use/urban design/access changes to reduce driveway crossing distances and conflicts	Add pavement markings at conflict points; pilot more robust urban design changes as needed

Top 20 priority intersections for safety upgrades

LOCATION	KEY PROBLEMS	IDEAS TO CONSIDER	NEXT STEPS
7. North St near Murray	Conflicts between vehicles and mid-block crossings or people leaving parked cars. Speed is a factor	Raised-textured intersection to reduce speeds and enhance visibility of pedestrians.	Study/pilot projects needed to determine best approach for traffic calming
8. Loomis at North Prospect	Oncoming or turning traffic fails to yield to crossing pedestrians. Speed is a factor	Curb extensions to reduce speeds and crossing distance, and enhance visibility	Traffic calming project underway for middle block of Loomis Street (2016 design/construction)
9. Pearl and North Winooski	Southbound left turn traffic fails to yield to pedestrians in crosswalk on Pearl.	Exclusive or advance pedestrian phase; Curb extensions to reduce speeds and crossing distance, and enhance visibility	2016 Corridor Study; demos/pilots while study is developed
10. Cherry and South Winooski	Turning or side street traffic failing to yield to pedestrians in crosswalk	Curb extensions across Cherry to increase visibility and reduce crossing distance; roundabout; advanced pedestrian phase	2016 Corridor Study; demos of curb extensions while study is developed
11. North Winooski at North	Turning vehicles from Winooski failing to yield to pedestrians crossing North	Exclusive or advance pedestrian phase; Curb extensions to reduce speeds and crossing distance, and enhance visibility	2016 Corridor Study; demos/pilots while study is developed
12. Lakeside and Pine	Lack of crossing phase; turning vehicles failing to yield to pedestrians in crosswalk	Pedestrian crossing signal with advanced or exclusive phase; Corner truck aprons	Crossing signals installed 2015/2016. Champlain Parkway-intersection reconstruction
13. Barrett and Colchester	Turning traffic failing to yield to pedestrians in crosswalk	Exclusive or advance pedestrian phase; Curb extensions to reduce speeds and crossing distance, and enhance visibility Roundabout for long term safety and operations	Pedestrian signals already planned for installation (year?) Intersection Scoping Study in progress. Use demos/pilots while study is developed.

Top 20 priority intersections for safety upgrades

LOCATION	KEY PROBLEMS	IDEAS TO CONSIDER	NEXT STEPS
14. East Ave and Colchester	Turning traffic failing to yield to pedestrians in crosswalk	Mid-block, median-protected crossings to the west of this intersection will reduce crossings at intersection, Roundabout for speed management and safety	2011 Corridor Study reviewed this intersection. Scoping is recommended.
15. Pine and Locust	Turning traffic failing to yield to pedestrians in crosswalk; speed is a factor	Curb extensions to reduce crossing distance and improved visibility of crossing pedestrians; roundabout	Champlain Parkway project in progress. Demos/interim treatments recommended until reconstruction begins.
16. Shelburne Rotary	Turning traffic failing to yield to pedestrians in crosswalk	2021 roundabout construction planned	Implement interim design measures (See Appendix for details)
17. Shelburne and Home	Turning vehicles failing to yield to pedestrian in crosswalk	Reducing speeds, reducing crossing distances, advanced or exclusive pedestrian phase	Future Corridor Study planned (not programmed yet)
18. Maple/Battery	Lack of pedestrian signals; Turning traffic failing to yield to pedestrians in crosswalk	Reduce distances with curb extensions; exclusive pedestrian phase	Pedestrian signals, upgraded curb ramps / sidewalk access improvements to be installed 2016/2017.
19. Main/University Heights	High speeds, high volumes of vehicles, pedestrians and bicycles on regional corridor.	Enhancements to increase visibility of signal and crossing; change signal cycle; wider median refuge	Scoping study 2016
20.Howard/St Paul/ Winooski	Lack of pedestrian signals, long signal cycle, turning traffic failing to yield to pedestrians in crosswalk	Curb extensions to reduce crossing distances; exclusive or advance pedestrian phase	Scoping study planned for Howard/St Paul/ Winooski in 2016. Pilot test alternatives during scoping.

From Pilot to Permanent

Burlington can start improving safety now with low-cost materials. Along with other parts of this plan, the charts on the previous pages make suggestions for use of pilot projects to evaluate and advance proposed design changes. So, how much can a quick, temporary project really do for a neighborhood? As the case here suggests... quite a lot!

The City of Palo Alto Transportation Division used a 3-month pilot project to evaluate the merits of a neighborhood traffic circle in a residential neighborhood. The project arose as a response to community concerns about safety at the intersection of two streets heavily used by kids biking to school. Parents in the neighborhood raised concerns that the intersection was unsafe: though one of the streets, Coleridge Ave., had a stop sign in place at each edge of the intersection, the other street allowed free flowing traffic, making it difficult for children to cross safely.

Parents and local neighbors originally requested stop signs at the intersection, but after the city's analysis ruled out this option, the Transportation Division began searching for other solutions. The city identified a neighborhood traffic circle as one option for addressing community concerns. A small, neighborhood-level traffic calming project of this nature didn't warrant a full 1-year public outreach process, and the city felt that a pilot may be a more effective way to evaluate the concept and gather public input.

An on-call traffic consultant created the design for the traffic circle using bolted down rubber curb stops-- that the city already had on hand-- four type 1 barricades with traffic circle signs attached, and yellow traffic paint. The type 1 barricades were used to temporarily hold the traffic circle signs, but were quickly upgraded to delineators once available. A sign on the street corner also clearly stated the name and duration of the pilot project and invited people to call or email with questions or concerns. There have been no complaints from the community thus far, and Safe Routes to School leaders of the nearby school reported very positive feedback.

The City of Palo Alto now plans to move forward with a permanent traffic circle in July of 2016, to be built with a mountable concrete curb with dirt and landscaping in the middle. The permanent project

This process of testing traffic safety projects has been a success for the City of Palo Alto: it has helped the City gather community input, while immediately improving safety at the intersection using temporary materials. The pilot has also enabled a permanent traffic circle to be built in only four months time.

Building the Long-term (15 yr) Bicycle Network

The following page outlines the long-term vision for a fully connected bicycle network that appeals to people of all ages and abilities.

Of course, this network will not be built overnight. The diagrams on this page show how infrastructure can be improved incrementally, building on Burlington's existing base of bikeways and paths over the next 15 years to achieve the network illustrated in the long-term map. Starting on page 74, the plan will zoom in on 3 sub-areas of the City and describe recommended projects for each area.

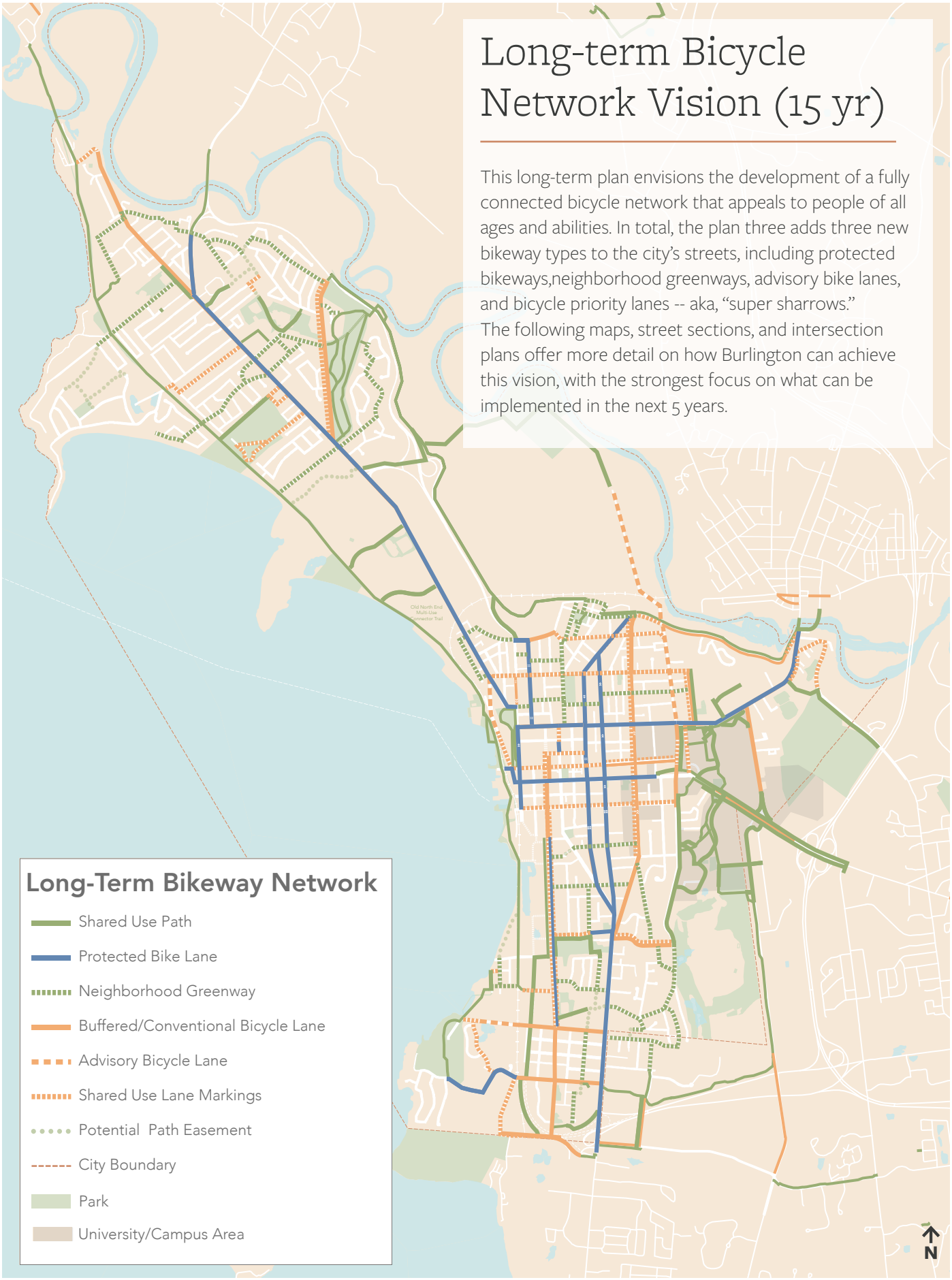
EXISTING BICYCLE NETWORK

PROPOSED 5-YR BICYCLE NETWORK

PROPOSED LONG TERM BICYCLE NETWORK

Long-term Bicycle Network Vision (15 yr)

This long-term plan envisions the development of a fully connected bicycle network that appeals to people of all ages and abilities. In total, the plan three adds three new bikeway types to the city's streets, including protected bikeways,neighborhood greenways, advisory bike lanes, and bicycle priority lanes -- aka, "super sharrows." The following maps, street sections, and intersection plans offer more detail on how Burlington can achieve this vision, with the strongest focus on what can be implemented in the next 5 years.



TO MAXIMIZE BENEFITS OF WALK/BIKE INVESTMENTS, WE MUST CREATE STREETS THAT WORK FOR PEOPLE OF ALL AGES AND ABILITIES

Imagine you are skiing down a mountain for the first time in years. You're a bit unsure on your skis, so you start with an easy trail marked with a green circle. Halfway down the mountain, the trail dumps you into a black diamond run - a section of steep and bumpy terrain only appropriate for experts. Assuming you make it to the bottom in one piece, you'd likely want to call it a day and head into the lodge for some cocoa. And, you'd probably vow never to return to that resort again!

The same is true for walking and biking. Burlington has some exemplary shared-use paths, but it lacks a connected network of bikeways and safe intersections to help people get to them. Burlington also has bike lanes in place, but they are not part of a continuous network, and none are protected. Let's face it, a stripe of white paint isn't enough to make a busy street a comfortable place to bike for everyone. People judge a potential journey on foot or on bike by the most challenging section of the route. If part of a trip requires people to ride in heavy traffic or cross a busy road without a safe intersection it's not a "low stress" experience. Riders and walkers who are less confident are not going to do it more than once.

While Burlington works to become a more walkable and bikeable community, it is important that we not lose sight of who we are planning for. We are not working to simply create more recreational opportunities for strong and fearless walkers and riders. We are responding to a significant demographic and behavior shift, meeting the demand for a community where walking and biking are as efficient, safe, and comfortable as driving a car. And, in order to do that, we need to create streets that work for people of all ages and abilities.

Imagine if a ski resort had an easy run that suddenly dumped inexperienced skiers into a black diamond trail, only appropriate for experts. People wouldn't go to that resort more than once!

The same principle applies to walking and biking. For walking and biking to be viable modes of transportation, Burlington must create continuous pedestrian and bicycle networks that work for people of all ages and abilities.

LET'S BUILD A NETWORK THAT WORKS FOR ISABELLA*

Isabella is 12 years old. Like most girls her age, she is exploring her independence. She wants to travel around town with her friends and bike to school, the library, and Church Street Marketplace. She's ready to travel her world by bike, but is the network ready for her? She likes to ride, but she is small and her skills aren't fully developed. She's sometimes a little wobbly and it's hard for her to see over parked cars near intersections.

To ride safely around her world, Isabella needs a low-stress, connected bike network. And, if we build a network that works for Isabella, wouldn't it work beautifully for the rest of us too?

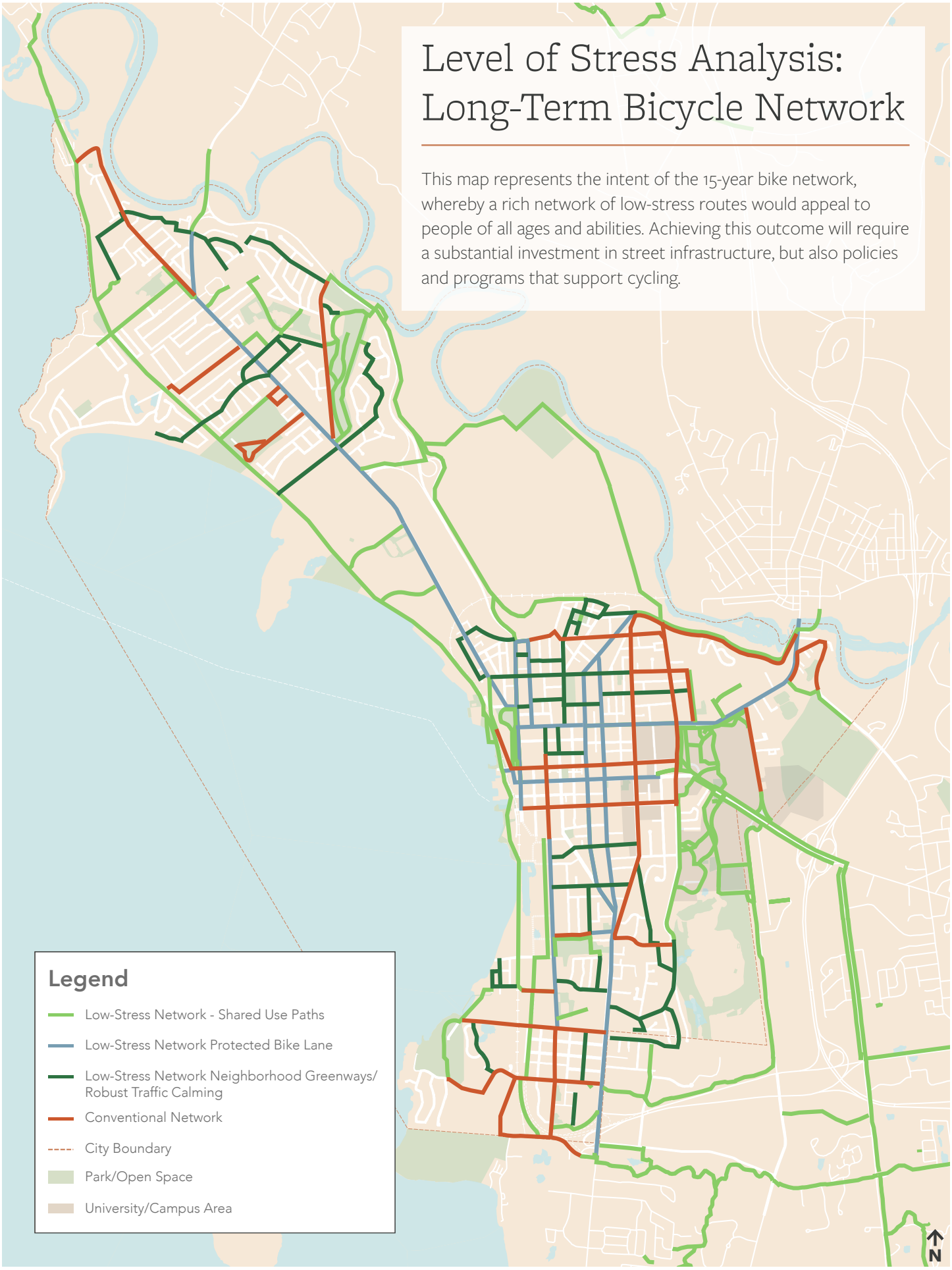
** Ski Route analogy, Isabella image and text developed by People for Bikes, as part of The Green Lane Project: http://www.peopleforbikes.org/green-lane-project*

Level of Stress Analysis: Existing Bicycle Facilities

This map represents existing low-stress bicycle connections. While some low-stress facilities do exist, they do not connect in any reliable way. For walking and biking to be viable modes of transportation, Burlington must create continuous pedestrian and bicycle networks that work for people of all ages and abilities.

Level of Stress Analysis: Long-Term Bicycle Network

This map represents the intent of the 15-year bike network, whereby a rich network of low-stress routes would appeal to people of all ages and abilities. Achieving this outcome will require a substantial investment in street infrastructure, but also policies and programs that support cycling.



Zooming in: Existing Conditions and Recommendations

This section of the plan will present details of existing conditions, followed by recommendations for both the walk and bike mode. To allow us to zoom in on challenges and responses at a neighborhood level, this section is divided into three "sub-areas":

- Sub-Area 1: New North End
- Sub-Area 2: Downtown | Old North End | Campus Area
- Sub-Area 3: South End

Each Sub-Area section will explore existing conditions and present maps with recommendations for walk and bike projects. These maps are followed by section and plan view drawings to illustrate options for a selection of the recommended projects. The Illustrated Glossary of Safe Streets Treatments in the Appendix provides more detail about the facility types and treatments recommended in the pages ahead. For intersections not discussed in the Top 20 chart in Chapter 3, refer to the Project Bank in the Appendix to see how treatments in the Glossary may be applied to the specific location.

SUB-AREA 1:

NEW NORTH END

Note: Dotted white street lines indicate conceptual street connections that have been discussed in other city or regional plans.

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EXISTING CONDITIONS SUMMARY

Most of the New North End was developed in the latter half of the twentieth century, after Burlington's more historic districts were established, closer to the downtown core.

The New North End is home to nearly one-third of Burlington's population. There are many older adults living in the New North End - this area represents AARP's largest membership base in Burlington. Younger people and families are also moving into the area at a significant rate, and there are four schools in the sub-area.

North Avenue acts as the major spine of the New North End, and the neighborhood is home to several major recreational destinations including Ethan Allen Park, Leddy Park, North Beach Park, and the Island Line Trail. Ethan Allen Shopping Center on North Avenue is a major commercial destination. The North Avenue Corridor Study's Health Impact Assessment estimates that approximately 45% of New North End households could walk or bike to Hannaford, the only full service supermarket within the study area, if safe, inviting infrastructure were present. Land use patterns in the New North End are less compact than in other parts of Burlington, and connectivity is mixed. Some residential neighborhoods follow a "cul-de-sac" style development pattern and lack direct connections to nearby streets, parks, and commercial areas. In some cases, informal foot paths have emerged through parks and green spaces to enhance connectivity, such as between Gosse Court and James Avenue.

Though several new crosswalks are in the works, connectivity is reduced by significant gaps in crossings along North Avenue.

Though the New North End features shared use paths along Route 127, at the waterfront, and in parks, bikeway infrastructure is very limited. There are no marked bikeway connections to allow New North End residents to safety travel from their homes to the great trails and parks in the neighborhood. North Ave. and other neighborhood streets lack bike lanes of any kind. As a result, people frequently ride on the sidewalk, reducing pedestrian safety and comfort.

12-Month Priority Action List

START NOW!

Ongoing projects to continue:*

1 PILOT TEST NORTH AVENUE BIKEWAY OPTIONS

Pilot test and evaluate buffered/protected bikeway treatments along North Avenue, between Shore Road and Plattsburg Avenue; VT-127 and Institute Road; and Institute Road and Berry Street. For protected segments, test vertical post delineators and "armadillos" for durability, protection, and aesthetics. This pilot will include a 4-to-3 conversation of North Avenue between VT-127 and Shore Road, planned for implementation in the Summer of 2016. Pending results of the 2016 Pilot Project, add protected/conventional/buffered bike lanes on North Avenue where feasible.

2 STRIPE NEW CROSSWALKS ACROSS NORTH AVENUE

Stripe five additional high-visibility crosswalks across North Avenue at Ward Street, Burlington College, Village Green / Killarney Drive, Gosse Court, and Green Acres Drive / Cayuga Court. This project is funded for 2017 Construction.

3 BURLINGTON BIKE PATH RENOVATION (CITYWIDE)

The City is currently working on enhancing the Burlington Bike Path through a multi-phase rehabilitation project led by Burlington Parks, Recreation, and Waterfront. The project proposes the rehabilitation of the approximate 8 mile multi-use path that runs along the Lake Champlain waterfront. Project limits extend throughout the entire city beginning with the southern terminus at the path intersection with Queen City Park Road and extending north to the Winooski River Bridge.

New projects:

4 IMPROVE CONNECTION BETWEEN NORTH AVENUE AND GOSSE COURT.

Add shared use path pavement markings and signs to Woodbury Road/Hunt Middle School driveway, connecting North Avenue and Gosse Court.

5 LEDDY PARK BIKEWAY CONNECTOR

Add shared lane markings in both directions on Leddy Park Road.

**Note that ongoing project lists include major projects with significant impact to the network of walkable, bikeable streets and intersections. Additional projects are in progress. These lists are not intended to be comprehensive.*

Sub-Area 1: 5-Year Action Plan

Major Community Destinations

- Public School
- University Area
- Park
- Area within 5-min. walk of Neighborhood Center

Planned Projects

- Crossing Upgrade - Already Funded for Construction

Existing Bikeways/Paths

- Shared Use Path
- Existing Informal Path
- Conventional Bike Lane
- Shared Use Lane Markings

Proposed Walk Projects

- Recommended New Sidewalk
- 12-mo Intersection or Crossing Upgrade
- 5-yr Intersection or Crossing Upgrade

Proposed Bikeways/Paths

- Shared Use Path
- Protected Bike Lane
- Neighborhood Greenway (includes Traffic Calming)
- Buffered/Conventional Bike Lane
- Advisory Bike Lane
- Shared Use Lane Markings with Traffic Calming
- Potential Path Easement

Note: Dotted white street lines indicate conceptual street connections that have been discussed in other city or regional plans.

LIST OF RECOMMENDED PROJECTS TO BE IMPLEMENTED IN THE NEXT 2-5 YEARS

Please see map on previous page for additional details.

Project Name	Proposed Action
Crescent/Shore Greenway	Shared lane markings and traffic calming
Farrington Parkway Greenway	Shared lane markings and traffic calming
Gosse Court Greenway	Shared lane markings and traffic calming
Marshall Drive Greenway (Gosse to Heineberg)	Shared lane markings, green infrastructure and traffic calming
North Ave Intersection Safety	High visibility crosswalks, curb extensions with epoxy/sand, flexposts or other creative materials (at Shore, Cottage Grove, Poirier, Saratoga, and Institute)
Old North End Multiuse Connector Trail	Shared use path between North Ave and Island Line Trail
Plattsburg Ave. Bikeway	In the short term, mark and sign conventional bike lanes (with more robust treatment coming in the long-term)
Starr Farm Road Sidewalk	Add new sidewalk
Venus Ave Connector	Begin planning for neighborhood connector between Venus Ave. and Sandra Cir.
Western Ave Sidewalk	Add new sidewalk

Sub-Area 1: Long Term Plan

Major Community Destinations

- Public School
- University Area
- Park
- Area within 5-min. walk of Neighborhood Center

Planned Projects

- Crossing Upgrade - Already Funded for Construction

Existing Bikeways/Paths

- Shared Use Path
- Existing Informal Path
- Conventional Bike Lane
- Shared Use Lane Markings

Proposed Walk Projects

- Recommended New Sidewalk
- 12-mo Intersection or Crossing Upgrade
- Intersection or Crossing Upgrade

Proposed Bikeways/Paths

- Shared Use Path
- Protected Bike Lane
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- Shared Use Lane Markings with Traffic Calming
- Potential Path Easement

Note: Dotted white street lines indicate conceptual street connections that have been discussed in other city or regional plans.

Shore Road Neighborhood Greenway

The plan view drawings on the following pages illustrate recommended treatments for a neighborhood greenway along Shore Road and Crescent Beach Drive in Burlington's New North End. Typically applied to residential streets with low vehicle volumes and speeds, neighborhood greenways use traffic calming measures (such as chicanes, diverters, or mini roundabouts) to emphasize priority for people walking or biking. Through use of greening elements (such as the rain garden curb extensions shown below), neighborhood greenways can also improve stormwater management, beautify the street, and increase public life along neighborhood streets.

The proposed Shore Road neighborhood greenway would provide a low-stress connection between the waterfront, Island Line Trail, St. Marks Catholic Church, North Avenue bikeway, Hunt Middle School, Smith Elementary, and Ethan Allen Park trails, and the 127 Bike Path via bikeways proposed for Ethan Allen Parkway.

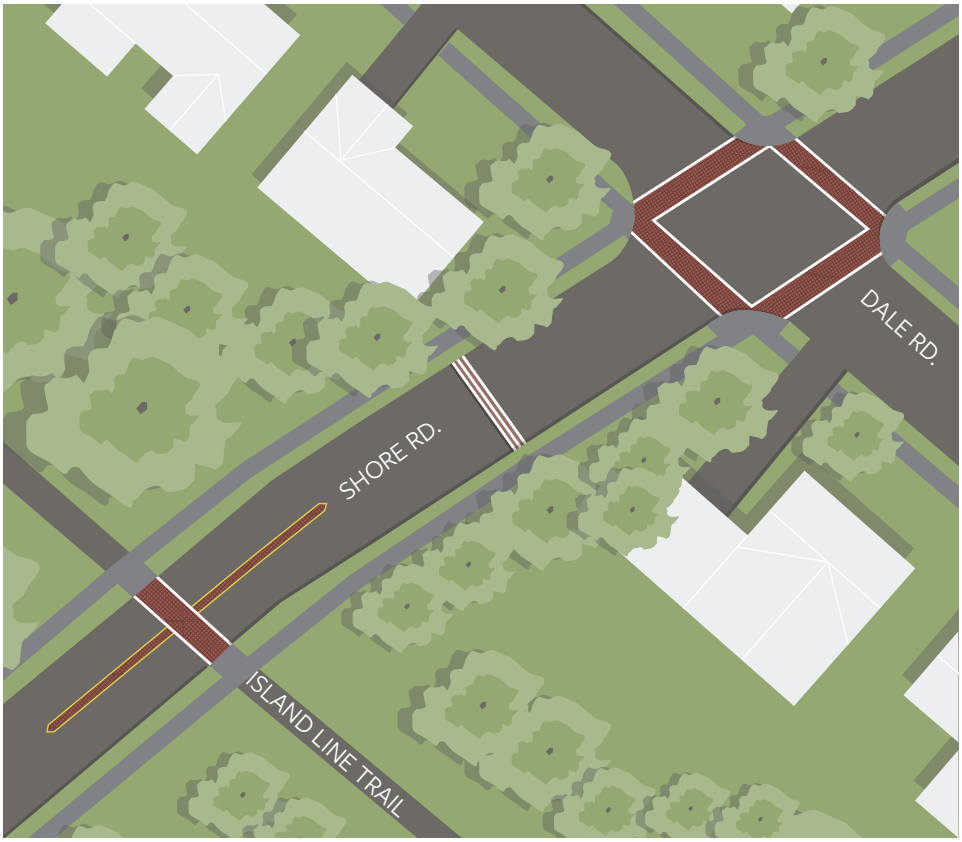
EXISTING CONDITIONS

Crescent Beach Drive is a low-volume, residential street, appropriate for neighborhood greenway traffic calming treatments. While curbside parking is permitted, residences on the street have ample parking options in driveways and attached garages. The street provides access to public waterfront facilities at the western edge.

PROPOSED GREENWAY

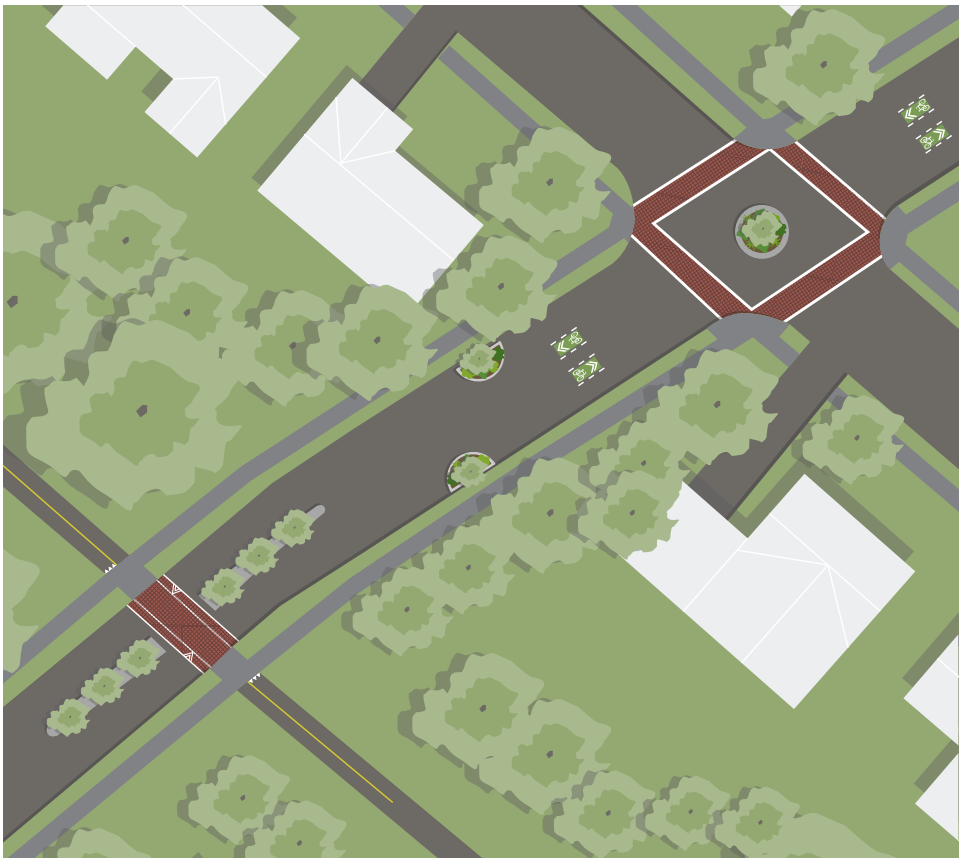
Rain garden curb extensions calm traffic and help manage stormwater, while adding beauty and greenery to the street.

Highly-visible, green "super sharrow" markings indicate that people on bikes and people driving are to share the same lane. The sharrows also function to recommend proper cyclist positioning in the lane and provide wayfinding along the greenway route.



EXISTING CONDITIONS

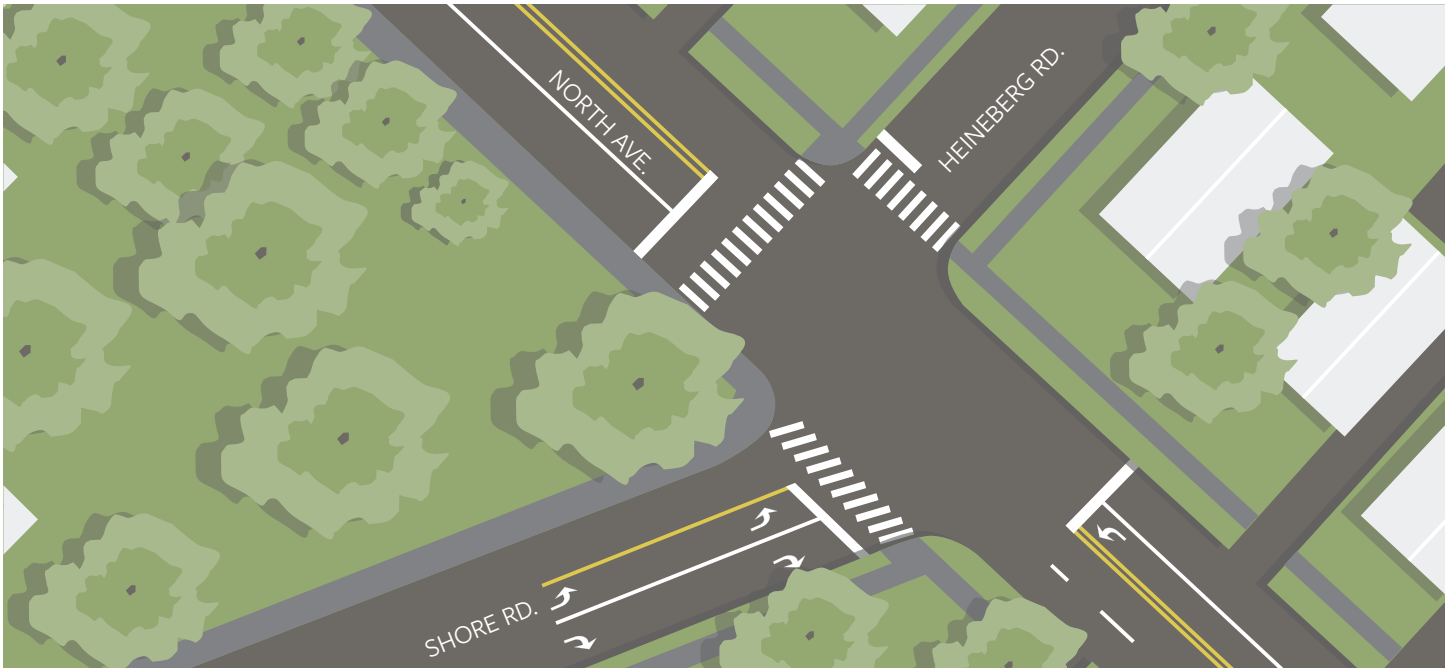
Shore Road is a low-volume, residential street. Curbside parking is permitted but not often needed, as most homes have driveways and attached garages. Shore Road lacks striping but features some traffic calming measures, such as small speed bumps and crosswalks. The Island Line Trail crosses Shore Road just south of the Dale Road intersection.



PROPOSED GREENWAY

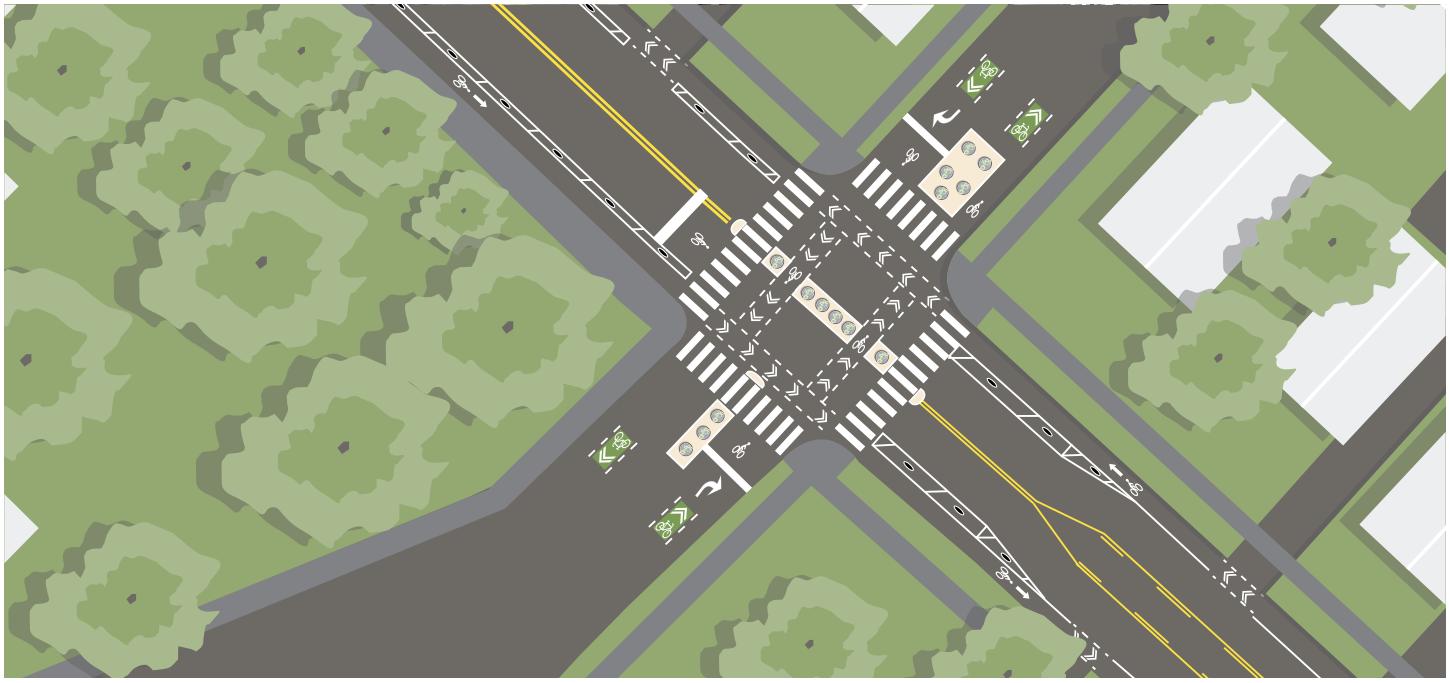
Neighborhood greenway treatments would send a strong message that Shore Road is a priority street for people walking and biking. Recommended treatments include:

- A neighborhood traffic circle at Dale Road.
- Chicanes with greenery to calm traffic, help manage stormwater, and add beauty to the street.
- Median enhancements, adding trees and greenery.
- Highly-visible, green "super sharrow" markings to indicate a shared lane condition, recommend proper cyclist positioning in the lane, and provide wayfinding.
- Raised crossing to improve safety and visibility where the trail crosses Shore Road.
- Trail striping for lateral positioning and yield markings where the trail approaches the sidewalk.



SHORE ROAD GREENWAY AND NORTH AVENUE INTERSECTION: EXISTING CONDITIONS

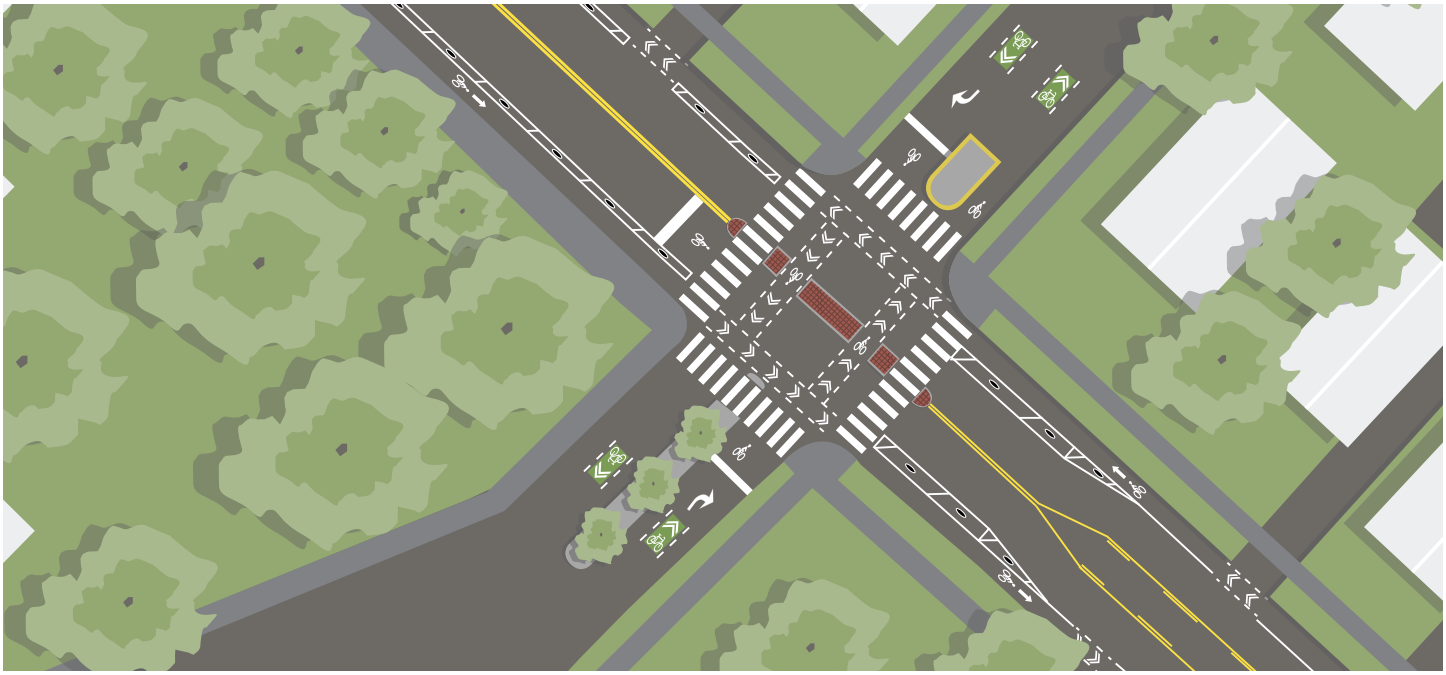
For the Shore Road neighborhood greenway to provide the desired low-stress connectivity benefits, the intersection of Shore Road, North Avenue, and Heineberg Road must be upgraded. The North Avenue Corridor Study proposes a concept which would relocate a portion of Shore Road to better align with Heineberg Road. Implementation of this concept is dependent on right-of-way donation from St. Mark Church, as the church property would be impacted.



SHORE ROAD GREENWAY AND NORTH AVENUE INTERSECTION: PROPOSED PILOT IMPROVEMENTS

- Turn lane restrictions and a bike box on Shore Road
- Crossbike intersection markings across North Avenue
- Median upgrades on North Avenue and Heineberg Road
- A bike box and super sharrow markings on Heineberg Road

These drawing above shows how protected bikeway treatments could dovetail with the potential re-alignment of Shore Road in the future (re-alignment information is based on concept drawings from the North Avenue Corridor Study).



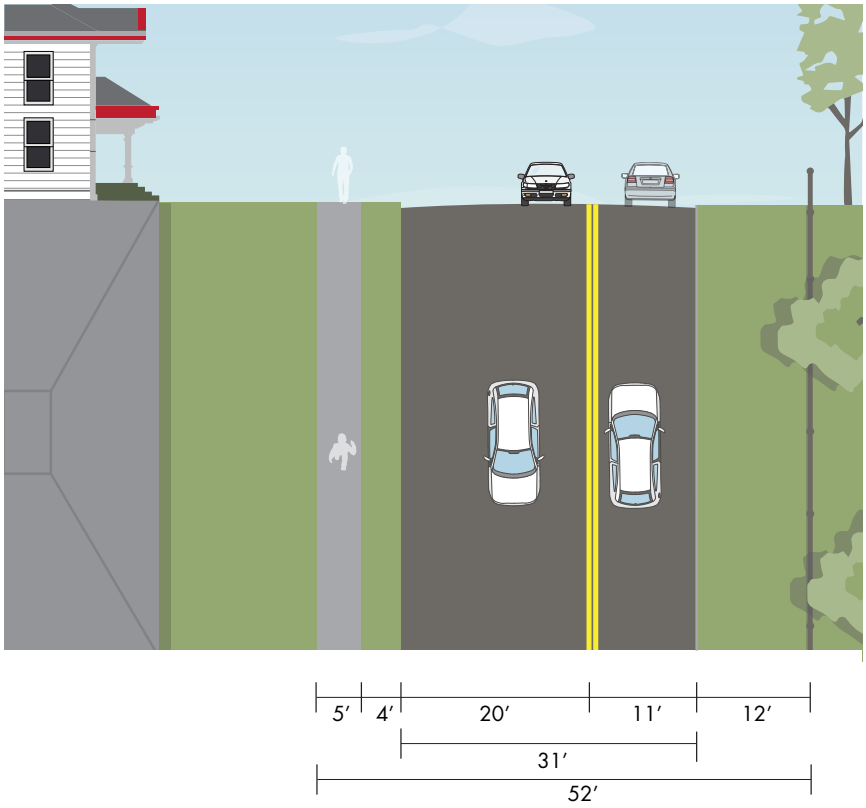
SHORE ROAD GREENWAY AND NORTH AVENUE INTERSECTION: PROPOSED

Based on results of the pilot phase, long-term build out of intersection upgrades at a re-aligned Shore Road, North Avenue, and Heineberg Road intersection would involve:

- Robust median upgrades where Shore Road meets North Avenue, with new street trees to calm traffic and add beauty.
- A bicycle box at North Avenue to provide cyclists with a safe space to wait at a red light.
- Crossbike markings to indicate the designated space for bicycle movement across North Avenue.
- Robust median upgrades on North Avenue providing a pedestrian refuge island at the crosswalk.
- A permanent protected bike lane on North Avenue
- Bikeway markings at conflict points along North Avenue, such as at driveways.
- A median diverter and bicycle box where Heineberg Road meets North Avenue.

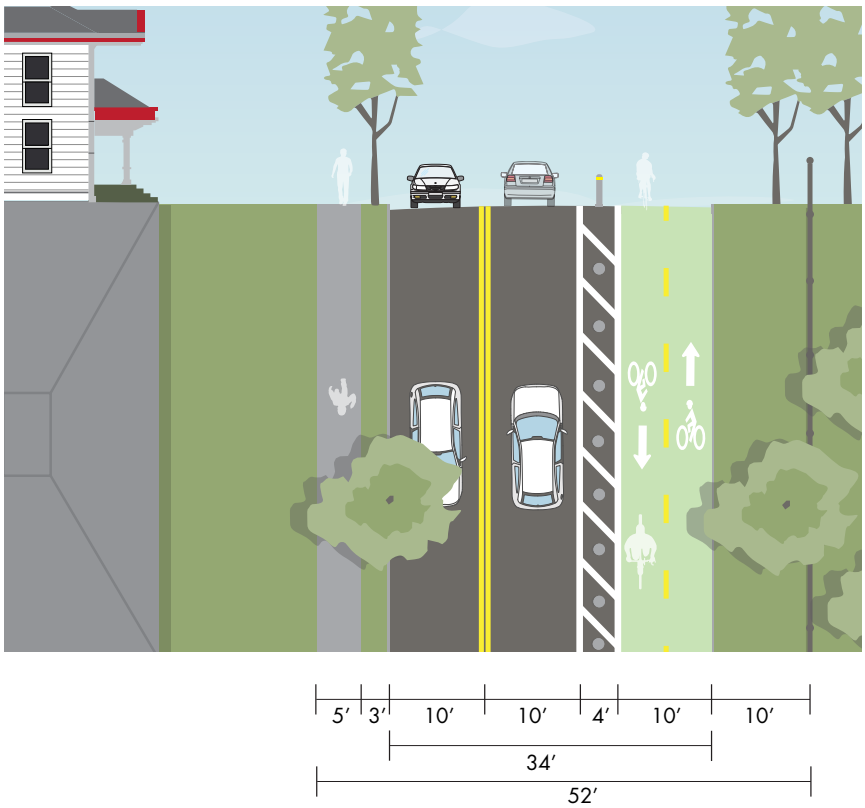
Plattsburg Avenue Two-Way Protected Bike Lane

The following pages outline a proposal for a two-way protected bicycle lane on Plattsburg Avenue. The bike lane would provide a key connection between Burlington and Colchester. Plattsburg Avenue connects residential neighborhoods in the New North End with North Avenue, providing access to: JJ Flynn Elementary School; a neighborhood greenway proposed for Rivers Edge Drive / Sunset Drive; and an existing trail that connects Plattsburg Avenue to the Heineberg Drive/127 Bridge into Colchester.



EXISTING CONDITIONS

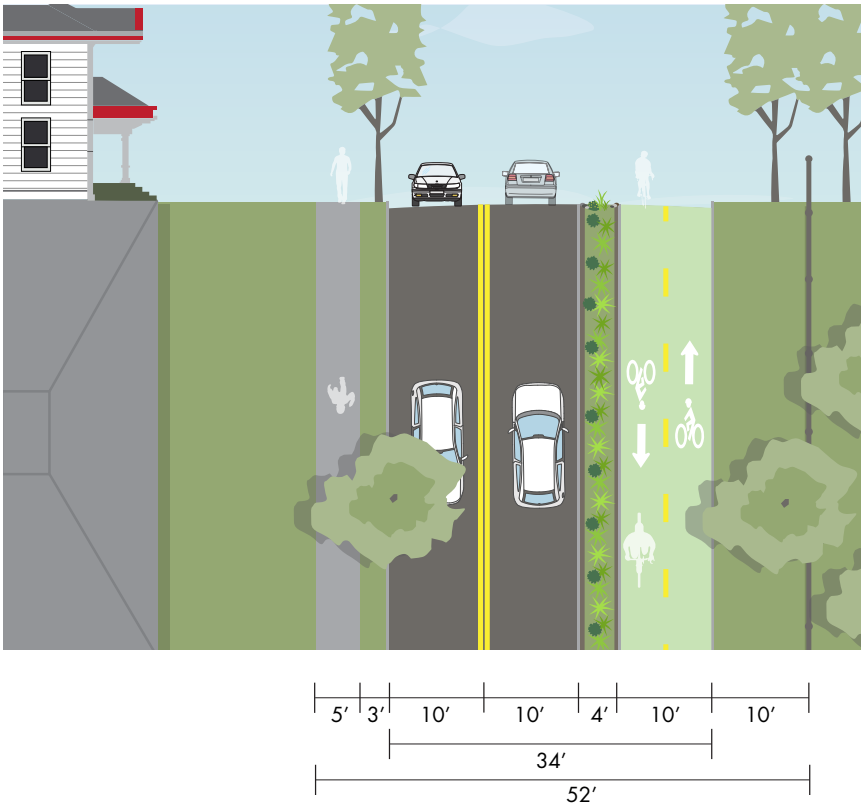
Plattsburg Avenue features two-lane traffic with a curbside parking lane on the west side of the street. Homes on the street typically feature driveways and garages for resident parking. The New Mount Calvary Cemetery on the east side of the street provides a continuous wall with no curb-cuts.



OPTION 1

Widen and re-stripe Plattsburg Avenue to remove the parking lane and move vehicle travel lanes to the west. This makes space for a two-way protected bicycle lane on the east side, which should be a minimum of 10 feet wide. This option is a moderate cost alternative when compared to Option 2 on the following page: it can be created by repurposing part of the greenbelt and then using low-cost materials such as paint and bollards to create the bikeway.

Existing conditions on Plattsburg Avenue, looking north east.



OPTION 2

In option 2, the bicycle lane is separated from the vehicle travel lane by a planted greenbelt or linear rain garden. Again, the lane should be a minimum of 10 feet wide. The planter treatment will help manage stormwater and add greenery and beauty to the street.

SUB-AREA 2: DOWNTOWN | OLD NORTH END | CAMPUS AREA

Note: Dotted white street lines indicate conceptual street connections that have been discussed in other city or regional plans.

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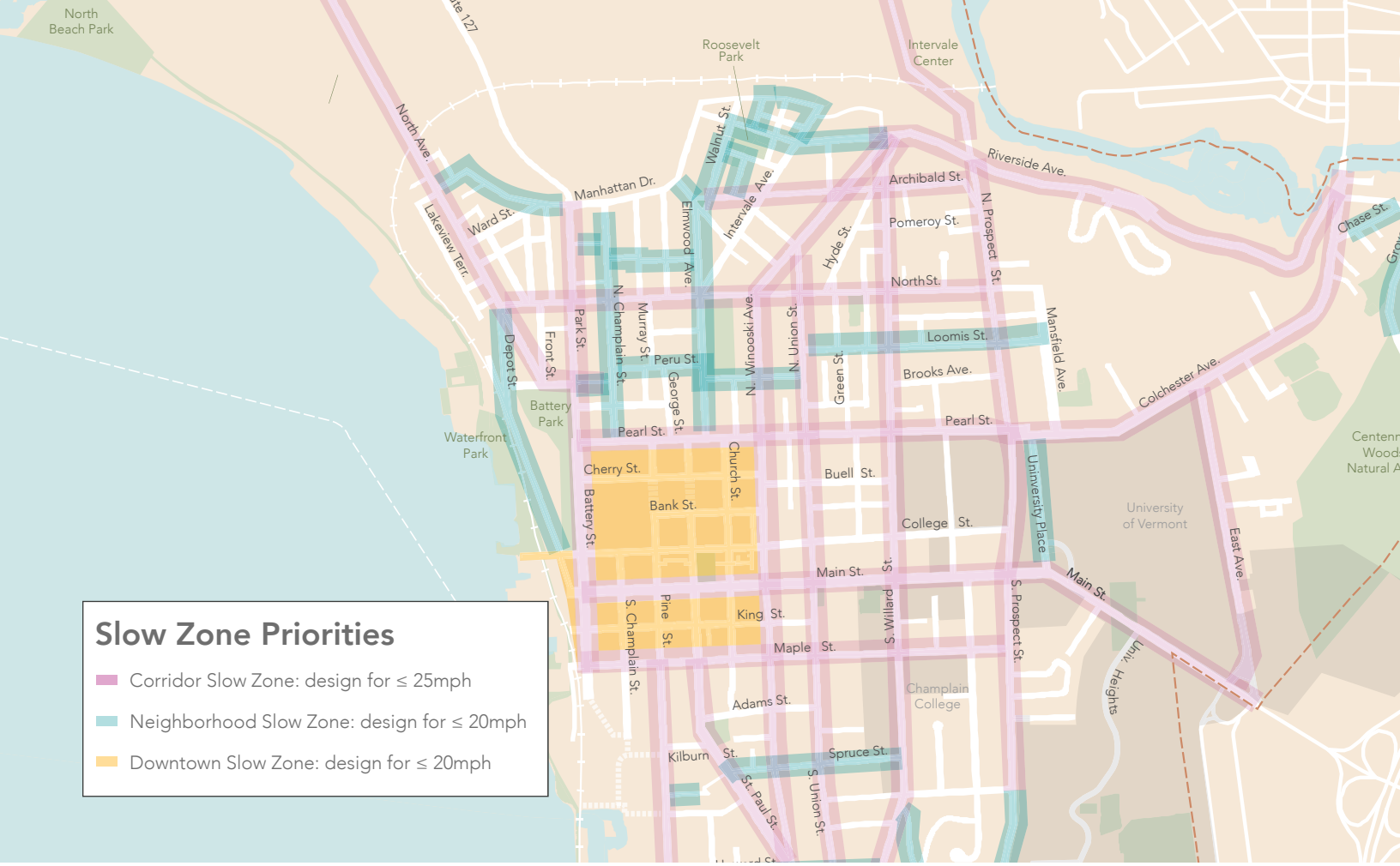


EXISTING CONDITIONS SUMMARY

The Downtown | Old North End | Campus Area sub-area represents Burlington's most compact land use patterns, especially in the historic downtown core.

This sub-area contains many major generators of walk/bike traffic, including campuses for the University of Vermont and Chaplain College. Downtown Burlington is home to hundreds of retail businesses, and neighborhood activity centers, such as North Street in the Old North End, also serve important commercial functions in the sub-area. Major recreational facilities, such as Battery Park and Waterfront Park are an attraction for tourists and residents alike.

In part due to the presence of two large universities, the population in the Downtown | Old North End | Campus Area sub-area is young compared to other parts of the city. Single person households, and non-related groups living together make up a significant segment of the population, reflecting a strong base of young professionals. This sub-area also has a high percentage of renter households.

This sub-area is often considered the most walkable area of Burlington due to its well-connected sidewalk network and high level of intersection density. The sub-area also contains the highest concentration of on-street bike infrastructure. Still, connectivity is an issue. In some areas, poorly maintained sidewalks and unsafe intersections reduce walkability. And, though bike lanes do exist on some streets, they do not connect or form any type of continuous network. Safety is another major concern in this sub-area. The vast majority of crashes involving people walking or biking take place here. Seventy-five percent of the top 20 priority intersections are located in this sub-area, further underscoring the need for improved walk and bike infrastructure.

Given the high concentration of commercial areas, recreational facilities, and major institutions, bicycle parking is particularly important in this sub-area. Current bicycle parking resources in Downtown | Old North End | Campus Area do not meet demand, and the recommendations in the Bike Parking Action Plan note a number of strategies to ameliorate this problem.

12-Month Priority Action List

START NOW!

Ongoing projects to continue:*

1. **COLCHESTER AVENUE SIDEPATH WIDENING**
   Funded for 2017 Construction.

2. **CONNECTORS THROUGH BURLINGTON TOWN CENTER**
   Create connections through Burlington Town Center at Pine and St Paul Streets. Ongoing project subject to development agreement, eligible for Downtown TIF funding.

3. **MAIN STREET STREETSCAPE REDESIGN**
   Dubbed the "Great Streets Project" this project involves planning for a streetscape redesign on Main Street from Battery to Union. The project is funded through the Downtown TIF and Great Streets Project funding. Funding for construction is currently available for the Church to Pine street segment of the project.

4. **MAPLE AND BATTERY INTERSECTION IMPROVEMENTS**
   Crossing improvements planned at this intersection will be implemented in 2016/2017.

5. **SAINT PAUL ST. STREETSCAPE IMPROVEMENTS (INCLUDING THE MAIN ST. /ST. PAUL INTERSECTION)**
   This two-block streetscape improvement (stretching from Maple to Main street) is funded through the downtown TIF program.

6. **ONGOING TRAFFIC CALMING PROJECTS**
   In progress on Grant Street, Loomis Street, King Street and Ward Street. Funded through the Traffic Calming Fund.

7. **BURLINGTON BIKE PATH RENOVATION (CITYWIDE)**
   The City is currently working on enhancing the Burlington Bike Path through a multi-phase rehabilitation project led by Burlington Parks, Recreation, and Waterfront. The project proposes the rehabilitation of the approximate 8 mile multi-use path that runs along the Lake Champlain waterfront. Project limits extend throughout the entire city beginning with the southern terminus at the path intersection with Queen City Park Road and extending north to the Winooski River Bridge.

**Note that ongoing project lists include major projects with significant impact to the network of walkable, bikeable streets and intersections. Additional projects are in progress, and these lists are not intended to be comprehensive.*

12-Month Priority Action List

START NOW!

New projects:

8 CREATE NEIGHBORHOOD GREENWAY ON LAKEVIEW TERRACE

Add bikeway markings and traffic calming treatments on Lakeview Terrace to create a low-stress Neighborhood Greenway as an alternative to the southernmost blocks of North Ave.

9 IMPROVE SAFETY AT COLCHESTER AND EAST AVENUE

Extend the eastbound Colchester Avenue bike lane to the East Avenue Intersection with shared lane marking treatments through the right turn lane. Pilot test a median treatment to increase safety for pedestrians crossing Colchester.

10 PILOT TEST DELINEATORS TO REINFORCE N. UNION STREET BUFFERED BIKE LANE

Pilot test and evaluate vertical post delineators and "armadillos" for durability, protection, and aesthetics within the North Union Street buffered bike lane, from Pearl to North Street.

11 ADD A BIKE LANE AND CURB EXTENSIONS TO PEARL STREET

Stripe a bike lane on Pearl Street between Battery Street and N. Winooski Ave. Add interim curb extensions to improve pedestrian safety at the intersection of Pearl and N. Champlain Streets.

12 ADD BIKEWAY MARKINGS ON COLLEGE TO CONNECT WITH THE PATH ACROSS PROSPECT

Add intersection striping treatments to carry College St. bikeway across the Prospect intersection, to connect with the path on the UVM campus.

13 USE PILOT PROJECTS TO TEST RECOMMENDATIONS FROM THE WINOOSKI CORRIDOR STUDY

The City is currently working on a corridor study to evaluate alternatives for Winooski Avenue from Riverside to Howard. As this planning effort continues, use pilot and interim design measures to improve safety for people walking and biking. One potential focus is the segment between Maple and Main Streets. Overall, improving safety and connectivity south of Pearl Street should be a major priority.

14 ADD BIKE PARKING AT HIGH NEED LOCATIONS

Add bike racks in high use areas such as Church Street, Pearl Street, and Main Street.

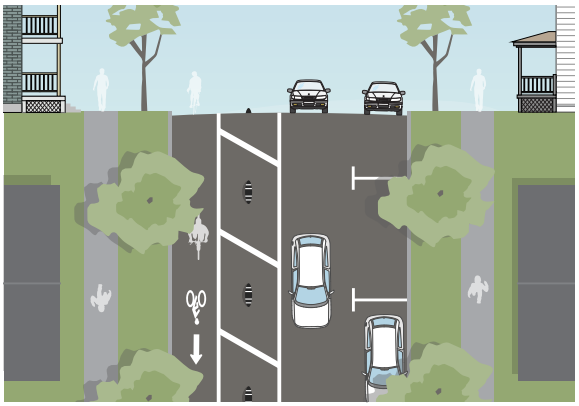
15 PILOT TEST IMPROVEMENTS ON DEPOT STREET

Revisit concept plans developed for Depot Street in the 2009 Waterfront North Access Scoping Study, and develop a plan to improve pavement conditions and use pilot projects to test alternatives. Recommendations in the Study suggested adding traffic calming features, new lighting, upgraded bicycle/pedestrian facilities, and more.

16 ADD CURB EXTENSIONS AT THE MAIN ST. / S. CHAMPLAIN INTERSECTION

Use rapid implementation materials to add curb extensions at this intersection.

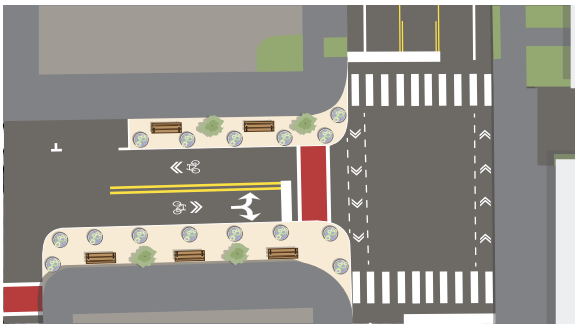
17



ADD A PROTECTED BIKE LANE TO N. WINOOSKI AVE., BETWEEN NORTH UNION ST. AND PEARL ST.

Remove on-street parking along the west side of North Winooski, between North Union Street and Pearl Street. Replace with a southbound protected bike lane created using flex posts; use lane reassignment or a thru/advisory/mixing zone bike lane treatment and bicycle box for the Pearl Street intersection approach; ban right turn on red.

18



PILOT TEST IMPROVEMENTS AT THE INTERSECTION OF S. WINOOSKI AVENUE AND BANK STREET

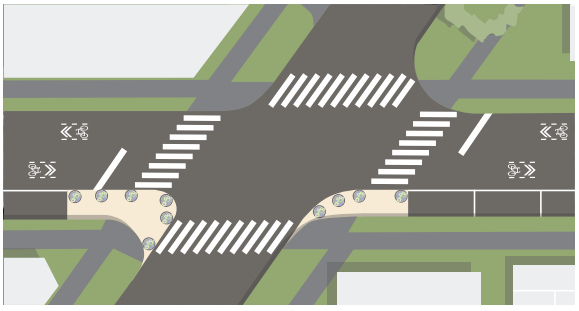
Use paint or epoxy-gravel mix and planters to extend the north and south side sidewalk at the intersection of Bank Street and South Winooski; Ban right turn on red and provide a lead pedestrian interval.

19

IMPROVE SAFETY ALONG RIVERSIDE SHARED USE PATH

Conflict points in parking lots and at driveway crossings create unsafe conditions for people walking or biking along Riverside. In the short term, add pavement markings at conflict points, and pilot intersection improvements at Intervale and Hillside in particular. Pavement markings might include high-visibility chevron markings, green paint or similar treatments. Markings should extend the bike lanes in both directions to and across each intersection using thru/advisory lane or sharrow treatments and crossing markings. Sharrows can be used to close the gap between the end of the eastbound bike lane and the intersection of Colchester Avenue/Barrett Street. As properties are redeveloped in the long-term, public realm enhancements should be required, including raised crossings for bicyclists and pedestrians at all driveway curb cuts.

20



PILOT TEST BIKEWAY UPGRADES AND SLOW ZONE TREATMENTS ON ARCHIBALD

Pilot test and evaluate bicycle priority shared lanes (“super sharrows”) on Archibald Street; install interim design curb extensions using paint or epoxy-gravel treatment where appropriate, such as the intersection of Archibald and Intervale Avenue.

Note: Dotted white street lines indicate conceptual street connections that have been discussed in other city or regional plans.

LIST OF RECOMMENDED PROJECTS TO BE IMPLEMENTED IN THE NEXT 2-5 YEARS

Please see map on previous page for additional details.

Project Name	Proposed Action
Bank Street Bikeway	Mark and sign shared use lanes
Cherry and South Winooski Intersection Improvements	Create rapid implementation curb extensions while 2016 Corridor Study is developed
Colchester Ave Bikeway	Stripe bike lanes on Colchester Ave. east of East Ave., with a more robust treatment to come in the long-term.
Colchester Ave Bridge to Winooski	Implement a lane reassignment with 3 travel lanes and a 2-way shared use path across the bridge, or build a new bridge for people walking/biking
Colchester Ave Hospital Crossing	Install high visibility pedestrian crossing
College/S. Willard Intersection	Consider mini-roundabout or high visibility pedestrian crossings
Main St/University Heights Crossing	Install high visibility pedestrian crossing
Main Street Complete Streets Upgrades (Battery to Winooski)	Design TBD with Great Streets Project; goal is protected bicycle lanes on this segment.
Main Street Complete Streets Upgrades (Winooski to Summit)	Protected bicycle lanes and improvements for pedestrians, per scoping study
Main Street Complete Streets Upgrades (Summit to University Place)	Add a shared use path on UVM property to connect to Main St path
Main Street Path on UVM Campus	Continue UVM Shared Use Path to fill gap from University Heights to the Jughandle
Main Street/S. Winooski Ave Intersection	Consider roundabout or mini-roundabout and lane reassignment
Maple Street Bikeway	Mark and sign shared lane treatments
N. Champlain Street/ Bikeway	Protected 2-way bicycle lanes on west side of street, lane reassignment
N. Winooski Bikeway (Union to Riverside)	Mark and sign protected bicycle lanes
North St Bikeway	Traffic calming with epoxy/sand, flexposts or other creative materials; shared lanes or advisory bike lanes
North Street near Murray	Study/pilot projects needed to determine best approach for traffic calming
North/North Ave Intersection	High visibility crosswalks, curb extensions with epoxy/sand, flexposts or other creative materials
ONE Greenway - Loomis Street segment	Shared lane markings, green infrastructure and traffic calming. Intersection improvements at Loomis/Prospect.
ONE Greenway - Sherman, Peru & Grant	Shared lane markings, green infrastructure and traffic calming
Pearl St/South Williams Crossing	Re-establish high visibility crosswalk
Pearl/Prospect/Colchester Intersection	High visibility crosswalks, realignment integrating curb extensions with epoxy/sand, flexposts or other creative materials
Pearl/Winooski Intersection	High visibility crosswalks, curb extensions with epoxy/sand, flexposts or other creative materials
Riverside Ave/Colchester Ave Intersection	High visibility crosswalks, curb extensions with epoxy/sand, flexposts or other creative materials
Riverside Ave/N. Prospect Intersection	High visibility crosswalks, curb extensions with epoxy/sand, flexposts or other creative materials

LIST OF RECOMMENDED PROJECTS TO BE IMPLEMENTED IN THE NEXT 2-5 YEARS (CONTINUED...)

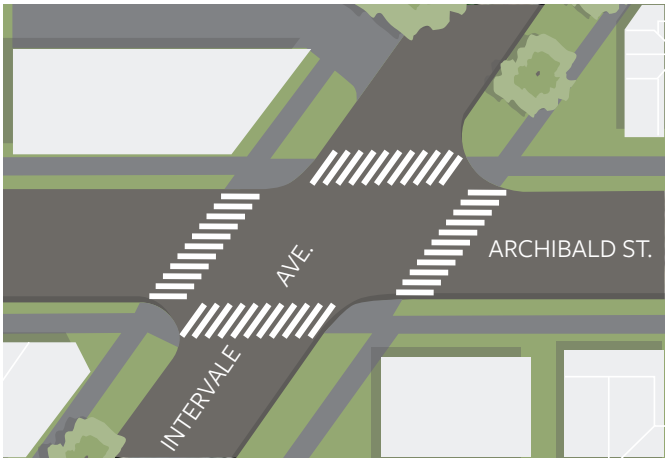
Please see 5-year project map for additional details.

Shelburne Rotary Upgrade	Implement pilot project to clarify traffic patterns and improve safety by narrowing vehicular lanes and adding curb extensions.
Shelburne and Home Street Intersection Improvements	Pilot recommendations from planned corridor study (not programmed yet) - aim to reduce speeds, reduce crossing distances.
S/N Union Bikeway (Main to N. Winooski)	Complete protected bicycle lanes with preferred rapid implementation treatment (flexposts or armadillos, etc.)
S. Union Bikeway (Shelburne to Main)	Establish protected bicycle lanes with flexposts or armadillos; consider lane reassignment with one-way street for vehicles
S. Union/Main Intersection	Consider mini-roundabout; high visibility crosswalks, curb extensions with creative materials
S. Willard St Bikeway (Cliff to Hyde)	Extend northbound bicycle lane from North Street to Hyde, add shared lane markings southbound
S. Willard/Main Intersection	High visibility crosswalks, curb extensions with creative materials
S. Willard/Pearl Intersection	High visibility crosswalks, curb extensions with creative materials
S. Winooski Ave/College St Intersection	Consider mini-roundabout; high visibility crosswalks, curb extensions with creative materials
S. Winooski Bikeway-Main to Pearl	Mark and sign bicycle lanes in both directions; reassignment of vehicle lanes

Note: Dotted white street lines indicate conceptual street connections that have been discussed in other city or regional plans.

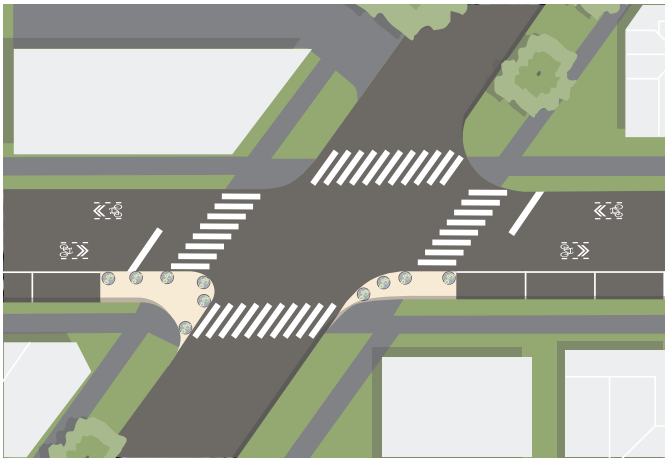
Intervale Ave. + Archibald Ave. Intersection Upgrade

Archibald provides critical east-west connections to Prospect Street, Integrated Arts Academy, and numerous neighborhood parks. It also intersects with a variety of proposed bikeways on Walnut Street, Elmwood Avenue, North Winooski Avenue, and North Prospect Street. Intervale intersects Archibald and is an important connection to the existing Riverside Avenue path facilities, public transit services, and several high-density shopping and housing areas. The Archibald/Intervale intersection has been identified as a top priority for improvement, based on crash data and public input. The drawings on this page illustrate how pilot and long-term design changes could be used to improve safety at the Archibald/Intervale intersection. The City should evaluate options to add similar traffic calming treatments at *all* intersections along Archibald, especially at Elmwood, N Winooski and Willard. Traffic calming treatments should establish a target speed of 20mph on Archibald. Slowing the whole corridor down in this manner is critical for creating a condition in which people biking will feel safe sharing the lane with cars on this key east-west corridor.



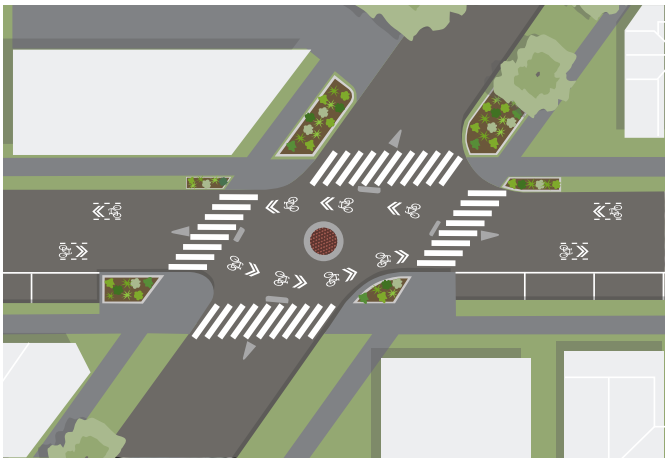
EXISTING CONDITIONS

Beyond simple crosswalks, this intersection, and the streets leading into it, lack amenities for people walking and biking. Curbside parking is permitted in the south side of Archibald, and along the west side of Intervale.



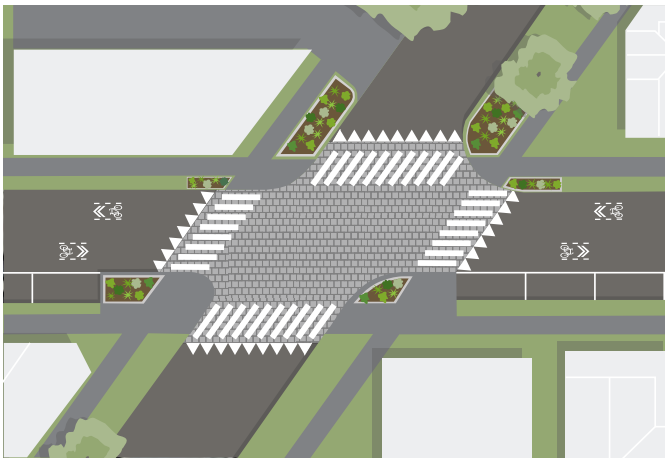
SHORT-TERM / PILOT

In the short-term, use paint and temporary planters to tighten turning radius for people driving, and shorten crossing distances and improve visibility for people walking. Clearly stripe parking spaces. Add bikeway markings along Archibald to create a new east-west route.



OPTION 1

Upgrade temporary curb extensions and add a mountable neighborhood traffic circle to permanently calm traffic and improve safety for people walking and driving. Option 1 upgrades include permanent rain gardens and expanded sidewalk space. Rain gardens will help control stormwater and add protection and beauty.



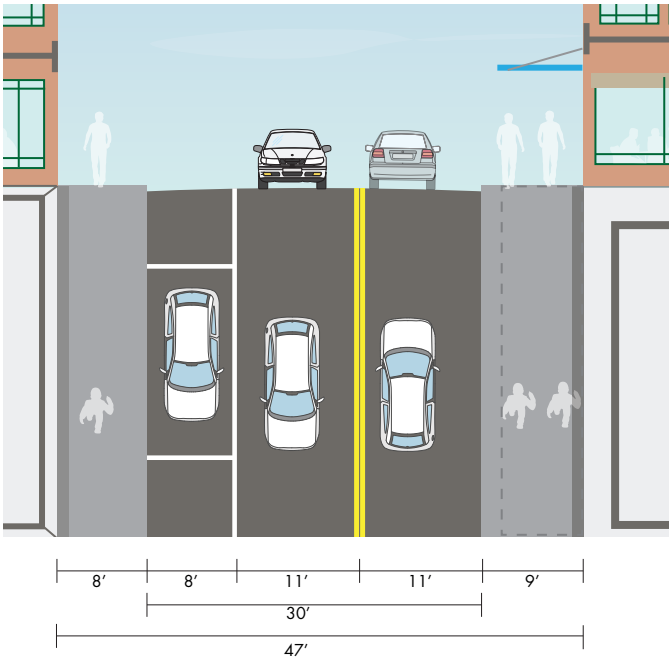
OPTION 2

For Option 2, create a raised intersection to slow people driving and increase the visibility and priority of people walking and biking. Use permeable pavers to help control stormwater and reduce maintenance costs.

North Street Bikeway

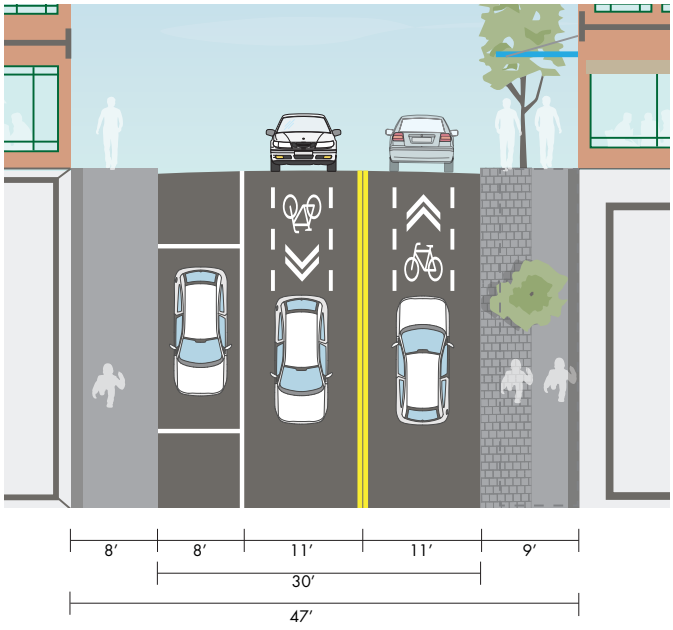
North Street is an important community destination in the Old North End neighborhood, providing access to a compact shopping district and an elementary school. It is also an important east-west connector, intersecting with existing bike facilities on Willard, Union, and North Winooski, all of which are slated for further improvements as part of this plan. Despite a high volume of cyclists on North Street, no bikeway facility exists there. This plan proposes recommendations for making North Street a safer place to walk and bike, while also balancing the parking and delivery needs of adjacent businesses on the corridor.

The drawings on this and the following page illustrate how robust traffic calming treatments (such as raised intersections) could be used to calm traffic speeds along the entire North Street corridor. The drawings on the following page provide an example of one potential treatment for the North/Murray/Rose intersection, which was identified as a top priority Intersection based on crash data and public input. This drawing is just one example. The City should evaluate options to add traffic calming treatments at *all* intersections throughout the North Street Bikeway in order to slow the whole corridor down. This approach is critical for creating a condition in which people biking will feel safe sharing the lane with cars.



EXISTING CONDITIONS

North Street features parallel parking on one side, with moderately sized vehicle travel lanes and sidewalks. Dense urban form and buildings oriented to the street help make North walkable, but the lack of mature street trees and safe crossings is a concern. Without removing parallel parking, existing street and sidewalk conditions do not provide enough space to accommodate a separated or protected bicycle lane.



PROPOSED

Given the compact and commercial land use context, North Street should be a slow zone for people driving. To increase safety for people walking while still preserving parking, add high visibility sharrow markings (aka “super sharrows”) throughout North Street. Slow vehicle speeds should also be enforced with additional traffic calming treatments at each intersection, such as raised intersections, curb extensions, street trees, and leading pedestrian intervals. Amenities such as public art and benches should also be a priority for this corridor.

North, Murray + Rose Street Intersection Upgrade

These drawings illustrate a robust traffic calming proposal for the North/Murray/Rose intersection, which was identified as one of the top 20 Priority Intersections based on crash data and public input. The City should evaluate options to add traffic calming treatments at *all* intersections throughout the North Street Bikeway in order to slow the whole corridor down.

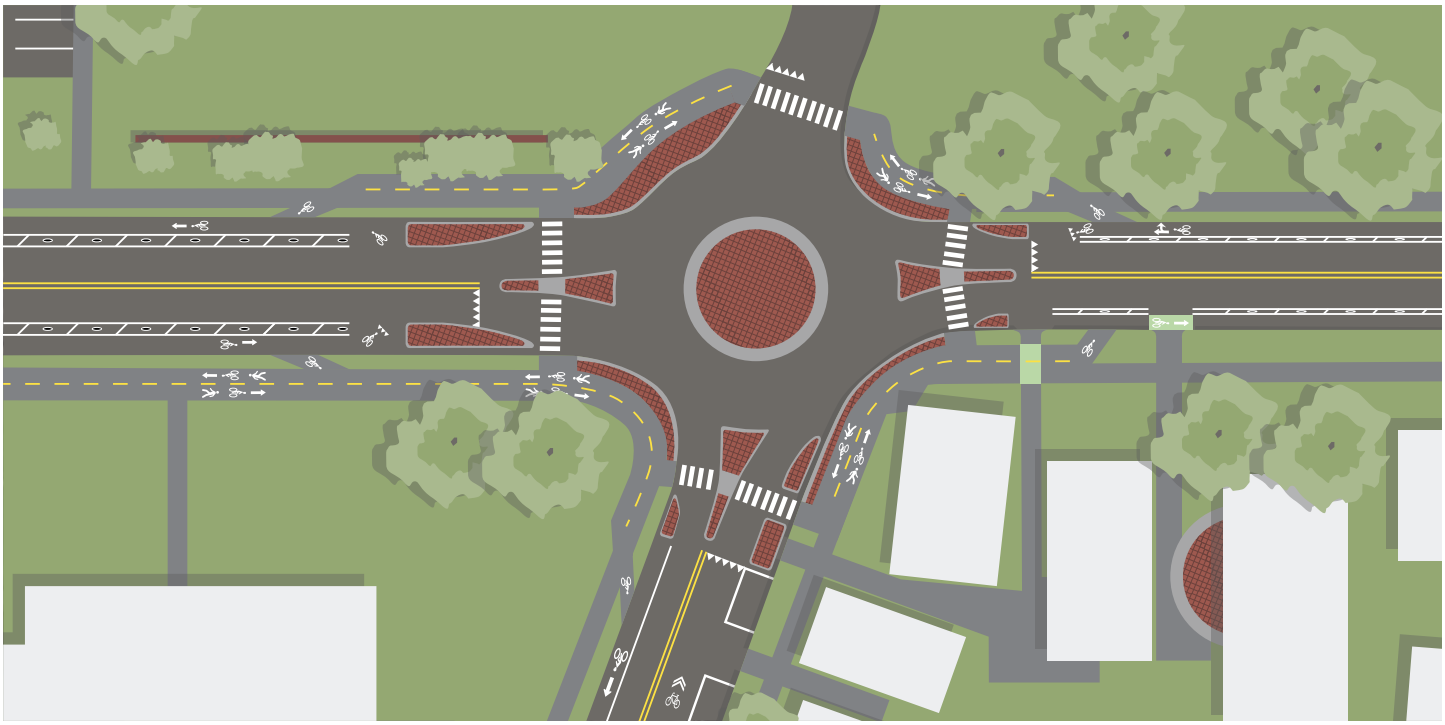
EXISTING CONDITIONS: Existing crosswalks do not provide a direct or logical path for people walking across this intersection, and people often cross where no crosswalk is present. Although there is a high volume of cycling traffic on North Street, no marked facility exists.

PROPOSED: Upgrade the entire North/Murray/Rose intersection to create shared street condition. Improvements would include raising the intersection to increase visibility of and indicate priority for people walking and biking. Use permeable pavers to help control stormwater and reduce maintenance costs. Add benches and landscaping planters for comfort, beauty, and further stormwater management. Add high-visibility sharrow markings to mark the route for people biking. The North/Murray/Rose intersection should be the first priority for traffic calming, but traffic calming treatments should be applied at *all* intersections throughout the North Street Bikeway. This approach will slow the whole corridor down, making it safer and more comfortable for people biking to share the lane with cars.

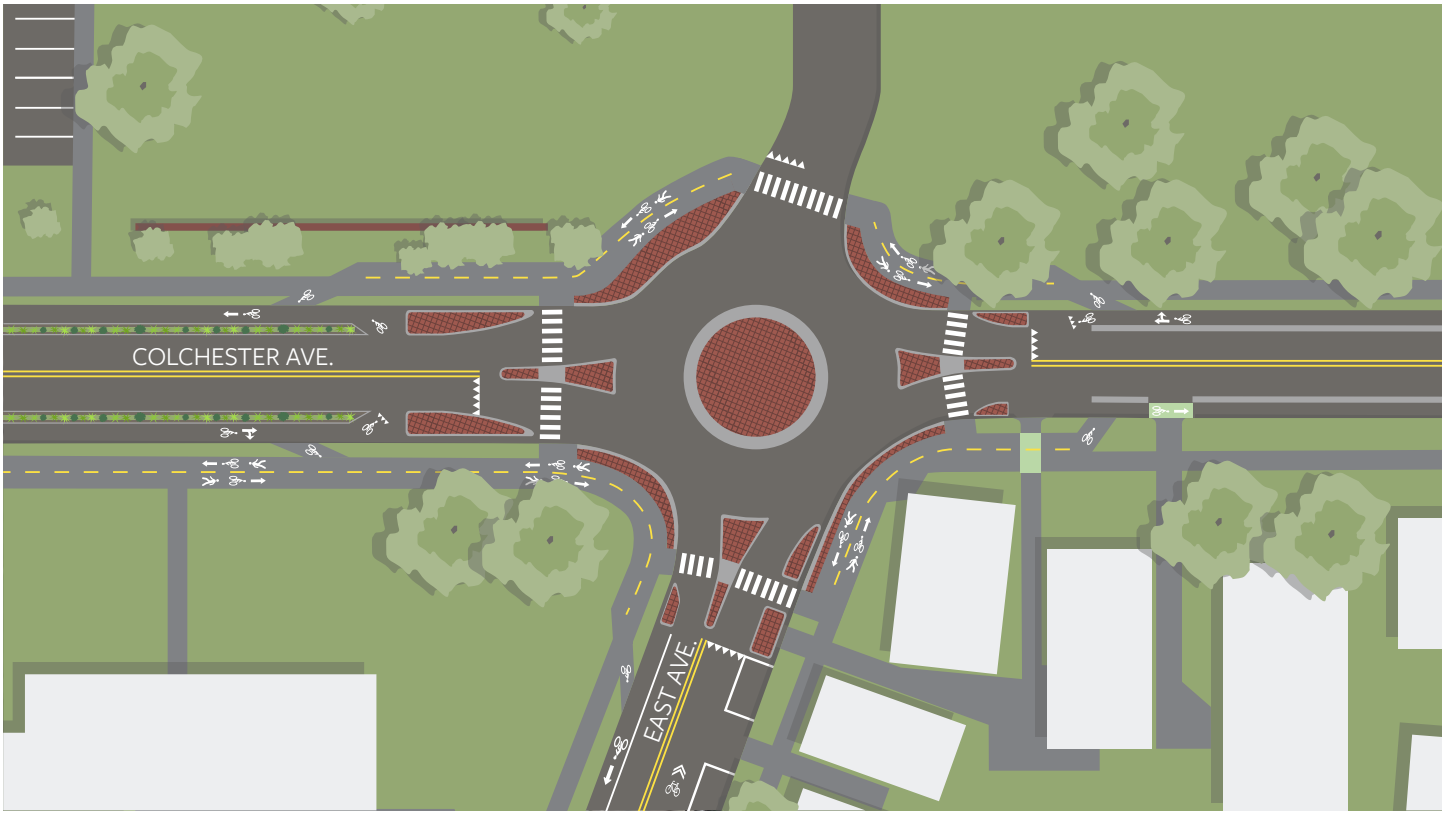
East Avenue + Colchester Avenue Mini Roundabout

This intersection is adjacent to the UVM campus and sees a very high volume of bicycle and pedestrian traffic. It was identified as one of the top 20 Priority Intersections based on crash data and public input.

EXISTING CONDITIONS: The eastbound bike lane on Colchester Avenue drops at this intersection, forcing people on bikes to merge with heavy vehicle traffic. High volumes of pedestrians cross Colchester Avenue to access key destinations on UVM's campus, and traffic calming is needed to increase safety.



OPTION 1: A mini-roundabout is recommended at this intersection to reduce vehicle speeds, without creating congestion (see Appendix for more on mini roundabouts). Upgrades should include protected median refuge islands for people crossing Colchester and East Avenues, as well as low-cost protected bikeway treatments along both streets. These treatments would be supported by off-road shared path facilities on campus property at the south edge of Colchester Avenue.

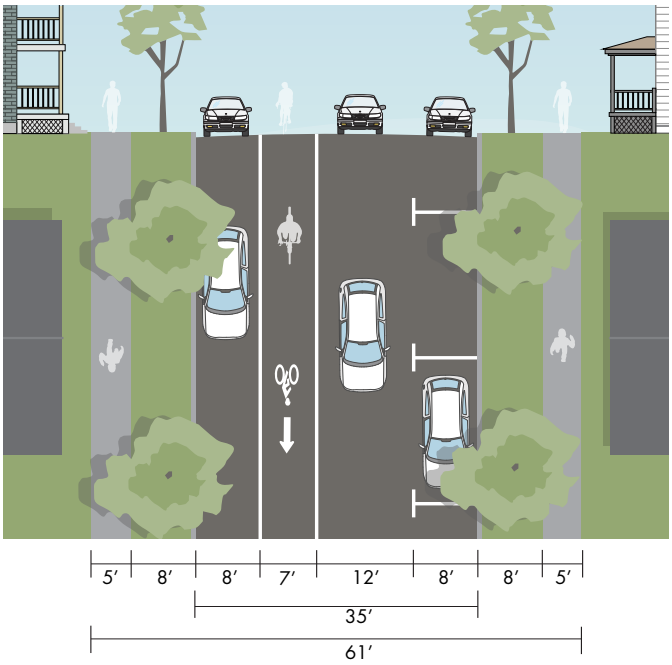


OPTION 2

The drawing above shows a second option for bikeway facilities on Colchester Avenue. In this scenario. the bike lane protection extends from the median at East Avenue, using linear rain gardens to control stormwater and create a continuous physical barrier between people biking and vehicle traffic.

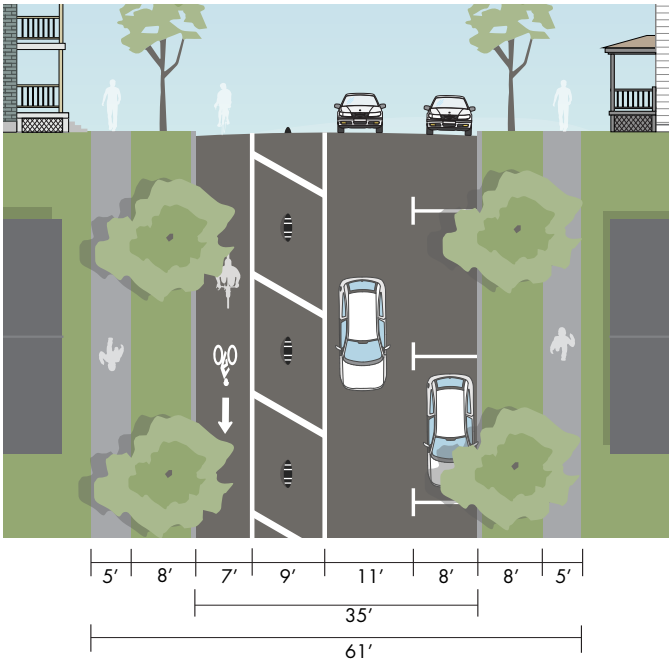
North Winooski Avenue Protected Bike Lane

North Winooski Avenue is a major pain point for people biking. It is a critical north-south connector route and features many important commercial and civic/service destinations north of North Street. Though a south-bound bike lane exists along a stretch of N. Winooski, it drops off completely at Pearl, dumping people biking into a congested and confusing intersection, with one thru lane and two turn lanes. Based on land-use context and high volume of pedestrian and bicyclist traffic, N. Winooski Avenue should be a slow zone for people driving.



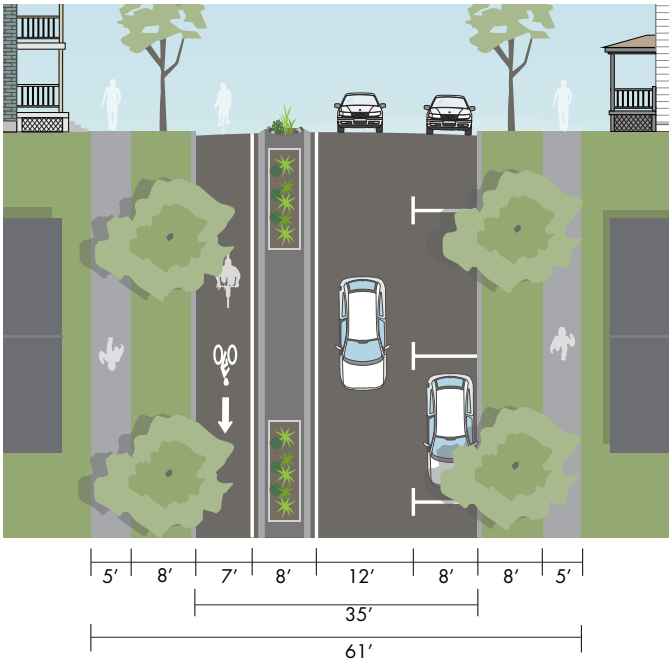
EXISTING CONDITIONS

North Winooski Avenue features one-way traffic with a moderate travel lane width and parallel parking on each side. The existing south-bound bike lane lacks protection and drops off before reaching Pearl Street. The nearest northbound bike lane is located on Union Street, so there is no direct route for people who want to travel north on N. Winooski by bike. Consequently, wrong-way riding is an issue. Street trees and a generous greenbelt provide a pleasant environment for pedestrians, but street seat amenities are lacking in commercial areas.



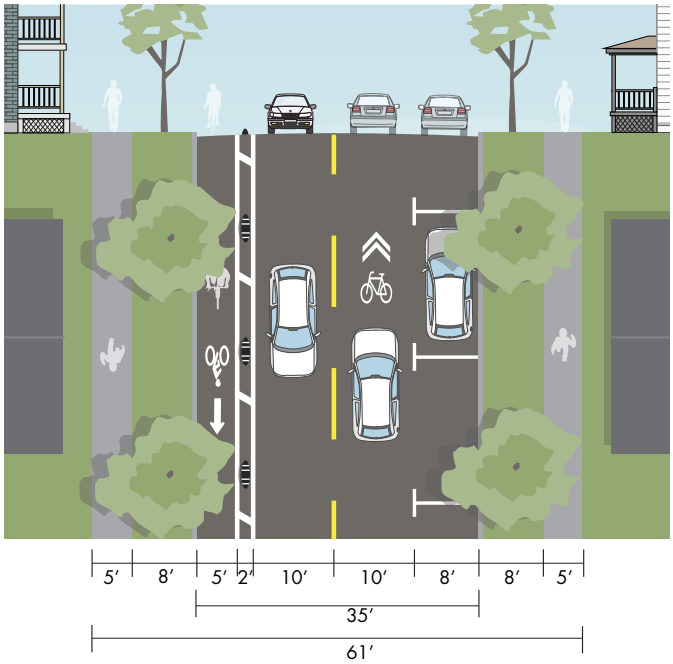
OPTION 1: PILOT PROTECTED BIKE LANE

Pilot test a protected bike lane on N. Winooski using paint and mountable “armadillo” barriers (or vertical delineators) to reinforce separation between the bike and vehicle lanes. In this scenario, parking is removed on the west side of the street, and one-way traffic patterns for bike and car lanes remain unchanged.



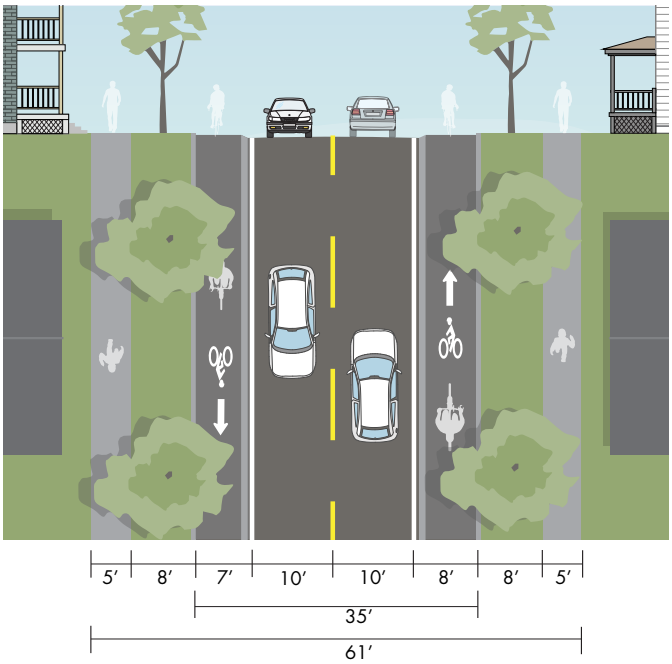
OPTION 1A: PROTECTED BICYCLE LANE

In the long term, upgrade the protected bike lane with a low mountable curb. One-way traffic patterns for bike and car lanes remain unchanged.



OPTION 2: SHORT-TERM/ PILOT

This option assumes that N. Winooski Avenue is converted into a two-way street. Parallel parking is preserved on the east side of the street, with a shared lane marking for north-bound bicycle traffic. Southbound cyclists are separated from vehicles with a protected bicycle lane. In the pilot phase, the bicycle lane can be tested using paint and low, mountable armadillo barriers or vertical delineators.

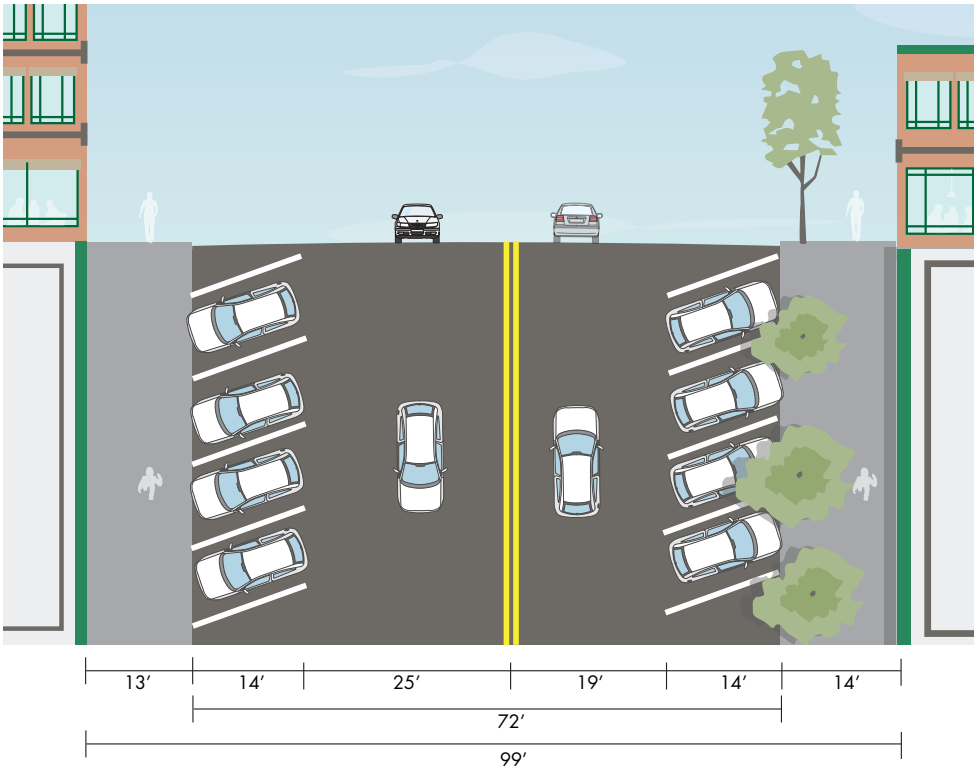


OPTION 2A: PROTECTED BICYCLE LANE

In the permanent phase of the project, the protected bicycle lane would be upgraded with a permanent mountable curb in both directions. The protected bike lane could be flush with the sidewalk and greenbelt, providing additional breathing room for those biking with wider cargo bikes.

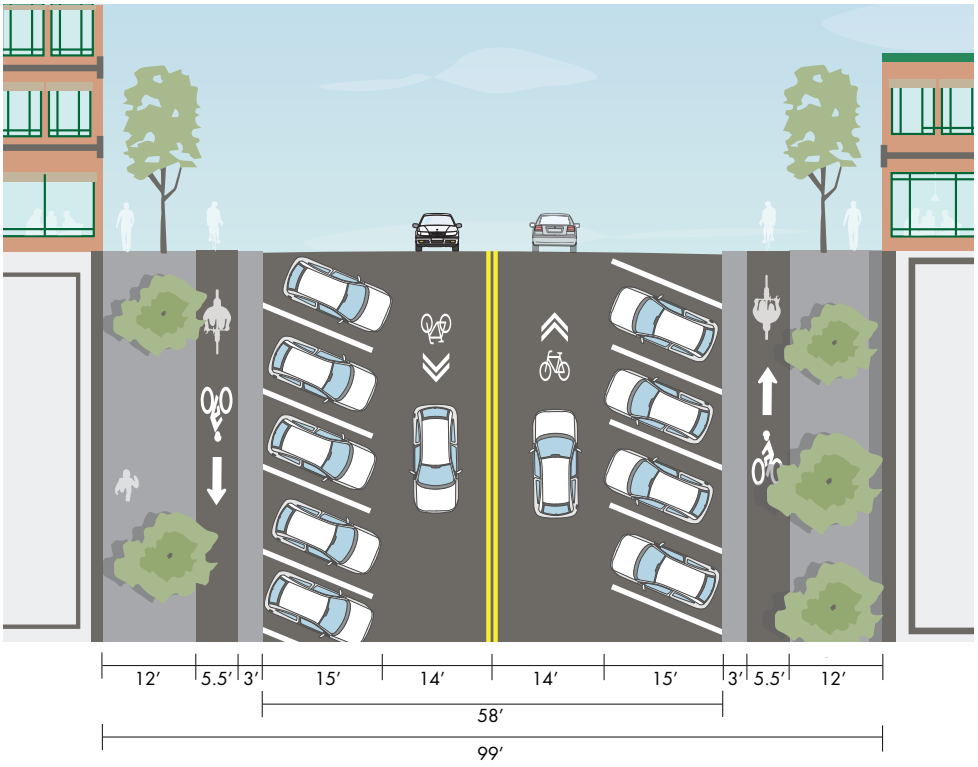
Main Street Bicycle Lane (at Pine Street)

Main Street is a critical east-west route in Downtown Burlington, with compact land use and high volumes of vehicle, pedestrian, and cyclist traffic. Several blocks of Main Street feature head-in angled parking, but parking and road width conditions vary somewhat from block to block. Currently, Main Street does not have any marked bicycle facilities.



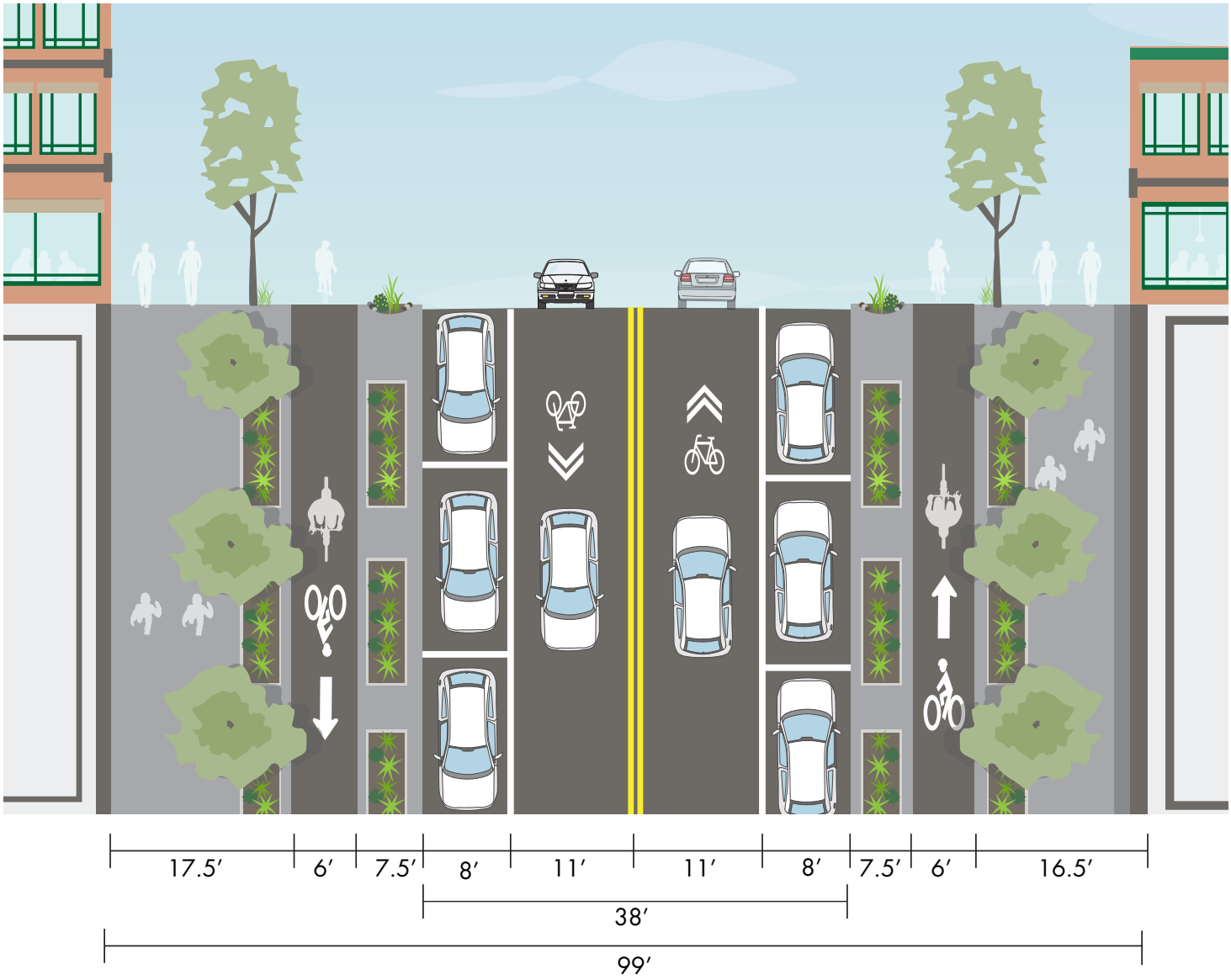
EXISTING CONDITIONS

Conditions at Pine Street include wide travel lanes (19-25 feet) and head-in parking, with no bicycle facility. The sidewalk is wide and features street trees but few other amenities for people walking.



OPTION 1

One option for adding the recommended bicycle facilities on Main is to add a sidewalk-level bike lane, protected by parked cars. The bike lane is clearly marked to avoid conflict between people walking and biking. Back-in angle parking makes motorists better able to see oncoming cars and bikes as they exit the parking space. Narrowed vehicle travel lanes calm traffic.

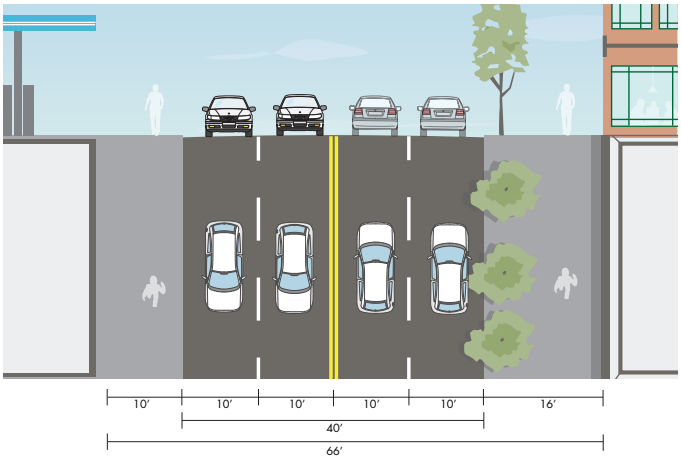


OPTION 2

Option 2 illustrates the use of rain gardens to create a protected bicycle facility. Planters provide a more defined and visible separation of space for people driving, biking or walking. Because this treatment requires more space, parallel parking is provided instead of the rear-angle option previously illustrated.

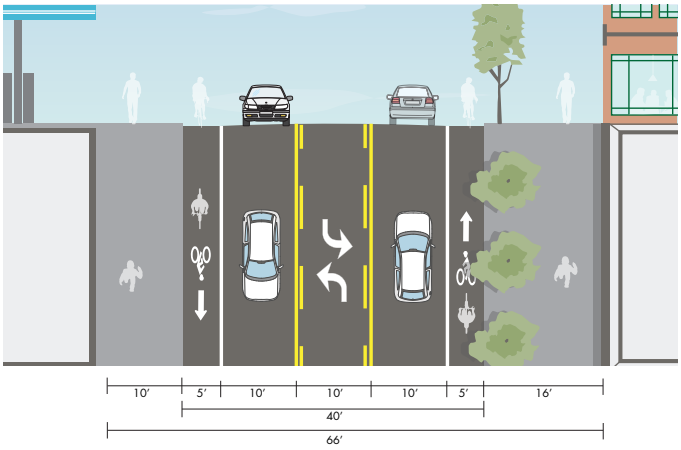
South Winooski Avenue Bikeway (at Bank Street)

Though it is adjacent to Burlington's walkable downtown core, S. Winooski Avenue feels like a hostile environment to people walking and biking. This corridor features 4 the top 20 Priority Intersections for safety upgrades. The bike lane on N. Winooski Avenue drops at Pearl Street, and people continuing down Winooski by bike are left with no designated facility. New development, such as the City Market at Bank Street, has led to a spike in walk/bike traffic in the area. S. Winooski should be a target for redesign as land use continues to develop in support of a more walkable, bikeable corridor.



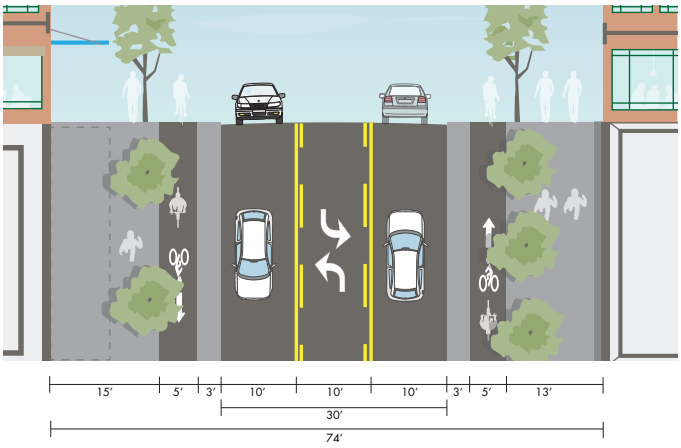
EXISTING CONDITIONS

South Winooski Avenue features two relatively narrow travel lanes in each direction, and no street parking. Wide sidewalks feature street trees, but other amenities for people walking or biking (such as benches and bike parking) are lacking.



PHASE 1

Phase 1 assumes existing land use patterns continue, with a re-striping of the roadway to allow a vehicle and conventional bike lane in each direction, as well as a center turn lane. This phase could also include addition of pedestrian amenities as space allows, such as benches.

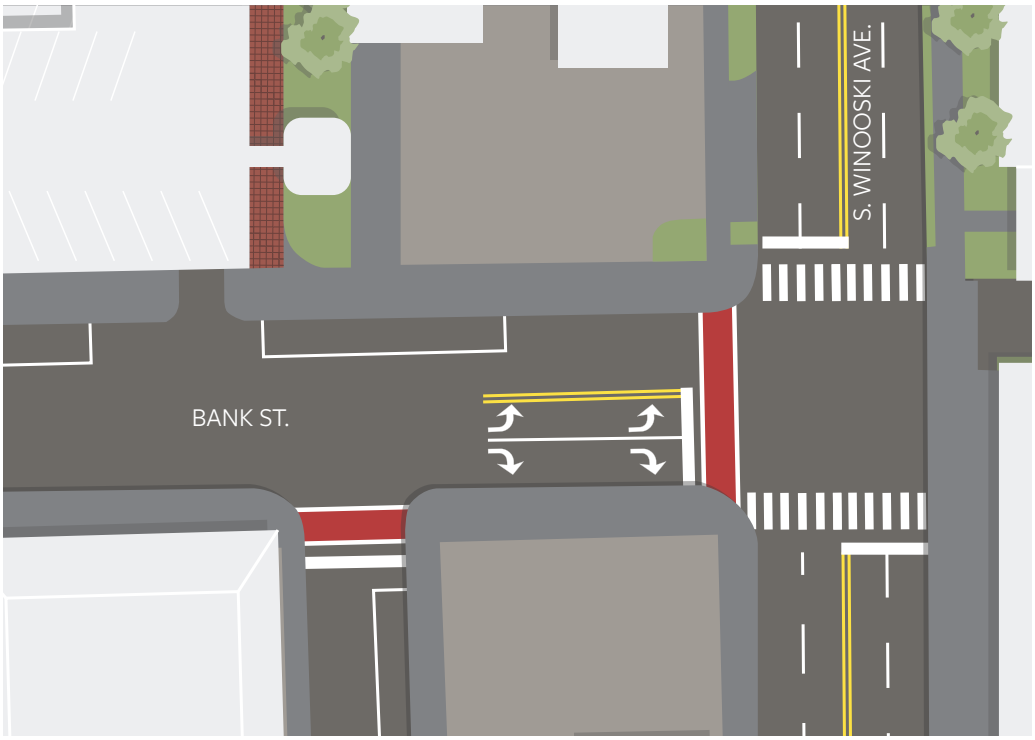


PHASE 2

Phase 2 assumes that over time, South Winooski Avenue will continue to densify, with more compact mixed used buildings. In this land use context, higher volumes of bicycle and pedestrian traffic can be expected. Increased investment in the area may merit more comprehensive street redesign, allowing for wider sidewalks and a protected bike lane. Such a redesign should consider upgrades to enhance pedestrian safety and comfort, such as high visibility treatments at driveways and additional amenities along the widened sidewalk space.

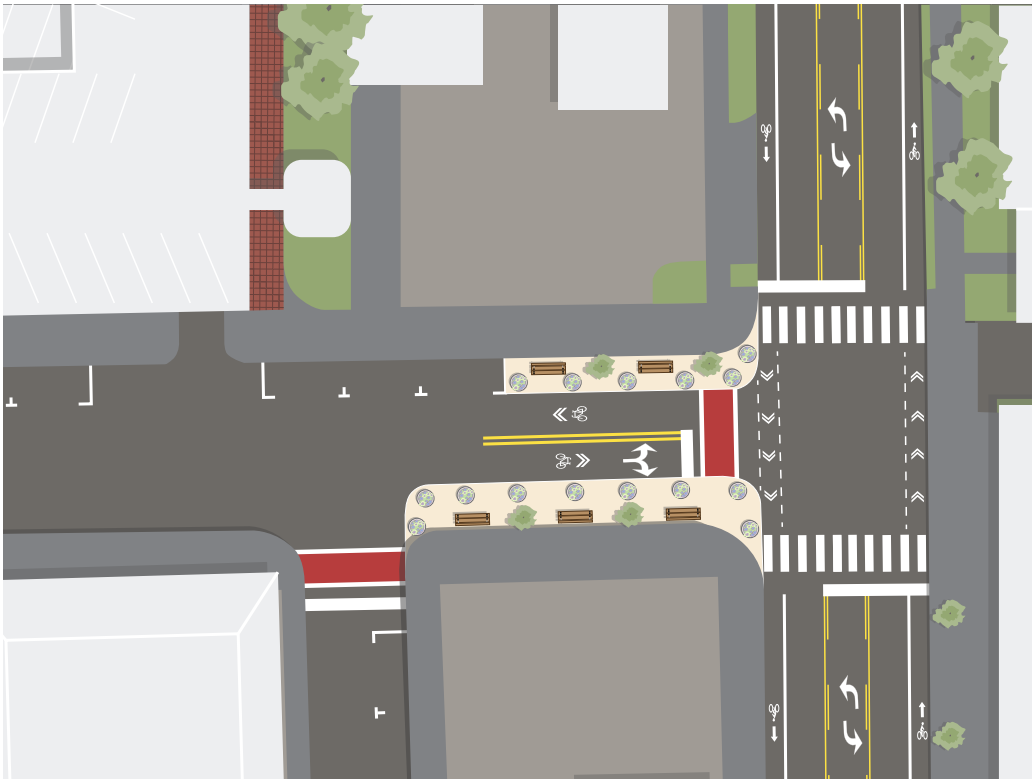
South Winooski Avenue + Bank Street Intersection Upgrades

To support the design changes recommended for S. Winooski Avenue on the previous page, Burlington should re-design the S. Winooski Avenue and Bank Street intersection to improve safety and comfort for people walking and biking. This intersection is one of the top 20 Priority Intersections identified for safety upgrades.



EXISTING CONDITIONS

Today, Bank Street features turn lanes in each direction onto S. Winooski Avenue, resulting in conflicts at the gas station driveway on Bank and at crosswalks on S. Winooski.



PILOT PHASE

Temporary materials such as paint, planters, and potted trees can be used to pilot test curb extensions and other traffic calming measures. In this scenario, the redundant Bank Street gas station entrance is transformed into a pedestrian plaza space, serving as a compliment to existing outdoor dining space at the City Market across S. Winooski Avenue. The pilot can occur with or without the road diet that is shown on S. Winooski Avenue.

OPTION 1

The first option for a permanent upgrade features shared lane markings and expanded pedestrian space on Bank. The intersection is raised and uses special pavers to indicate priority for people walking or biking. This option assumes that W. Winooski features a conventional bike lane, with bike boxes at Bank.

OPTION 2

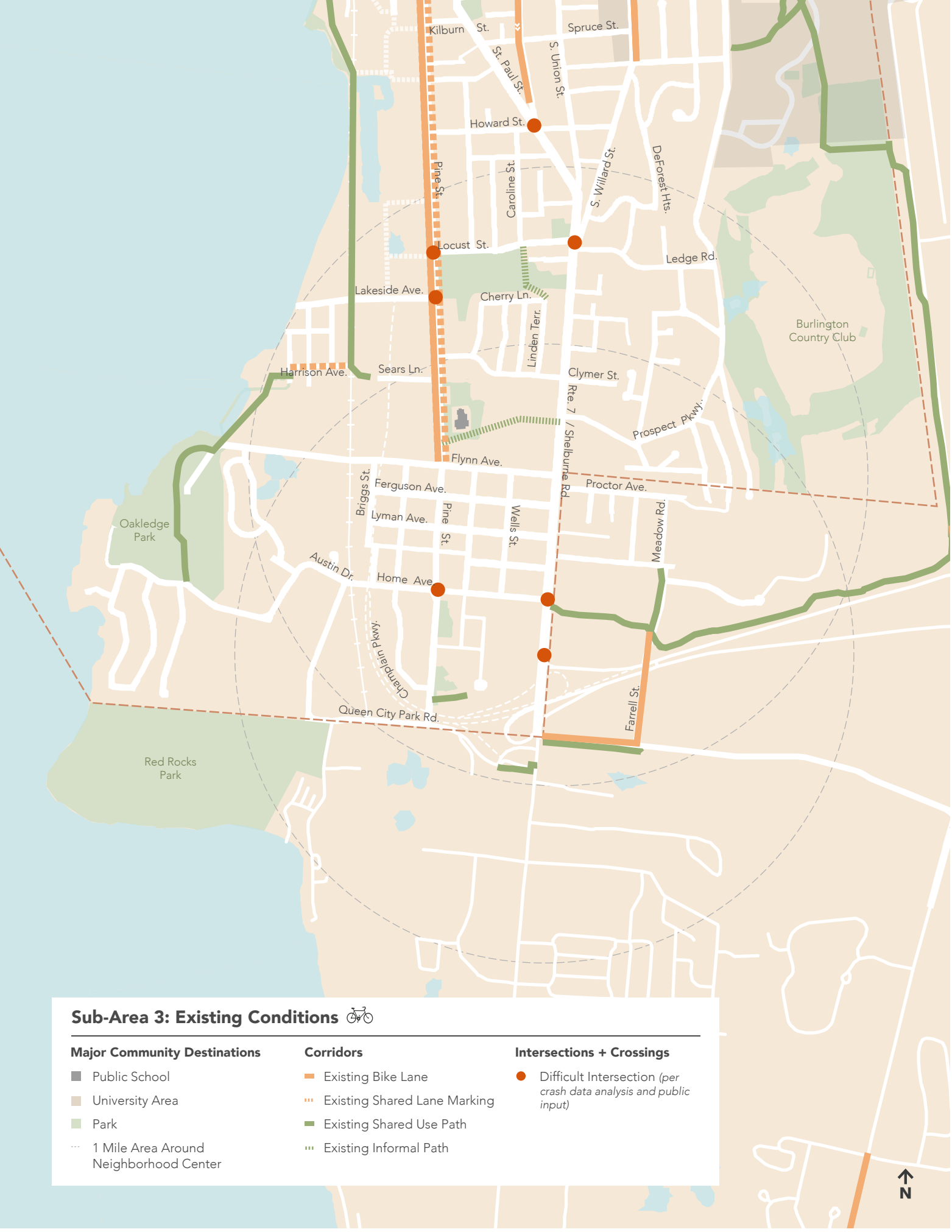
In option 2, S. Winooski Avenue features a protected bike lane. Conflict points (such as the City Market driveway) are marked with green paint so that people driving know to expect bike traffic ahead.

OPTION 3

Option 3 illustrates a full build-out of a shared street on Bank. In this scenario, an entire block of Bank Street is raised up to sidewalk level and treated with special pavers to indicate priority for people walking or biking. Vehicles share this lane but travel at very slow speeds (10mph or less).

SUB-AREA 3: SOUTH END

Note: Dotted white street lines indicate conceptual street connections that have been discussed in other city or regional plans.



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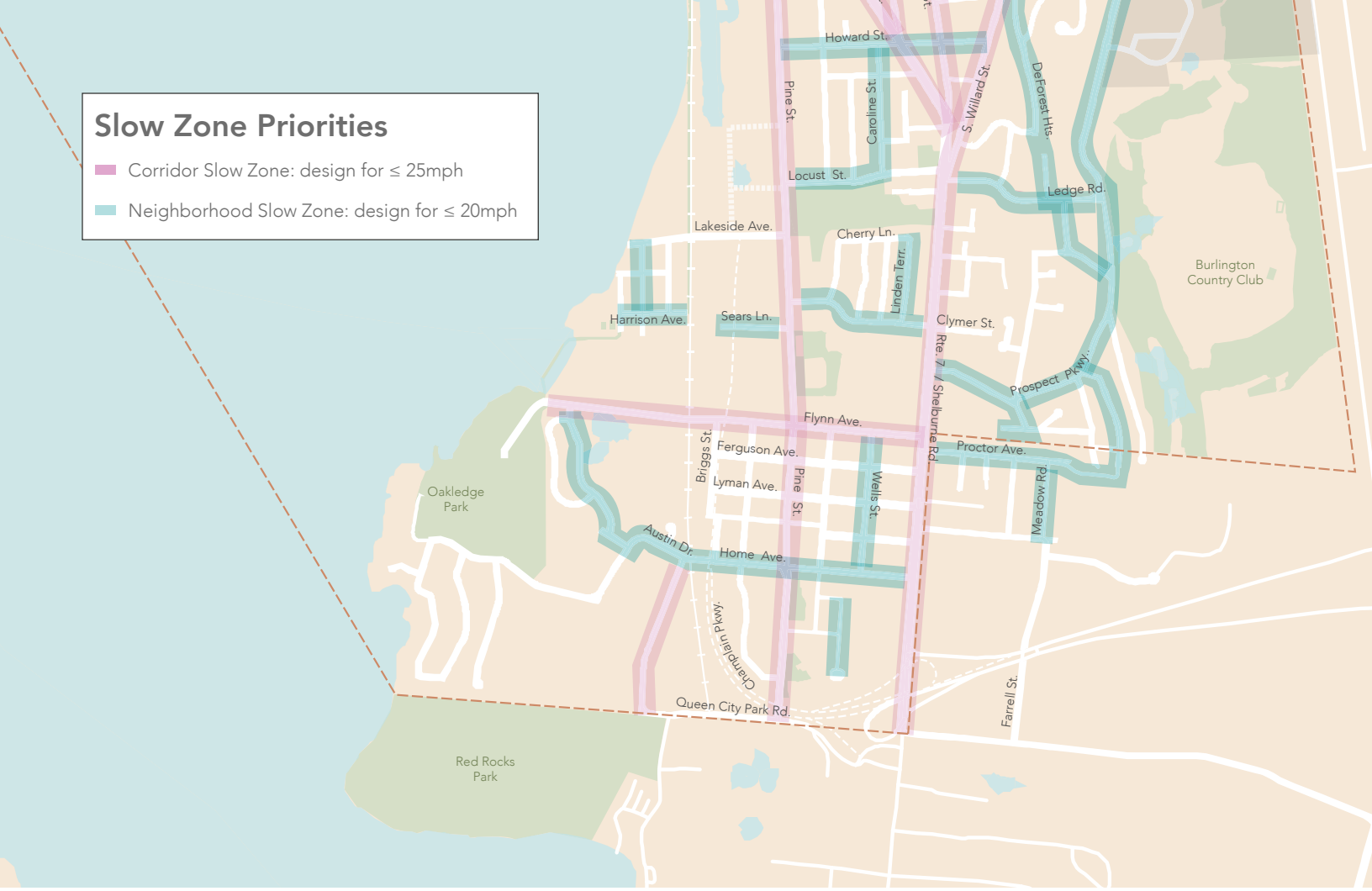


EXISTING CONDITIONS SUMMARY

Beginning in the 19th Century, the South End emerged as an important industrial hub. Especially around Pine Street, the area's architecture and land use patterns reflect a century of industrial land use. Today, many of the South End's commercial buildings are being adapted for a new generation of makers and businesses big and small. The South End accounts for 90% of Burlington's industrial space, and about 30% of Burlington's office space. Though housing is limited, residential neighborhoods are an important part of this sub-area's fabric, from the Five Sisters neighborhood to Red Rocks, and beyond.

Major generators of walk/bike traffic in this sub-area include several large employers (such as Dealer.com), artist and maker studio spaces, and many popular shopping and dining destinations. Major recreational facilities include Oakledge Park, the Island Line Trail, and access to the waterfront.

Pedestrian counts taken by the City of Burlington suggest that more people are walking on Pine Street, a major spine for this sub-area. The number of pedestrians counted has more than doubled in the past 8 years, but the number of crashes involving injuries to people walking or biking has also increased.

The sidewalk network in this sub-area is relatively continuous, but lack of safe crossings are an issue. Both Shelburne Road and Pine Street feature long gaps with no safe crosswalk available. On-street bicycle facilities are almost non-existent. In some areas, residential streets do not connect to the rest of the street grid, making it difficult for residents to walk or bike to neighborhood destinations. A handful of informal foot paths have emerged as a result, such as the well-known cut through at Callahan Park.

Conditions for people walking or biking are particularly poor at the southern end of this sub-area, making it difficult to reach the major commercial destinations South of the city on foot or on bike. The Shelburne Road Rotary is another major pain point for pedestrian and bicycle mobility - though a long-term plan is in the works, many people expressed concern about this intersection, and high levels of frustration with dangerous conditions in the present moment.

12-Month Priority Action List

START NOW!

Ongoing projects to continue:*

1 CHAMPLAIN PARKWAY

This project includes a shared use path, curb extensions, crossing improvements, bike lanes from Kilburn to Main Streets.

2 SHELBURNE ROTARY

This ongoing VTrans Safety Project features a redesign of the Shelburne Rotary. Movement on safety improvements to the rotary is a very high priority for the community. The proposed short-term upgrades proposed on page 124 should be implemented as soon as traffic patterns allow the adjustments.

3 LOCUST STREET AND BIRCHCLIFF PARKWAY WALKABILITY PROJECTS

Install speed tables and new pedestrian crossings along Locust Street and Caroline Street / Charlotte Street. Install a speed table and new sidewalk on the north side of Birchcliff Parkway, between Bittersweet Lane and Cherry Lane.

4 BURLINGTON BIKE PATH RENOVATION (CITYWIDE)

The City is currently working on enhancing the Burlington Bike Path through a multi-phase rehabilitation project led by Burlington Parks, Recreation, and Waterfront. The project proposes the rehabilitation of the approximate 8 mile multi-use path that runs along the Lake Champlain waterfront. Project limits extend throughout the entire city beginning with the southern terminus at the path intersection with Queen City Park Road and extending north to the Winooski River Bridge.

**Note that ongoing project lists include major projects with significant impact to the network of walkable, bikeable streets and intersections. Additional projects are in progress, and these lists are not intended to be comprehensive.*

12-Month Priority Action List

START NOW!

New projects:

5 **AUSTIN DRIVE BIKEWAY**

Restripe Austin Drive to add a 2-way protected bike lanes on north side of street.

6 **BIRCHCLIFF PARKWAY GREENWAY**

Add shared or advisory bike lane markings to Birchcliff Parkway create a greenway, leveraging planned traffic calming treatments.

7 **LEDGE ROAD SHARROW/BIKE LANES**

Stripe an eastbound bike lane and westbound sharrow on Ledge Road from Shelburne to Prospect. Add traffic calming features to slow vehicle speeds.

8 **ADD INTERIM DESIGN CURB EXTENSIONS ALONG PINE STREET**

Using temporary paint/epoxy gravel treatment and planters add interim design curb extensions along Pine Street at Kilburn Street, Marble Avenue, Howard Street, Locust Street, and Flynn Avenue.

9 **ADD SIGNAGE ALONG PINE STREET**

Add “Bikes May Use Full Lane” signs on the east side of Pine Street, north of Flynn Ave.

10 **IMPROVE BICYCLE CONNECTIVITY ALONG PINE ST.**

Eliminate parking to stripe conventional bicycle lanes along Pine Street, south of Lakeside Avenue to the end of Pine.

11 **ADD BIKEWAY MARKINGS AND SIGNAGE TO QUEEN CITY PARK ROAD**

Working with South Burlington, add 5 ft. bike lanes or sharrows on Queen City Park Road as space allows.

12 **IMPROVE SAFETY AT THE PINE STREET AND LAKESIDE INTERSECTION**

Where the existing southbound bike lane on Pine Street crosses Lakeside, add markings to reinforce bike lane along Lakeside and the Cumberland Farms driveway.

Sub-Area 3: 5-Year Action Plan

Major Community Destinations

- Public School
- University Area
- Park
- Area within 5-min. walk of Neighborhood Center

Planned Projects

- Crossing Upgrade - Already Funded for Construction

Existing Bikeways/Paths

- Shared Use Path
- Existing Informal Path
- Conventional Bike Lane
- Shared Use Lane Markings

Proposed Walk Projects

- Recommended New Sidewalk
- 12-mo Intersection or Crossing Upgrade
- 5-yr Intersection or Crossing Upgrade

Proposed Bikeways/Paths

- Shared Use Path
- Protected Bike Lane
- Neighborhood Greenway (includes Traffic Calming)
- Buffered/Conventional Bike Lane
- Advisory Bike Lane
- Shared Use Lane Markings with Traffic Calming
- Potential Path Easement

Note: Dotted white street lines indicate conceptual street connections that have been discussed in other city or regional plans.

LIST OF RECOMMENDED PROJECTS TO BE IMPLEMENTED IN THE NEXT 2-5 YEARS

Please see map on previous page for additional details.

Project Name	Proposed Action
Callahan Park Greenway	Shared lane markings and traffic calming
Flynn Ave Bikeway	Mark and sign bicycle lanes
Home Ave/Pine St Intersection	Consider mini-roundabout and shared lane markings
Howard Street Greenway	Shared lane markings and traffic calming
Linden Terrace Greenway	Traffic calming, shared lanes or advisory bike lanes
Pine Street Bikeway (Queen City Park to Flynn)	Mark and sign bicycle lanes
S. Winooski/Howard/St. Paul Intersection	Consider mini-roundabout or signal phasing changes; high visibility crosswalks, curb extensions with creative materials
Shelburne Road Crossings	Install high visibility pedestrian crossings

Sub-Area 3: Long Term Plan

Major Community Destinations

- Public School
- University Area
- Park
- Area within 5-min. walk of Neighborhood Center

Planned Projects

- Crossing Upgrade - Already Funded for Construction

Existing Bikeways/Paths

- Shared Use Path
- Existing Informal Path
- Conventional Bike Lane
- Shared Use Lane Markings

Proposed Walk Projects

- Recommended New Sidewalk
- 12-mo Intersection or Crossing Upgrade
- Intersection or Crossing Upgrade

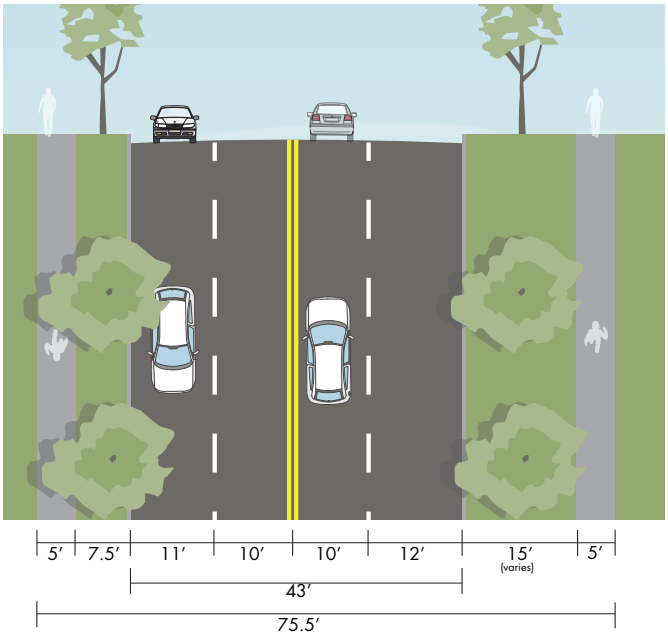
Proposed Bikeways/Paths

- Shared Use Path
- Protected Bike Lane
- Neighborhood Greenway (includes Traffic Calming)
- Buffered/Conventional Bike Lane
- Advisory Bike Lane
- Shared Use Lane Markings with Traffic Calming
- Potential Path Easement

Note: Dotted white street lines indicate conceptual street connections that have been discussed in other city or regional plans.

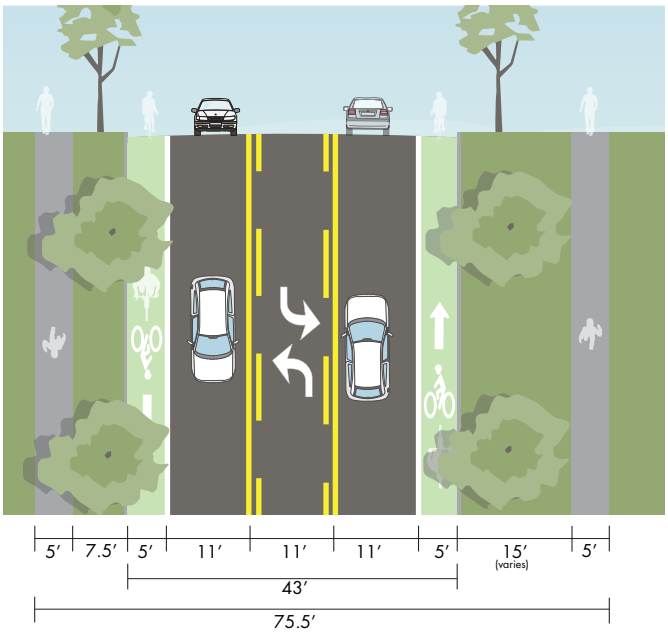
Shelburne Road Bikeway

Shelburne Road is a major north-south spine connecting the City's south end with the downtown core and the commercial centers and highway entrances at the southern edge of the city. Public input and crash data analysis have identified Shelburne Road as an unsafe and uncomfortable place for people biking and walking. The proposals below assume that traffic demand on Shelburne Road is lessened when the Champlain Parkway is opened. These are just a few ideas for Shelburne Road. Existing plans such as the draft PlanBTV South End Plan and the 2011 Comprehensive Transportation Plan for the City of Burlington call for a dedicated multi-modal corridor and land use study for Shelburne. This study should be used to generate more detailed strategies for making Shelburne a more walkable, bikeable, and crossable roadway.



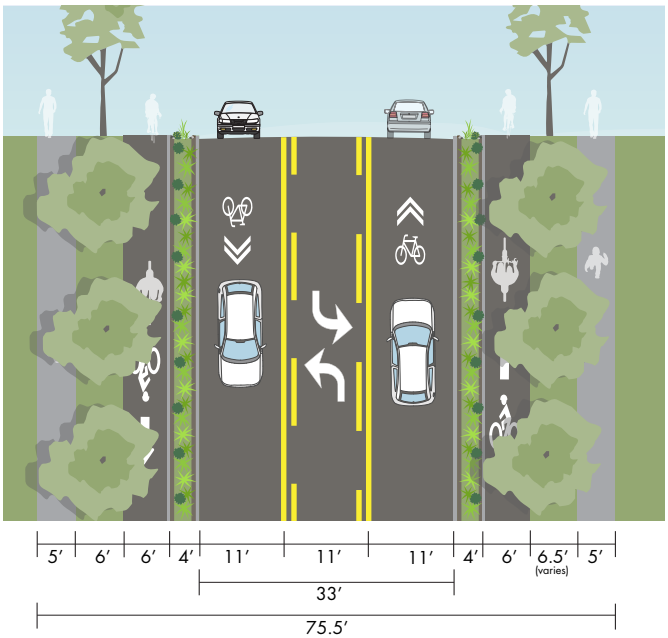
EXISTING CONDITIONS

Shelburne Road features two travel lanes of moderate width in either direction and no dedicated bike facility. Sidewalks are narrow, but are protected by a generous greenbelt and mature street trees. Driveway curb-cuts do create conflict points for people walking on the sidewalk. And, because most people do not feel comfortable riding their bikes in the Shelburne travel lane, sidewalk riding is another threat to pedestrian safety and comfort. Shelburne also features sections of roadways that greatly exceed the maximum recommended spacing between pedestrian crossings.



OPTION 1

Option 1 illustrates the option of providing only one travel lane in each direction, with a center turn lane. Such a shift would allow for a narrow, conventional bike lane in each direction.

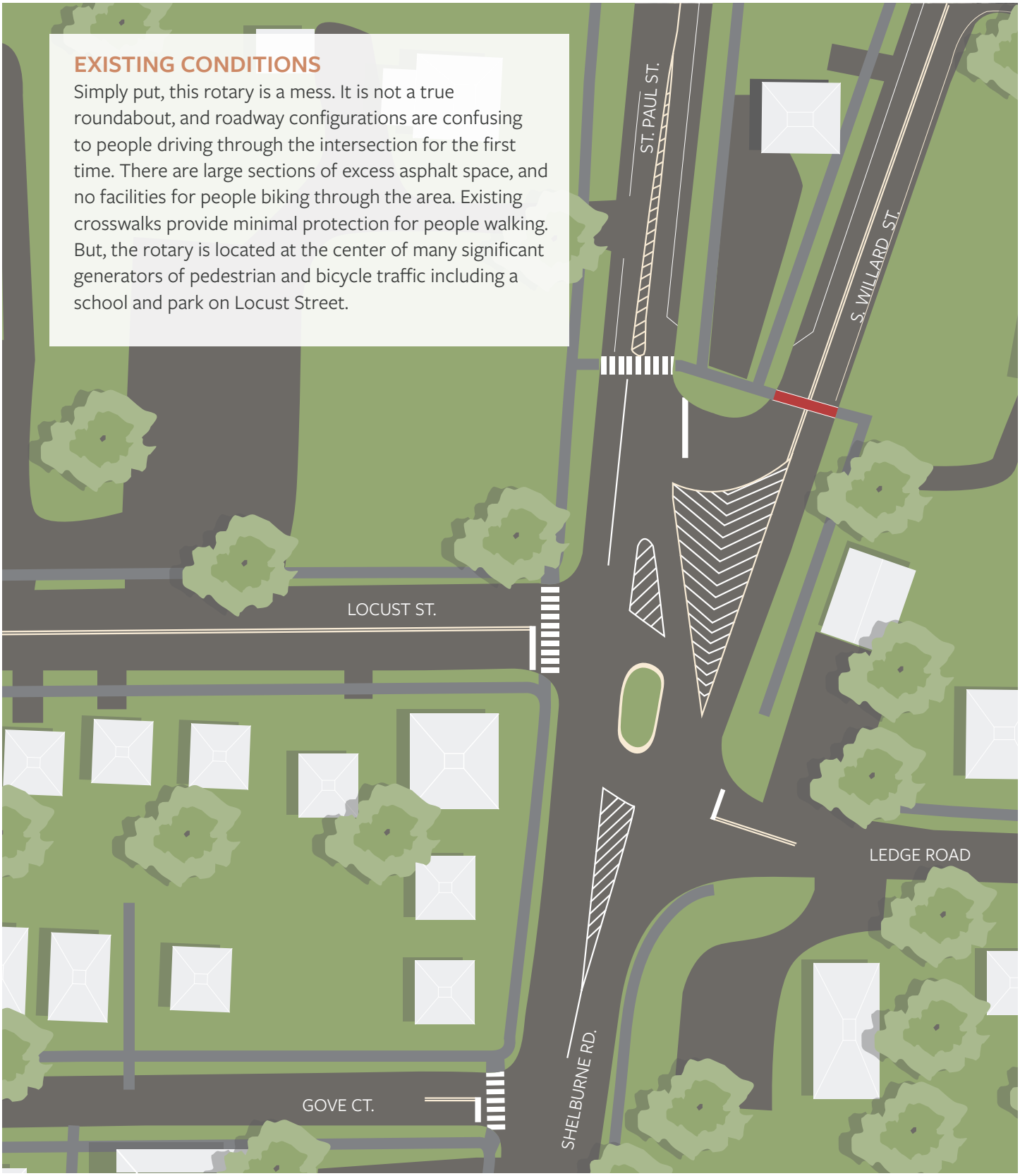


OPTION 2

Option 2 illustrates a more intensive project, in which the existing greenbelts on Shelburne Road are redesigned to feature a planter-protected bike lane in each direction.

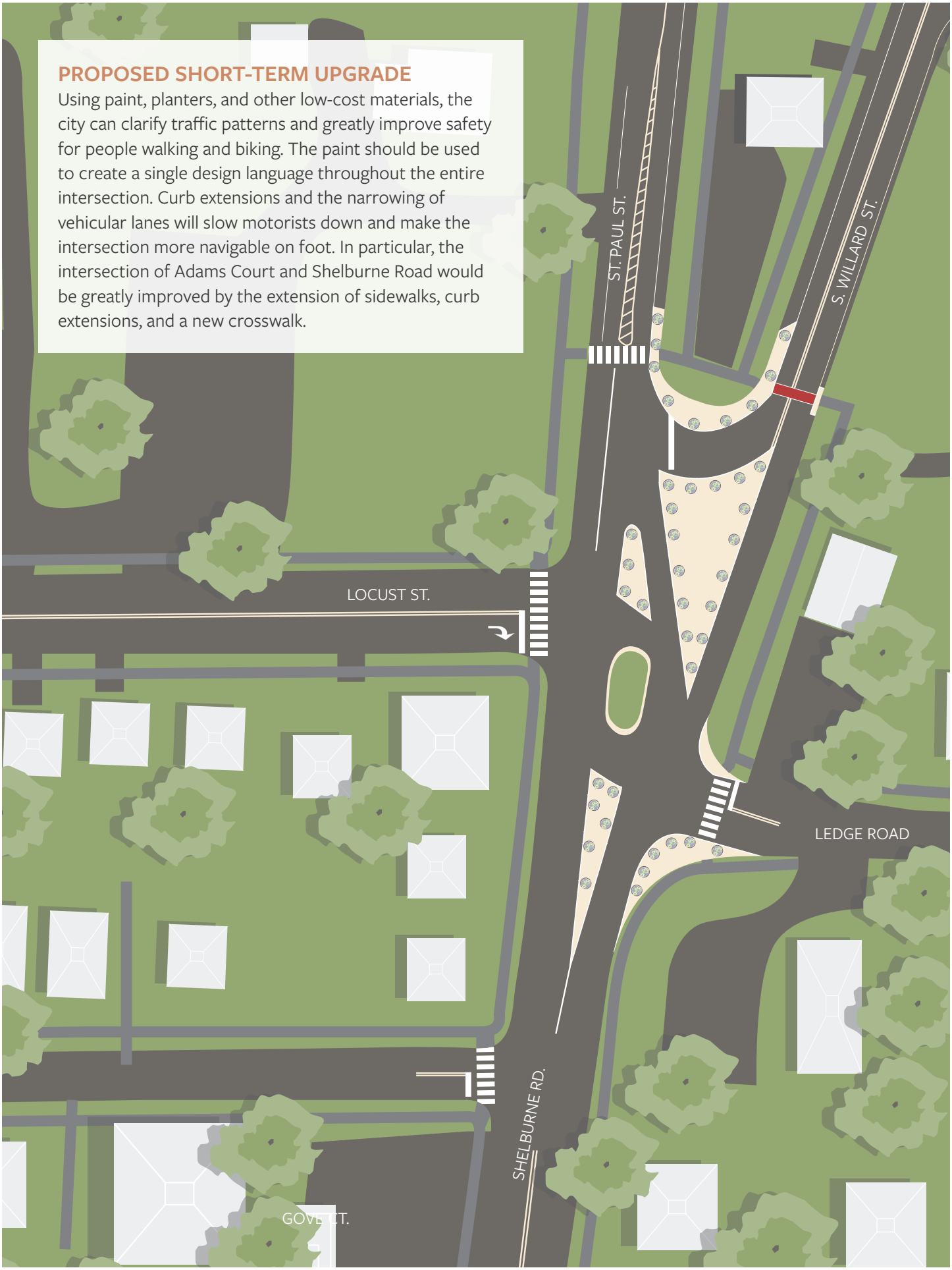
Shelburne Road Rotary

The Shelburne Rd. Rotary was mentioned more often as an area of concern than any other intersection in the City. There is a decades-long project in the works to rethink this space, and everyone is frustrated by the elongated timeline and persistent safety issues. The drawings on the following page illustrate recommends for interim design measures to address safety issues in the near term in response to these concerns.



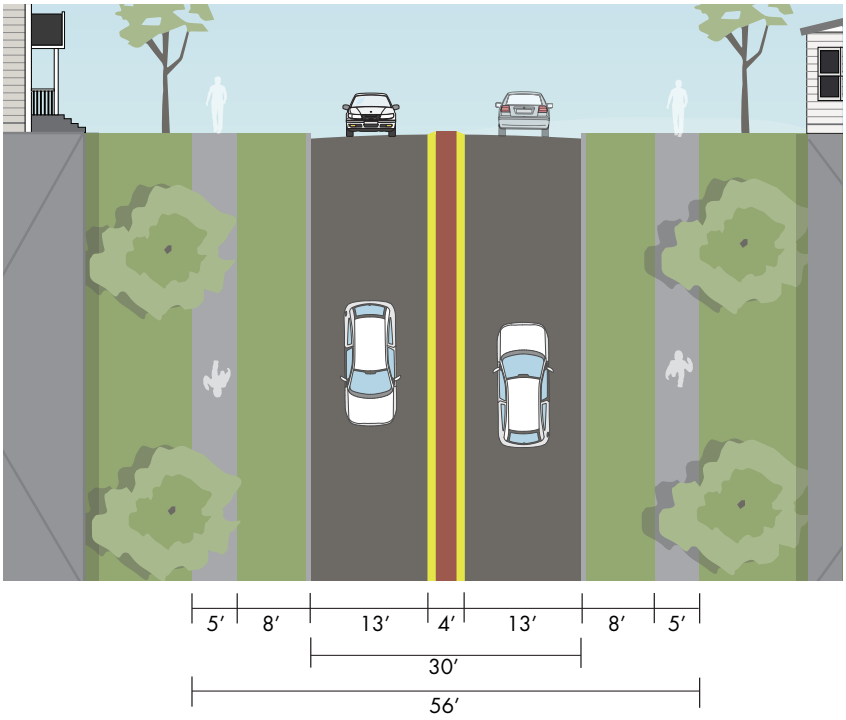
PROPOSED SHORT-TERM UPGRADE

Using paint, planters, and other low-cost materials, the city can clarify traffic patterns and greatly improve safety for people walking and biking. The paint should be used to create a single design language throughout the entire intersection. Curb extensions and the narrowing of vehicular lanes will slow motorists down and make the intersection more navigable on foot. In particular, the intersection of Adams Court and Shelburne Road would be greatly improved by the extension of sidewalks, curb extensions, and a new crosswalk.



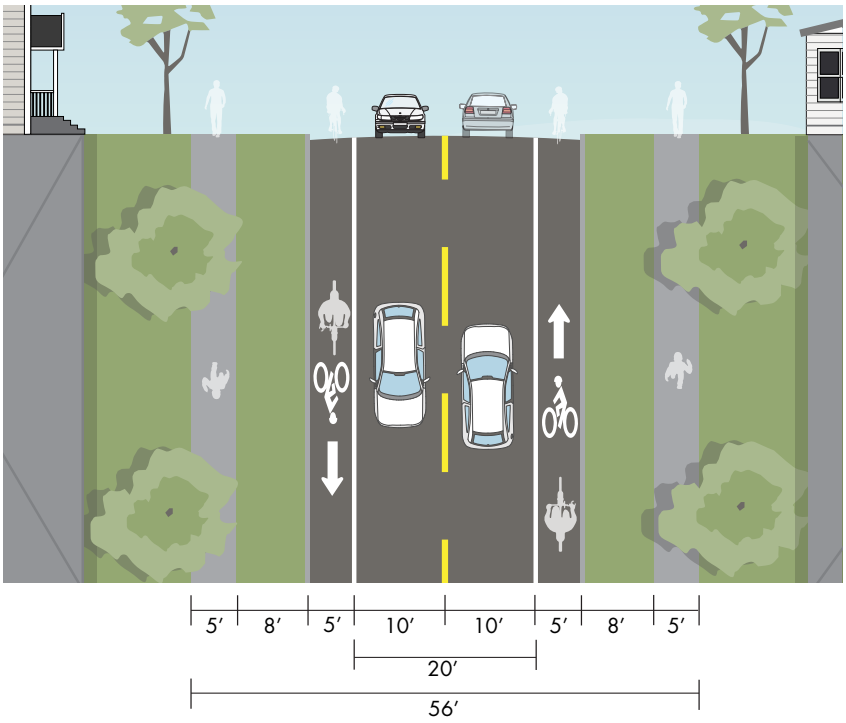
Home Avenue Bikeway

Home Avenue is an important east-west connector in the southern end of Burlington. It provides access between key recreational facilities and trail heads at Oakledge Park to Pine Street and Shelburne Road. The longterm bike network plan proposes a redesign of Home Avenue to create safe conditions for people walking and biking.



EXISTING CONDITIONS

Home Avenue features wide travel lanes in each direction. A narrow median serves to separate cars, but provides no value in terms of pedestrian or cyclist safety. Though sidewalks are narrow, they are protected from vehicle travel lanes by a generous green belt on one side. On-street parking is permitted.

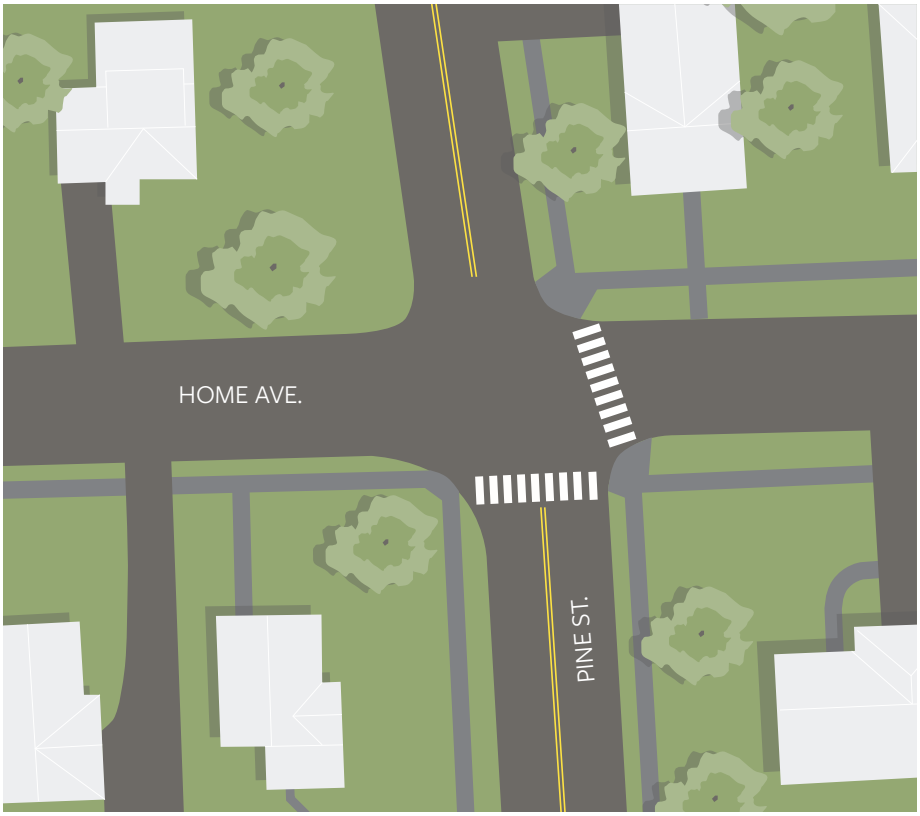


PROPOSED BICYCLE LANE

Calm traffic in both directions by removing parking and narrowing vehicle travel lanes. This adjustment provides space for a narrow bicycle lane in each direction.

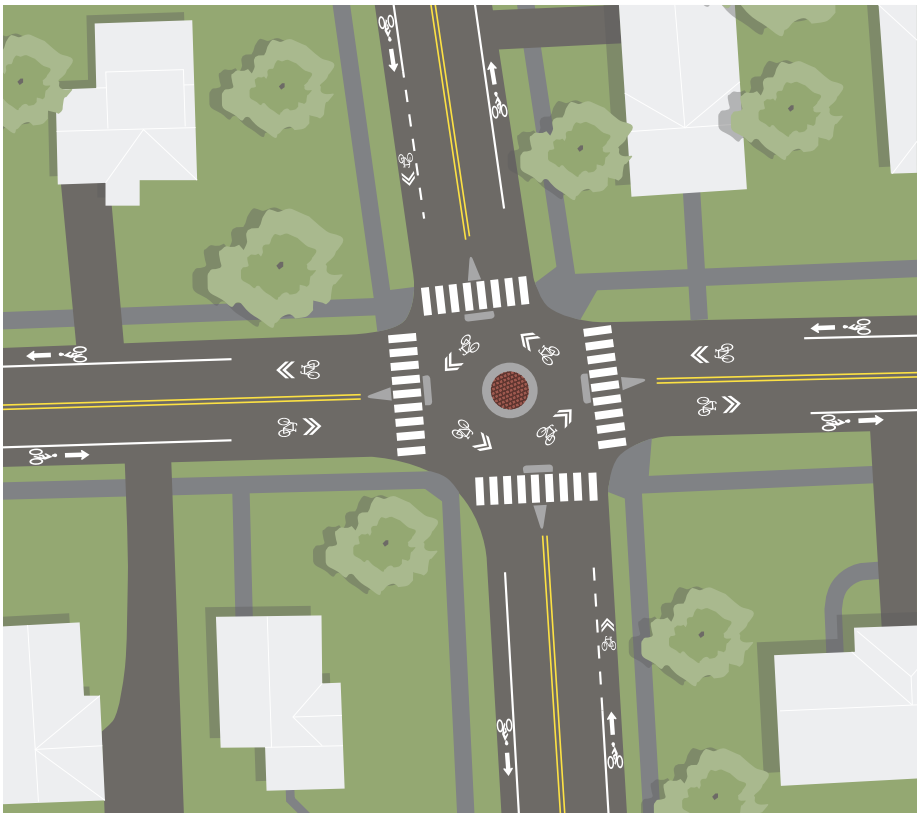
Home Avenue + Pine Street Mini Roundabout

The drawings below illustrate recommended changes to the intersection of Home Avenue and Pine Street, in support of the Home Avenue bike lane recommended on the previous page. This intersection has been identified as one of the top 20 Priority Intersections based on crash data and public input.



EXISTING CONDITIONS

Home Avenue's crosswalk configuration is limited, and it does not provide safe and direct routes to the transit stop on the northwest corner of the intersection. Protection and amenities for people walking are almost non-existent, and there are no bicycle facilities.



PROPOSED ROUNDABOUT

The drawing above illustrates a condition in which the proposed Home Avenue bike lane meets Pine with a mini-roundabout. Upgrades also include median refuge islands for people crossing in all four directions, and shared lane markings throughout the roundabout. Add a sidewalk on the north side of Home Ave.

POLICY + PROTOCOL ACTION PLAN

Not all recommendations in the realm of Engineering can be shown through maps and drawings. This section of the chapter details priority policies and protocols that will support safer streets and more transportation options city-wide.

VISION ZERØ

#1: Adopt a Vision Zero Policy

Adopting a Vision Zero Policy will be an important step in helping Burlington achieve the safety goal of eliminating traffic-related fatalities and serious injuries by 2026.

Vision Zero is an international road traffic safety framework that helps communities work towards the goal of no fatalities or serious injuries in road traffic. Initially developed in Sweden, Vision Zero has been adopted by a growing list of U.S. cities. The U.S. Department of Transportation's Federal Highway Administration has also adopted a Toward Zero Deaths vision statement, setting a framework that even one death in our nation's transportation system is unacceptable. When Sweden first launched Vision Zero, the country recorded seven traffic fatalities per 100,000 people; today, despite a significant increase in traffic volume, that number is fewer than three. (Compare this to the number of road fatalities in the United States, which is 11.6 per 100,000 people).*

Vision Zero Action Plans require a high level of leadership and investment from multiple public agencies. The plans are typically developed collaboratively with a city's transportation or public works department, police force, and Mayor's office at a minimum. Though this document is not Vision Zero Action Plan, it is guided by an ambitious safety goal that falls in line with the Vision Zero framework - creating a pathway to help Burlington eliminate traffic-related fatalities and serious injuries by 2026. In this way, the plan sets Burlington up to formally adopt a Vision Zero policy moving forward. Doing so would require a collaborative effort from the Mayor's Office, Burlington Police Department, Burlington Public Works, and the City Council.

Success Metrics:

- Adopt a Vision Zero policy by 2018.
- Reduce serious crash injuries by 50% and eliminate fatalities by 2026.

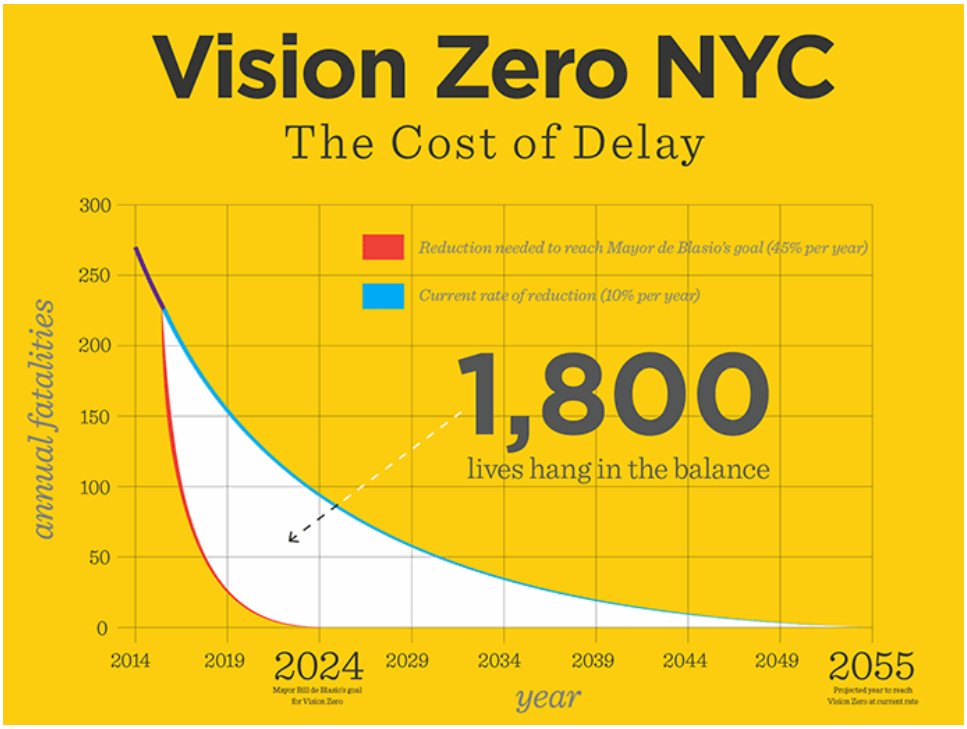
Responsible Parties: City of Burlington Department of Public Works; Burlington City Council, BPD, Mayor

**Source for information about results of Vision Zero in Sweden vs. the United States: CityLab.com "The Swedish Approach to Road Safety", published November 20, 2014.*

THE FOLLOWING U.S. CITIES ARE CURRENTLY UNDERTAKING MAJOR STREET SAFETY INITIATIVES INSPIRED BY THE ORIGINAL VISION ZERO EFFORT:

- ▶ San Francisco, CA
- ▶ New York, NY
- ▶ Chicago, IL
- ▶ Los Angeles, CA
- ▶ Seattle, WA
- ▶ Portland, OR
- ▶ Boston, MA
- ▶ Washington, D.C.
- ▶ San Antonio, TX
- ▶ San Diego, CA
- ▶ Santa Barbara, CA
- ▶ San Mateo, CA
- ▶ Fremont, CA
- ▶ Austin, TX
- ▶ Columbia, MO
- ▶ Tampa, FL
- ▶ Bellevue, WA

In addition to this list, many communities have adopted "Toward Zero Deaths" initiatives, setting a tone that even one death in the transportation systems of our communities is unacceptable. The U.S. Department of Transportation's Federal Highway Administration is one example of an organization that has adopted such a vision statement.



Cost of Delay graphic, from NYC Vision Zero Report Card, by Transportation Alternatives

New York City adopted a Vision Zero Policy in the winter of 2014, setting a 10-yr goal to eliminate all traffic death and serious injuries on the city's streets.

The advocacy organization Transportation Alternatives has produced a report card to track progress towards meeting New York's goal of reaching Vision Zero by 2024. The graph below appeared in the 2015 report card. It illustrates that achieving this goal is not simply about keeping a campaign promise. It is about saving human lives.

#2: Promote the vitality of Neighborhood Activity Centers (NACs) as places that provide essential services.

As noted in the Safe Streets Design Principals, street design is inherently connected to land use. Many Burlington's Neighborhood Activity Centers feature land use that support use of alternative modes, because they provide essential services within walking distances of people's home and/or place of employment. Burlington must continue to promote the vitality of NACs as places that provide essential services. This means creating zoning codes that help keep essential services like drug stores or grocery stores in neighborhoods. It is essential that new development in Burlington uphold a high standard of walkable NACs.

Success Metric/s: [Forthcoming]

Responsible Parties: DPW, Burlington Planning Department, CEDO, Planning Commission, and City Council

#3: Create a placemaking program to incentivize neighborhoods and business owners to create supportive amenities.

Burlington can make walking and biking more pleasant and comfortable by increasing supportive amenities through small-scale placemaking projects including: garden walks, street seats, plazas, parklets, bike corrals, and more. Burlington should create a clear pathway for neighborhoods and businesses to obtain a permission (and even funding) to create such public space amenities on a mid- to long-term basis. Such a policy could build off the Demonstration Project Policy currently in development, but allow for longer term installation of pre-approved project types. Models for such a program exist across the country - from the People St "kit of parts" approach to adding parklets, plazas or bike corrals in Los Angeles to the more loosely defined arts and placemaking Pop-up Providence program in Rhode Island.

Success Metric/s:

- Create and implement a placemaking program by 2018.
- Measure economic gains for business and property owners following installation.

Responsible Parties: DPW, CEDO, Department of Parks, Recreation & Waterfront, and NPAS

Photo by Julie Campoli.

#4: Expand Use of Pilot and Demonstration Projects

City Ordinance allows the Department of Public Works to implement temporary traffic and parking projects on all public streets, making use of short-term or "pilot projects" to evaluate the merits and impacts of proposed street design projects. Currently, pilot projects may be in place for up to 30 days. This time period should be extended to allow for pilots up to 12 months in duration, with the option for the use of more durable (but still removable) interim design measures in the 1-5 year time frame.

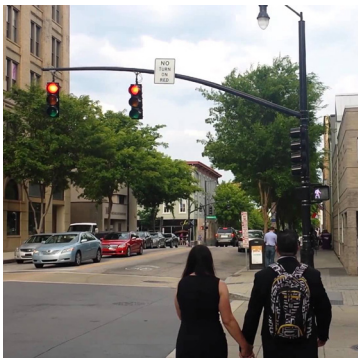
At the shorter end of the time scale, Burlington is working to develop a guide and policy to make it easier for everyday residents, advocacy organizations, and community groups to spearhead 1-7 day "demonstration projects" alongside DPW and other agencies. Burlington should continue the momentum around the use of trial installations once the demonstration project policy is formally approved, and commit to amending the approved project types in the policy every year.

Finally, Burlington should expand opportunities for online citizen input and engagement through existing platforms such as SeeClickFix. The Burlington Police Department is currently planning to expand its use of SeeClickFix for citizen input about abandoned bikes, safety issues, and more. A small group of current users could be engaged in a task force to help identify and structure opportunities for effective use of this platform.

Success Metrics:

- Continue to use pilot projects to inform decisions about walk/bike projects, and expand the pilot project time frame by 2018
- Approve the Demonstration Project guide and policy and update it every year, as needed.
- Create a task force to identify better use of SeeClickFix in collaboration with BPD.

Responsible Parties: City of Burlington Department of Public Works; Burlington City Council, BFD, BPD, residents and community groups



Lead pedestrian interval. (Photo by Leo Suarez.)

#5: Pass and Enforce Bicycle/Walk-Friendly Laws and Ordinances.

Top priorities include:

- Adopt the Idaho Stop Law - a law that allows cyclists to treat a stop sign as a yield sign and a red light as a stop sign. This law would also allow cyclists to proceed cautiously through a red light phase at T-Intersection.
- Absent of dedicated bike signal heads, amend city ordinances to allow people riding bicycles to cross through an intersection with pedestrian signals.
- Establish pedestrian priority at all signalized crosswalks, adjusting signal timing to provide advance pedestrian phasing. Throughout Burlington's downtown core and in high-foot traffic areas (such as UVM, and North Street), pedestrian crossings should be timed to cycle through automatically, without the need for push-button activation.

Success Metric: Police expend precious resources on top-line offenders (dangerous driving, dangerous cycling etc.)

Responsibility: Department of Public Works, City Council, BPD, State of Vermont, Local Motion and other advocates.

Photo by CCTA.

#6: Improve integration of cycling and bus travel.

CCTA has undertaken a number of initiatives to integrate bike travel with public transit. CCTA buses are equipped with easy to use bike racks which hold 2 bikes each. CCTA also provides bike lockers at the Waterfront and has installed bike racks around the region. The following actions would continue this great momentum and create a stronger link between bikes and buses:

- Install additional bicycle parking at the bus stops with highest boarding volumes;
- When opportunities arise, replace current two-bike capacity bicycle racks on buses with three-bike capacity racks.

Success Metric/s: [Forthcoming]

Responsible Parties: CCTA, with funding partners

#7: Improve pavement markings at bus stop conflict points

Where bicycle facilities intersect with bus stops, high-visibility pavement markings can make conditions safer for people biking. Burlington should focus on adding high-visibility bikeway markings to existing bike facilities at the bus stops with highest boarding volumes. And, as new facilities recommended in this chapter are implemented, high visibility pavement markings should be used to make sure people on bikes are expected and respected along the roadway.

Success Metric/s: [Forthcoming]

Responsible Parties: DPW, CCTA

WINTER CYCLING ACTION PLAN

- **COORDINATES:** 44.4758° N, 73.2119° W
- **WINTER SEASON:** November - April
- **AVERAGE SNOWFALL:** 81 inches (7ft. 9 in.)
- **# SIDEWALK SNOW PLOWS:** 12
- **TWITTER HANDLE:** @BTVSnowDragon

Minneapolis. Montreal. Copenhagen. Oulu. (Yes, Oulu.... it's in Finland and they love winter cycling there). Many of North America's -- and indeed the world's -- best cycling cities are located at latitudes that, like Burlington, experience harsh winter weather. These cities and many of their wintry peers have achieved success through investment in thoughtfully designed infrastructure and municipal policies that strive to make winter cycling as comfortable, safe, and enjoyable as skiing down a perfectly groomed run at Stowe. With so many great examples and recent innovation, Burlington's winter climate should not be viewed as a barrier to cycling, but as an opportunity to embrace the season as any skier, snowshoer, or ice skater does when the temperature dips below freezing.

The following 9 policy/protocol recommendations outline how to jump-start a winter cycling action plan. The goal is to ensure that Burlington's emerging bikeway network is maintained to the highest standard possible all year so that the city's past and future investments in cycling return as much benefit as possible. While these recommendations aren't comprehensive, they provide an initial pathway towards the city and its residents embracing winter cycling.

#1: Formalize winter bikeway maintenance into Burlington's existing snow removal/ maintenance hierarchy plan so that a grid of connected winter bikeways is maintained throughout the city, including select shared use paths.

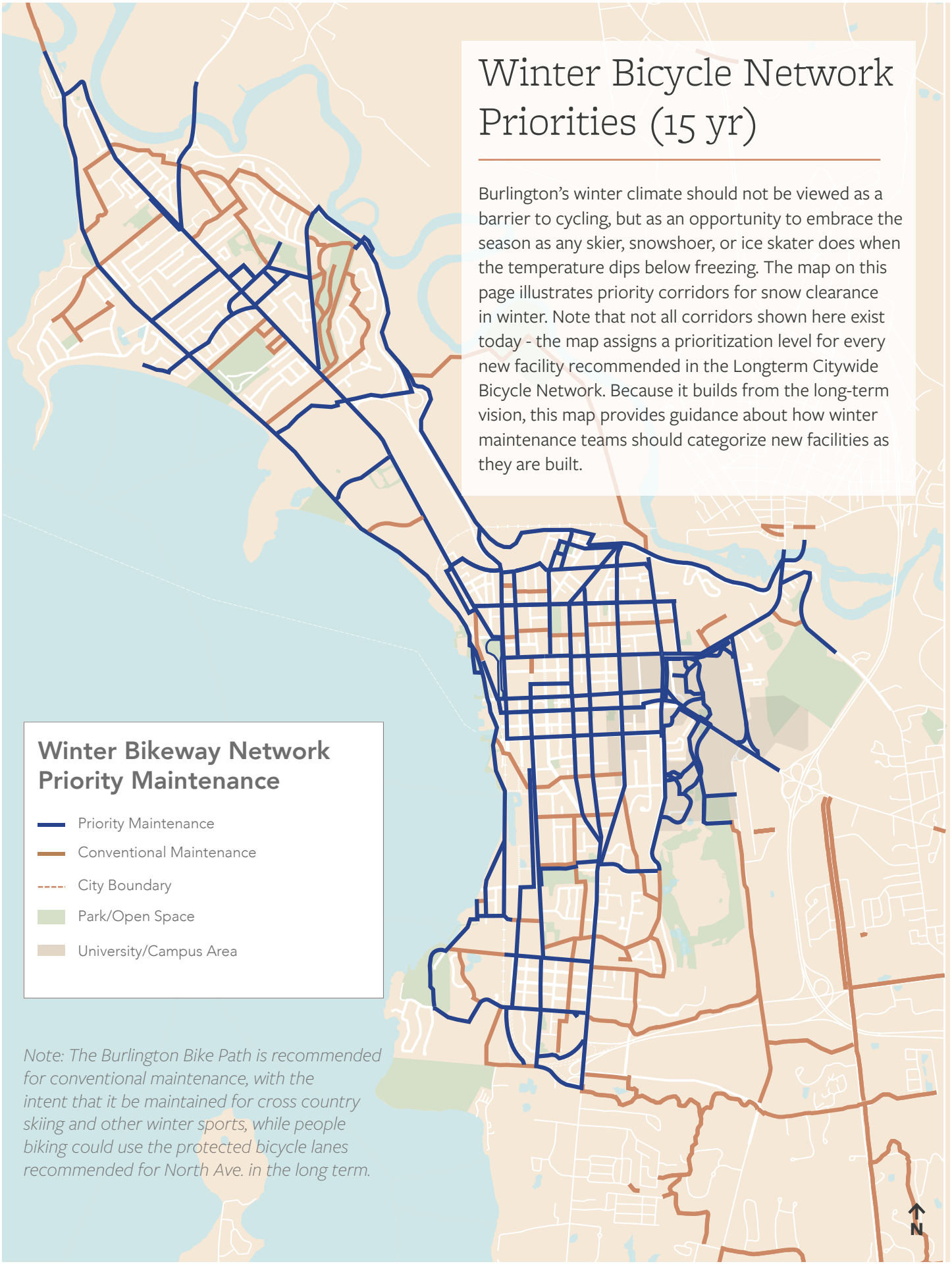
Burlington's snow removal protocols already prioritize regional thoroughfares, downtown streets, school zones and crossing guard locations for sidewalks and crosswalks. At a minimum, it is recommended that the same priority be afforded to all existing and future bikeways located within these priority locations. In addition, select streets and paths that link the city's most densely populated areas with common destinations like schools, UVM, and downtown should be included in a formal priority winter cycling grid maintenance plan. General recommended priorities are listed on the map on the following page.

Success Metric: Formalize Burlington's unofficial winter cycling maintenance plan by 2017.

Responsibility: Burlington Public Works Department

Winter Bicycle Network Priorities (15 yr)

Burlington's winter climate should not be viewed as a barrier to cycling, but as an opportunity to embrace the season as any skier, snowshoer, or ice skater does when the temperature dips below freezing. The map on this page illustrates priority corridors for snow clearance in winter. Note that not all corridors shown here exist today - the map assigns a prioritization level for every new facility recommended in the Longterm Citywide Bicycle Network. Because it builds from the long-term vision, this map provides guidance about how winter maintenance teams should categorize new facilities as they are built.



Note: The Burlington Bike Path is recommended for conventional maintenance, with the intent that it be maintained for cross country skiing and other winter sports, while people biking could use the protected bicycle lanes recommended for North Ave. in the long term.

#2: Experiment with new winter maintenance techniques for heavily used shared use paths.

Rather than attempting to scrape shared use paths down to the asphalt and limiting other winter activities, like snowshoeing, Burlington's Parks Department maintenance crew should consider building up and then maintaining a consistent layer of packed snow that lasts all winter long. Such conditions actually work well for winter cycling (without needing special tires or other equipment). And like surrounding ski resorts, creating an established base will then only require routine maintenance following a snowfall event. If the top layer gets too thick (More than 2 inches maximum) city crews may scrape it down to an acceptable depth and allow not only cycling, but other winter activities like cross-country skiing and snowshoeing to occur. This approach could be experimented with along segments of the Burlington Bike Path.

Success Metric: Develop a refined shared use path winter maintenance plan by 2017.

Responsibility: Burlington Public Works Department and Parks and Recreation Department

#3: Continue to design/retrofit streets to include sufficient space for snow storage.

When building new (rare) or retrofitting existing streets (less rare), provide enough space for snow storage either within a bikeway buffer or within the greenbelt. A 3 foot storage space is an accepted minimum, while 8 feet will accommodate heavier snowfalls, prolonged storage, and minimally impact the bikeway. If adequate space is not available, an alternate snow removal and storage plan should be put into effect.

Success Metric: All new and reconstructed streets incorporate snow storage space in greenbelt or bikeway buffer / barrier.

Responsibility: Burlington Public Works Department

#4: Develop and then educate the city's winter maintenance team about specific bikeway infrastructure plowing techniques

This plan recommends a variety of new bikeway designs not presently used in the City of Burlington. Some, like neighborhood greenways, require little to no additional plowing/storage methods as they simply make better use of existing travel lanes, while others, like physically protected bikeways, will require a modified or new approach. For example, Montreal's Rue Rachel two-way protected bikeway is separated from traffic by a tree lined median, which requires plows to avoid tree damage by plowing snow straight to the nearest intersection where an intersecting plow then moves the snow pile to an alternate storage area on the intersecting street.

Success Metric: Bikeways within the priority winter network are maintained to the same standard as priority streets and sidewalks.

Responsibility: Burlington Public Works Department

#5: Use pilot/interim design treatments for winter street flexibility and plow operator visibility

Certain segments of Burlington's protected bikeway network will be expanded using pilot/interim design treatments. Some types of physical buffers (armadillos, plastic bollards, and vertical delineators may cause challenges for plow operators and should be removed during winter months so that the cleared buffered may be used for snow storage. This storage area may be shaped as a barrier protecting the bikeway barrier. As temporary design transitions to more permanent curb and concrete, new vertical delineators that exceed average snowfall totals to communicate to plow operators where protected bikeway medians, curb extensions, and other elements that cannot be removed for the winter months exist.

Success Metric: Interim design successes/failures inform permanent snow storage design and damage is minimized to permanent safety upgrades.

Responsibility: Burlington Public Works Department

#6: Pilot and evaluate a range of pavement marking methods to decrease maintenance costs.

Snow plows, salt, and gravel can do a lot of damage to pavement markings. In order to preserve those marking bikeways, crosswalks, and general road markings, the City of Burlington should experiment with a range of treatments / marking types to see which decreases maintenance costs the most. In Minneapolis, the use of recessed thermoplastic markings proved to be more expensive on the front end, but also more effective and less costly in the long run as it reduced damage resulting from snowplows. Burlington should test a few different corridors with a range of treatments and evaluate successes and failures to inform an official policy by 2020.

Success Metrics: Various Pilot tests reveal a cost effective approach that reduces long-term maintenance costs by 2021.

Responsibility: Burlington Public Works Department

#7: Apply de-icing materials to bikeways in priority winter network in advance of a predicted snowfall exceeding 3 inches; Experiment with alternative de-icing materials.

At present, Burlington's de-icing process begins before small storms even hit, or during or after sidewalks have been plowed during a larger storm event. For bikeways, a de-icing strategy should have the de-icing material applied to the roadway approximately two hours before the snow event. Following the snow, the street should be cleared and additional de-icing material added as necessary. The advantages of a proactive approach are that less de-icing material and plowing is needed overall. In addition, alternative de-icing materials, like beet juice and cheese brine, help rock salt adhere to the roadway, offers a lower freezing temperature than regular brine, helps with skid control, and is more environmentally friendly than other salt or gravel materials. This approach also offers a cost savings, as it requires lower expenditures than using a conventional rock salt.

Success Metrics: Cost savings, less environmental damage, and better conditions for all modes following a snow event.

Responsibility: Burlington Public Works Department

#8: Evaluate and increase winter cycling retention rates.

Most cities experience peak cycling in the warmer winter months. Burlington should strive to increase winter cycling rates, which is an opportunity to further define the city as an attractive hub of outdoor physical activity, no matter the season.

Success Metrics: Achieve 20% winter cycling mode retention rates by 2021, 40% by 2026.

Responsibility: Burlington Public Works Department, Local Motion

#9: Expand winter cycling resources on City website.

Burlington should develop a winter cycling web page that offers resources such as the winter cycling map, maintenance policies, and education/encouragement resources aimed at inspiring city residents to give winter cycling a chance.

Success Metrics: Growth in web page hits; increased winter cycling retention rates.

Responsibility:

TREK

BICYCLE PARKING ACTION PLAN

Bicycle parking is critically important to supporting cycling as a viable mode of transportation.

Improving bicycle parking options for both short and long-term use is critically important to supporting cycling as a viable mode of transportation in Burlington. In recent years the City has increased bicycle parking supply by adding bicycle lockers to the Marketplace Parking Garage, offered property owners and retailers short-term bicycle racks at a subsidized rate, and provided Bicycle Parking Guidelines to ensure quality facilities are installed as properties are (re)developed. The City has also worked with local artists to provide unique artistic bike racks, and two in-street bicycle corrals, which provide approximately 12 bike parking spaces where a single car used to park. Finally, Burlington's City Green Employee program has set an example for other employers in the community by providing access to a fleet of city owned bikes and indoor bike parking for employees and visitors.

These advancements are a great start, yet a cursory analysis of Burlington's cycling "hot spots" (downtown, South End, UVM/Champlain College, Old North End etc.) reveals that supply is not meeting the current and coming demand that will result from continued investment in cycling infrastructure. And without an increase in supply, quality, and type, it will be difficult for Burlington to obtain the bicycle mode share goals set forth in this plan. Thus, a more robust approach must be taken to accommodate cycling growth, including adding high-capacity indoor bicycle parking facilities, especially in downtown Burlington and on the UVM and Champlain College Campuses.

The goal of the following recommendations is to support cycling through the provision of more high quality, plentiful, and visible bicycle parking options that serve residents and visitors for years to come. These bicycle parking recommendations are intended to address needs citywide but will ultimately be implemented at the block and individual building level. These recommendations must be calibrated and subject to site analysis before each installation is completed so that bicycle parking remains convenient, placed properly in the right-of-way or within the building in which it is located. They should also be revisited regularly as Burlington's bicycle mode share increases.

The Engineering Action Plan at the start of this chapter identifies better bike parking as a priority. This section provides details about specific steps the should be taken to improve and expand bicycle parking citywide.

#1: Add more high-capacity bicycle parking facilities

Update the city's existing bicycle parking guidelines to include on-street bicycle corrals, bicycle shelters, and bicycle rooms/stations. Create an easy pathway for interested property or business owners to co-sponsor (and/or request) bicycle corrals/shelters as an option through Burlington Public Works' parking assistance program in select high demand areas, such as popular bars/restaurants, retail shops, civic sites, and site triangle visibility zones. Work with key downtown property owner(s) and UVM / Champlain College to develop at least two high-capacity indoor parking "stations", with amenities such as showers, lockers, and basic bicycle repair tools / supplies, and locate them with close proximity to transit.

Success Metrics: Bicycle parking guidelines are updated within 12 months of the adoption of this plan; A high-capacity "station" is built within 3 years of plan adoption. See additional metrics related to bike parking on page 58 of this plan.

Responsibility: Department of Parks, Recreation, and Waterfront, and through a Public-Private Partnership framework including Burlington Department of Public Works, NPAs, local non-profits, institutions and business owners.

Classic non-conforming "wheel bender" rack. Photo by VeloBusDriver, Flickr.

#2: Remove non-conforming bike racks

Remove any/all existing non-conforming bike racks (wheelbender rack, wave rack, etc.) within the public-right-of-way or within or adjacent to public buildings (schools, government offices etc.) and replace the recommended bike park parking types included in Burlington's Bicycle Parking Guidelines and this plan (shelters, corrals). The Department of Parks, Recreation & Waterfront is a key parter; the Department is actively working to standardize bike parking within parks and insure that high-quality racks are available in every park.

Success Metric: Non-conforming racks are removed and replaced within 1-3 years from the adoption of this plan.

Responsibility: City of Burlington Department of Public Works; local schools; Department of Parks, Recreation & Waterfront

#3: Add more art racks

Create an easy pathway for interested property or business owners to work with artists and non-profits (Local Motion, SEABA, Burlington City Arts etc.) to sponsor and add artistic bike racks. Focus on schools, parks, civic institutions, and the South End arts district as priority receiving areas.

Success Metric: New racks are rolled out over the course of 1-5 years following the adoption of this plan.

Responsibility: Public-Private Partnership framework including Burlington Department of Public Works, Burlington City Arts, NPAs, local non-profits, institutions, artists, and business owners.

#4: Revise Bicycle Parking Ratios

Section 8.2.1 of Burlington's zoning code and the companion Bicycle Parking Guide currently require short- and long-term bicycle parking to be provided whenever property is (re)developed. While this ensures that new bicycle parking is added, current parking is already inadequate for meeting demand, to say nothing of future bicycle parking demand. So-called "hot spot" locations -- those with frequently oversubscribed bicycle racks -- may be replaced by in-street bicycle corral or shelters, however demand for long-term parking within existing buildings is also needed as more Burlingtonians take more trips by bicycle. The following bicycle parking ratio requirements should be adjusted.

Success Metric: Ratio guidelines are revised within 2 years of the adoption of this plan.

Responsibility: City of Burlington Department of Public Works; Planning and Zoning Department.

GENERAL UPDATES

- Revise Chapter 8, section 8.2.2 of Burlington's zoning code to allow long-term bicycle parking serving multiple uses or buildings to be pooled into a single area, enclosure or facility if located within close proximity of all the buildings it serves.
- Make clear that any bicycle parking space that meets the requirements for both long-term bicycle parking and short-term bicycle parking may contribute to the minimum requirement for one type or the other, but not both.
- If a property owner cannot meet the requirements for bicycle parking on-site, the owner must contribute to a dedicated Public Bicycle Parking Fund (not just capital general fund) for the city to provide additional public spaces where supply/quality is not sufficient.
- Bicycle parking ratios and requirements should be reviewed at least every five years.

SPECIFIC UPDATES

- For more accurate supply/demand residential building, establish long- and short-term bicycle parking provision as function of total bedrooms, not units, and add a baseline minimum number of spaces per building, no matter the unit total.
- Increase short- and long-term residential bicycle parking supply requirements for Fraternity, Sorority, and Dormitory uses, with a minimum number of spaces provided for each category.
- Increase short- and long-term bicycle parking requirements for Office uses, including medical/dental; improve supply/demand accuracy by requiring short-term parking ratios to utilize a square footage calculation while long-term parking ratios should be calculated using the number of current or anticipated employees; explicitly require a minimum number of spaces provided for each short- and long-term parking category.
- Improve short and long-term parking supply/demand requirements for Retail/Restaurant by using 1,000 square foot increments for short-term parking ratios; long-term parking ratios should be calculated using the number of current or anticipated employees; explicitly require a minimum number of spaces provided for each short- and long-term parking category.
- For Industrial, Manufacturing, Production, or Warehousing uses, peg long-term bicycle parking requirements to be the number of employees, not the amount of square footage; explicitly require a minimum number of spaces provided for each short- and long-term parking category.
- Increase the long- and short-term bicycle parking supply for non-residential university buildings
- Increase and improve supply/demand accuracy by requiring short-term Community Services bicycle parking to be a function of square footage ratio, while long-term ratios should be tied to the number of employees; explicitly require a minimum number of spaces provided for each category.
- Increase short- and long-term bicycle parking requirements for Medical uses, including medical/dental; improve supply/demand accuracy by requiring short-term office ratios to use square footage ratios and long-term office ratios to be pegged to the number of employees; explicitly require a minimum number of spaces provided for each category.
- Increase short-term bicycle parking requirements for Places of Worship; explicitly require a minimum number of spaces provided for each parking category.
- Increase the number of long-term bicycle parking spaces required for automobile parking lots/garages; require short-term bicycle parking be provided along the perimeter or within a single parking space of a parking garage or surface parking lot.

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BEYOND INFRASTRUCTURE

Five More Methods for Improving Walking and Bicycling in Burlington

For definitions of the "6 E's" framework guiding this plan, please see page 49.

Thus far, much of this plan is devoted to infrastructure-related recommendations. But, we can't stop there. If Burlington is going become the best small city for walking and biking on the East Coast, we must continue our community's excellent momentum in other key areas such as education, encouragement, enforcement, evaluation and equity. This section of the plan provides recommendations for actions that fall into one of these other important categories.

It is important to note that nearly all recommendations in this section require a collaborative effort between DPW and other city agencies, Neighborhood Planning Assemblies, non-profit organizations, and local businesses and residents. DPW cannot implement these recommendations without support and leadership from a network of strong and willing partners.

EVALUATION + PLANNING ACTION PLAN

As Burlington's first citywide plan devoted to walking and biking, this document alone represents an important milestone in the realm of evaluation and planning. Adoption of the mode share target outlined in the Vision and Goals of this plan will help propel recommendations into reality. Below are a series of additional priority actions recommended in the realm of evaluation and planning.

#1: Increase City Capacity for Walk/Bike Project Planning, Implementation, and Evaluation.

DPW and other agencies are committed to making Burlington a better place to walk and bike, but limited staff resources are an impediment to the fast progress residents want and deserve to see. Burlington should hire at least one person this year to increase city capacity for planning, implementation, and evaluation of walk-bike projects. This staffer should work closely with the Burlington Walk Bike Council and the Safe Streets Collaborative to move projects forward and improve data collection efforts (more on that below). It may be appropriate to create a small, focused Committee with members of these two groups to coordinate strategies and messaging, and create a shared framework for action. The Committee should include at least one representative from each major interested sector including: health organizations, community centers, educational institutions, walk-bike organizations, police, etc. The City should also look to hire a second staff person within a year whose primary focus is getting rapid implementation safety projects on the ground.

Success Metric: Hire at least 1 additional full-time staff person by 2017, and a second person by 2018.

Responsibility: Department of Public Works

#2: Create a "data dashboard" of key metrics and evaluate progress towards alternate mode goals.

Data collection must go beyond the U.S. Census' Journey to Work report and existing crash reporting protocols. Burlington and CCRPC should launch a collaborative effort to improve data collection and create a new "dashboard" of data to evaluate progress towards alternate mode goals. Components of the dashboard could include:

- Detailed mode share data region-wide, including area of residence in the city and demographic information (gender/age, etc.)
- Bicycle volume estimates for the city and region
- Before and after bicycle volumes on streets that undergo improvements
- Sales data for commercial establishments on streets that undergo improvements
- Walk/bike to school numbers
- Infrastructure improvement summaries (miles of bikeways, intersections improved, number of bicycle parking spaces added to public right of way, etc.) by facility type. For example: In 2017, Burlington gained 4.2 miles of new bikeways, 1.3 of which are protected. etc.
- Detailed crash data, with a focus on responding to problem intersections. (See the Enforcement section for more recommendations related to crash data collection.)

A major role of the additional staffers recommended previously could be to manage data collection and evaluation efforts. Key tactics for improving data collection:

- Use automated counters to conduct annual cyclist volume counts on key corridors. Resources for such counts may be available through the National Bicycle and Pedestrian Documentation Project.
- Partner with advocacy organizations and universities to host manual walk/bike counts during Bike Month. On priority corridors use intercept surveys to measure how people arrive at key commercial or employment destinations. Use the results to inform infrastructure design decisions.
- Work with BPD to improve crash data collection (see page 150 for more). Then, expand efforts to evaluate crash data at problem intersections and create site-specific action plans to improve safety quickly with interim design projects.

Success Metrics:

- Use the Engineering Action Plan in Chapter 3 and the recommendations in this plan as well as the County-wide bicycle plan to create a data dashboard, with a regional work plan for collecting, tracking and updating the data each year. The dashboard should be created in a format that can be easily accessed by the public, as well as city staff and local officials.
- Produce a short annual report showing success/failure in identified areas (lower crashes, less injuries, more people biking, including women etc.) Annual report should be made publicly available each year.
- Use the Data Dashboard to evaluate progress advancing the recommendations in this plan, beginning 2 years from final publication of the document.

Responsibility: DPW, CCRPC, VTrans, Local Motion, BWBC, local Universities.

EDUCATION ACTION PLAN

Burlington benefits from a strong base of educational programs focused on active transportation. The "Go for Gold" Blueprint notes that schools and non-profits are already doing great work to help a wide cross section of people gain the skills and confidence to ride a bicycle, or walk to school. The priority actions below provide recommendations for building on existing momentum and taking it to the next level.

www. crashnotaccident.com

#1: Change how Burlington talks about traffic injuries & fatalities.

Safe streets advocates around the nation have begun pushing government agencies, law enforcement officials, and media outlets to change the way they talk about traffic crashes. For decades, we've talked about "accidents" caused by "out of control cars". Though it seems like a small matter, such language and passive voice framing reinforces a culture of inaction around unsafe streets. The reality is that traffic crashes are fixable problems caused by unsafe driving and dangerous streets. Building from existing resources from the Vision Zero Network and other advocates, Burlington should launch an inter-departmental pledge campaign, urging people to commit to using the word "Crash" instead of "Accident" moving forward. (For an example see: www.crashnotaccident.com)

Success Metrics:

- Secure a "Crash not accident" pledge commitment from at least 1 representative of all local media outlets and blogs, 100% of Department Heads in affected departments
- Removal of "accident" from official city documents and replaced with "crash" moving forward - ex. crash report, not accident report.

Responsibility: BPD, Mayor's office, BWBC, Local Motion, CCRPC, VTrans, Major Institutions are all key partners.

#2: Design and launch a broad reaching bike skills training and bike lock/safety gear distribution initiative.

Local Motion is currently working with UVM to offer free bike skills workshops for students, with free helmets, lights, locks, and pizza as an incentive to attend. Bike Recycle Vermont offers similar courses to their customers. The City should support expansion of this type of educational programming, in partnership with other organizations, such as community and youth centers. Such workshops would allow educational programming to reach groups who are currently underrepresented in active transportation circles, such as older adults and low-income residents.

Success Metrics:

- Reach 100 people per year
- Increase in bicycle mode share. (See Vision and Goals section of this plan.)

Responsibility: DPW should continue to support other organizations as leaders in this work (including: AARP, health organizations, community centers, Local Motion and Bike Recycle VT.)

Photo by SF Bicycle Coalition.

#3: Launch a professional driver education program.

Launch a professional driver education program to teach drivers who work in large fleets (such as bus drivers, sanitation workers, or taxi drivers) how to safely share the streets with people walking and biking. San Francisco Bicycle Coalition's Professional Driver Education Program provides an example: the SFBC's training covers key issues including navigating new types of infrastructure being piloted and implemented, how to safely make turns, loading and unloading, and bicycle rights and rules of the road. Groups that participate in the training include taxi drivers, public transit operators, and other companies with large fleets such as ride share programs, delivery vans, and shuttle operators. The City of Burlington should work with local advocacy groups to develop and deploy a similar program.

Success Metrics:

- Target a # (or %) of DPW and commercially licensed drivers that complete the program? Focus area: Training CCTA drivers about bus stops in bike lanes
- Decrease number of crashes involving professional drivers (track through crash data collection reforms suggested on page 150)

Responsibility: DPW, Special Services Transportation Agency, VTrans, CCTA, CCRPC, Local Motion

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Photo from the CP Smith Elementary School Travel Plan, created in April 2013.

#4: Expand Safe Routes to School programs to all schools.

Just over 80% of Elementary Schools and 50% of Middle Schools have a Safe Routes to School program. The "walking school bus" program at C.P. Smith Elementary School has been recognized as a successful case study by the National Center for Safe Routes to School. The Sustainability Academy has undertaken several pilots of a "bike train" program which functions much like a walking school bus – both programs provide important opportunities for education as students walk or bicycle to school together accompanied by one or more adults. Burlington schools should work to increase Safe Routes program offerings, with a focus on reaching low-income and/or New American students.

Success Metrics:

- By 2018, every elementary and middle school in Burlington should launch a Safe Routes to School Committee to lead SRTS program implementation and updating of school transportation plans. Burlington High School should also have an education and encouragement program for students.
- Use data dashboard to track progress towards a 50% increase in number of students walking or bicycling to school by 2025.

Responsibility: Local leadership teams, through Burlington School District

Campaigns like Local Motion's "Rides a Bike" initiative strike the right tone, sending the message that walking and biking can be transportation options for everyone, even if they don't have special skills or equipment. (Images by Doug Goodman, via Local Motion.)

#5: Improve the reach of Burlington's safety outreach campaigns to drivers

Educating drivers about how to safely share the road is a high priority for people who currently walk and bike in Burlington, and reaching drivers should be the focus of future safety campaigns. Distracted driving is one topic where driver education would be valuable - Burlington's advocacy organizations and government agencies could roll out a campaign focused on this topic in April, Distracted Driving Awareness Month. As new outreach campaigns are explored in years to come, it is important that words and images "normalize" walking and biking, and emphasize the positive. Campaigns like Local Motion's "Rides a Bike" initiative strike the right tone, sending the message that walking and biking can be transportation options for everyone, even if they don't have special skills or equipment.

Success Metrics:

- Local Motion's existing all-modes walk-bike-drive safety brochure outlines rules of the road in plain English and includes a coupon for up to $25 off safety gear (helmets, etc.). Translating this brochure into other languages and expanding its distribution is an easy first step.
- In 2017, create and launch an annual Distracted Driving Awareness campaign in April. This campaign should become an annual effort. To understand program impact, track progress towards a decrease number of crashes due to distracted driving (track through crash data collection reforms suggested on page 150).

Responsibility: Burlington Public Works and other funders should continue to support non-profits that have been leaders in this area, such as Local Motion. Other partners include AARP, which currently runs a successful driver safety course program (AARP Smart Driver Course), as well as local refugee/resettlement organizations that can assist with translation and outreach to the New American community.

ENCOURAGEMENT ACTION PLAN

Encouragement is all about creating a culture that welcomes and celebrates walking and biking. This is nothing new to Burlington - the city already has a strong tradition of fun public bike rides, such as the Halloween Ride and Ride 365, and popular Bike Month programming. Building off these traditions, along with a 2nd year of success with Open Streets, and many other initiatives, Burlington has a solid base to work from in the realm of encouragement. To grow in this area, the City will need strong partnerships with non-profits, grassroots groups, educational institutions, local businesses and major employers. These organizations are typically leaders in creating or sponsoring festive walk/bike events, and they are often well positioned to provide incentives and reduce barriers. Launching a public bicycle share program is also a priority, as it is a critical element to support the Encouragement programming referenced here - for more details see item #7 in the Engineering Action Plan.

Photo from Open Streets BTV.

#1: Expand the landscape of encouragement events to offer new, and more frequent programming.

Open Streets BTV events are an effective way to engage a broad base of people in physical activity. DPW should support Burlington Parks and Recreation in increasing the frequency and scale of its open streets programs, with a special focus on engaging including children and older adults. For example, a "snowpen" streets event in mid-winter could allow participants to enjoy winter biking, cross-country skiing, snow shoeing etc. in a street closed to automobile traffic. Other ideas include:

- Help NPAs leverage smaller scale "Play Streets" events to experiment with pedestrian-focused projects such as new plazas and public spaces.
- Create supportive programs to recruit interested but inexperienced cyclists. The "Bike Experience" program in Brussels provides a model: invite people to try out bike commuting for 2 weeks, and kick off their Experience with a free, half-day training on urban biking. For the first few days of the Experience, it is critical to pair new bikers with experienced riders with a similar itinerary. The experienced rider helps the newcomer get over fears and find their way in the first few days. This campaign could be rolled out as part of Bike Month in May, in partnership with CCRPC's 2-week Smart Trip Challenge.
- Host monthly bike-to-work breakfasts in partnership with local businesses.
- Conduct nighttime bike light outreach on a more frequent basis, and work to find times that coincide with other well-attended evening events. (Local Motion can provide lights and train community partners in distribution/outreach.)

Success Metrics:

- Increase Open Streets event frequency to 4 per year by 2018, with the addition of play streets events in interested neighborhoods.
- Increase Play Streets event frequency
- Launch a bike-to-work breakfast initiative by 2017
- Kick-off an annual nighttime bike light outreach initiative in fall of 2016.

Responsibility: Burlington Parks and Recreation, and Department of Public Works, in partnership with City Council members, NPAs, and local non-profit organizations.

Source info needed. Photo by...

#2: Host targeted events and programs to engage underrepresented groups, such as women and seniors.

Census data shows that the recent growth in biking to work in Burlington is very heavily weighted towards men. Data from AARP surveys also indicate that a high percentage of Burlingtonians aged 45 and over would walk or bike more often if conditions were better (see Chapter 1 for more details). As projects in this plan roll out, Burlington should kick-start a program series focused on inspiring underrepresented groups, such as women and seniors, to be leaders in active transportation. Events could include group rides, peer-to-peer encouragement initiatives, workshops, or a Facebook group. To kick of the initiative and identify people who are interested in helping spearhead the effort, the City should work with local advocates to host a small bicycling summit or forum.

Success Metrics:

- Host a summit in 2017. A key outcome of the summit should be identifying an action plan for organizing and empowering people to be leaders in active transportation in Burlington.
- Increase the number of women bicycling each year - to be demonstrated through tracking of census mode share and data dashboard figures.

Responsibility: Department of Public Works in a supporting role, in partnership with local non-profit organizations such as Local Motion and AARP, universities, and major institutions.

#3: Grow awareness of and participation in existing Transportation Demand Management (TDM) Programs

Support CCRPC, the Chittenden Area Transportation Management Association (CATMA), and other partners in their efforts to grow awareness of and participation in existing TDM Programs such as Go! Chittenden County and the Way to Go! Commuter Challenge.

CATMA's work convening advocates through the Employee Transportation Coordinator (ETC) Network has great potential to help large employers run effective TDM programs. At the same time, individual residents are stepping up to the plate: total participation in the Way to Go! Commuter Challenge has grown steadily since 2006, with a significant increase in participation from schools in the past 3 years. The region must continue to experiment with and invest in these and other programs. Use of pilot incentive programs can help regional and local partners understand the best strategies for growing participation in TDM programs. In addition to continuing to support these ongoing TDM efforts, the City can establish itself as an example for other large employers by implementing the short- and long-term recommendations in the City employee commute TDM Action Plan (published October 2015).

Success Metrics:

- Implement the short- and long-term recommendations in the City of Burlington TDM Action Plan (published October 2015).
- Shift in mode share to reflect a reduction in the percentage of people driving alone. (See mode share goals in Vision and Goals section of this plan.)

Responsibility: CCRPC, CATMA, CarShareVT, CCTA, Local Motion, DPW

ENFORCEMENT ACTION PLAN

Laws and regulations are essential to establishing rules of the road. Once laws are established, it is also important that enforcement officials understand the laws, know how to enforce them, and apply them in an equitable manner. Communities that excel in the area of enforcement typically have law enforcement officials that regularly walk and bike as part of their duties. They also have structures in place to create strong relationships between advocacy groups and law enforcement officials.

#1: Revise crash reporting protocol to collect more robust data for crashes involving people walking or biking.

Crash reports are typically entered by a police officer into a crash report template created by the State. The templates include space for written descriptions as well as diagrams and coded information to describe what occurred. As the number of people traveling to work by alternative modes increases nationwide, states and cities are looking more closely at crash reporting protocols. The information requested on most crash report templates across the country focuses on motor vehicle crashes, with very limited opportunities to provide details of crashes involving a person walking or biking. Burlington should work with State and local officials to spearhead amendments to data collection protocols. Additional variables that merit consideration on a crash data template include: type of bicycle environment (presence of and/or type of bike facility on the street), more nuanced detail on potential car and bike impact points (including open doors, side mirrors, etc.), turn/impact patterns, and vehicle type details (sedan, pick-up truck, commercial truck, bus, etc.), and whether or not the driver was using an electronic device/cell phone when the crash occurred.

Success Metric: Revise crash reporting template to augment information required by the state of Vermont by 2020.

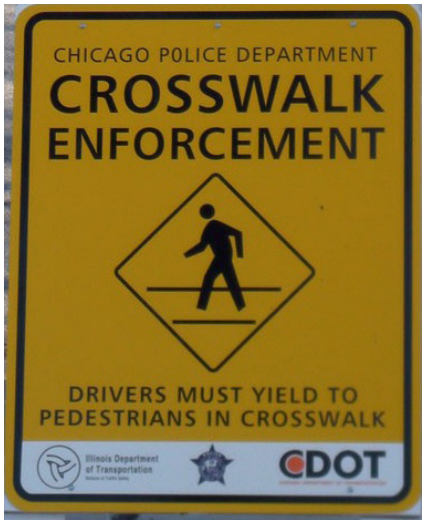
Responsible Parties: Requires state-level collaboration, with DPW, BPD as local leaders.

#2: Increase collaboration between DPW, BPD, the Safe Streets Collaborative, and the Burlington Walk Bike Council.

DPW should support partner organizations in establishing a framework for collaboration between the Safe Streets Collaborative, BWBC and BPD. Work of this group or task force should focus on strategic, collaborative projects that will advance the enforcement recommendations noted here and the safety goals outlined at the start of this plan. Implementation of this recommendation will require close partnership with BPD, to insure that BPD staffing resource and structures create time for this collaboration.

Success Metric: Establish a task force to help the Safe Streets Collaborative, BWBC and BPD work together to advance safety and enforcement recommendations.

Responsibility: Leadership needed from Safe Streets Collaborative and BWBC, with support and partnership from Department of Public Works and BPD



Source info needed. Photo by...

#3: Launch targeted sting enforcement efforts to crack down on dangerous behaviors at top offender locations.

Work with Local Motion and BPD to plan and execute a series of crosswalk stings in proximity to schools and community centers. During these stings, officers would monitor motorist compliance with crosswalks and issue warnings/ tickets to violators, often with television coverage of the sting. Work with BPD to set departmental goals for number of stings to be run each year on this and other issues, such as ticketing parked cars that are obstructing the pedestrian right of way, crosswalks, or parking in bicycle lanes. This recommendation is closely tied to Evaluation category, as it involves leveraging data to identify hot spot intersections for speeding, running red lights, etc. Targeted enforcement efforts could also be timed to coincide with programming around Distracted Driving Awareness Month in April or Bike Month in May (mentioned under Encouragement). The stings would provide an important opportunity for education - officers could be tasked with distribution of educational materials as part of the operation.

Success Metrics:

- Identify problem behaviors and launch the first "sting" effort at one priority intersection in by 2017.
- Decrease in crashes citywide, specifically those involving motorists who don't comply with safety laws at intersections. (Track through crash data collection reforms suggested on page 150).

Responsibility: Local Motion and BPD, with support from Department of Public Works

EQUITY ACTION PLAN

Too often, walk/bike planning fails to engage or solicit meaningful input from people who are not already involved in walk/bike advocacy circles. Though the population of people walking and biking in Burlington is diverse, special care must be taken to expand access, education, and encouragement efforts to be sure all residents benefit. For the purposes of this plan, we've defined equity in terms of:

- Geography – referring to the distribution of walking or biking improvements and facilities and programs within the community
- Social/Demographic factors – referring to the distribution of walking or biking improvements across diverse populations of all ages, genders, and abilities.

Importantly, item #7 in the Engineering Action Plan recommends that the city implement a public bicycle share system. This recommendation is a priority in the realm of equity; a high-density bike share system will help insure that all of Burlington's residents and visitors have access to bicycles.

Photo by Bike Recycle VT. Bike Recycle Vermont & Old Spokes Home create access to bikes and the opportunities they provide for our whole community.

#1: Expand education efforts and equipment access to low-income and minority communities

Start by producing educational/promotional materials in multiple languages. Work to expand reach of and access to existing programs such as Bike Recycle VT's Get A Bike program. As the recommended bicycle share program is rolled out, the city should work with local non-profit partners to develop a program that offers reduced membership rates and participation incentives to minority and low-income communities.

Success Metric: See recommendations related to public bike share on page 60.

Responsibility: See recommendations related to public bike share on page 60.

#2: Consider location equity in distributing walk/bike improvements across Burlington's neighborhoods.

Though implementation should respond to community support for projects, equity of project distribution across neighborhoods is an important consideration in building out a connected network of safe streets for people walking and biking.

Success Metrics:

- When considering implementation of the phasing plan suggested in Chapter 2, measure the distribution of network improvements and projects in each council district.
- Achieve proportional mode share gain in all council districts (to be tracked through data dashboard)

Responsibility: Department of Public Works

#3: Integrate equity safeguards in enforcement plans.

When implementing enforcement recommendations and developing protocols (such as the sting operations suggested previously), it is essential that equity concerns not be overlooked. Enforcement around unsafe behaviors (speeding, failure to yield, etc.) must not involve profiling of offenders.

Success Metric: [Forthcoming]

Responsibility: Department of Public Works, Burlington Police Department

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#4: Deepen understanding of the needs and priorities of populations under-represented in Burlington's walk/bike advocacy

Work with community groups to initiate ongoing, proactive conversations to deepen understanding of the needs and priorities of populations under-represented in Burlington's walk/bike advocacy community (including women, New Americans, young children, and older adults). The focus groups described in Chapter 2 provide a possible precedent for this type of conversation.

Success Metric: Create a work plan for pro-active outreach to under-represented communities, with the target of at least 2 events per year by 2018.

Responsibility: Department of Public Works, local non-profit partners, and NPAs

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FUNDING & IMPLEMENTATION

For this plan to become a reality, commitment to funding and implementation of the plan's priority recommendations is essential.

WHAT ARE WE GOING TO DO?

The sub-area sections in Chapter 3 list recommended projects in the 12-month, and 2-5 year time frames, and illustrate recommended long-term projects through maps. A complete list of projects recommended at all time scales can be found in the Appendix of this document. Also in the Appendix, the illustrated glossary provides definitions for many of the terms used throughout this plan to describe design treatments and infrastructure types.

Over time, it is virtually a certainty that some new projects will be added to the "to do" list, and others recommended in this plan may become unnecessary. Still, having a list of target projects for each time frame allows us to understand the scale and scope of what is needed to take this plan from paper to pavement.

THIS CHAPTER ANSWERS THE FOLLOWING KEY QUESTIONS:

- What are we going to do?
- What do we spend now?
- What will we need to implement the plan?
- How will we pay for it?

WHAT DO WE SPEND NOW?

While budgets change every year, the City has allocated about $1.5 million per year for city-funded walk-bike projects over the past 2 years, and has allocated more in the coming year:

- The sidewalk replacement fund is currently funded at about $400,000 per year. Funding at this level is enough to replace sidewalks on a cycle of over 100 years, which is way too long. The good news is that in the last two years, City capital has boosted this program with more than $700,000 of additional funding. And, the City's 10-year capital plan (currently in development) outlines a strategy to continue increasing available funds for sidewalk repair and replacement, in order to address all of the sidewalks currently categorized as serious or failed within five years, and all of the poor to failed segments in approximately 15 years. For more details, see page 159.
- $100,000 for other walk-bike projects: $50,000 for bike projects (2% of funds received from street capital paving) and $50,000 for the traffic calming program. As with the sidewalk program, the City's 10-year capital plan outlines a strategy to increase available funds for other walk-bike projects, with $250,000 to $450,000 allocated or planned for these improvements.
- The city also puts a substantial amount of funding towards pedestrian and bicycle infrastructure through ongoing projects, some of which include federal funding. It is not possible to determine the exact portion of funds used exclusively for walk-bike infrastructure, but we do know that it is a significant amount compared to the above dedicated funding sources.

$1.5 million

While budgets change every year, the City has allocated about $1.5 million per year for city-funded walk-bike projects over the past 2 years, and has allocated more in the coming years.

Snapshot of funding for current capital projects

Project Name	Funding/Notes
Burlington Bike Path Renovation	Penny for Parks Funding, bonding
Champlain Parkway	Includes shared use path, curb extensions, crossing improvements, bike lanes from Kilburn to Main
Colchester Ave Sidepath	Funded for 2017 Construction
Connectors through Burlington Town Center (Pine and St Paul)	Subject to development agreement, eligible for funding with Downtown TIF
Locust Street/Birchcliff Parkway Walkabilitly Projects	Grant funded
Main Street Streetscape (Battery to Union)	Downtown TIF/Great Streets Project
Maple/Battery Intersection	Crossing improvements
North Ave Crosswalks	Grant funded
Shelburne Rotary	VTrans Safety Project
St. Paul Streetscape (including the Main St. /St. Paul Intersection)	Downtown TIF Project
Traffic Calming Fund Projects	King St Neighborhood, Grant St, Loomis St, Ward St (Traffic Calming Fund)

WHAT WILL WE NEED TO IMPLEMENT THE PLAN?

The total estimated cost for the projects recommended in the 12-month time frame is $295,000. These projects are primarily lower cost actions that can be implemented quickly, and do not require changes to curbs or utilities. Projects included in this estimate are listed in the project tables in the Appendix.

The total estimated cost for the projects recommended in the 2-5 year timeframe is $1,900,000, or $475,000 per year over four years. Projects included in this estimate are listed in the project tables in the Appendix.

Many of the walk-bike projects listed in the 12-month and 2-5 year time frame are small, and perhaps mundane, but in total could have a huge impact. As project prioritization and funding is discussed, keep in mind that putting funding toward a series of smaller projects can have greater city-wide benefit than a small number of high cost projects. The city's capital plan should have a healthy mix of small and big projects.

WALK-BIKE PROJECTS ARE GREAT INVESTMENTS

Walking and biking projects are generally much less expensive to build and maintain than roadway or highway projects, and can yield significant benefits. The City's significant commute mode shares for walking and biking (19% and 6% respectively) and goals for growth in these mode shares (at least 34% of all trips) should be considered in how City transportation funds are allocated. Investments in the City's walk and bike infrastructure will ultimately result in a transportation system that reduces overall costs and increases choices.

HOW WILL WE PAY FOR IT?

Many of the projects recommended in the plan already have funding identified, including the walk-bike components of the Champlain Parkway, bike path projects funded through Penny for Parks, or projects such as complete streets upgrades on Main Street and the connection through the Burlington Town Center, which can be funded through the Downtown or Waterfront TIF. Other major projects, such as the reconstruction of the Colchester/Barret/Riverside intersection, are eligible for state/federal funding through the Chittenden County Regional Planning Commission Transportation Improvement Program (CCRPC TIP). The majority of the projects needed to build out the plan are small, relatively simple changes that can be incorporated into ongoing projects and activities with little additional cost.

Implementing this plan will require a shift in focus and emphasis in the City's ongoing effort to repair and repave its streets. And, there is no way around the fact that the City will need to increase funding allocated for walk and bike projects to make this plan a reality. Luckily, the City's 10-year capital plan (currently in development) is already on track to increase funding in ways that will support implementation of this plan. The next page presents strategies that will help the City achieve the funding levels needed to implement the recommendations in this plan.

The summary graphic on page 158 compares current spending levels and known or planned funding sources against estimates for what we'll need to implement this plan. The good news is...we can do this!

FUNDING SNAPSHOT

The graphic on page 158 compares current spending levels and known or planned funding sources against estimates for what we'll need to implement this plan. The good news is...we can do this!

A snapshot of what we spend in a typical year now

$1.1 million
Funding for sidewalk repair/replacement (replacement cycle is too long!)

+

$350,000
For other walk/bike projects from Bicycle Program, Traffic Calming Fund, and City Capital

+ Additional funding from grants & ongoing project budgets

=

$1.5 million

Additional annual funding needs called for in the 10 Year Capital Plan through 2021

$1 million
Capital Sidewalk Funding

+

$100,000
Capital funding for other walk/bike projects

How we implement recommendations in the next 5 years (through 2021)

$2.1 million
City funding to repair serious sidewalk failures.

+

$450,000+
City funding and grant funding to implement other walk-bike projects recommended in the plan:

- $295,000 - estimated cost for projects in next 12-months
- $475,000/yr - estimated cost for projects recommended in the 2-5 year timeframe, over 4 years.

Estimated annual needs for sustainable funding after 2021

$1.5 million
+ 3% escalator to sustain a 40-year sidewalk replacement cycle

+

$2 million
+ 3% escalator for transportation system expansion, including walk-bike projects

Strategies to pay for plan recommendations

Below is a list of strategies that will help the City achieve the funding levels needed to implement plan recommendations.

- **Increase the sidewalk repair and replacement fund.** The sidewalk replacement fund is currently funded at about $400,000 per year. At this rate, it would take more than 100 years to replace all of the city's sidewalks. A well designed and constructed sidewalk can be expected to last 40 or 50 years, but not 100. The good news is that in the last two years, City capital has boosted this program with more than $700,000 additional funding. The City's 10-year capital plan recognizes the need to continue increasing available funds for sidewalk repair and replacement, with $2.1 million per year recommended through 2021 to correct serious sidewalk failures. With serious failures corrected, a 40-year replacement cycle can be sustained with level funding of $1.6 million with a 3% escalator through 2026.
- **Allocate Capital Funding to Bike-Walk Projects.** Every year, the city allocates millions of dollars to capital street projects. While a large percentage of the city's capital funding for walk-bike projects is already allocated to large projects in the coming years (such as the Railyard Enterprise Project and the Champlain Parkway), capital investments are still planned. The City's 10-year capital plan recommends an additional $350,000 be allocated for transportation expansion projects during 2017 through 2021 and $2 million with a 3% escalator through 2026. As ongoing projects are completed, a growing portion of capital funds can be allocated to walk-bike projects to help implement this plan.
- **Dedicate a larger share of local paving funds to bicycle projects.** Every year, the City of Burlington receives funding from VTrans and a dedicated tax that is allocated for paving of local streets. Bikeway projects are an eligible use of these funds, and currently the City dedicates 2% of street capital paving funds for bikeway projects. This percentage could be increased to be aligned with the existing mode share for bicycles (6%), and over time increased to the mode share goal (12%).
- **Bundle funds from a variety of sources.** Because many of the projects in this plan have benefits that extend beyond walking and biking (such as greening streets and overall safety), there will be opportunities to leverage funding for projects by bundling funding from several sources. Examples include stormwater projects as part of a greenway; or park funding for projects that enhance the bike path connections.
- **Use Federal Funding (judiciously).** Federal funding is available for walk-bike projects through competitive grants from VTrans, as well as directly from the FHWA for very large projects. Because of the lengthy and sometimes laborious process that needs to be followed with federal funding, it is best used for high cost projects, which are listed on the following page.
- **Tax Increment Financing (TIF).** TIF is a long-term tool that uses incremental tax revenue over 20 years to repay debt. Municipalities establish a TIF district within an area requiring public infrastructure to encourage public and private real property development or redevelopment. There is no impact on taxes. TIF is devised to use the incremental future property tax revenue, not additional taxes, to pay for the debt incurred to finance infrastructure improvements within the District. Investment debt is repaid with the incremental tax revenue of the TIF district, not just one particular project. Burlington currently has two TIF districts - the Downtown and Waterfront Districts.
- **Municipal Bonds.** Municipal bonds can be issued by state and local governments to raise funds for large transportation projects.

Projects to consider for federal funding

Note that federal funding comes with many strings attached and requires dedication of staff time to keep the projects advancing through a complex process.

Project	Comments
Battery Street Complete Streets Upgrades	Some of these projects could be initially put on the ground with rapid implementation, and eventually made more permanent and attractive with funding from grants.
Colchester Ave Complete Streets Upgrades (Prospect to Riverside)	
Ethan Allen Parkway Bikeway	
Main Street Complete Streets Upgrades (Winooski to UVM)	
North Ave Complete Streets Upgrades	
Pearl Street Complete Streets Upgrades (Battery to Prospect)	
Pine Street Complete Streets Upgrades (Howard to Flynn)	
Plattsburg Ave Bikeway	
Prospect Street Bikeway	
Rt. 127 Path-Manhattan Connector	
Shelburne Road Complete Streets Upgrades (City Line to St. Paul)	
Main St/University Heights Crossing	Potential for UVM participation in project funding
University Place - Shared Space Street	
Colchester Ave Bike-Ped Bridge	High cost project with regional implications, could be funded through CCRPC TIP or TIGER grant
North Street Slow Zone - North Ave to Union	Potentially funded in part with economic development funds
East/Colchester Intersection	Overall safety project, such as roundabout or mini-roundabout, could be funded through CCRPC TIP
Main Street/S. Winooski Ave Intersection	
Riverside Ave/Colchester Ave Intersection	

STRATEGIES TO BUILD THE PLAN

While raising funds for building out the walk-bike network is important, a change in approach for how projects are designed and constructed is also needed.

Rapid Implementation

To make the plan a reality, we need to move a lot faster to get projects on the ground. Greater reliance on phased or "rapid implementation" solutions using less expensive materials can be effective and efficient, and provide for a more adaptable transportation network. This will not only bring substantial transportation benefits sooner, but allow for reconsideration and adaptation as transportation patterns continue to shift in the coming decade. While funding for new walk bike projects is dedicated to projects already in development over the next five years, rapid implementation using lower cost materials and pavement marking will be the primary type of new walk bike projects

Many of the plan recommendations can be done initially using lower cost approaches such as lane reassignment and establishing protected bike lanes with flex-posts or armadillos. Communities across the country are using rapid implementation techniques to quickly build out their bicycle networks and crossing improvements – sometimes leaving low-cost materials in place for several years until there is an opportunity to upgrade to more robust facilities. The advantage of this approach is that the City can learn from the interim design and engage public input based on the user's experience with the infrastructure, taking this input into consideration as funding is acquired for the more permanent infrastructure.

Rapid Implementation also means getting started now with planning and design for challenging but important projects. The good news is that this approach is already underway: this master planning process includes a scoping of priority projects for implementation. The scoping phase of the project has already begun, setting the City up to implement two priority projects: a Neighborhood Greenway in the Old North End, and a bikeway along Main Street in downtown Burlington.

A Holistic Approach to Street Reconstruction

While many of the projects in this plan can be implemented with lower cost, quicker techniques, some City streets will be reconstructed each year to address a multitude of needs: underground utility repair or replacement, stormwater infrastructure, structural instability, and more. With this plan, it will be easier to coordinate reconstruction projects so that when streets are dug up, they get put back together the right way. This holistic approach to street reconstruction also will allow the leveraging of a variety of funding sources that can be combined to build truly complete street projects. However, we can't always wait for these big projects. Interim design or pilots can be used on streets where full reconstruction is more than 2 years away.

Make sure the people power needed is in place

We need more than just funding to build this infrastructure. We also need people who have the time and resources to coordinate the planning, designing, construction and maintenance of this network. This means hiring at least one person this year, plus a second one within a year whose primary focus is getting rapid implementation safety projects on the ground. Maintaining this enhanced network will require investing in the right fleet of equipment over time to maintain protected bike lanes and other types of infrastructure that the City doesn't currently have.

WE CAN DO THIS!

This plan is ambitious, but with funding at these levels, support at all levels of city government, and staff available to do the work, it can get done and will be well worth the effort. The result will be a modernized, attractive and safe street network that offers city residents and workers real choices in how they get around.

RAPID IMPLEMENTATION: FAST, FLEXIBLE CHANGES TO CITY STREETS

Long known as a natural gas capitol, the City of Calgary in Alberta, Canada might seem an unlikely leader in bike infrastructure implementation. But, after rolling out an entire network of protected bicycle lanes (or "cycle tracks") throughout its downtown all at once, Calgary is now widely recognized as a success story in rapid implementation of low-stress bikeways.

Calgary's innovative "all at once" approach differs from the common practice of implementing bike lanes one street at a time. Building from the City's general transportation plan and citywide bicycle plan, the City Council approved a pilot project to use temporary materials and roll out new protected bike lanes on 4 key downtown streets. This rapid implementation approach allows the city to quickly implement a pilot that can test the impacts not just of a bike lane on a single street, but of a truly connected bicycle network.

For the 18-month pilot, the city used flexible materials such as delineator posts, planter boxes and curb stops. The pilot was completed two months early and $2 million under budget. And, it was literally an overnight success. Daily downtown bike use quadrupled the day after the pilot protected bicycle lanes were implemented. After just three months, the city saw a 95% average increase in daily weekday bike trips. Needless to say, all signs are pointing to a positive outcome for the implementation of a permanent bike network which would not only transform Calgary's downtown but could also be utilized as a blueprint for transforming the rest of the city's transportation infrastructure.

Importantly, rapid implementation is not only used for pilots. Many cities are using low-cost materials (flexible delineators, paint, planters, etc.) to quickly implement planned street redesigns, leaving materials in place for years until funding is available for more permanent capital upgrades. One example is comes from Denver Colorado, where City officials completed two, one-mile protected bike lane projects, (from preliminary planning to completion) in less than 1 year. Another example comes from Palo Alto, where city officials are considering options for rapid implementation of their mobility plan, which calls for 9.3 miles of protected bike lanes and 5.5 miles of pedestrian greenways (streets that function as "linear parks" with wider sidewalks, pedestrian amenities, and landscaping).

The 12-month project lists and 5-year maps in the sub-area sections of this plan provide a blue-print for how Burlington can follow this exciting new approach for project delivery, and get started with implementation NOW!

Calgary's quick-build protected bike lane network doubled bike counts in 3 months! Top image by Bike Calgary; Bottom image by People for Bikes.

Denver used a rapid implementation approach, taking two protected bike lane projects from zero to finished in one year. Image by People for Bikes.

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- FINAL PROJECT BANK (DRAFT INCLUDED HERE)

- FINAL SAFE STREETS ILLUSTRATED GLOSSARY (DRAFT INCLUDED HERE)

- CRASH DATA MAPS

- ALL PLANBTV WALK/BIKE SURVEY DATA

PROJECT LIST FOR "START NOW" 12 MONTH PROJECTS

► The total estimated cost for the projects recommended in the 12-month time frame is $295,000. These projects are primarily lower cost actions that can be implemented quickly, and do not require changes to curbs or utilities. Projects included in this estimate are listed in the table below. See the Funding + Implementation Chapter for more details.

Sub-Area	Project Name	Proposed Action
2	Archibald Street Slow Zone/Bikeway	Add supersharrows, and use rapid implementation materials to create curb extensions (epoxy/sand mix, flexposts, etc.)
3	Austin Drive Bikeway	Re-stripe with 2-way protected bike lanes with flex posts on north side of street
2	Bike Parking	Add bike parking in high-need locations such as Church Street, Pearl Street, and Main Street.
3	Birchcliff Parkway Greenway	Traffic calming with shared lanes or advisory bike lanes
2	College Street Bikeway Markings	Add intersection striping treatments to carry College St. bikeway across the Prospect intersection, to UVM path.
2	Depot Street Pilot Projects	Revisit concept plans in 2009 Waterfront North Access Scoping Study, and use pilot projects to test alternatives.
2	East/Colchester Intersection	Extend eastbound bicycle lane markings through intersection. Pilot test median treatments. Change signal phasing.
1	Gosse Court Greenway and Connections	Add traffic calming treatments and shared lane markings to Gosse Court, and shared use markings/signs to Woodbury Road/ Hunt Middle School driveway
2	Lakeview Terrace Neighborhood Greenway	Add bikeway markings and traffic calming treatments on Lakeview Terrace.
3	Lakeside Ave/Pine St Intersection	Reinforce southbound bicycle lane crossing through intersection
1	Leddy Park Bikeway Connector	Shared lane markings
3	Ledge Rd Bikeway	Shared lane markings and traffic calming
2	Main St. / S. Champlain Curb Extensions	Use rapid-implementation materials to add curb extensions
2	N. Union Bikeway	Install armadillos to protect bike lane as pilot
2	N. Winooski Bikeway (Pearl to Union)	Install flex posts to protect bike lane as pilot
2	Pearl Street Bikes Lanes and Curb Extensions (Battery to Winooski)	Mark and sign bicycle lanes. Add interim curb extensions at Pearl and N. Champlain.
3	Pine St Curb Extensions (Kilburn, Marble, Howard, Locust, Flynn)	Rapid implementation of curb extensions at key crossings with epoxy/sand mix, flexposts or other creative materials
3	Pine Street Bikeway Signage	Place "bikes may use full lane" signs
3	Pine Street Bikeway	Mark and sign bicycle lanes south of Lakeside Avenue to the end of Pine Street
3	Queen City/Industrial Bikeway	Work with South Burlington to mark and sign bicycle lanes
2	Riverside Shared Use Path	Enhance pavement markings at bikeway gaps and across busy driveways
2	S. Winooski/Bank Intersection	Rapid implementation of curb extensions with epoxy/sand mix, flexposts or other creative materials
2	Winooski Corridor Study Pilot Projects	Use pilot projects to test recommendations from the Winooski Corridor Study

Sub-Area 1: The New North End
Sub-Area 2: Downtown, Old North End, Waterfront
Sub-Area 3: South End
See page 74 for Sub-Area Overview Map

PROJECT LIST FOR YEAR 2-5 PROJECTS

- The total estimated cost for the projects recommended in the 2-5 year timeframe is $1,900,000, or $475,000 per year over four years. Projects included in this estimate are listed in the sub-area tables below (and on the following 2 pages). See the Funding + Implementation Chapter for more details.

Sub-Area 1: The New North End (*See page 74 for Sub-Area Overview Map*)

Project Name	Proposed Action
Crescent/Shore Greenway	Shared lane markings and traffic calming
Farrington Parkway Greenway	Shared lane markings and traffic calming
Gosse Court Greenway	Shared lane markings and traffic calming
Marshall Drive Greenway (Gosse to Heineberg)	Shared lane markings, green infrastructure and traffic calming
North Ave Intersection Safety	High visibility crosswalks, curb extensions with epoxy/sand, flexposts or other creative materials (at Shore, Cottage Grove, Poirier, Saratoga, and Institute)
Old North End Multiuse Connector Trail	Shared use path between North Ave and Island Line Trail
Plattsburg Ave. Bikeway	In the short term, mark and sign conventional bike lanes (with more robust treatment coming in the long-term)
Starr Farm Road Sidewalk	Add new sidewalk
Venus Ave Connector	Begin planning for neighborhood connector between Venus Ave. and Sandra Cir.
Western Ave Sidewalk	Add new sidewalk

Sub-Area 2: Downtown, Old North End, Waterfront (*See page 74 for Sub-Area Overview Map*)

Project Name	Proposed Action
Bank Street Bikeway	Mark and sign shared use lanes
Cherry and South Winooski Intersection Improvements	Create rapid implementation curb extensions while 2016 Corridor Study is developed
Colchester Ave Bikeway	Stripe bike lanes on Colchester Ave. east of East Ave., with a more robust treatment to come in the long-term.
Colchester Ave Bridge to Winooski	Implement a lane reassignment with 3 travel lanes and a 2-way shared use path across the bridge, or build a new bridge for people walking/biking
Colchester Ave Hospital Crossing	Install high visibility pedestrian crossing
College/S. Willard Intersection	Consider mini-roundabout or high visibility pedestrian crossings
Main St/University Heights Crossing	Install high visibility pedestrian crossing
Main Street Complete Streets Upgrades (Battery to Winooski)	Design TBD with Great Streets Project; goal is protected bicycle lanes on this segment.
Main Street Complete Streets Upgrades (Winooski to Summit)	Protected bicycle lanes and improvements for pedestrians, per scoping study
Main Street Complete Streets Upgrades (Summit to University Place)	Add a shared use path on UVM property to connect to Main St path
Main Street Path on UVM Campus	Continue UVM Shared Use Path to fill gap from University Heights to the Jughandle
Main Street/S. Winooski Ave Intersection	Consider roundabout or mini-roundabout and lane reassignment

Sub-Area 2 Continued... Downtown, Old North End, Waterfront (*See page 74 for Sub-Area Overview Map*)

Project Name	Proposed Action
Maple Street Bikeway	Mark and sign shared lane treatments
N. Champlain Street/ Bikeway	Protected 2-way bicycle lanes on west side of street, lane reassignment
N. Winooski Bikeway (Union to Riverside)	Mark and sign protected bicycle lanes
North St Bikeway	Traffic calming with epoxy/sand, flexposts or other creative materials; shared lanes or advisory bike lanes
North Street near Murray	Study/pilot projects needed to determine best approach for traffic calming
North/North Ave Intersection	High visibility crosswalks, curb extensions with epoxy/sand, flexposts or other creative materials
ONE Greenway - Loomis Street segment	Shared lane markings, green infrastructure and traffic calming. Intersection improvements at Loomis/Prospect.
ONE Greenway - Sherman, Peru & Grant	Shared lane markings, green infrastructure and traffic calming
Pearl St/South Williams Crossing	Re-establish high visibility crosswalk
Pearl/Prospect/Colchester Intersection	High visibility crosswalks, realignment integrating curb extensions with epoxy/sand, flexposts or other creative materials
Pearl/Winooski Intersection	High visibility crosswalks, curb extensions with epoxy/sand, flexposts or other creative materials
Riverside Ave/Colchester Ave Intersection	High visibility crosswalks, curb extensions with epoxy/sand, flexposts or other creative materials
Riverside Ave/N. Prospect Intersection	High visibility crosswalks, curb extensions with epoxy/sand, flexposts or other creative materials
Shelburne Rotary Upgrade	Implement pilot project to clarify traffic patterns and improve safety by narrowing vehicular lanes and adding curb extensions.
Shelburne and Home Street Intersection Improvements	Pilot recommendations from planned corridor study (not programmed yet) - aim to reduce speeds, reduce crossing distances.
S/N Union Bikeway (Main to N. Winooski)	Complete protected bicycle lanes with preferred rapid implementation treatment (flexposts or armadillos, etc.)
S. Union Bikeway (Shelburne to Main)	Establish protected bicycle lanes with flexposts or armadillos; consider lane reassignment with one-way street for vehicles
S. Union/Main Intersection	Consider mini-roundabout; high visibility crosswalks, curb extensions with creative materials
S. Willard St Bikeway (Cliff to Hyde)	Extend northbound bicycle lane from North Street to Hyde, add shared lane markings southbound
S. Willard/Main Intersection	High visibility crosswalks, curb extensions with creative materials
S. Willard/Pearl Intersection	High visibility crosswalks, curb extensions with creative materials
S. Winooski Ave/College St Intersection	Consider mini-roundabout; high visibility crosswalks, curb extensions with creative materials
S. Winooski Bikeway-Main to Pearl	Mark and sign bicycle lanes in both directions; reassignment of vehicle lanes

Sub-Area 3: South End (*See page 74 for Sub-Area Overview Map*)

Project Name	Proposed Action
Callahan Park Greenway	Shared lane markings and traffic calming
Flynn Ave Bikeway	Mark and sign bicycle lanes
Home Ave/Pine St Intersection	Consider mini-roundabout and shared lane markings
Howard Street Greenway	Shared lane markings and traffic calming
Linden Terrace Greenway	Traffic calming, shared lanes or advisory bike lanes
Pine Street Bikeway (Queen City Park to Flynn)	Mark and sign bicycle lanes
S. Winooski/Howard/St. Paul Intersection	Consider mini-roundabout or signal phasing changes; high visibility crosswalks, curb extensions with creative materials
Shelburne Road Crossings	Install high visibility pedestrian crossings

Long-term Plan Project Bank

LIST OF RECOMMENDED PROJECTS TO BE IMPLEMENTED IN THE NEXT 5-15 YEARS

Sub-Area	Project Name	Proposed Action
2	Battery Street Complete Streets Upgrades (Maple to Park/Sherman)	Lane reassignment and bike lanes (phase 1), protected bike lanes (phase 2)
3	Briggs St Sidewalk (Morse to Flynn)	New sidewalk
2	BTC Connector (Pine and St Paul between Bank and Cherry)	Establish bikeways as part of Burlington Town Center redevelopment
2	Cathedral Square Crossing (Cherry St at 3 Cathedral Sq)	High visibility crossing
2	Cedar-Poplar Greenway (Elmwood Ave to Park St)	Shared lane markings, green infrastructure and traffic calming
3	Champlain School Connection	Connecting path network to Pine Street
2	Chase Street Bikeway	Bike lane up/Shared lane down; shift parking to south side
2	Colchester Ave Complete Streets Upgrades (Prospect to Riverside)	Protected bicycle lanes
2	Colchester Ave Bikeway Winooski River Crossing	Lane reassignment on bridge to provide 2-way protected bike lanes
2	College Street Bikeway (Lake to Union)	Shared lanes with traffic calming
1	CP Smith Connector (Gosse Court to James Ave)	Shared use path
3	Deforest Heights Sidewalk (DeForest Rd to Chittenden Dr)	New sidewalk
3	Deforest Heights/Edgewood Connector (S. Willard to Ledge via path)	Shared use path or trail
2	Depot St-Lake St Bikeway (North Ave to Main St on waterfront)	Shared lanes with traffic calming
2	East Avenue Bikeway (Jughandle to Colchester)	Bicycle lane (phase 1)/Two-way protected lanes (phase 2)
1	Ethan Allen Connector	Shared use path through park
1	Ethan Allen Parkway Bikeway (North Ave to 127 Path)	Bicycle lane northbound/shared lane southbound
3	Fairmount St Greenway (Proctor to Prospect Pkwy)	Shared lane markings, green infrastructure and traffic calming
1	Flynn School Pathway (Plattsburg Ave to School)	Shared use path
3	Foster Street Sidewalk (Lyman to Home)	New sidewalk
1	Franklin Square Pathway (North Ave to Sunset Dr via path)	Shared use path or trail
1	Gazo Ave Greenway (Ethan Allen Pkwy to Sandra Circle)	Shared lane markings, green infrastructure and traffic calming
1	Grey Meadow-West Connector (West Rd & Grey Meadow)	Shared use path or trail
2	Grove Street Bikeway (Chase to South Burl City Line)	Mark and sign bicycle lanes

Sub-Area 1: The New North End
Sub-Area 2: Downtown, Old North End, Waterfront
Sub-Area 3: South End
See page 74 for Sub-Area Overview Map

LIST OF RECOMMENDED PROJECTS TO BE IMPLEMENTED IN THE NEXT 5-15 YEARS (CTD...)

Sub-Area	Project Name	Proposed Action
3	Harrison Ave Greenway (to Island Line Trail)	Shared lane markings, green infrastructure and traffic calming
1	Heineberg Road Greenway (North Ave to Farrington)	Shared lane markings, green infrastructure and traffic calming
3	Hillcrest-Crescent Greenway (Ledge to S. Prospect)	Shared lane markings, green infrastructure and traffic calming
3	Home Ave Bikeway (Oakledge Park to Shelburne)	Mark and sign bicycle lanes
3	Howard Street Greenway (Pine to Union)	Shared lane markings, green infrastructure and traffic calming
2	Intervale Road Bikeway (North of Riverside through Intervale Center)	Mark and sign shared lanes
3	Kilburn Street Sidewalk (Pine to St Paul-north side)	New sidewalk
1	Killarney Drive connector to Island Line Trail	Shared use path or trail
3	Lakeside Ave Sidewalk (Champlain Pkwy to Pine, south side)	New sidewalk
3	Lakeside Ave Sidewalk (Island Line Trail to Champlain Pkwy, north side	New sidewalk
3	Lakeside Neighborhood Greenway (Island Line to Blodgett Oven)	Shared lane markings, green infrastructure and traffic calming
3	Locust Street Bikeway (Caroline to Shelburne)	Protected bicycle lanes
3	Locust Street Bikeway (Pine to Caroline)	Shared use path and marked with shared lanes
2	Main Street Complete Streets Upgrades (University Heights to Jughandle - South Side)	Extend UVM Shared Use Path to South Burlington line
2	Manhattan Bikeway (Elmwood Ave to Park St)	Combination of bike lanes, protected bike lanes, and greenway
2	Manhattan-Washington Greenway (North Ave to Park St)	Shared lane markings, green infrastructure and traffic calming
2	Mansfield Ave Bikeway (Colchester to North)	Shared use path on east side; shared lane markings
1	Moore Drive Greenway (Park to Ethan Allen Parkway)	Shared lane markings, green infrastructure and traffic calming
3	Morse Place Sidewalk (Briggs to Pine)	New sidewalk
1	North Ave. Complete Streets Upgrades	Add permanent protected bikeway treatments along North Avenue. Pending results of the 2016 Pilot Project, add protected/conventional/buffered bike lanes on North Avenue where feasible.
2	N. Prospect Street Bikeway (Pearl to Riverside)	Bicycle lane northbound/shared lane southbound
2	North Street Sidewalk (Prospect to Mansfield Ave, north side)	New sidewalk
2	North Street Slow Zone (North Ave to Union)	Traffic calming, curb extensions, raised intersections, shared lane markings

Sub-Area 1: The New North End
Sub-Area 2: Downtown, Old North End, Waterfront
Sub-Area 3: South End
See page 74 for Sub-Area Overview Map

LIST OF RECOMMENDED PROJECTS TO BE IMPLEMENTED IN THE NEXT 5-15 YEARS (CTD...)

Sub-Area	Project Name	Proposed Action
1	Northview Drive Greenway (Rivers Edge to North Ave)	Shared lane markings, green infrastructure and traffic calming
2	Oak Street Greenway (Intervale to Manhattan)	Shared lane markings, green infrastructure and traffic calming
2	Pearl Street Bikeway (Battery to Prospect)	Bicycle lanes (phase 1)/Protected lanes (phase 2)
3	Pine Place Greenway (Pine to St. Paul)	Shared lane markings, green infrastructure and traffic calming
3	Pine Street Complete Streets Upgrades (Howard to Flynn)	Protected bicycle lane (northbound)/shared lane (southbound)
3	Pine Street Sidewalk (Lyman to Home)	New sidewalk
3	Prospect Pkwy Greenway (Shelburne to S. Prospect)	Shared lane markings, green infrastructure and traffic calming
3	Richardson Street Sidewalk (Home to Morse)	New sidewalk
2	Riverside Path Extension (N. Winooski to Intervale Ave)	Shared use path on north side of street
2	Roosevelt Park Greenway (St Louis St through Roosevelt Park)	Shared lane markings, green infrastructure and traffic calming
2	Route 127 Path-Manhattan Connector (Route 127 Path to Manhattan Drive)	Shared use path in Route 127 right-of-way
3	S. Prospect Street Bikeway (Ledge to Maple)	Shared Use Path on east side
2	S. Prospect Street Bikeway (Maple to Pearl)	Shared lanes/Shared Use Path on UVM Green
3	S. Prospect Street Greenway (Prospect Pkwy to Ledge)	Shared lane markings, green infrastructure and traffic calming
2	S. Willard Sidewalk (Cliff St to Champlain College)	New sidewalk
3	S. Willard St Bikeway (Shelburne to Cliff)	Mark and sign bicycle lanes
3	S. Winooski Bikeway (Shelburne Rd to Main St)	Southbound protected bicycle lane
3	Sears Lane Bikeway (Pine to Harrison)	Mark and sign for shared use lane
3	Sears Lane Sidewalk (Waterfront Path to Pine St)	New sidewalk
3	Shelburne Road Bikeway (City Line to St. Paul)	Lane reassignment and bicycle lanes (phase 1)/ Protected bicycle lanes (phase 2)
3	South Meadow Greenway (Champlain Pkwy/Howard Ctr to Raymond Pl)	Shared lane markings, green infrastructure and traffic calming
2	Spruce Street Greenway (St. Paul to S. Willard)	Shared lane markings, green infrastructure and traffic calming
1	Starr Farm Rd Greenway (North Ave to Island Line)	Shared lane markings, green infrastructure and traffic calming
1	Sunset Drive Greenway (Franklin Sq to Northview via Rivers Edge Dr.)	Shared lane markings, green infrastructure and traffic calming
2	University Place Shared Street (Main to Colchester)	Shared space zone, prohibit through traffic, consider dedicating street to UVM

Sub-Area 1: The New North End
Sub-Area 2: Downtown, Old North End, Waterfront
Sub-Area 3: South End
See page 74 for Sub-Area Overview Map

LIST OF RECOMMENDED PROJECTS TO BE IMPLEMENTED IN THE NEXT 5-15 YEARS (CTD...)

Sub-Area	Project Name	Proposed Action
1	Village Green Greenway (to Van Patten)	Shared lane markings, green infrastructure and traffic calming
2	Walnut-Elmwood Greenway (Archibald to Oak)	Shared lane markings, green infrastructure and traffic calming
2	Walnut-Elmwood Greenway (Pearl to Archibald)	Shared lane markings, green infrastructure and traffic calming
3	Wells Street Greenway (Flynn to Home)	Shared lane markings, green infrastructure and traffic calming
3	Wells Street Sidewalk (Flynn to Home, east side)	New sidewalk
1	Westward Drive-Northshore Drive Greenway	Shared lane markings, green infrastructure and traffic calming

Sub-Area 1: The New North End
Sub-Area 2: Downtown, Old North End, Waterfront
Sub-Area 3: South End
See page 74 for Sub-Area Overview Map

Illustrated Glossary of Safe Streets Treatments

This section of the document is an "illustrated glossary" defining many of the treatments recommended throughout the plan. The Sub-Area sections of the plan and the Project Bank in this Appendix provide details about how some of these treatments could be applied to achieve the recommendations outlined in the plan.

Best practices in walk/bike planning are changing rapidly. Cities around the country are trying new types of infrastructure every year. Technologies to support active transportation are also rapidly evolving - wayfinding using smart phones is increasingly common, and electric assist bicycles are growing in popularity in cities with significant hills. Thus, it is important to note that this illustrated glossary is not an exhaustive or prescriptive list of tools - it is simply intended to provide definitions to help readers understand the recommendations in the plan.

Burlington can and should continue to integrate new design treatments as the dynamics of pedestrian and bicycle planning evolve. As new designs and technologies emerge, Burlington should aim to implement the most robust and appealing facility type possible, to meet the needs of people of all ages and abilities. Where the City's current Street Design Guidelines do not provide enough guidance on use of new tools, the City should consult the most progressive design standards available, like the NACTO and ITE Walkable Thoroughfares manuals.

In this rapidly-changing design landscape, the overarching goals of the plan should continue to guide implementation:

- Creating safer streets for everyone
- And, making walking and biking a viable (and enjoyable) way to get around town.

The illustrated glossary on the pages ahead is intended to provide definitions for many of the treatments recommended in the plan.

It is not an exhaustive or prescriptive list of tools for the City of Burlington to use, nor is it intended to provide detailed guidance about street design.

Best practices in walk/bike planning are changing rapidly. Burlington can and should continue to integrate new design treatments as the dynamics of pedestrian and bicycle planning evolve, consulting the most progressive design standards available, like the NACTO and ITE Walkable Thoroughfares manuals.

Photo: Dan Burden

ADVANCE CROSSING SIGNAL

Definition: The programming of a traffic signal to remain all-red for several seconds for vehicles traveling in all directions while pedestrian crossing signal gives people walking a head start. Increases compliance of turning cars to yield to crossing

Photo: unknown

ADVISORY BICYCLE LANE

Definition: A bicycle lane that creates preferential space for bikes that cars can use as needed to make room for oncoming traffic. Advisory bicycle lanes are typically marked with a dashed (not solid) line, and they are often used in conjunction with centerline removal along low-speed, low-volume streets. Bollards can be placed on the dashed line at intervals to enforce motorist use of the center lane.

BICYCLE BOX

Definition: A section of pavement aimed at preventing bicycle/car collisions at intersections, particularly between drivers turning right and cyclists traveling through an intersection or turning left. To improve its visibility, a Bicycle Box is often colored and includes a standard white bicycle pavement marking.

Overlapping benefits: Increases distance between people walking across the street and idling motorists, and provides people bicycling with a head start across the intersection when the light turns.

BICYCLE CORRAL

Definition: An on-street bicycle parking facility that can accommodate up to 12 bicycles in the same area as a single car.

Overlapping benefits: When placed near street corners, a Corral increases visibility and creates an additional buffer for pedestrians.

Photo: Boston, MA, via Boston.com

BICYCLE PRIORITY LANE ("SUPER SHARROWS")

Definition: As noted on page 176, sharrows are pavement markings that indicate a shared lane for bicycles and automobiles. Sharrow markings can be enhanced to create a "super sharrow" by adding colored pavement and/or doted line markings emphasizing a "bicycle priority lane".

Overlapping benefits: Enhances predictability of road use, providing a strong visual signal that travel lanes will be used by people on bikes.

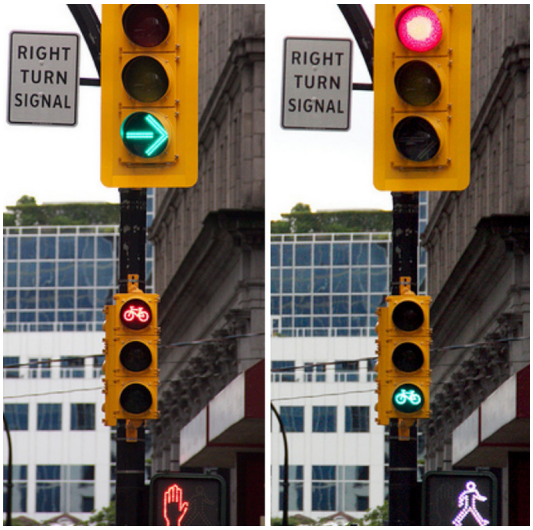

Photo: StreetsblogUSA

BICYCLE SIGNAL

Definition: A traffic control device used in combination with an existing conventional traffic signal or hybrid beacon.

BICYCLE WAYFINDING SIGNS

Definition: Signs of any kind that mark a bikeway route. Wayfinding signs should help people bicycling find the streets most amenable to bicycle travel, and find their way to major bikeway network or community destinations (landmarks, commercial districts, neighborhoods, schools, parks, etc.).

Photo: UrbanABQ

BUFFERED BICYCLE LANE

Definition: Buffered bicycle lanes are conventional lanes paired with a painted buffer between people on bikes and moving and/or parked cars. They are not a substitute for protected bike lanes, but have the added benefit of increased distance between motor vehicles and allowing width for faster cyclists to overtake slower ones.

Overlapping benefits: Can have a traffic calming effect, making a street safer for all users.

Photo: neighborhodonotes.com

CHANNELIZERS

Definition: A constructed barrier that narrows the roadway to slow vehicle speeds.

CHICANE

Definition: A constructed barrier that creates turns to slow the speed of vehicles along a particular roadway.

COLORED PAVEMENT

Definition: The use of colored pavement (typically green) to make bicycle facilities more visible at known and potential conflict areas. For more detailed guidance, refer to the latest VTrans standard, which specifies that solid green paint should be used for all intersections with 40+ VPH crossings.

Burlington Public Works recently applied green paint at a few intersections. The Department of Parks, Recreation & Waterfront has also consistently applied green paint to visually designate the Burlington Bike Path along the waterfront.

Photo: Streetsblog Los Angeles

COMBINED BIKE LANE/TURN LANE ("MIXING ZONE")

Definition: Pavement marking that suggest people bicycling through an intersection and motorists turning must share the space. Treatment is often accompanied by signs advising vehicles to yield to cyclists and/or directing cyclists/vehicles into appropriate positions within the lane.

Photo: NACTO

CONTRA-FLOW BICYCLE LANE

Definition: Bicycle lanes that are designed to allow cyclists to ride in the opposite direction of vehicle traffic.

Overlapping benefits: By providing a legitimate two-way pathway for people on bikes, contra-flow bicycle lanes can reduce the frequency of sidewalk riding.

Photo: Flickr user jcutrufo

CONVENTIONAL BICYCLE LANE

Definition: A lane reserved for bicycle travel within a thoroughfare, marked by simple painted lines. Conventional bicycle lanes are typically located along the curb or adjacent to parallel parked cars, and usually run in the same direction as vehicular traffic.

Photo: NACTO

CURB EXTENSION

Definition: The expansion of the sidewalk / greenbelt to physically narrow the roadway, creating safer and shorter crossings while increasing the available space for placemaking and stormwater management amenities, such as benches, bus shelters, rain gardens, trees, bike parking etc.

Photo: Paul Krueger

DIVERTERS

Definition: A physical barrier designed to control movement of traffic in a particular direction. One example is a diagonal diverters, which can be strategically located to prevent through moves at an intersection and reduce traffic volumes on a street. Diverters can also be designed to prevent drivers from entering or exiting certain legs of an intersection.

GARDEN WALKS

Definition: With involvement from adjacent private landowners, neighborhood organizations can create landscaping along the city's sidewalk that provides a more attractive and enjoyable place to walk, and can have ancillary benefits for stormwater management using rain garden design techniques.

Overlapping benefits: Creates a beautiful street that is more enjoyable for all.

HAWK BEACON

Definition: An acronym for High-Intensity Activated crossWalK beacon, a HAWK beacon is a traffic control device used to stop road traffic and allow pedestrians to cross safely.

INTERSECTION CROSSING MARKINGS

Definition: Pavement markings which indicate the intended path of bicycle traffic through an intersection. They guide bikes on the right path and visibly warn drivers of a potential conflict point. For more detailed guidance, refer to the latest VTrans standard, which specifies that solid green paint should be used for all intersections with 40+ VPH crossings.

Overlapping benefits: Markings reinforce proper directional travel and discourage people from riding their bicycles in the crosswalk itself.

Photo: NACTO

MEDIAN REFUGE ISLAND

Definition: A curb or barrier protected area between travel lanes that provides people crossing the street on foot or on a bike a safe place to rest midway.

Overlapping benefits: Median refuge islands provide a protected space for pedestrians to wait and can have a traffic calming effect.

Photo: NYCDOT

NEIGHBORHOOD + CORRIDOR SLOW ZONES

Definition: Neighborhood and Corridor Slow Zones are areas where the street is designed and engineered for slow travel. That means designing for 85th percentile speeds to achieve 25 mph or less on major corridors, and 15-20mph or less on neighborhood streets and greenways.

Neighborhood Greenways: A Field Guide

Neighborhood Greenways are streets with low vehicle volumes and speeds, designed to prioritize bicycling and enhance conditions for walking. Neighborhood Greenways are streets where people of all ages and abilities feel safe walking, biking, and playing. To create this condition, Neighborhood Greenways use a variety of the traffic calming and placemaking treatments, including:

- Narrow travel lanes, which can be created with cub extensions , channelizers, or chicanes.
- Treatments such as speed bumps and traffic diverters, which discourage vehicles from using the street as a cut-through.
- Greening elements such as planters or rain gardens.
- Clear wayfinding for people walking and biking.
- Pavement markings to reinforce the shared use of the street, typically via a shared roadway marking or sharrow.
- Protected crossings at major intersections.

▲ *Neighborhood Greenways are streets with low vehicle volumes and speeds, designed so that people of all ages and abilities feel safe walking, biking, and playing. (Photo by Seattle DOT.)*

▲ *Neighborhood Greenways feature traffic calming measures, like the diverter above, to keep speeds low. (Photo by Walk Eagle Rock.)*

▲ *In Seattle, a neighborhood traffic circle keeps speeds low along a Neighborhood Greenway (Photo by Seattle DOT.)*

▲ *Large shared lane markings help communicate bike/ped priority. (Photo by Payton Chung.)*

▲ *Neighborhood Greenway signage (Photo by Seattle DOT.)*

PARKLET

Definition: The replacement of 1- 3 on-street parking spaces with usable public space.

Overlapping benefits: Can integrate bicycle parking

PATHWAYS AND SHORTCUTS

Definition: Many neighborhoods have informal paths through public or private spaces that allow more convenient or pleasant access to key destinations, such as schools or parks. Examples include paths through Callahan Park, Integrated Arts Academy at H.O. Wheeler, or Leddy Park.

Overlapping benefits: If shared-use is appropriate, such paths can provide low-stress bikeways.

PEDESTRIAN PLAZA

Definition: Pedestrian Plazas transform underutilized roadway space into a public amenity.

Overlapping benefits: Can benefit locate businesses, integrate bicycle parking, and have a traffic calming effect.

Photo: Jonathan Maus, Bike Portland

PROTECTED BICYCLE LANES

Definition: A one or two-way bicycle lane that is separated from vehicular traffic with physical barriers (such as bollards, medians, raised curbs, etc.).

Overlapping benefits: By providing a low-stress option for riding a bicycle in the roadway itself, protected bicycle lanes typically reduce the frequency of sidewalk riding. They can also have a traffic calming effect, add beauty, introduce stormwater ma making, and improve access to commercial districts.

Photo: Alta Planning + Design

PROTECTED INTERSECTION

Definition: The use of design treatments (corner refuge islands, forward stop bar for bicyclists, a setback for bike and pedestrian crossing, and bicycle/pedestrian friendly signal phasing) to simplify left turns, protect right turns from traffic, and provide through movement that minimize or eliminate conflicts from turning cars.

RAISED CROSSWALKS

Definition: Much like a raised intersection, this treatment benefits people walking by raising crosswalks to the level of the sidewalk so that pedestrians are more visible to drivers and have a seamless experience crossing the street.

RAISED INTERSECTION

Definition: Similar to speed humps and other vertical surface traffic-calming treatments, raised intersections reinforce slow speeds and encourage motorists to yield to pedestrians at the crosswalk/ intersection.

RECTANGULAR RAPID FLASH BEACONS (RRFBS)

Definition: A flashing light activated by people walking who desire to cross the street and seen by people driving who are meant to yield the right-of-way to pedestrians.

Photo: Flickr

RIGHT-TURN-ON-RED BAN

Definition: The use of posted signs that indicate to people driving that they are not permitted to make a right turn on red during the pedestrian crossing phase.

Roundabouts: A Field Guide

Roundabouts offer many benefits, including increasing safety, road capacity, and design, and they are a tool that should be considered for Burlington's intersections. Single lane roundabouts have an excellent safety record for all modes of transportation, and can accommodate car traffic in fewer lanes, potentially leaving more room on the streets for biking and walking. (Note that multi-lane roundabouts lose many of the safety benefits of single-lane roundabouts.) Roundabouts come in many sizes and styles, and each type has a place on Burlington's streets. See the following page for details about potential opportunity sites for each of the roundabout types described below.

Main and High St. roundabout in Plymouth, NH between downtown and Plymouth State campus.

MODERN URBAN ROUNDABOUT

Definition: Typically greater than 90 feet in diameter (measuring the outside edge of the traffic portion), these roundabouts especially good for slowing down traffic, thus increasing safety for everyone.

Cost Range: Typically $3 to $5 million, due to high design and engineering complexity, and need for acquiring property, relocating utilities, etc.

Mini roundabout from Fort Collins, CO.

MINI ROUNDABOUT

Definition: Have many of the same features of a full sized roundabout, but in a pint-sized version. Mini Roundabouts are completely "mountable" by larger trucks.

Cost Range: Much lower than Modern Urban Roundabouts. Depending on design, can range from $100,000 to $300,000. Vermont's first Mini Roundabout is located in Manchester, VT.

Flickr Dylan Passmore

NEIGHBORHOOD TRAFFIC CIRCLE

Definition: Roundabout used for traffic calming and beautification on low volume neighborhood streets. Many examples exist in Burlington through the city's Traffic Calming program. Large vehicles have to make their left turns "left of center" of the island.

Cost Range: Less than $50,000, depending on materials and landscaping.

Roundabout Opportunities in Burlington

Single lane roundabouts, designed with contemporary guidelines (i.e. not a Massachusetts rotary or a New Jersey traffic circle!) have consistently proved to be the safest type of intersection, bar none. They are designed to handle high volumes of traffic in a safe and slow manner. The behavior of drivers navigating a roundabout is very different than traffic signals, where drivers tend to speed up just as the light turns yellow. Roundabouts are a very effective way to reinforce slow zones due to their ability to handle high volumes but maintain low speeds. Any roundabout in an urban setting should have very prominently designed pedestrian crossings. Roundabouts are typically designed to give bicyclists two choices: ride through as a vehicle (less intimidating than you might think due to the low speeds) or circulate outside the roundabout on a shared use path. The list below shows some of the opportunities for roundabouts in the City. For any intersection where a signal or widening is being considered, a roundabout should be considered first!

LOCATION*	URBAN ROUNDABOUT	MINI-ROUNDABOUT	TRAFFIC CIRCLE
Archibald & Intervale		X	X
Colchester & East Ave	X	X	
Colchester & Prospect & Pearl		X	
Colchester & Riverside & Barret	X		
Howard & St Paul & Winooski		X	
Intervale & Oak & Riverside		X	
Lakeside & Pine	X		
Loomis & North Prospect			X
Main & South Prospect	X		
Manhattan & Spring		X	
Maple & Battery	X	X	
Maple & Summit			X
North Ave & Institute	X		
North Ave & Plattsburg		X	
North Ave & Route 127 Ramps	X		
North St & North Prospect		X	
North St & North Willard		X	
North Willard & Loomis		X	

LOCATION (CONTINUED...)	URBAN ROUNDABOUT	MINI-ROUNDABOUT	TRAFFIC CIRCLE
Pearl & Willard		X	
Pearl & Winooski		X	
Pine & Flynn		X	
Pine & Home		X	
Randy & Hope			X
Shelburne & Flynn	X		
Shelburne & Home	X		
Shelburne Road Rotary	X		
Shore & Dale			X
South Winooski & Bank	X	X	
South Winooski & Cherry		X	
South Winooski & College		X	
South Winooski & Main	X	X	
South Winooski & Pearl	X	X	

**Not that the locations in the charts above are intended to be an initial list of suggestions, not a comprehensive analysis. More detailed, further review may identify additional opportunity sites.*

SCRAMBLE CROSSING

Definition: The use of a signal that goes red for people driving on all sides of an intersection, while allowing people walking or biking to cross in all directions, including diagonally, in an exclusive signal phase.

Photo: NACTO

SHARED SPACE

Definition: A public right-of-way, typically curbless, where people using all modes of transportation share the space without traditional safety infrastructure to guide them. May also be called a "woonerf."

Overlapping benefits: Can provide a low-stress bikeway and place-making benefits.

SHARED USE LANE MARKING (OR "SHARROW")

Definition: Pavement marking that indicates a shared lane for bicycles and automobiles. Sharrows reinforce the legitimacy of bicycles on the street, recommend proper positioning, and may be used to offer directional guidance. Sharrows are not a substitute for bike lanes, and more robust treatments should be applied wherever conditions indicate that sharrows are not an appropriate treatment. Sharrows typically do not improve bicyclist safety or comfort unless applied on low-speed streets in conjunction with other traffic calming features.

SHARED USE PATH

Definition: A two-way path that is physically separated from vehicular traffic. Shared-use paths should be designed to accommodate the needs of both people on bikes and people on foot.

Overlapping benefits: Provides safe and protected recreational option for people walking, jogging, skating, wheeling etc.

Photo: Portland, OR by FHWA

THROUGH BICYCLE LANE

Definition: Pavement marking that provides bicyclists with an opportunity to position themselves to avoid conflict with right turning vehicles.

Photo: Bicycle Tucson

TRUCK CORNER APRONS

Definition: Corner design that provides a tighter radius for passenger cars, and more generous curb for trucks of a mountable, durable surface. This treatment reduces speeds for turning passenger cars, but does not impede truck turns.

Overlapping benefits: By creating a tighter turning radius for passenger cars, corner aprons can have a traffic calming effect for all users.

Photo: Matt Johnson

TWO-STAGE TURN QUEUE BOXES

Definition: Pavement marking that allows cyclists a safe way to make left turns from the right side of the road. While two-stage turns may increase comfort in many locations, this design can increase delay for people on bikes, as they must wait for green signals or gaps in traffic.

Overlapping benefits: Provides a high-visibility, designated space for people on bikes to wait, outside of the crosswalk area.

Walk Bike
planBTV

For more information, visit: www.planbtvwalkbike.org

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Chapin Spencer
DIRECTOR OF PUBLIC WORKS
Martha Q. Keenan
Capital Improvement Program Manager

Date: July 15, 2016

To: Public Works Commission

From: Chapin Spencer, Director
Martha Keenan, CPM, Capital Improvement Program Manager

Subject: Draft 10 Year Capital Plan

A cross departmental committee has been working for over a year to assess the City's assets and develop a pragmatic yet ambitious plan to address the extensive capital repairs needed for our critical physical infrastructure. The attached draft document titled "An Infrastructure Plan for a Sustainable City" and the companion 10 Year Capital Plan detail the existing status of each municipal asset class, the proposed plan to remedy the deferred maintenance needs, and ultimately recommend a sustainable approach for the future. On September 12, the City's Board of Finance reviewed the draft 10 Year Capital Plan and voted 4 to 1 to recommend City Council approval. The draft plan is expected to go the City Council at either the September 19 or 26 meeting.

The General Fund Capital Plan shows a total 5 year need of $160 million. Approximately $117 million (or ~73%) of the total need has existing identified sources with a remaining General Fund gap of $42 million. The proposed financing plan has a blended approach that looks to visitors, institutions, businesses and residents to close the $42M General Fund gap.

General Fund	Streets/Sidewalks	Vehicle Fleet	Bike Path	City Hall Park	IT infrastructure	Civic Buildings	Total
Traffic Fund	$250,000						250,000
Gross Receipts			$7,670,425	$1,000,000			$8,670,425
Institutions	$2,085,320	$785,888	$750,000	$500,000			$4,121,208
Philanthropy			$1,000,000	$1,030,000*			$2,030,000
Bond Proceeds	$14,392,032	$3,357,325	$2,698,576	$500,000	$1,675,000	$4,950,575	$27,573,508
Total	$16,727,352	$4,143,213	$12,119,001	$3,030,000	$1,675,000	$4,950,575	42,645,141

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At the September 2016 Commission meeting we are looking for the Commission to support the City's 10 Year Capital Plan and the proposed financing plan.

To ensure we have sufficient funding for coordinating our upgrades to the City's subsurface utilities prior to repaving streets or reconstructing sidewalk, we are also proposing a $8.3 million revenue bond for the City's water distribution system. This will enable us to reline or replace aging water mains in coordination with the enhanced paving program.

In the Capital Plan, DPW's assets are addressed in the following ways:

1) Fleet maintenance (Streets, Recycling, etc.) – Each year a master lease will be created to finance the replacement of vehicles determined at end of life by the Fleet Manager. The Leases will be for five years while the life of the vehicle is estimated at 10 years. Once we have addressed the backlog of need, we will be able to put the funding from the closed leases into reserves and begin purchasing on a cash basis.

2) Streets and Sidewalks – There is a proposed stimulus of funding for five years to address all sidewalks and streets currently in a serious to failed condition, expand our preventive maintenance programs to lengthen their life span, and recommend a sustainable level of funding into the future. In addition:
    a. Curb work and barriers are given funding to maintain these neglected assets
    b. Sidewalk expansion is included
    c. Parks' roads are incorporated into our paving and preventative maintenance work

3) Transportation Planning – There is a new line item that addresses both transportation planning and traffic calming, areas that have not previously had their own budgets. In the outer years, it addresses various transportation initiatives that have been recognized but not yet acted on.

4) Water Resources – A coordinated effort of capital planning and investment through the $8.3M revenue bond to allow subsurface work to happen prior to repaving streets.

In a related effort, the City is advancing a proposed Charter Change regarding the Traffic Fund that would clarify language and make explicit eligible activities under 'controlling and regulating traffic.' As the City moves to advance integrated and innovative approaches to managing parking and traffic, we need clear guidance on what activities can be funded through the Traffic Fund. Such activities include transportation demand management (TDM), bike parking, pedestrian facilities and wayfinding leading to and from our parking garages, coordinating the opening of private parking for public parking, etc.

In sum, we seek DPW Commission support on the following items:

- 10 Year Capital Plan
- $27.5M General Obligation Bond
- $8.3M Water Revenue Bond
- Charter Change for Traffic Fund

Together, these strategies will substantially address deferred maintenance and better enable us to sustainably manage our assets moving forward. If you have any questions, please feel free to contact Martha at mkeenan@burlingtonvt.gov or 802-540-0701.

New/Additional Revenues to Address FY 17-FY 21 Capital Needs 9/1/16

Increase Rooms and Alcohol Gross Receipts Tax by 2% - Council vote – No increase in Meals Tax	
Start date 12/1/16	
FY 17 new revenue anticipated (approximately $800K if started in December 2016)	
Over last ten years yearly average growth of revenue is 7.744%	
12/1/16 through FY 21 total new revenue	$8,670,425
Apply $100K p/y starting in FY 18 for economic development activity – not for capital	-$400,000
Net Gross Receipts tax Revenue for Capital Plan	**$8,270,425**
City Hall Park Donations	
Current commitments of $100,000 p/y for 10 years starting FY 16	$1,000,000*
Additional commitment	$30,000
Total donations committed	**$1,030,000**
State Transportation Grants for New Work	
Conservative estimate based on past history of average yearly grant	$200,000 x5
FY 17 through FY 21 total	**$1,000,000**
City Hall Renovation Grants and Rebates – One-time	
Expected grants and energy efficiency rebates due to City Hall renovations FY 17	**$250,000**
FY 16 Carry-Forward – One-time	
Unspent budgeted FY 16 revenue to pay for FY 16 carry-forward projects	**$307,395**
Traffic Fund Contribution to 10 Year Capital Plan –	
Revenue to be used for streets, traffic calming, curb	
FY 17 contribution budgeted for in FY 17 Traffic Fund budget	**$250,000**
UVM and Champlain College (CC) Contribution to 10 Year Capital Plan	
Significant property owned by UVM and CC are non-taxable	
On-campus students, who live in non-taxable dorms, utilize City facilities	
UVM and CC in good faith negotiations, (methodology to be determined) to contribute	
Starting in FY 18 with combined contribution of $1,000,000 with yearly increases	
Total contribution FY 18 to FY 21	**$4,121,208**
Total new/additional revenue	**$14,829,028***
Needed to borrow FY 17 to FY 21	**$27,573,508**

*$400,000 actually received FY 22 to FY 26 so not available FY 17 to FY 21

Plan for New Borrowing FY 17 to FY 21
Total General Obligation Bonds Borrowing Request $27,573,508,

Goal:

To create a schedule that only borrows when we need the revenue, with term length correlated to life expectancy of capital need, and term payments designed to smooth out costs to taxpayers. For modeling purposes, interest rates used are at assumed high range of charge.

FY 17 Borrowing		
	One bond for $5,971,568 with 5 year IO then remaining 15 years payments and 4% interest rate	
	First five years yearly payments and then next fifteen years the yearly payments	$238,863 then $537,089
Or	One bond for $5,971,568 with 20 years interest/principal payments at 3.5% interest rate	$420,166
FY 18 Borrowings		
	One bond for $1,500,000 with term of 12 years and 3.5% interest rate	
	Yearly payments are	$155,226
	One bond for $7,177,031 with 5 year IO then remaining 15 years payments and 4% interest rate	
	First five years yearly payments and then next fifteen years the yearly payments	$287,081 then $645,510
Or	One bond for $7,177,031 with 20 years interest/principal payments at 3.5% interest rate	$504,984
FY 19 Borrowings		
	One bond for $2,200,000 with term of 12 years and 3.5% interest rate	
	Yearly payments are	$227,665
	One bond for $5,925,663 with 5 year IO then remaining 15 years payments and 4% interest rate	
	First five years yearly payments and then next fifteen years the yearly payments	$237,027 then $532,961
Or	One bond for $5,925,663 with 20 years interest/principal payments at 3.5% interest rate	$416,936
FY 20 Borrowings		
	One bond for $250,000 with term of 12 years and 3.5% interest rate	
	Yearly payments are	$25,871
	One bond for $3,662,412 with term of 20 years and 3.5% interest rate	
	Yearly payments are	$257,692
FY 21 Borrowings		
	One bond for $225,000 with term of 12 years and 3.5% interest rate	
	Yearly payments are	$23,284
	One bond for $661,828 with term of 20 years and 3.5% interest rate	
	Yearly payments are	$46,567

Impact on Taxpayers Owning Medium Value Home

Assumption of Grand List Growth of 1% p/y for FYs 18-19, then .8% FYs 20-21 and then .7% FYs 22-27
In FY 22 current DPW bond retires - yearly bond payment of $278,000 will apply to paying new borrowing*
New Borrowing payment start one year after actual borrowing
Does not include cost of charter-designated yearly borrowing of $2M
Any new borrowing after FY 21 not included in calculations
Medium Residential Home Value of $231,500

	Tax amount in each year With 3 Interest Only Bonds	Tax amount in each year With No Interest Only Bonds
FY 18 tax payment	$14.97	$26.33
FY 19 tax payment	$42.26	$67.02
FY 20 tax payment	$70.52	$106.16
FY 21 tax payment	$87.27	$122.63
FY 22 tax payment	$74.05*	$109.16*
FY 23 tax payment	$91.49*	$108.40*
FY 24 tax payment	$112.28*	$107.65*
FY 25 tax payment	$129.07*	$106.90*
FY 26 tax payment	$128.17*	$106.15*
FY 27 tax payment	$127.28*	$105.42*

After FY 27 stays level and then lessens

Impact on Other Taxpayers - Please note that by City Charter commercial property pay taxes on 120% of assessed value

Property Value of $300,000			
FY 18 tax payment	next year	$19.39	$34.12
FY 27 tax payment	ten years from current fiscal year	$164.95	$136.61
Property Value of $500,000			
FY 18 tax payment	next year	$32.32	$56.86
FY 27 tax payment	ten years from current fiscal year	$274.91	$227.68
Property Value of $1,000,000			
FY 18 tax payment	next year	$64.65	$113.72
FY 27 tax payment	ten years from current fiscal year	$549.82	$455.36
Property Value of $5,000,000			
FY 18 tax payment	next year	$323.24	$568.59
FY 27 tax payment	ten years from current fiscal year	$2,749.11	$2,276.81
Property Value of $30,000,000			
FY 18 tax payment	next year	$1,939.45	$3,411.54
FY 27 tax payment	ten years from current fiscal year	$16,494.66	$13,660.85

FY17 – FY21 General Fund Capital Plan Summary by Source

General Fund	Streets/Sidewalks	Vehicle Fleet	Bike Path	City Hall Park	IT infrastructure	Civic Buildings	Total
Traffic Fund	$250,000						250,000
Gross Receipts			$7,670,425	$1,000,000			$8,670,425
Institutions	$2,085,320	$785,888	$750,000	$500,000			$4,121,208
Philanthropy			$1,000,000	$1,030,000*			$2,030,000
Bond Proceeds	$14,392,032	$3,357,325	$2,698,576	$500,000	$1,675,000	$4,950,575	$27,573,508
Total	$16,727,352	$4,143,213	$12,119,001	$3,030,000	$1,675,000	$4,950,575	42,645,141

*$500,000 actually received FY 22 to FY 26 so not available FY 17 to FY 21

Plan for New Water Borrowing to meet FY 17 to FY 21 Paving Needs
Total Water Revenue Anticipation Bonds Borrowing Request $8,344,000

Goal: To create a schedule that only borrows when we need the revenue (i.e. to fund needed water distribution capital replacements in advance of repaving), with term length correlated to life expectancy of renewed asset (30 years), and term payments designed to smooth out costs to taxpayers as much as possible. For modeling purposes, interest rates used are at assumed high range of charge (4%).

FY 17 Borrowing	$ 2,724,000
FY 18 Borrowing	$ 2,025,000
FY 19 Borrowing	$ 1,704,000
FY 20 Borrowing	$ 1,891,000

Note: Water main replacement and relining work must be completed in advance of street paving, thus proposed borrowing is currently proposed for FY17-FY20. However, depending on the schedule of paving, the remainder of the borrowing (up to the requested $8.344 M authorization) could occur in FY21.

Rate Impact of Water Borrowing on Average Single Family Residence

Average water use = 755 cf or 5648 gallons/month; (9057 cf or 67750 gallons/year)
Average annual cost of water with FY 17 rate = $366.81

	Estimated Yearly Cost to Pay For Borrowing[1] (Average Single Family Home)
FY 18	$9.96
FY 19	$17.21
FY 20	$23.55
FY21	$30.79
FY22 – FY47[2]	$30.79

The debt service payment expense for the full $8.344M in borrowing will result in a total cost increase for an average single family home of approximately $30.79 (8.4%) over FY17 rates.

[1] This rate impact is only for this proposed borrowing and does not include rate impacts due to City cost allocations, operating expense needs or other non-distribution system capital needs.

[2] Debt Service begins to decrease in FY48, with full retirement by FY51 (last payment of FY20 borrowing)

Resolution Relating to

NOVEMBER 8, 2016 – SPECIAL CITY MEETING
ISSUANCE OF GENERAL OBLIGATION BONDS FOR CAPITAL PROJECTS

RESOLUTION_____
Sponsor(s): Bd. of Finance
Introduced: _____
Referred to: _____
_____
Action: _____
Date: _____
Signed by Mayor: _____

CITY OF BURLINGTON

In the year Two Thousand Sixteen .....

Resolved by the City Council of the City of Burlington, as follows:

That WHEREAS, the City established a process to identify and address challenges facing the City with respect to its public infrastructure and identified needs for various capital improvements; and

WHEREAS, through that process, the City developed a 10 year capital plan in order to enhance the ability to maintain and invest in the public infrastructure serving the City and its residents; and

WHEREAS, such capital plan is designed to bring greater rigor to decision-making regarding phys assets, identify areas of under-investment, prioritize and coordinate all types of capital assets and manage th cumulative cost of the infrastructure so that the impact on taxpayers is predictable and stable; and

WHEREAS, the City has determined in order to fund the costs of such capital improvements, it will necessary to finance such capital costs; and

WHEREAS, Section 63 of the City's Charter, provides that, with a two-thirds vote of the City's voters, the City Council shall have the authority to pledge the credit of the City for any purpose by issuing i negotiable orders, warrants, notes or bonds, for which authority has been given by the voters; and

WHEREAS, the Board of Finance, at its September 12, 2016 meeting approved advancing this capi projects bonding for City-wide consideration and a public vote at the City's Special Meeting to be held on November 8, 2016;

NOW, THEREFORE, BE IT RESOLVED that the City Council hereby requests, pursuant to Sec. 2 of the City Charter, that the Mayor call a Special City Meeting to be held on November 8, 2016 and that the following question be placed on the ballot of that Special City Meeting:

Approval of General **Obligation Bonds for City Capital Plan Projects**

"Shall the City Council be authorized to issue general obligation bonds or notes in one or more series in an aggregate principal amount not to exceed Twenty-Seven Million, Five Hundred Seventy-Three Thousand, Five Hundred Eight Dollars and 00/100 ($27,573,508.00) to be borrowed in increments between Fiscal Year 2017 and Fiscal Year 2021 for the purpose of

funding capital improvement infrastructure projects of the City and its departments in furtherance of the City's 10 Year capital plan?"

Resolution Relating to

NOVEMBER 8, 2016 - SPECIAL CITY MEETING
AUTHORITY TO ISSUE REVENUE BONDS
FOR WATER SYSTEM IMPROVEMENTS

RESOLUTION_____
Sponsor(s): Bd. of Finance
Introduced: _____
Referred to: _____
_____
Action: _____
Date: _____
Signed by Mayor: _____

CITY OF BURLINGTON

In the year Two Thousand Sixteen .....

Resolved by the City Council of the City of Burlington, as follows:

That WHEREAS, Whereas, the City has identified needs for various capital improvements to its water system, including capital improvements to its metering and water distribution pipelines, water mains and hydrants; and

WHEREAS, the City has determined in order to fund the costs of such capital improvements, it wil necessary to finance such capital costs; and

WHEREAS, the City Charter provides that, with at least a majority vote of the City's voters, the shall have the authority to issue bonds, from time to time, for the purpose of financing the cost of improvement to the City waterworks system, with such bonds payable solely from the revenues of waterworks system; and

WHEREAS, the Board of Finance, at its September 12, 2016 meeting approved advancing the proposed revenue bonding for water system improvements for City-wide consideration and a public vote at City's Special Meeting to be held on November 8, 2016;

NOW, THEREFORE, BE IT RESOLVED that the City Council hereby requests, pursuant to Sec. 2 of the City Charter, that the Mayor call a Special City Meeting to be held on November 8, 2016 and that the following question be placed on the ballot of that Special City Meeting:

"Shall the City be authorized to issue revenue bonds or notes in one or more series, pursuant to the City Charter, on behalf of the Water Resources Division of the Department of Public Works, in an amount not to exceed $8,344,000, secured by the revenues of the waterworks system, to be borrowed in increments between Fiscal Year 2017 and Fiscal Year 2020 for the financing of capital additions and improvements to the waterworks system, including (i) capital improvements to the City's underground pipe and water distribution system, water mains, services, valves and hydrants, and (ii) to fund debt service reserve funds and pay costs of issuance?"

Estimated total Project Cost: $8,344,000

City Share of Costs: $8,344,000

Resolution Relating to

NOVEMBER 8, 2016 SPECIAL CITY MEETING—
CHARTER CHANGES TO CLARIFY USES OF PARKING GARAGE AND METER REVENUES

RESOLUTION____
Sponsor(s):Charter Change Com
Introduced: _____
Referred to: _____
_____
Action: _____
Date: _____
Signed by Mayor: _____

CITY OF BURLINGTON

In the year Two Thousand Sixteen .....

Resolved by the City Council of the City of Burlington, as follows:

That WHEREAS, subsection 58 of section 48 of the Burlington City Charter currently provides that th revenues of parking lots and garages owned and operated by the City of Burlington are maintained in a separate fund that is known as the "Traffic Fund;" and

WHEREAS, subsection 58 also states that revenues from on-street parking meters are also credite that Traffic Fund, to the extent the city council has not appropriated them to purchase and operate parkin meters or for expenditures controlling or regulating traffic; and

WHEREAS, that and other language in subsection 58 is confusing because, for example, it does n define what "controlling or regulating traffic" means; and

WHEREAS, the revenues in the "Traffic Fund" are intended to only be used by the board of publ works for operating and certain other expenses related to parking lots and garages; and

WHEREAS, at its meeting on August 3, 2016, the Charter Change Committee recommended tha changes be made to subsection 58 of section 48 of the City Charter to address those issues;

NOW, THEREFORE, BE IT RESOLVED that the City Council approves the amendments to the charter recommended by the Charter Change Committee as follows:

ARTICLE 19. POWERS OF CITY COUNCIL

48 Enumerated.

The city council shall have power:

...

(58) (A) To acquire and hold by lease, purchase, gift, condemnation under the provisions of sections 2805 through 2812, inclusive of Title 24 of the Vermont Statutes Annotated, as amend or otherwise, and to maintain and operate within the limits of Chittenden County, a municipal parking lot or lots, ~~and~~ a municipal parking garage or garages, and any other municipal parking structure(s), and to alter, improve, extend, add to, construct, and reconstruct such lots or garage

subject, however, to the provisions hereinafter contained in this subdivision. In exercising the foregoing power, and notwithstanding the preceding sentence, the city council shall not, excep pursuant to subdivision (50) of this section and section 276 of this Charter, have authority to acquire any property outside the limits of the City of Burlington through the use of the power eminent domain or condemnation. The city council shall not be exempt from the responsibilit securing all applicable permits from any community within Chittenden County outside the lim Burlington in which it desires to construct a parking lot or garage. Any parking lot or garage constructed by the city outside the corporate limits of Burlington shall be subject to the ad val property tax of the community in which it is located.

(B) The board of public works commissioners shall have general control, management and supervision of all municipal parking lots and garages. Said board shall have power to make regulations with respect to the use of all such municipal parking lots and garages, including reasonable terms, conditions and charges, and shall also have the power to regulate the parkin operation and speed of vehicles and pedestrian and vehicular traffic on the public highways of city, including such ways, streets, alleys, lanes or other places as may be open to the public, to erect, maintain and operate ~~coin-operated parking meters~~ equipment and systems for the regul of parking of vehicles, to govern and control the erection of guideposts, street signs and street devices on said highways, and to prescribe regulations and penalties for violation of the same respect to all of said matters and to remove and impound as a public nuisance, at the expense o owner, any vehicle found parking on a public highway or in a municipal parking lot or garage violation of any city ordinance or any regulation hereunder, and to prescribe the terms and conditions upon which the owner may redeem such vehicle from the pound, which regulations when published in the manner provided in section 49 for the publication of ordinances, shall ha the force and effect of ordinances of the city, and violations of which shall be subject to the penalties provided in section 50 of this Charter. All ordinances of the city, and all regulations o board of parking commissioners, in effect prior to July 1, 1959, shall remain in full force and e notwithstanding that the subject matter thereof shall be within the jurisdiction of the board of p works commissioners, unless and until such board shall, by regulation duly adopted and publis alter, amend or repeal the same.

(C) Said board shall also from time to time recommend to the city council the acquisition or construction of municipal parking lots or garages, and the city council shall not authorize such acquisition or construction without such recommendation, nor shall the city council dispose of

lease to others for operation any municipal parking lot or garage without the recommendation
said board.

(D) All receipts from the operation or lease of ~~said~~ municipal parking lots and garages shall
kept by the city treasurer in a separate fund, ~~which shall not at the end of any fiscal year becor~~
~~part of the general fund of the city under the provisions of section 65 of this Charter, except as~~
~~hereinafter provided~~ to be known as the Parking Facilities Fund and shall be used ~~. Expenditur~~
~~from said fund may be authorized by said board~~ for the purpose of paying any and all ~~operatin~~
expenses related to operating, maintaining, acquiring, constructing, or expanding ~~of~~ said lots a
garages, including ~~salaries and rentals.~~ any payments on any obligation incurred for constructi
repair of those lots or garages. Any amounts unused at the end of a fiscal year shall be carried
to the next fiscal year. All revenues generated from on-street parking equipment and systems
be used by the city council for traffic regulation and control, including but not limited to acqui
or maintenance of parking facilities; proper repair or construction of streets, sidewalks, and bri
traffic or parking demand management facilities, planning, or services; traffic calming measur
and other transportation-related activities. In addition, the city council may vote to place any s
revenues in the Parking Facilities Fund, at its discretion. ~~There shall also be credited to said fu~~
~~the city treasurer such portion of the receipts of traffic meter installations on the public streets~~
~~city as is not appropriated by the city council for the purpose of purchasing and operating said~~
~~traffic meter installations or controlling or regulating traffic. At the close of each fiscal year th~~
~~treasurer shall credit to the general fund of the city such portion of the balance of said fund, aft~~
~~the payment of operating expenses, as may be required to meet interest payments on any oblig~~
~~issued for the purpose of acquiring, altering, improving, extending, adding to, constructing or~~
~~reconstructing such parking lots or garages, and shall further credit to the sinking fund of the c~~
~~such further portion of said balance as may be required to meet principal payments on any~~
~~obligations issued for said purpose, provided, however, that any pledge, assignment or~~
~~hypothecation of net revenues under paragraph (E) shall be complied with before making such~~
~~credits.~~

(E) If it shall reasonably appear to ~~said~~ the board of public works commissioners at any time
the receipts from ~~said~~ the existing municipal parking lots or garages are in excess of the amour
required for the purposes enumerated in the preceding paragraph, and that the acquisition of fu
lots or garages is not required, they shall cause rates and charges for the use of said lots and
garages, or some of them, to be reduced.

(F) If the board of public works commissioners, ~~Subject~~ pursuant to the provisions of paragr (C) of this subdivision, has recommended the acquisition or construction of a new parking lot garage, the city council may from time to time pledge, assign or otherwise hypothecate the ne revenues from said lots or garages, after the payment of operating expenses, and may mortgag part or all of said lots or garages, including personal property located therein, to secure the pa of the cost of purchasing, acquiring, leasing, altering, improving, extending, adding to, constru or reconstructing said lots or garages, but the city council shall not pledge the credit of the city any of said purposes except in accordance with the provisions of section 62 of this Charter.

AND BE IT FURTHER RESOLVED that the following question be placed on the ballot of the S City Meeting to be held on November 8, 2016:

"Shall the Charter of the City of Burlington, Acts of 1949, No. 298 as amended be further amend amend Article 19 Powers of City Council, Section 48, subsection 58 as follows:

ARTICLE 19. POWERS OF CITY COUNCIL

48 Enumerated.

The city council shall have power:

...

(58) (A) To acquire and hold by lease, purchase, gift, condemnation under the provisions of sections 2805 through 2812, inclusive of Title 24 of the Vermont Statutes Annotated, as amend or otherwise, and to maintain and operate within the limits of Chittenden County, a municipal parking lot or lots, ~~and~~ a municipal parking garage or garages, and any other municipal park structure(s), and to alter, improve, extend, add to, construct, and reconstruct such lots or gara subject, however, to the provisions hereinafter contained in this subdivision. In exercising the foregoing power, and notwithstanding the preceding sentence, the city council shall not, excep pursuant to subdivision (50) of this section and section 276 of this Charter, have authority to acquire any property outside the limits of the City of Burlington through the use of the power o eminent domain or condemnation. The city council shall not be exempt from the responsibility securing all applicable permits from any community within Chittenden County outside the limi Burlington in which it desires to construct a parking lot or garage. Any parking lot or garage

constructed by the city outside the corporate limits of Burlington shall be subject to the ad va
property tax of the community in which it is located.

(B) The board of public works commissioners shall have general control, management and
supervision of all municipal parking lots and garages. Said board shall have power to make
regulations with respect to the use of all such municipal parking lots and garages, including
reasonable terms, conditions and charges, and shall also have the power to regulate the park
operation and speed of vehicles and pedestrian and vehicular traffic on the public highways o
city, including such ways, streets, alleys, lanes or other places as may be open to the public, t
erect, maintain and operate ~~coin-operated parking meters~~ equipment and systems for the
regulation~~s~~ of parking of vehicles, to govern and control the erection of guideposts, street sig
street safety devices on said highways, and to prescribe regulations and penalties for violatio
the same in respect to all of said matters and to remove and impound as a public nuisance, at
expense of the owner, any vehicle found parking on a public highway or in a municipal parkin
or garage in violation of any city ordinance or any regulation hereunder, and to prescribe th
terms and conditions upon which the owner may redeem such vehicle from the pound, which
regulations, when published in the manner provided in section 49 for the publication of ordin
shall have the force and effect of ordinances of the city, and violations of which shall be subje
the penalties provided in section 50 of this Charter. All ordinances of the city, and all regulati
the board of parking commissioners, in effect prior to July 1, 1959, shall remain in full force a
effect notwithstanding that the subject matter thereof shall be within the jurisdiction of the boa
public works commissioners, unless and until such board shall, by regulation duly adopted an
published, alter, amend or repeal the same.

(C) Said board shall also from time to time recommend to the city council the acquisition or
construction of municipal parking lots or garages, and the city council shall not authorize suc
acquisition or construction without such recommendation, nor shall the city council dispose o
lease to others for operation any municipal parking lot or garage without the recommendation
said board.

(D) All receipts from the operation or lease of ~~said~~ municipal parking lots and garages shall
kept by the city treasurer in a separate fund, ~~which shall not at the end of any fiscal year beco~~
~~part of the general fund of the city under the provisions of section 65 of this Charter, except as~~
~~hereinafter provided~~ to be known as the Parking Facilities Fund and shall be used ~~. Expenditu~~

~~from said fund may be authorized by said board~~ for the purpose of paying any and all ~~operati~~ expenses related to operating, maintaining, acquiring, constructing, or expanding ~~of~~ said lots garages, including ~~salaries and rentals.~~ any payments on any obligation incurred for constru or repair of those lots or garages. Any amounts unused at the end of a fiscal year shall be car over to the next fiscal year. All revenues generated from on-street parking equipment and sys shall be used by the city council for traffic regulation and control, including but not limited to acquisition or maintenance of on- or off-street parking facilities; proper repair or constructio streets, sidewalks, and bridges; traffic or parking demand management facilities, planning, or services; traffic calming measures; and other transportation-related activities. In addition, th council may vote to place any such revenues in the Parking Facilities Fund, at its discretion. ~~shall also be credited to said fund by the city treasurer such portion of the receipts of traffic m installations on the public streets of the city as is not appropriated by the city council for the purpose of purchasing and operating said traffic meter installations or controlling or regulati traffic. At the close of each fiscal year the city treasurer shall credit to the general fund of the such portion of the balance of said fund, after the payment of operating expenses, as may be required to meet interest payments on any obligations issued for the purpose of acquiring, alte improving, extending, adding to, constructing or reconstructing such parking lots or garages, shall further credit to the sinking fund of the city such further portion of said balance as may b required to meet principal payments on any obligations issued for said purpose, provided, hov that any pledge, assignment or hypothecation of net revenues under paragraph (E) shall be complied with before making such credits.~~

(E) If it shall reasonably appear to ~~said~~ the board of public works commissioners at any time the receipts from ~~said~~ the existing municipal parking lots or garages are in excess of the amou required for the purposes enumerated in the preceding paragraph, and that the acquisition of further lots or garages is not required, they shall cause rates and charges for the use of said lo and garages, or some of them, to be reduced.

(F) If the board of public works commissioners, ~~Subject~~ pursuant to the provisions of paragr (C) of this subdivision, has recommended the acquisition or construction of a new parking lot garage, the city council may from time to time pledge, assign or otherwise hypothecate the net revenues from said lots or garages, after the payment of operating expenses, and may mortgag part or all of said lots or garages, including personal property located therein, to secure the payment of the cost of purchasing, acquiring, leasing, altering, improving, extending, adding t

constructing or reconstructing said lots or garages, but the city council shall not pledge the cr
of the city for any of said purposes except in accordance with the provisions of section 62 of th
Charter?"

AND, BE IT FURTHER RESOLVED that in accordance with 17 V.S.A. Sec. 2645, public hearin
the above-proposed amendment of the Burlington City Charter shall be held on Monday, September 19, 2
at 5:00 p.m. and on Monday, September 26, 2016 at 7:00 p.m. in Contois Auditorium, City Hall, Burling
Vermont.

* Material underlined added.
**Material stricken out deleted.

lb/EBlackwood/Resolutions 2016/Charter Changes to Clarify Uses of Parking Garage and Meter Revenues (11-8-16 Special City Meeting)
8/11/16

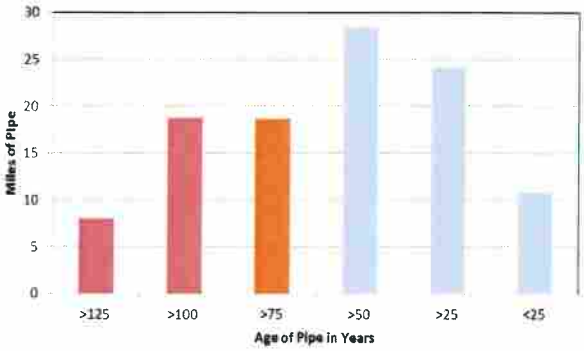
WHY DO WE NEED A WATER BOND NOW?

ENHANCED WATER DISTRIBUTION SYSTEM CAPITAL FUNDING IS NEEDED TO SUPPORT **SUSTAINABLE ROAD SURFACE INVESTMENTS** PROPOSED AS PART OF THE GENERAL OBLIGATION BOND AND **SUSTAINABLE WATER SYSTEM REINVESTMENT**

The system of water mains or pipes (distribution system) that delivers water from our water treatment plant to Burlington properties is very old and our current capital funding is not sufficient to address our near term (next 25 years) infrastructure deficit.

- The useful life of metal water pipes is 75-100 years depending on installation and soil conditions.
- An estimated 42% of our public water pipes are older than 75 years old, with almost 25% over 100
- To get on an average 88 year replacement schedule, we need to be spending ~$2.3 M annually for the next 25 years
- FY 17 proposed distribution capital is $1.262K total (including $362K of Council Authorized Bonding)
- Not having sufficient funding means more instances of discolored water, reductions in fire protection flow and service disruptions due to main breaks which also impact our road surface system.

Water Main Length vs Age



Water main breaks and their resultant patches reduce the longevity of our pavement investment. Water pipes typically break due to a combination of age, corrosion, soil movement and pressure fluctuations—but the vibrations from paving machinery can also exacerbate weaknesses in the system. It is thus important that we renew any subsurface water main infrastructure with a higher consequence and risk of failure (criticality) BEFORE paving occurs to reduce the likelihood of breaks.

Examples of Streets with Water Main Breaks after Paving (since 2009)

- Howard
- Pine
- Scarff
- S. Champlain
- Industrial
- S. Prospect
- St. Louis
- St. Paul
- Henry
- Brookes
- Hayward
- College

The proposed borrowing for the November 2016 Revenue Bond vote provides for sufficient funding to address critical water main infrastructure on the FY18-FY21 paving program streets BEFORE the streets are paved (FY17-FY20) as well as to be able to renew critical water mains on our 30 year capital plan thereby beginning to reduce our infrastructure deficit. This funding will allow for both open trench water line replacement for certain streets and trenchless relining of eligible streets.

DRAFT – FOR DISCUSSION

An Infrastructure Plan for a Sustainable City

Stewarding & Strengthening Burlington's Foundation for Future Generations

Updated September 9, 2016

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I. Executive Summary: An Infrastructure Plan for a Sustainable City

Purpose and Vision

The foundation of a vibrant city life rests on well-maintained capital infrastructure. Quality of life, public safety, commerce, 21st century transportation systems, and tourism depend to a great degree on the proper care and functioning of a city's streets, sidewalks, park network, parking facilities, fire suppression capacity, and water / wastewater / stormwater systems. Water main breaks, deteriorated sidewalks, old fire trucks, and neglected parks are not just inconveniences – they impact businesses' bottom line, erode people's ability to enjoy the city's open space, and hinder economic development.

Stewarding these assets is one of a municipality's core responsibilities and one of its greatest opportunities. This white paper summarizes Burlington's comprehensive capital planning effort and lays out an affordable, multi-pronged plan of action and reinvestment that will address areas of chronic underinvestment and prospects for important modernization in a cost-effective way. The plan will ensure a City where current and future generations can move easily across the City on foot, by stroller, or in a wheelchair along sidewalks or 21st century streets, where businesses can depend on the water system and easy public access to help facilitate commerce, where City parks are well maintained, where our Bike Path is restored and strengthened, where City Hall Park is rebuilt to better accommodate our wonderful Farmers' Market and new community events and increase park usage by the public, and where we have made necessary investments in our fire trucks and other City vehicles to maintain a high level of public safety for our community.

Our Infrastructure Challenge

Over the past two years, the City of Burlington has conducted an evaluation of its infrastructure – including independent professional assessments of our sidewalks, facilities, and garages and detailed projection of our capital needs in every City department. While the City has existing sources for most of the capital investment that it will need to make over the next decade, we have to identify approximately $42M in new revenue for the next five years, and $70.7M in the next ten years in order to address eleven areas of current underinvestment that will cost taxpayers more money the longer they are left unaddressed:

- **Bike Path**: This much-loved recreation and transportation corridor along the lake generates millions of dollars in economic activity for the City every year, yet in many areas is in poor and deteriorating condition and does not meet modern standards.

- **Sidewalks:** 16 percent of our sidewalk system is in serious to failed condition based on an empirical assessment across the City conducted by a specialized firm.

- **Streets:** Burlington should have well-functioning 21st century streets, yet we repair streets on a 40-year cycle despite the fact that streets require road surface redevelopment after 15 to 25 years. As a result, 23 percent of our streets are currently in a poor or failed condition and we are falling further behind every year.

- **Fire Engines:** Five of our six fire vehicles are nearing the end of their service life, and responsibly replacing these necessary vehicles carries a substantial cost.

- **City Hall Park:** This central park, meant to represent our City's park system, is poorly lit and underutilized much of the time. The park needs updating to be welcoming, well-used by people

of all ages, and properly accommodate current uses, such as the popular and successful Farmers' Market.

- **Park System**: While the City has successfully completed over 100 park improvement projects across the community in the last four years, the park system struggles with deferred court replacements, stormwater management issues, and outdated public restroom and playground facilities.

- **Water Mains**: An estimated 42 percent of our water mains are older than 75 years old, and thus at or near the end of their useful life. All aspects of our water system (the distribution system, including our storage reservoirs, and the water plant) need on-going investment to make sure we can continue to produce and supply high quality water and sufficient flow for fire protection throughout the City and avoid costly reactive maintenance and water main breaks.

- **Sewer Mains and Wastewater Plants**: Many of the pipes for sanitary, storm or combined sewer main infrastructure are beyond their useful life and need repair or replacement. The City's three wastewater treatment plants are also in need of addressing deferred and ongoing maintenance.

- **IT infrastructure**: As we modernize the City's existing IT infrastructure to implement measures intended to make City data more transparent and City processes like permit applications more efficient, updates to existing infrastructure and security protocols are necessary to keep our IT system secure and properly functioning.

- **Garages:** An independent assessment of the City's three garages determined over $9 million of capital repairs are needed to keep the aging facilities open and safe in the years to come.

- **Deferred Facility Maintenance**: The City faces substantial deferred maintenance on several facilities, including City Hall, the Miller Center, Leddy Park Arena, and other civic buildings that when addressed should result in increased energy efficiency, better space utilization, and a reduced need for unanticipated (and potentially expensive) reactive repairs.

This paper details a total unmet need over the next decade for the proper stewardship of our City General Fund assets of approximately $70 million and lays out a detailed plan for fully meeting this challenge.

The Way Forward

To address this unmet need, the City will 1) make approximately $42 million of General Fund infrastructure investments in the next five fiscal years along with the proposed water system improvements outlined below, and then 2) increase its baseline annual investment in the following years to ensure the higher quality infrastructure is maintained and the current backlog of deferred investment does not build up again.

To make this needed investment affordable, the City will use a number of simultaneous strategies, including:

- **Long-term planning:** For the first time in many years, the City now has a comprehensive 10-year capital plan. This planning tool enables strategic decision-making with a multi-year perspective that can help avoid dramatic impact on property taxpayers, improve coordination

of related investments (i.e. replacing water lines when streets are dug up for repaving), and identify structural funding deficiencies that can be addressed with appropriate planning over multiple years. Further, a key component of long-term asset stewardship that the City is actively pursuing is developing an asset management program that sets levels of service and provides metrics so that the City can make the best decisions possible when allocating its scarce capital resources.

- **Focus on preventative maintenance:** The City has prioritized a new and logical effort around preventative maintenance, including, a systematic approach to sealing cracks and micro-surfacing on City streets, shaving down cement sidewalks to eliminate displacement, and relining old water mains beneath streets prior to repaving. Those strategies are expected to extend the effective life of our streets and sidewalks substantially, reducing taxpayer costs.

- **Prudent financial management:** As a result of recent credit rating upgrades and refinancing the City is well-positioned to take on new long-term debt. In the last year the City refinanced existing debt to save $130,000 on annual debt payments, and the combination of historically low interest rates and a restored "A" credit rating should allow the City to secure favorable long-term debt terms. Further, energy efficiency measures implemented over the last two years are generating $75,000 a year in savings now and are projected to save taxpayers nearly $1 million over the life of the 10-year capital plan. In future years, the City will retire debt and use some limited interest-only borrowing options to minimize increases in capital-related debt service payments, reducing annual debt service payments by hundreds of thousands of dollars and helping to keep the impact of the plan on property tax payers low.

- **Generate new non-property tax revenue sources for capital financing:** Over the last two years the City has reformed its parking system, positioning the Traffic Fund to contribute $250,000 toward the City's capital needs in FY17. The City also is pursuing new philanthropic fundraising efforts that are projected to contribute approximately $2 million to the infrastructure effort.

- **Secure commitments from the University of Vermont and Champlain College:** The City has been in discussions with the institutions about a contribution to the City's capital needs that starting in FY18 would provide approximately $1 million a year of new revenues for infrastructure.

- **Coordinate with the School District to identify new saving opportunities:** The City and School District both have capital needs and are seeking to work collaboratively to limit the impact of those costs on the community. Working together, the City and School District are seeking to identify up to $2 million of savings that could be realized through better coordination of existing assets. This includes, for example, a collaborative approach to managing and using School and City park space or the more efficient use of City and School facilities to accommodate existing needs while reducing costs.

- **Secure new revenue from visitors to Burlington:** The plan will be funded in part by an additional two percent of gross receipts tax on alcohol and rooms starting during FY17 More than two-thirds of the gross receipts tax is expected to be paid by visitors to Burlington and will produce approximately $2 million a year for infrastructure projects that generate economic development – such as the revitalization and enhancement of the Bike Path and City Hall Park.

- **In sum, approximately $15 million in new, non-property tax revenue will be generated for the needed capital infusion over the next five years. The balance will be paid by an infrastructure bond of approximately $27.5 million.** The bond would be structured and drawn down in such a way that the total added cost to the average residential taxpayer of the new bonding would not exceed $10/month over the next five years, and would be limited to approximately $10/month in the peak cost years of 2025 and later. For that amount, City taxpayers would see a rebuilt City Hall Park, enhanced Bike Path, new fire engines, a dramatically improved and sustainable street and sidewalk system, important facility renovations, necessary investments in City IT systems, and more. Completing this work now – with low interest rates, the City in a financially strong position, and before the infrastructure deteriorates further – will save taxpayers money as well.

Conclusion:

The balance of this white paper describes in detail the status of every major element of the City's infrastructure and provides greater discussion of each funding strategy.

Over the months ahead we have an opportunity to take a number of key actions to see this plan implemented, setting us on a course to dramatically improve our core infrastructure within five years, and then sustainably maintain it at a high level thereafter. Unlike decades past, no windfall of help is likely to come from the state or federal government. It is incumbent on us to act at the local level to properly steward the City's infrastructure and leave our children a City worthy of Burlington's proud history.

II. Background: Continuation of Effort to Responsibly Steward the City's Resources

The infrastructure plan outlined in this white paper is a continuation of the multi-year focus on responsible stewardship of the City's resources and the product of two years of sustained due diligence across City government. It also marks a transition of sorts: Having addressed the urgent financial challenge the City faced in 2012, the Administration is seeking to proactively address our growing infrastructure needs and in a way that will ultimately reduce the total burden asked of the City's taxpayers.

Focus on Responsible Stewardship of the City Resources

In 2012, the City's credit rating was downgraded three steps from A3 to Baa3, the edge of junk bond status. The Administration, City Council, and voters responded to this adversity and have successfully addressed our most acute financial issues. Improved management of our enterprises, voter approval of the Fiscal Stability Bond, and the creation and resourcing of a new fund balance policy has addressed the City's dangerous liquidity challenge. The City settled an uncertain $33.5-plus million Citibank lawsuit on terms favorable to the City and taxpayers, eliminating a cloud of financial uncertainty that had hung over Burlington for five years. Improved financial controls have steadily improved our annual audits, reducing the number of management letter deficiencies from 27 in 2012 to four in 2015. As a result of this work on many fronts, the City, the Burlington International Airport, and Burlington Electric Department have all been upgraded over the last two years, and the City's A credit rating has been restored. In fact, the success of this effort has led to modest decreases in the municipal tax rate each of the last two years – a trend that stands in stark contrast to the trajectory of many Vermont municipalities.

With the most acute financial issues addressed, the Administration has turned our focus increasingly to addressing long-term financial challenges that continue to pose a risk to taxpayers and detract from residents' quality of life and the economic vibrancy of the City. The infrastructure challenge is the last major element of this effort to restore responsible stewardship to the City's financial resources to affordably modernize and maintain our community's physical infrastructure in the years to come to benefit all of our residents. Stewardship is a coordinated effort of the Capital Plan with an asset management plan to ensure there is a clear strategy to maintaining our infrastructure in a sustainable manner.

Two Years of Due Diligence

This infrastructure effort began with Mayor Weinberger's 2014 State of the City declaration:

> *"Overall, our infrastructure continues to degrade at a faster rate than we reinvest, and there is no comprehensive, coordinated plan for properly caring for the community assets we have inherited. I have directed the Chief Administrative Officer to lead an effort to craft an affordable and comprehensive 10-year capital plan for presentation to the City Council for approval no later than Town Meeting Day 2015. This plan will include responsible investments in our roads, sidewalks, municipal buildings and parking garages, our water, sewer, and stormwater system, the bike path, parks, and our schools. The plan also will include better management of our fleet of over 250 vehicles to reduce maintenance and fuel costs, as well as capital costs. I see this plan as a key document for ensuring that we make good on our responsibility to leave the City in better shape than it was when we started."*

In the two years since Mayor Weinberger's remarks, the City has commissioned engineering studies of our garages, buildings, streets, sidewalks, and bike path. A draft 10-year capital plan has been reviewed by the City Council and the relevant City Boards and Commissions with a stake in the City's capital planning. The Burlington School District is now also fully engaged in an evaluation of

their capital assets and projections of future needs that mirrors the effort the City has undertaken, and initial indications of the results of that planning are expected in the months ahead. Further, the City Administration and the School District have begun coordinating their efforts to take advantage of creative opportunities to save money on shared infrastructure needs. Additional planning documents that form the basis of this initiative include the 2011 Burlington Bike Path Task Force Report, 2011 Transportation Plan, 2014 PlanBTV Downtown & Waterfront, 2015 Burlington Parks, Recreation & Waterfront Master Plan, and the ongoing development of the City's Walk-Bike Master Plan and Great Streets request for proposals.

The Administration's work on this effort has been led by the Mayor, with day-to-day responsibility for management of the effort delegated to the Chief Administrative Officer overseeing a working group that has included the Public Works Director, Parks, Recreation & Waterfront Director, City Engineer, Assistant Director – Water Resources and the Capital Improvement Program Manager. In addition the Community & Economic Development Office (CEDO) Director, Planning & Zoning Director, Burlington City Arts Director, City Attorney's Office, additional City Staff, and numerous consultants have contributed significantly to this plan.

The Neighborhood Planning Assemblies (NPAs) have been briefed and provided input on elements of the emerging infrastructure plan over the past two years. The Administration plans to re-engage the City Council, relevant City Boards and Commissions, and NPAs, and reach out to many other community groups during the finalization and implementation of this plan over the course of 2016.

This effort has already produced results, without any impact on City taxpayers. With a heightened organizational focus on infrastructure investment and the benefit of the planning tool that is the 10-year capital plan, existing resources have been deployed in a focused and strategic manner that has already dramatically increased our investments in parks, City buildings, and sidewalks in the last two fiscal years without impacting taxpayers (and, in fact, supported two consecutive budgets with modest reductions in the municipal tax rate). After greatly improving their financial positions over the last four years, the City's water and sewer enterprise funds have also increased their capital reinvestment, and major renovations of our three downtown garages are underway that will improve the lifespan, safety, and quality of experience for users parking in the downtown.

These two years of careful planning and analytical work have provided a strong empirical basis for moving forward and making additional strategic investments now to implement the next and critical phase of this effort in a way that will address an unavoidable challenge proactively, save taxpayers money over time, and improve the quality of life in the City for generations to come.

III. Guiding Principles of Infrastructure Plan

This action plan has been shaped by the following principles:

- Stewardship of public infrastructure is a core responsibility of municipal government that drives quality of life, equity, economic development, public safety, and highest value of public investment.

- Strategic investments reflecting a comprehensive plan should be able to save taxpayers money over time, rather than investments made reactively in the face of an immediate need.

- Residents, businesses, visitors, and institutions all benefit from high quality public infrastructure, and all should contribute to its construction, maintenance, and improvement.

- Preventative maintenance and coordinated investments between different asset classes are critical for efficient use of public dollars and for improving infrastructure quality (i.e., it is generally most efficient to replace subsurface water and sewer pipes when a street is being repaved – not a year after a street has been paved).

- Municipal and school district capital investments should be coordinated both to promote efficiencies and shared-use facilities and to moderate and minimize the impact on Burlington property taxpayers of needed capital investments.

- Use the opportunity provided by the ten-year capital plan horizon to thoughtfully and methodically address the structural underfunding of core assets in a way that reduces projected taxpayer costs.

- Given the significant ongoing capital investments required to maintain City assets individually, and more significantly the collective asset list, the City will relook at the current capital asset portfolio to evaluate if all truly meet the requirement of qualifying as essential public infrastructure. For any assets that don't meet that criteria, the City will develop plans that could include selling these assets, or leasing them out to private sector operators who would be responsible for daily operations and capital maintenance. This would allow the City to invest available staff resources into the projects which are most essential

- After exhausting efforts to maximize existing resources and seek other revenue sources, it is reasonable to consider bonding for some of the necessary investment for several reasons:
    - It is fair and equitable to pay for long-term assets over the course of their functional life;
    - Like the use of long-term mortgages to finance household acquisitions and improvements, bonding has traditionally been employed by municipalities to financing long-term assets;
    - Burlington has considerable untapped debt capacity by objective standards and the plan proposed here will keep the City well within its debt capacity limits; and
    - Long-term debt interest rates remain at historic lows.

- Any consideration of new bonding should be as limited as possible to respect the substantial property taxes paid by City residents and to minimize the cost of future interest payments.

- Any new bonding should be explained alongside sustained efforts to offset or even reduce City taxpayers' burden.

IV. Summary of Plan by Major Asset Type

This section articulates the status and proposed future actions for General Fund, Water Resources and Traffic asset category that the City is responsible for maintaining.

In addition, the review of different City asset classes led the City Administration to the conclusion that Memorial Auditorium was an asset the City could no longer afford to maintain – with substantial deferred maintenance of that facility since the early 1990s, the City is looking instead to partner with the University of Vermont and produce a joint RFP that would allow for a private operator to update Memorial to accommodate UVM hockey and basketball games, other civic events, and concerts, conferences, and community gatherings. The decision not to reinvest in Memorial Auditorium as part of the capital plan will save the City about $14 million.

City Fleet

Current Status:

- Numerous vehicles within the fleet are at or near their end of life. Fire trucks and some Public Works vehicles take six months to a year from ordering to delivery.
- Public Works fleet has 11 plow trucks with the oldest purchased in 1998. Four are more than 10 years old (the average life for a plow truck).
- Having an older fleet adds operational costs through higher levels of maintenance, labor, and parts.

Proposed Action Under 10-Year Capital Plan:

- The goal of all vehicle purchases in the future is to minimize operational maintenance costs and increase the trade-in value of the vehicles.
- Five of the City's six fire vehicles will be replaced through capital infusion between 2017 – 2021.
- The last purchase of fire trucks occurred in 2008, and the majority were purchased in 2003 or earlier. The capital plan includes replacement of fire trucks on a 12-year life cycle and ambulances on a 6 year life cycle.
- This will allow for lower costs in operational maintenance and higher trade-in values to offset the cost of the new vehicles.
- Police have their vehicles on a five-year rotation due to the high level of use and are budgeted to pay cash out of their operating budgets.
- Public Works vehicles are scheduled on a 10-year life cycle, although with good maintenance the life may be extended to 15 years. The strategy will be to utilize master leases of 4-5 years in the short term to catch up on deferred purchases allowing for outright purchases when replacement is scheduled in 10 years.

Facilities

Current Status:

- From the assessments completed in 2014, there is a large volume of deferred maintenance causing a larger capital need. Addressing the need in the near future will allow for lower operational costs.
- There is significant labor spent on reactive work rather than being able to schedule maintenance and be more efficient with our labor force.

Proposed Action Under 10-Year Capital Plan:

- All major deferred maintenance identified in the 2014 building needs assessments – approximately $10 million in projects – is budgeted to be completed by 2021 without expanding the City's customary annual facilities bonding of $2 million a year.
- Facilities with the greatest need will be renovated as completely as possible to create a more predictable building need. Fletcher Free Library and Fire Station #1 are examples of buildings already renovated as part of the City's increased focus on capital needs that have immediately saved operational dollars and maintenance labor.
- As noted above, the City is also seeking to divest itself from the continued operation and maintenance of Memorial Auditorium, given the $3 to $4 million in known needs to keep the building open in its current underutilized state.
- The City will continue to implement energy efficiency projects in collaboration with BED to utilize on-line billing and minimize capital outlay while saving dollars on utilities. We are currently saving over $75,000 a year as a result of projects in recent years, and this figure is expected to continue to grow modestly and reach six-figure annual savings by approximately 2023.
- Adding continuous preventive maintenance on the buildings will extend the life of the equipment, lowering our capital need in the longer term.
    - The City added an electrician this past year who is attending to many deferred electrical projects, saving more than the cost of the position in the first year. Additional maintenance capacity has been approved in the FY17 budget.
    - Where in house staff cannot address the preventive maintenance needs, RFPs and contracts are being developed to ensure the assets of the City are maintained.
    - An Asset Management Plan is in process to make sure there is a method long-term to capture the needs of the City's assets.

Sidewalks

Current Status:

- A 2014 inventory of the City's 130 miles of sidewalks conducted by Sally Swanson Architects, Inc. found that 16 percent of the City's sidewalks were in serious to failed condition. The sidewalks are graded on a scale of seven criteria with serious and failed the lowest two on the scale.
- The City has an existing sidewalk property tax that generates approximately $515,000 a year in revenues, enough to replace less than 1 percent of the sidewalk network per year. Given that the average sidewalk lifespan is 40 years or less, continuing to invest on this 100-year replacement cycle will result in further degradation of the existing system.
- In FY'15, FY'16 and FY'17, the Capital Plan has supplemented the $515,000 of base funding with an additional $700,000 per year.
- The City has identified approximately seven miles of streets without any sidewalks that would be improved by adding a sidewalk on at least one side of all accepted streets.

Proposed Action Under 10-Year Capital Plan:

- For the years 2017 through 2021 the plan contemplates investing approximately $2 million per year in the sidewalk system with the goal of correcting the 16 percent of the system (21 miles) that is currently in a serious to failed condition.
- During the years 2021 through 2026 the plan proposes a base of $1.5 million a year with a 3 percent escalator, the amount necessary to achieve a 40-year replacement cycle.
- This investment will address all of the sidewalks currently categorized as serious or failed within five years, and have addressed all of the poor to failed segments in approximately 15 years.

- The City will continue to budget $100,000 a year of local funds for sidewalk expansion projects and vigorously pursue state and federal funding (over the last decade Burlington has successfully implemented six sidewalk enhancement projects funded largely by state and federal funds).
- The City in FY16 successfully piloted a new preventive maintenance process utilizing diamond cutting of vertically displaced sidewalk panels to maintain the functional lifespan of sidewalk segments. It is anticipated that this technique will help the City achieve a higher level of service in our sidewalk network over the projected 40-year lifespan by minimizing the costs to address the safety and short run repairs that tend to be related to the vertical displacement of sidewalk slabs.

Streets

Current Status:

- Mayor Kiss and his Administration identified the need to increase investment in the City streets, supporting an effort approved by voters in November 2008 to bond $5.5 million for additional street work.
- As part of the evaluation of City streets following that infusion, the City has implemented a Pavement Maintenance Management System entitled MicroPaver, which uses inspection data and a pavement condition index (PCI) rating from zero (failed) to 100 (excellent) to consistently describe a pavement's condition and predict its maintenance and repair needs many years into the future.
    - The City inspected and inventoried the 95 centerline miles of roads in the last two years to ensure our inspection records are accurate and up to date with their assessment.
    - The computer model provides City staff information as to which streets will likely require repair a number of years into the future. As you look further into the future, the model becomes less accurate, however, it has been proven to be a useful tool to inform and coordinate subterranean utility capital reinvestment.
- The City has an existing street property tax that generates approximately $1,500,000 a year in revenues, enough to replace approximately 2.5 percent of the road network per year. Given that the average road lifespan is between 15-25 years depending on usage, the current replacement cycle is about 40 years. It is anticipated to result in further degradation of the existing system.
- The City initiated a pavement preservation program in 2016 with crack sealing on several of the major arterial roads. This measure will protect the pavement against deterioration and thereby extend its service life, ultimately reducing annual maintenance costs by using more cost-effective preservation techniques.

Proposed Action Under 10-Year Capital Plan:

- The plan proposes an annual investment in the program of approximately $2.3 million dollars from 2017 to 2021 into street paving related work.
- The program goal is to focus on 23 percent of the poor to failed streets within the City that require full depth rehabilitation to restore the street subbase and pavement.
    - Streets that currently fall within the poor to failed categories are not candidates for any alternative maintenance or preservation treatments that could extend the life of the pavement. Therefore it is important to redevelop these streets to a new condition to allow for these maintenance techniques to be used in the future.
- In years 2022 and beyond the paving program will be adjusted to an annual adjusted base of $1.55 million with additional funding for preventative maintenance and curbs. The goal is to maintain an average pavement condition of "good" (PCI above 72) for the entire network.

- The City is working closely with all of its Departments to plan and coordinate work. It is vital to address failing underground infrastructure prior to redeveloping the street surface under both the near-term additional funding as well as the long-term program investment.
    - Coordinating work with subsurface utilities maximizes the cost efficiencies of combining work, shortens total construction of all work types, and results in higher quality street and infrastructure investment.
    - Coordinating work also reduces the risk to the new street investment of future utility work that will result in cuts, excavations, and repairs that reduce the service life of a street.
- An enhanced pavement preservation investment of $200,000 annually towards pavement life extending practices will complement the enhanced investment into the pavement replacement program.
    - The program will focus on streets where the condition of the street is still in excellent-good condition and maintaining that status through preservation treatments.
    - Pavement preservation techniques such as crack sealing, fog sealing, and microsurfacing are low cost treatments that add four to eight years or more of service life to pavement depending on the treatment used for a single application.
    - This allocation towards pavement preservation paired with the reinvestment will help to ensure the long-term success of a sustainable 40 year pavement management program.
- The Capital Plan will introduce a dedicated allocation toward curb construction and replacement. The initial investment in the first five years will total $2.5 million from 2017 through 2021.
    - Curbing will have multiple benefits to the City with added pedestrian safety, greenbelt preservation, and better stormwater management.
    - The allocation towards curb work will then be adjusted to a base of $1 million starting in 2022 with a 3 percent annual escalator.
    - The goal of the program is to initially address some of the serious deficiencies that exist throughout the City with our curb infrastructure within the first four years. Subsequent years curb work will focus on leading ahead of the paving program to curb streets scheduled for paving. The target replacement cycle for curbs under this program is 50 years.
- The 10-Year Capital Plan has allocated approximately $3.5 million to address the long-term deferred maintenance of the City owned/shared bridges and culverts. These funds paired with grant opportunities from State programs and adjacent municipalities will allow for necessary repairs to the structures to ensure the remaining service life is achieved.

IT Infrastructure

Current Status:

The City's spending on IT needs for Departments funded from the General Fund has not kept pace with our operational demands or the changing technology landscape. Over the last five years, investments in our network infrastructure (e.g. servers, backup appliances) have totaled approximately $150,000. We currently find ourselves with gaps in our infrastructure and capabilities that will prevent us from maintaining, improving, and expanding the services and capabilities we provide to residents.

- The pace of the creation and use of data continues to increase, and the tools we use to capture and store that data are at capacity, no longer adequately support our current work, and do not allow for growth.

- There are increasing threats to the security of networks and data, and there are many steps we could take to better protect our assets.
- There are limited disaster recovery capabilities in place that would enable us to quickly be operational in the event of a disaster.
- Employee computers have not always been replaced on a standard schedule, resulting in inefficient work as well as security vulnerabilities.
- There are many untapped opportunities to automate existing work; the lack of using technology leads to relying on manual processes and significant inefficiencies.
- The City does not provide many capabilities to allow the community to obtain services or engage online.

Proposed Action Under 10-Year Capital Plan:
The plan proposes investing an average amount of $363,000 per year to be allocated for technology capital expenses for FY 2017-2021 for a total investment of about $1.4 million. If approved, the funds will help address the challenges identified above and enable the City to take advantage of future opportunities. Investments will be made toward the following activities:

- Invest approximately $45,000 in tools and services that will help to protect the security and integrity of our network and data, and an additional $50,000 to develop and maintain disaster recovery capabilities.
- Invest $150,000 in infrastructure over the next four years (local hardware and cloud-based) beyond our traditional investment to replace existing hardware past its useful life that is necessary to expand the capacity of services we provide to staff and the public.
- Purchase and implement tools that will allow City Departments to work more efficiently and collaboratively, and to deliver improved services. This includes:
    - $225,000 for software, which includes purchase and implementation of a computerized maintenance management system (CMMS) in FY17 to support renewed efforts across Departments to more proactively and efficiently maintain City assets and upgrades to permitting software.
    - $100,000 to advance the capabilities of the Burlington Fire Department over the next four years.
    - Approximately $75,000 in new hardware over the next four years to enable employees to work more efficiently and effectively by performing their work from the field.
- Continue recently implemented efforts to replace employee computers every four years to enable efficient work and to protect network security, and to purchase computers for new employees, estimated at $130,000 per year.

Bike Path
Current Status:

- In 2012 the Bike Task Force, commissioned by the City Council, completed the Burlington Bike Path Improvement Feasibility Study. Its purpose was to identify significant issues so that the path remains a safe corridor, attracts visitors to the City, and enhances quality of life.
- An intersection scoping study finalized in 2014 evaluated at grade crossings across the City to identify short-term safety improvements and long-term design changes.
- The City conducted preliminary engineering and conceptual design work beginning in 2013 to begin the path's rehabilitation and to address issues raised by the Feasibility and Scoping Study.
- In 2014 rehabilitation of the path began in Waterfront Park as part of the Tax Increment Financing (TIF) investment. The first phase of construction from Perkins Pier to the Urban Reserve was completed in the winter of 2015.

- In 2016, path rehabilitation and realignment is taking place from the Urban Reserve through to North Beach.
- The current path generates over $4 million in economic activity annually.

Proposed Action Under 10-Year Capital Plan:

- After spending $3.5M in FY15 and FY16, the entire eight mile path from Queen City Parkway to the Winooski River Bridge will be fully rehabilitated in the next five years.
    - 2017 – North Beach Bridge to Staniford - $3.5M
    - 2018 – Staniford to Winooski River Bridge - $3M
    - 2019 – Queen City Parkway to Oakledge Park - $3M
    - 2020 – Oakledge to Perkins Pier - $3M
    - 2021 – Oakledge to Perkins Pier Finish - $500K
    - 2022 – final touches to bike path - $500K
- Estimated project budget is $17 million.
- To date over $3.5 million has been secured through City resources (TIF, BPRW Capital and CIP) with an additional nearly $1 million raised through private philanthropy by the Parks Foundation of Burlington.
- Approximately $12.5 million is needed to complete the project as envisioned.

City Hall Park

Current Status:

- A 2011 study commissioned by Burlington City Arts and the Burlington Business Association found that the park was negatively impacted by its current design. Problems identified included stormwater, fountain functionality, age and location of trees and pathways.
- In the years since the report, the Parks, Recreation & Waterfront Department has mitigated these issues through intense efforts at erosion control and planting of new grass, and BCA and the Police Department have made numerous attempts at improving conditions in the park through programming and different policing strategies. While these efforts have provided temporary relief, they have not fundamentally altered the conditions found in the study.
- In 2014 after an extended public planning process, the City Council unanimously approved a resolution endorsing a conceptual plan for a rebuilt City Hall Park.
- In early 2015 the City, through the Parks Foundation of Burlington, received a $1,000,000 philanthropic contribution towards the rebuilding of the park from Antonio and Rita Pomerleau.
- In early 2016 a contribution of $30,000 was received through a grant from Northfield Savings Bank.
- The City is currently underway with a consultant to complete the design and engineering of a renovated park.

Proposed Action Under 10-Year Capital Plan:

- Beyond investing approximately $1,000,000 in anticipated total private contributions, the plan includes $2 million for completing the renovation during the summer of 2017.

Street Trees

Current Status:

- The City has over 8,500 individual street trees.
- Trees in the downtown core of the City suffer from quantity and quality of soils. Expected lifespan of a downtown tree is approximately 10-15 years, while trees in other parts of the City can last over 30-50 years.

- Biggest barrier to improving tree infrastructure is cost of improving streets and sidewalks.
- Through greenbelt capital funding, trees are planted and maintained across the City on a regular basis, with over 200 trees planted in 2015.
    - The City's Climate Action Plan calls for planting over 500 trees annually between public and private property.

Proposed Action Under 10-Year Capital Plan:

- With increased funding for sidewalks and streets, integrated planning can accomplish improvements to soil quality, quantity and structures to support future growth.
    - Approximately 200 trees need to be replaced in the downtown over the next 10 years.
        - Increased capital funding allows current resources to be focused on planting in greenbelts, parks, and riparian areas to achieve increased canopy coverage.
        - Downtown trees play a specific green infrastructure role in managing stormwater, a much less costly solution than improvements to grey infrastructure improvements.
        - Additional tree replacements and new tree planting opportunities (50-75) can be created through new coordinated development in the plan (i.e. Burlington Town Center, Imagine City Hall Park)
    - Trees with suspended pavement and proper soil volume can live up to 50 years, making the initial investment pay off.
      http://www.deeproot.com/silvapdfs/resources/articles/LifecycleCostAnalysis.pdf
        - Current trees need to be replaced three times over the same 50 year period.
        - If the trees reach maturity, an ROI can be over $25,000 per tree over this period.
        - Benefits include stormwater retention, air quality, energy conservation, increased property values and business performance. These all factor into the ROI and have real quantitative value, as well as qualitative benefit.

- The Great Streets initiative will significantly improve standards for future improvements to tree infrastructure.
    - Approximately 1,000 - 1500 cubic yards of soil is needed per tree for proper growth for large trees like elm and maple. 500-600 cubic yards are needed for smaller mature trees.
    - All downtown trees should have tree grates for protection and accessibility.
    - Vertical tree protection is needed for young trees to limit vandalism and damage from sidewalk plowing and other impacts.

Water Infrastructure

Current Status:

- Water initially developed a prioritized 30 Year Capital Reinvestment Plan in 2008 outlining the highest priority needs in all areas from the Treatment Plant, two Reservoirs, two Elevated Tanks, the 100-mile Distribution System and Metering. The greatest need at that time, and for the future, is the distribution system with needs in excess of $35 million. While the 2008 plan did list streets in need of capacity upgrades or streets with a known history of breaks, the plan was not comprehensive in its evaluation of the entire distribution system and did not specifically outline a plan for replacement/rehabilitation based on the expected life cycle of our metal water pipes.
- Given that 42 percent of our pipes are older than 75 years, the water distribution system in particular is in need of additional investment – while at the same time investments in our Water

Treatment and Storage system must also be maintained at sufficient levels to ensure the City's ability to produce high quality drinking water.

- To complement the above analysis, a building envelope/facility conditions assessment was completed in late 2014.
- After many years of underfunding capital investments, FY16 was the first year of a more robust annual capital budget to date totaling $1.5 million for efforts related to water distribution, building envelope, plant internal infrastructure and reservoirs. The FY16 rate increase (an increase of $0.50/100 cu. ft. of use) along with retired debt added $1 million to the Water Capital budget.
- The proposed budget for FY17 continues to improve the City's water system capital reinvestment ability through a small rate increase ($0.05/100 cu. ft.) and $382,000 in Council authorized borrowing to meet the minimum level of investment required to coordinate subsurface utility work with Champlain Parkway efforts. However, this infusion does not provide sufficient funding for replacement of water lines on streets on the regular paving program list, nor the proposed enhanced paving program documented above under the *Streets* section above.
- Replacement of water mains in the recent years has focused on coordinated investments that follow the Capital Street Plan.
- Efforts to develop a formal asset management plan and implement a computerized maintenance management system (CMMS) are underway to support decision making regarding maintenance activities and capital replacement.

Proposed Action Under 10-Year Capital Plan:

- Update the 30 Year Capital Reinvestment Plan to reflect the comprehensive needs of the drinking water system, including all needs at the drinking water plant (building envelope and production infrastructure), storage facilities, metering and distribution system. This enhanced plan will focus on estimating the condition of our pipes older than 75 years old and plan to mitigate this infrastructure deficit as quickly as financially feasible, while beginning to plan for the concurrent timely replacement of younger pipes as they reach their useful life. Where possible, this work will be coordinated with the street paving program, but it is possible that some pipes may need to be rehabilitated outside of the paving program work. Additionally it will integrate our building envelope/facility to ensure integrated financial planning.
- Develop a long term financial planning model for the Water utility for improved long term budget and rate planning. This model will be integrated with financial models for Wastewater and Stormwater to ensure that rate increases across the three utilities are coordinated in such a way to minimize impact to rate payers.
- Pursue additional potential sources of capital funding such as the State Drinking Water Revolving Loan Fund to maintain the necessary level of investments in the Water Capital Reinvestment Plan.
- Leverage new technologies like CIPP (cured-in-place-pipe) relining of water mains to increase their useful life, increase fire flow capabilities, improve water quality, decrease overall project costs and prevent traffic/pedestrian disruption resulting from open digging of City streets.
- Implement the necessary asset management strategies identified in the asset management plan and acquire and implement CMMS tools to support the long term stewardship of our water resource assets. The total estimated distribution (water main) capital need for Water to integrate water main rehabilitation with proposed street paving projects over the next five years (FY17-FY21) is approximately $12.3 million. This need will be addressed through a combination of new revenues (including possible rate increases and use of cash reserve) and Council or voter-authorized borrowing of up to an additional $8.4 million. Depending on the

results of the updated water capital plan and paving plans for FY22 and beyond, additional borrowing may be required in advance of FY22 to continue our paving related infrastructure renewal efforts and bring our average pipe age back to a more acceptable range.

- The total additional water process related capital unrelated to the paving program (e.g. water treatment plant and metering; does not include all building capital) for FY17- FY21 is currently estimated at $2.6 million. At this time, no borrowing is proposed, but this estimated need will likely change with our updated capital plan, particularly regarding needs at the water treatment plant.
- As part of this capital implementation enhancement, Water Resources will need to evaluate staff resource needs in order to ensure successful implementation of these capital projects.

Wastewater/Stormwater Infrastructure

Current Status:

- Through an intensive inventory effort in 2011, the City has an up to date GIS inventory (location, type, size) of all sanitary, combined, and storm-sewer pipes.
- Whereas the City's CCTV based (pipe filming) condition assessment had been suspended for a number of years due to staff constraints and other demands, the City acquired in-house equipment for filming on an as-needed basis. Since 2015, pipe condition assessment has been prioritized for sewers on streets that are part of the paving program. At this point, there is not enough data to know the full picture of the condition of our sewer assets; however the City is launching a comprehensive Pipe Assessment Project in FY17 (see below under proposed action).
- Rehabilitation (trenchless pipe lining) of a select number of high priority sewer pipes sections has been occurring since 2012 in both the wastewater and stormwater systems. This activity has been coordinated to the maximum extent practicable with streets identified for paving in order to ensure our paving investment is protected. Average annual reinvestment in recent years for sewers has been approximately $150,000 and $75,000 for Wastewater and Stormwater respectively. Additional condition assessments are needed to understand the full scope of the sewer infrastructure need and the level of annual investment likely needs to increase to adequately address aging and structurally failing pipe (see Pipe Assessment Project).
- Inspections and initial conditions assessments have been completed for the City's stormwater outfalls. Of our 102 outfalls, approximately 10 percent are in a failed/near failure condition, with many more in poor condition.
- A draft report of the 20-year engineering evaluation and 10 year capital plan for Main, East and North Wastewater Treatment Plants, all 25 pump stations, and portions of the collection system has recently been completed and is under review (as of June 2016). Additionally, assessments of the building envelopes/facilities of the WWTPs were completed late 2014.
- Significant investment in combined sewer stormwater reductions ($1.16 million) were made in 2010-2012 to reduce the frequency of combined sewer overflows (CSOs) at three combined sewer overflow outfalls. Additional work is necessary to abate CSOs at Pine Street, and possibly at other CSOs pending an update of the Vermont CSO policy.
- Localized separated stormwater management planning activities have either been completed or are underway (College Street Green Stormwater Infrastructure Plan, Centennial Brook Flow Restoration Plan, Englesby Brook Flow Restoration Plan). Additional City wide stormwater management planning is necessary to address our regulatory (Lake Champlain TMDL) as well as our local water resources issues (flooding etc.).
- The recent release of the Lake Champlain TMDL (Total Maximum Daily Load) will result in additional new (vs. reinvestment in existing capital) capital costs. Efforts are underway to

pursue Integrated Water Quality Management Planning to examine the most cost effective solutions to meeting the TMDL as well as other Clean Water Act obligations and local clean water priorities.

- Efforts to develop a formal asset management plan and implement a computerized maintenance management system (CMMS) are underway to support decision making regarding maintenance activities and capital replacement.

Proposed Action Under 10-Year Capital Plan:

- A prioritized 10 Year Capital Plan for the three treatment plants and 25 pump stations is in process through a 20 Year Engineering Evaluation for Wastewater. This will also include a recommended methodology for assessing the collection system.
- Borrow Clean Water State Revolving Fund (CWSRF) loan money to complete a Pipe Assessment and Rehabilitation project totaling approximately $5.02 million. This effort will involve an expanded pipe filming and assessment effort to obtain a more comprehensive look at the condition of our wastewater and stormwater pipes and to develop a capital replacement plan for this asset class. Funds will then be used to rehabilitate (through trenchless lining) or replace as many pipes as possible based on that capital plan. The capital plan will also identify long term funding strategies to ensure that remaining pipe replacement needs are addressed in the years to come.
- Borrow CWSRF loan money ($4.65 million) and Ecosystem Restoration Program grant funds ($100K) to complete Integrated City-wide stormwater/wet-weather master planning, design and capital project implementation. This effort will involve a substantial detailed capital and programmatic planning effort to identify the specific stormwater management capital investments and other strategies that will be needed to ensure compliance with the Lake Champlain Total Maximum Daily Load (TMDL), as well as other water quality issues such as combined sewer overflows and basement back up issues, stormwater impaired watersheds etc. Later stages will involve the design and implementation of the highest priority water quality management capital projects. State policy on this topic is in flux, and it is possible that additional stormwater treatment, combined sewer mitigation, and possibly wastewater treatment plant upgrade funds will be necessary in the long term to fully comply with the requirements of the TMDL. Leverage CWSRF loan money for any equipment replacement/upgrades identified as part of the 20 year engineering evaluation and 10 year WWTP capital plan or process upgrades if required to meet the Lake Champlain TMDL.
- Develop a long term financial planning model for the Stormwater utility for improved long term budget and rate planning, and continue to advance the financial planning model developed in 2016 for Wastewater as more cost estimate data becomes available. These models will be integrated with financial models for Water to ensure that rate increases across the three utilities are coordinated in such a way to minimize impact to rate payers.
- Implement the necessary asset management strategies identified in the asset management plan and acquire and implement CMMS tools to support the long term stewardship of our water resource assets.
- The total estimated wastewater capital need in order to integrate sewer main rehabilitation with proposed street paving projects over the next 5 years (FY17-FY21) is approximately $3.1 million. This need will be addressed through rate derived revenues (including possible rate increases and use of cash reserve) and approximately $2.5 million of borrowing from the CWSRF. No additional bonding is proposed at this time for paving related wastewater infrastructure improvements. However, the pipe assessment project will inform the need for additional sewer main expenditures beyond FY19/FY20 and additional borrowing may be necessary at that point.

- The total additional wastewater capital unrelated to the street paving program (e.g. wastewater treatment plant including some building facility repair and pump stations) for FY17- FY21 is currently roughly estimated at $4.3 million, without any upgrades that may be required as part of the Lake Champlain TMDL. Additional capital planning and Integrated Planning over FY17-FY19 will assist in determining what additional needs must be met due to existing infrastructure, TMDL and other Clean Water Act obligations. This planning effort will be coupled with a financial capacity analysis and strategy development for funding these improvements, including, but not limited to, rate increases, grants, smaller amounts of annual borrowing authorized by the Council (per the Charter), leveraging of additional CWSRF funding or future (larger scale) revenue bonds.
- The total estimated stormwater capital need in order to integrate storm sewer main rehabilitation and stormwater treatment with proposed street paving projects over the next five years (FY17-FY21) is approximately $4.1 million. This need will be addressed through rate derived revenues (including possible rate increases and use of cash reserve) and approximately $2.5 million of borrowing from the CWSRF. No additional bonding is proposed at this time for paving related stormwater infrastructure improvements. However, the pipe assessment project will inform the need for additional sewer main expenditures beyond FY19/FY20 and additional borrowing may be necessary at that point.
- Additional stormwater capital costs unrelated to the paving program (FY17-FY21) include an additional approximate $1.1 million for stormwater outfall repair (currently proposed to be funded by rate revenue) and approximately $2.1 million on Integrated Planning and initial phases of implementation of enhanced stormwater management retrofits (funded by CWSRF borrowing) related to our highest priority clean water obligations. Additional capital planning and Integrated Planning over FY17-FY19 will assist in determining what additional capital needs must be met due to existing infrastructure, the TMDL and other Clean Water Act obligations. This planning effort will be coupled with a financial capacity analysis and strategy development for funding these improvements, including, but not limited to, rate increases, grants, smaller amounts of annual borrowing authorized by the Council (per the Charter), leveraging of additional CWSRF funding or future larger scale revenue bonds.
- As part of this capital implementation enhancement, Water Resources will need to evaluate staff resource needs in order to ensure successful implementation of these capital projects.

Water Resources FY17-21 Capital Needs	Water	Wastewater	Stormwater	Total
Related to Street Paving	$12,300,000	$3,100,000	$4,100,000	**$15,700,000**
Unrelated to Street Paving	$2,600,000	$4,300,000	$3,200,000	**$10,100,000**
Total Needs	$14,100,000	$7,400,000	$7,300,000	**$25,800,000**
2016 Water Revenue Bond Request*	$8,350,000			**$8,350,000**

*Note: See wastewater and stormwater narrative above for discussion of funding plan for identified wastewater and stormwater need. Future budget planning and Council authorizations will affect FY17-FY21 funding portfolios for all Water Resources. Ongoing capital planning in FY17 and FY18 will inform possible additional needs and borrowing particularly for FY20 and beyond.

Memorial Auditorium

Current Status:

- There is significant capital work needed to continue use of the building.
  - The fire alarm system and the heating system need to be rehabilitated.
  - There are structural questions that require the upper portion of the building be opened up, beams tested, and repaired.
  - No events are scheduled within the building after April 1, 2016.
- There is no budget in the Capital Plan to address any capital needs, which are estimated to cost about $4 million to maintain the building as is and approximately $14 million to redevelop the facility.

Proposed Action Under 10-Year Capital Plan:

- An RFP is in process to look at potential reuses of the building. The RFP process is expected to result in a plan for the building, potentially in collaboration with the University of Vermont.

Parking Garages

Current Status:

- A 2014 engineering assessment identified $9 million of major capital repairs needed in the City's three major downtown parking structures to enable them to reach their full service life:
  - Marketplace Garage (built in 1976 with 378 spaces) requires an estimated $3.8 million in repairs to extend its life an additional 15-20 years;
  - College Street Garage (built in 1986 with 456 spaces) requires an estimated $3.9 million in repairs to extend its life an additional 20-30 years; and
  - Lakeview Garage (built in 1998 with 667 spaces) requires an estimated $647,000 in repairs to extend its life an additional 30-40 years.
- If the structural, drainage, electrical, and mechanical repairs are not completed in a timely fashion, the parking structures will suffer from increased operating costs, poor customer experience, and a shortened lifespan.
- In 2015, the City Council accepted a Downtown Parking & Transportation Plan that provides a roadmap to upgrading the parking system so it achieves three main goals into the future:
  - Delivering excellent customer service;
  - Achieving a financially sustainable system; and
  - Contributing to the ongoing vitality of downtown.

Proposed Action Under 10-Year Capital Plan:

- Thanks to the continued patronage of the public and rate increases that were enacted in November 2014, the Traffic Fund has transitioned from deficit budgets and deferred capital expenditures to positive budgets that include increased capital investments.
- Phase I of the capital repair effort is currently underway. This $1.6 million investment is repairing the decks and improving drainage in the College Street Garage while repairing the decks and refurbishing the elevators in Marketplace Garage.
- Design for Phase II is underway, and construction is expected to start in FY17. The estimated cost for this phase is $7 million. Work in the College Street Garage will include all new high-efficiency LED lighting, repairs to the structural beams, new ventilation fans, etc. Work in the Marketplace Garage will include upgraded stair towers, new cable guard rail, and overhauled exit lanes. The Lakeview Garage will see painting of steel, reconfiguration of

the stair tower enclosure, and joint sealant. The Downtown Parking & Transportation Plan recommended additional rate adjustments to fund this and future capital repair work.
- The parking plan also recommended further upgrades to the garage payment equipment on-street meter system to expand payment options and to allow for dynamic pricing depending on demand.
- The parking plan's recommendations also provided a road map for expanding the Traffic Fund's focus on maintaining our current system – to also be a dynamic engine of innovation as the City looks to reinvest in downtown infrastructure and transportation options.

Parks

Current Status:

- Burlington Parks, Recreation & Waterfront (BPRW) currently manages 40 parks, 38 miles of public trails, and 500+ acres of parkland.
- The Penny for Parks program has been successfully re-established over the last four years, reaching beyond the level of functionality originally intended with the program's inception.
- BPRW's capital planning and implementation resources also include the Bike Path Maintenance Improvement Program (BPMIF), Park Impact Fees, and private donations from the Parks Foundation.
- Over the last four years, BPRW has successfully completed over 100 projects, leveraging an additional $3 million in enhancements above current funding levels from alternate sources.
- Despite these efforts, BPRW still has significant deferred court replacements, crumbling roadways, stormwater management issues, and outdated public restroom and playground facilities, not to mention climate adaptation needs.

Proposed Action Under 10-Year Capital Plan:

- The comprehensive 2015 BPRW Master Plan illustrated that the Department actually requires twice the current annual funding to maintain capital investments in current parkland, facilities, and amenities.
- Much of the current, identified parks capital need comes from projects that were originally installed decades ago and now require substantial investment and renovation rather than light improvement or repair.
- Additional funding will support:
    - Evaluation of existing court placements and subsequent improvement, replacement, or removal;
    - Playground enhancements to increase universal accessibility and innovative play design;
    - Coordinated planning efforts with DPW and stormwater team for improvements to park infrastructure and better community management of stormwater issues;
    - Increased funding for connectivity and accessibility upgrades to existing park facilities (trails, paths, bathrooms);
    - Phased installation of parks and Bike Path-specific wayfinding throughout the parks system;
    - Management updates to Urban Wild Conservation areas to better protect our sensitive natural areas; and
        - Monument restoration and public art maintenance to preserve and protect the heritage, history, and beauty of our parks system.
- Staffing/consultant capacity to support expeditious project completion.

Burlington School District

Current Status:

- As noted above, the City and School District both have capital needs and are seeking to work collaboratively to limit the impact of those costs on the community.
- Adopting the practice of a long-range comprehensive capital planning effort in consultation with the City, the School District has conducted facility assessments and identified needs across the community.
- In addition to diagnosing its capital needs, the School District is collaborating with the City to attempt to find $2 million of recurring annual operational savings.
- Unlike the City, the District is reliant on property taxes supporting the State Education Fund for its infrastructure needs.
- Total School District need will be a function in large part of the District's vision for the future of Burlington High School – the School Board is weighing options that range from necessary repairs to the facility to a complete rebuild (the latter option is substantially more expensive).

Proposed Action Under 10-Year Capital Plan:

- The School District is by law outside of the City's capital planning effort.
- The City and School District understand they draw on the same property tax base and are working together to reduce operational costs where possible and to accommodate each other's capital needs.
- Part of the reason the City has pursued the RFP process for Memorial Auditorium was a recognition of the needs in the School District: a complete re-build and repurposing of the auditorium could have cost upward of $14 million, which would have taken place in competition with the needs of the School District.

V. Financing Plan

The challenge posed by our deteriorating infrastructure impacts all our residents, businesses, and institutions. Proper stewardship will require contributions from all stakeholders across the City to stabilize and efficiently maintain our infrastructure if we are going to keep our City affordable, accessible, economically vibrant, and reduce long-term potential costs. By sharing the cost among all stakeholders, we will be able to address the challenge while avoiding an undue burden on any group – and by taking action proactively now, while the City is in a strong financial position and before the system detiorates further, we are reducing the total cost to taxpayers.

This section outlines cost-saving measures and a proposed cost-sharing strategy among different stakeholders, including institutions, visitors, and the business community.

Overview

This white paper outlines a period of focused infrastructure investment of about $42 million in general fund assets and about $26 million in water resource related assets over the next five years. The strategy for funding this needed investment includes:

- $8.6 million in investment in the Bike Path and renovated City Hall Park from increasing the City's Gross Receipts Tax by two percent on alcohol and rooms starting in FY17. Visitors to Burlington are expected to pay for the majority of these revenues, approximately 60 percent of meals costs and close to 100 percent of hotel room costs.
- Approximately $4 million in new contributions from the University of Vermont (UVM) and Champlain College.
- $250,000 in new transportation investment from the Traffic Fund in FY17.
- Approximately $2 million in private contributions.
- Approximately $27.5 million in a new general obligation bond that will be drawn down incrementally over five years to pay for the balance of the investments planned over the next five years (detailed in the chart below).
- An additional $8.4 million in a revenue bond for Water and Wastewater improvements, with an additional almost $7 million in initial Clean Water State Revolving Fund loans for Wastewater and Stormwater capital planning, design and implementation.

Following the five-year investment period, the 10-year capital plan projects a substantially higher ongoing annual investment in the maintenance of the City's streets and sidewalks to ensure the higher quality infrastructure is maintained and the current backlog of deferred investment does not build up again.

FY17 – FY21 General Fund Capital Plan Summary by Source

General Fund	Streets/Sidewalks	Vehicle Fleet	Bike Path	City Hall Park	IT infrastructure	Civic Buildings	Total
Traffic Fund	$250,000						250,000
Gross Receipts			$7,670,425	$1,000,000			$8,670,425
Institutions	$2,085,320	$785,888	$750,000	$500,000			$4,121,208
Philanthropy			$1,000,000	$1,030,000			$2,030,000
Bond Proceeds	$14,392,032	$3,357,325	$2,698,576	$500,000	$1,675,000	$4,950,575	$27,573,508
Total	$16,727,352	$4,143,213	$12,119,001	$3,030,000	$1,675,000	$4,950,575	$42,645,141

Financing Details by Source

Traffic Fund

Summary of role in 10 Year Capital Plan: Over the past three years, through expense reductions and new pricing strategies, the Traffic Fund has been transformed from negative operating revenues to a revenue generator for the City's traffic-related needs. The plan assumes that the Traffic Fund will generate $250,000 from the approved FY17 budget.

Institutions

Summary of role in 10 Year Capital Plan: UVM and Champlain College are tremendous assets for the City of Burlington, which benefits from the students, faculty, research, and cultural springs both institutions provide. In turn, UVM and Champlain share a common interest in maintaining an attractive and inviting community that is diverse, vibrant, welcoming to students, maintains a high quality of life, and possesses amenities that attract students and take advantage of Burlington's remarkable natural setting.

Students living off campus generally live in taxable properties that participate in the funding of the City's capital infrastructure. However, approximately 8,000 students – about 20 percent of the City's population – live in tax-exempt dormitories. The City is involved in negotiations with UVM and Champlain College an annual contribution that would generate about $10 million over a 10-year period for capital investments, approximately 14 percent of the total funding need for the Capital Plan. The plan assumes that these payments begin with the 2017-2018 academic year.

Implementation required: Completion of agreements regarding this plan with both UVM and Champlain College.

Gross Receipts Revenues

Summary of role in 10 Year Capital Plan: Burlington's business community has time and again stepped forward to help make this City the incredible destination and accessible community that is has become. And, there is reason to believe that re-investment in City assets will help support the prosperity Burlington has enjoyed in recent years. To facilitate necessary investment in new, enhanced City assets like the Bike Path and City Hall Park that spur economic growth, this white paper proposes an increase from two to three percent of the gross receipts tax for five years.

- The City's gross receipts tax (which includes rooms and meals purchases) is paid primarily by the many visitors who come annually to Burlington (about 60 percent of meals costs and close to 100 percent of hotel room costs). Over a five year period, that increase would generate approximately $2 million annually and about $8.67 million total.

Implementation required:

- The City Council must approve a two percent increase in the gross receipts tax for alcohol and rooms for FY17.

Bonding

Summary of role in 10 Year Capital Plan: To make the balance of the necessary investments between FY17 and FY21, the City will seek authority to bond over time for a total General Obligation Bond of approximately $27.5 million. The City will pursue a number of strategies to minimize the impact of this new bonding on taxpayers, including:

- Phasing: If authorized, the new bonding will be done in annual phases to keep pace with the construction of new infrastructure. This will spread out over that time period the new financial impact of this bonding.
- Debt retirement: In 2022 the City will retire $4.3 million of debt, freeing up approximately $300,000 a year to service the new bond.
- Deferral of principal payments: To minimize the impact of the new bonding on taxpayers in the early years (until other debt is retired and the City's Waterfront TIF district expires in 2026, freeing up considerable new revenues that will take pressure off property taxpayers), the City will pursue a strategy common in the municipal bond market of deferring principal payments on some of the new bonding for five years.

The cumulative impacts of these strategies mean that the average residential property taxpayer will face higher tax bills as a result of the new bond authorization of less than $10/month in the early years of the new bonding and no more than $10/month when the bonds are fully drawn and amortizing (around $120 a year). The model contains some uncertainty beyond 2021, as the higher base spending required to maintain improved infrastructure is not fully projected. This approach is well within the City's bonding capacity. As noted above, the City relies on different sources for its underground water infrastructure, and would seek additional authority to supply the $8.4 million necessary to complete water infrastructure repairs concurrent with street repaving.

Regarding its overall bond debt, Burlington has taken a conservative approach. The City could issue an additional $200 million of general obligation debt and not jeopardize its newly restored "A" rating or otherwise impact the scoring it receives related to the City's debt. The City currently has approximately $76 million of net direct General Obligation debt.

Implementation required: The General Obligation bond will require a two-thirds vote in support from City taxpayers in November 2016. The Revenue Anticipation bond will require a 50 percent vote in support from City residents in November 2016.

VI. 2016 Timeline

Key steps in the implementation of this plan will take place over the course of the 2016 calendar year. Current projected actions include:

- September – October 2016:
  - City Council review, amendment, and approval of the 10-year capital plan.
  - Commission review of the 10-year capital plan.
  - Completion of discussions with UVM and Champlain College regarding contributions to 10-year capital plan.

- November 2016:
  - Voter consideration of $27.5 million General Fund infrastructure bond
  - Voter consideration of $8.4 million Water infrastructure bond
  - City Council consideration and approval of increase of gross receipts tax.

	A	B	C	F	G	H	I	J	K	L	M	N	O	P	R
1	**City of Burlington 10 Year Capital Plan (Fiscal Year 2017 - 2026)**														
2	**General Fund Capital Plan by Asset Class**														
3	**GO BOND OBLIGATION**	**Item**	**NOTES**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**FY 2021**	**FY 17 - 21**	**FY 2022**	**FY 2023**	**FY 2024**	**FY 2025**	**FY 2026**	**TOTAL FY17 - 26**
4	***Expenditures***	GO Bond Obligations Debt Service		$ 2,982,948	$ 3,037,153	$ 3,045,114	$ 2,664,689	$ 2,665,650	$ 14,395,554	$ 2,635,467	$ 2,639,595	$ 2,635,938	$ 2,735,070	$ 2,731,420	$ 30,438,694
5		GO Bond Debt Service Public Works		$ 275,235	$ 275,330	$ 278,582	$ 276,835	$ 278,210	$ 1,384,193	$ -	$ -	$ -	$ -	$ -	$ 1,662,403
6		GO Bond New Debt Service ($2M)		$ -	$ -	$ 175,000	$ 175,000	$ 175,000	$ 525,000	$ 175,000	$ 175,000	$ 175,000	$ 175,000	$ 175,000	$ 1,575,000
7		**Total Debt Service Expense**		**$ 3,258,183**	**$ 3,312,483**	**$ 3,498,696**	**$ 3,116,525**	**$ 3,118,860**	**$ 16,304,747**	**$ 2,810,467**	**$ 2,814,595**	**$ 2,810,938**	**$ 2,910,070**	**$ 2,906,420**	**$ 33,676,097**
8	***Revenue***	GO Bond Revenue for New Debt		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -		$ -
9		DPW Central Facility 7200_115		$ (277,123)	$ (277,123)	$ (277,123)	$ (277,123)	$ (277,123)	$ (1,385,615)	$ -	$ -	$ -	$ -	$ -	$ (1,662,738)
10		Property Tax Debt Service 4000_220		$ (2,982,948)	$ (3,037,153)	$ (3,221,000)	$ (2,876,000)	$ (2,876,000)	$ (14,993,101)	$ (2,876,000)	$ (2,876,000)	$ (2,876,000)	$ (2,876,000)	$ (2,876,000)	$ (32,249,101)
11		CIP Bond		$ (2,000,000)	$ (2,000,000)	$ (2,000,000)	$ (2,000,000)	$ (2,000,000)	$ (10,000,000)	$ (2,000,000)	$ (2,000,000)	$ (2,000,000)	$ (2,000,000)	$ (2,000,000)	$ (22,000,000)
12		**Total Debt Service Revenues**		**$ (5,260,071)**	**$ (5,314,276)**	**$ (5,498,123)**	**$ (5,153,123)**	**$ (5,153,123)**	$ (26,378,716)	**$ (4,876,000)**	**$ (4,876,000)**	**$ (4,876,000)**	**$ (4,876,000)**	**$ (4,876,000)**	**$ (55,911,839)**
13	**Net Debt Service Obligation**			**$ (2,001,888)**	**$ (2,001,793)**	**$ (1,999,427)**	**$ (2,036,598)**	**$ (2,034,263)**	**$ (10,073,969)**	**$ (2,065,533)**	**$ (2,061,405)**	**$ (2,065,062)**	**$ (1,965,930)**	**$ (1,969,580)**	**$ (22,235,742)**
14															
15	**CITYWIDE FLEET REINVESTMENT**	**Item**	**NOTES**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**FY 2021**	**FY 17 - 21**	**FY 2022**	**FY 2023**	**FY 2024**	**FY 2025**	**FY 2026**	**TOTAL FY17 - 26**
16	***Expenditures***	Equipment Maintenance Vehicle		$ -	$ -	$ -	$ -		$ -	$ -	$ -	$ -	$ 65,000	$ -	$ 65,000
17		Recycling Vehicles	will be leases		$ -				$ -	$ 260,000	$ 260,000	$ -	$ 260,000	$ -	$ 780,000
18		Right of Way Streets Vehicles leases FY15		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
19		Streets Equipment leases							$ -						$ -
21		Right of Way Streets Leases FY15		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
22		Right of Way Interest on Leases FY15		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
23		ROW old lease		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
24		Fleet Lease	5%	$ 100,000	$ 105,000	$ 110,250	$ 181,000	$ 200,000	$ 696,250	$ 210,000	$ 220,500	$ 231,525	$ 243,101	$ 255,256	$ 2,056,633
35		Fire engines and ladder		$ -	$ 1,362,000	$ 1,450,000			$ 2,812,000			$ 1,100,000			$ 3,912,000
36	FY 20/21 ambulance in lease	Fire Vehicles				$ 630,000			$ 630,000	$ -	$ 640,000	$ 25,000	$ -	$ 292,000	$ 1,587,000
37		Library Van		$ 25,000	$ -	$ -	$ -	$ -	$ 25,000	$ -	$ -	$ -	$ -	$ -	$ 25,000
38		Police Vehicles		$ 224,000	$ 349,000	$ 315,000	$ 255,000	$ 207,000	$ 1,350,000	$ 225,000	$ 274,000	$ 315,000	$ 255,000	$ 207,000	$ 2,833,000
39		Police DEA leases		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
40		Police Chase lease 2011 final payment		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
41		Parks Ford Motor Credit van		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
42		Chase Parks Zamboni		$ -					$ -						$ -
43		Chase Parks 2011		$ -					$ -						$ -
44		Parks FY167Lease	5%	$ 50,000	$ 52,500	$ 55,125	$ 57,881	$ 60,775	$ 276,282	$ 63,814	$ 67,005	$ 70,355	$ 73,873	$ 77,566	$ 689,670
45		Parks Fleet							$ -					$ -	$ -
46		New Parks leases		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
47		**Total Fleet Replacement Cost**		**$ 399,000**	**$ 1,868,500**	**$ 2,560,375**	**$ 493,881**	**$ 467,775**	**$ 5,789,532**	**$ 758,814**	**$ 1,461,505**	**$ 1,741,880**	**$ 896,974**	**$ 831,823**	**$ 11,948,303**
48	***Revenue***	Police Impact Fees ($49,058/year)			$ (82,837)	$ (147,174)	$ -	$ -	$ (230,011)	$ (147,174)	$ -	$ -	$ (147,174)	$ (147,174)	$ (671,533)
49		Police Revenue from GL		$ (224,000)	$ (224,077)	$ (224,077)	$ (224,077)	$ (224,077)	$ (1,120,308)	$ (223,629)	$ (223,629)	$ (223,629)	$ (223,629)	$ (223,629)	$ (2,462,530)
50		Police Revenue from GL DPW maintenance			$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
51		Airport Reimbursement Police		$ -	$ -	$ -	$ (6,000)	$ (6,000)	$ (12,000)	$ (6,000)	$ (6,000)	$ (6,000)	$ (6,000)	$ (6,000)	$ (48,000)
52		Fire Dept New Lease GL							$ -						$ -
53		Fire Dept. Impact Fees ($39,599/year)		$ -		$ -	$ -	$ -	$ -	$ -	$ (158,396)	$ -	$ -	$ -	$ (158,396)
54		Library van (impact fees??)		$ (25,000)	$ -	$ -	$ -	$ -	$ (25,000)	$ -	$ -	$ -	$ -	$ -	$ (25,000)
55		Parks GL			$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
56		Parks GL for FY17 lease	$ -	$ (50,000)	$ -	$ -	$ -	$ -	$ (50,000)		$ -	$ -	$ -	$ -	$ (50,000)
57		DPW GL	48K	$ (86,500)	$ -	$ -	$ -	$ -	$ (86,500)		$ -	$ -	$ -	$ -	$ (86,500)
58		Streets maintenance		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
59		Recycling GL lease $147,500/year		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
60		Police Trade-in		$ (13,500)	$ (13,500)	$ (13,500)	$ (13,500)	$ (13,500)	$ (67,500)	$ (13,500)	$ (13,500)	$ (13,500)	$ (13,500)	$ (13,500)	$ (148,500)
61		fleet lease purchase							$ -						$ -
62		Trade-in Fire engines		$ -	$ (55,000)	$ -	$ -	$ -	$ (55,000)	$ -	$ -	$ -	$ -	$ -	$ (55,000)
63		**Total Revenues**		**$ (399,000)**	**$ (375,414)**	**$ (384,751)**	**$ (243,577)**	**$ (243,577)**	**$ (1,646,319)**	**$ (390,303)**	**$ (401,525)**	**$ (243,129)**	**$ (390,303)**	**$ (390,303)**	**$ (3,705,459)**
64	**Fleet Reinvestment Total Deficit (Surplus)**			**$ -**	**$ 1,493,086**	**$ 2,175,624**	**$ 250,304**	**$ 224,198**	**$ 4,143,213**	**$ 368,511**	**$ 1,059,980**	**$ 1,498,751**	**$ 506,671**	**$ 441,520**	**$ 8,242,844**
65															

	A	B	C	F	G	H	I	J	K	L	M	N	O	P	R
66	**CITY WIDE FACLITIES**	**Item**	**NOTES**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**FY 2021**	**FY 17 - 21**	**FY 2022**	**FY 2023**	**FY 2024**	**FY 2025**	**FY 2026**	**TOTAL FY17 - 26**
67	***Expenditures***	FFL		$ 88,519	$ 121,089	$ 301,676	$ 108,016	$ 1,337	$ 620,637	$ 1,565	$ 334,748	$ 137,558	$ 50,582	$ 24,297	$ 1,170,724
68		City Hall Repairs		$ 600,000	$ 90,476	$ 100,000	$ 100,000	$ 100,000	$ 990,476	$ 205,225	$ 49,870	$ 305,157	$ 99,020	$ 42,646	$ 1,792,394
69		Miller Center		$ 11,190	$ 15,570	$ 41,673	$ -	$ 1,476	$ 69,909	$ -	$ 26,095	$ 249,896	$ 27,411	$ -	$ 374,787
70		Leddy Arena		$ 480,000	$ 121,413	$99,345	$18,029	$50,279	$ 769,066	$184,685	$0	$322,212	$197,605	$8,917	$ 1,532,764
71		North Beach		$ 18,781	$ 225,726	$ 170,941	$ -	$ 874	$ 416,322	$ 21,600	$ 16,724	$ 418,988	$ 984	$ 43,030	$ 918,522
72		Oakledge		$ 45,020	$ -	$ 13,682	$ 1,061	$ 2,697	$ 62,460	$ 52,191	$ -	$ 1,194	$ 1,871	$ 8,917	$ 129,330
73		Boathouse		$ -	$ -	$ 425,000	$ 400,000	$ 36,989	$ 861,989	$ -	$ 12,336	$ 12,330	$ 656	$ 25,423	$ 949,723
74		Lake View Cemetery Building		$ 15,000	$ 24,057	$ 53,205	$ 1,143	$ 23,714	$ 117,119	$ 2,987	$ 3,082	$ 1,287	$ 15,286	$ 27,611	$ 191,086
75		Miscellaneous Parks Buildings		$ 146,443	$ 110,000	$ 110,000	$ 6,274	$ 63,183	$ 435,900	$ 19,486	$ 72,335	$ 62,238	$ 27,174	$ 111,936	$ 792,252
76		Stonehouse - North Avenue		$ 250,000	$ -	$ -	$ -	$ -	$ 250,000	$ -	$ -	$ -	$ -	$ -	$ 250,000
77		Police Department		$ 50,000	$ 3,124	$ 84,567	$ 6,817	$ 55,995	$ 200,503	$ 144,480	$ 3,622	$ 188,684	$ 69,884	$ 36,383	$ 699,551
78		Fire Station #1		$ 3,085	$ -	$ 25,295	$ 8,667	$ 15,687	$ 52,734	$ -	$ 28,803	$ 21,097	$ 2,049	$ -	$ 120,370
79		Fire Station #2		$ -	$ 410	$ 40,000	$ 15,256	$ 9,851	$ 65,517	$ 10,752	$ 72,652	$ 59,968	$ -	$ -	$ 218,740
80		Fire Station #3		$ -	$ -	$ 7,328	$ -	$ -	$ 7,328	$ -	$ 9,790	$ 112,911	$ 139,765	$ -	$ 269,794
81		Fire Station #4		$ 24,917	$ 1,568	$ 15,064	$ 521	$ 17,020	$ 59,090	$ 17,081	$ 1,817	$ 18,234	$ 6,541	$ 14,460	$ 134,243
82		Fire Station #5		$ 24,597	$ 1,661	$ 27,782	$ 521	$ 21,689	$ 76,250	$ 19,584	$ 1,926	$ 27,400	$ 6,135	$ 13,067	$ 166,051
83		645 Pine Street		$ 176,000	$ 1,393	$ 62,477	$ 177,602	$ 83,315	$ 500,787	$ 1,568	$ 1,615	$ 90,239	$ 142,137	$ 112,207	$ 931,868
84		Firehouse Gallery		$ 40,388	$ 46,545	$ 4,107	$ -	$ 31,320	$ 122,360	$ 40,000	$ 17,269	$ 17,614	$ 19,465	$ 30,758	$ 278,786
85		Memorial		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
86		**Total Expenditure**		**$ 1,973,940**	**$ 763,032**	**$ 1,582,142**	**$ 843,907**	**$ 515,426**	**$ 5,678,447**	**$ 721,204**	**$ 652,684**	**$ 2,047,007**	**$ 806,565**	**$ 499,652**	**$ 10,920,985**
87	***Revenue***	Interest Perpetual Care Fund Lake View Cemetery		$ (15,000)	$ (24,057)	$ -	$ -	$ -	$ (39,057)	$ -	$ -	$ -	$ -	$ -	$ (39,057)
88		Donation for Stonehouse		$ (250,000)	$ -	$ -	$ -	$ -	$ (250,000)	$ -	$ -	$ -	$ -	$ -	$ (250,000)
89		Utility savings from EE projects	5% increase/yr	$ (75,000)	$ (78,750)	$ (82,688)	$ (86,822)	$ (91,163)	$ (414,422)	$ (95,721)	$ (100,507)	$ (105,533)	$ (110,809)	$ (116,350)	$ (1,034,505)
90		**Total Revenues**		**$ (340,000)**	**$ (102,807)**	**$ (82,688)**	**$ (86,822)**	**$ (91,163)**	**$ (703,479)**	**$ (95,721)**	**$ (100,507)**	**$ (105,533)**	**$ (110,809)**	**$ (116,350)**	**$ (1,323,562)**
91	**City Wide Facilities Total Deficit (Surplus)**			**$ 1,633,940**	**$ 660,225**	**$ 1,499,455**	**$ 757,085**	**$ 424,263**	**$ 4,974,968**	**$ 625,483**	**$ 552,177**	**$ 1,941,474**	**$ 695,756**	**$ 383,302**	**$ 9,597,423**
92															
93	**RD & SIDEWALK REINVESTMENT**	**Item**	**NOTES**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**FY 2021**	**FY 17 - 21**	**FY 2022**	**FY 2023**	**FY 2024**	**FY 2025**	**FY 2026**	**TOTAL FY17 - 26**
94	***Expenditures***	Street Reinvestment	2%esc FY22	$ 2,482,391	$ 2,299,321	$ 2,299,321	$ 2,299,321	$ 2,299,321	$ 11,679,675	$ 1,500,000	$ 1,530,000	$ 1,560,600	$ 1,591,812	$ 1,623,648	$ 21,785,056
95		Curb Reinvestment	was $75)k	$ 500,000	$ 500,000	$ 500,000	$ 500,000	$ 500,000	$ 2,500,000	$ 1,000,000	$ 1,000,000	$ 1,030,000	$ 1,060,900	$ 1,092,727	$ 8,183,627
96		Preventive Maint. Streets		$ 200,000	$ 200,000	$ 200,000	$ 200,000	$ 200,000	$ 1,000,000	$ 200,000	$ 200,000	$ 200,000	$ 200,000	$ 200,000	$ 2,200,000
97		Median protection		$ 150,000	$ 150,000	$ 150,000	$ 150,000	$ 150,000	$ 750,000	$ 150,000	$ 150,000	$ 150,000	$ 150,000	$ 150,000	$ 1,650,000
98		Park Road Paving		$ 200,000	$ 200,000	$ 200,000	$ 200,000	$ -	$ 800,000	$ -	$ -	$ -	$ -	$ -	$ 800,000
99		Sidewalk Reinvestment	2%esc FY22	$ 2,100,000	$ 1,967,500	$ 1,967,500	$ 1,967,500	$ 1,967,500	$ 9,970,000	$ 1,570,000	$ 1,601,400	$ 1,633,428	$ 1,666,097	$ 1,699,418	$ 20,107,843
100		Projects		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
101		Bridge Replacement	Queen City Bridge	$ -		$ 1,875,000	$ -	$ -	$ 1,875,000	$ -	$ -	$ -	$ -	$ -	$ 1,875,000
102		Bridge Repairs		$ -	$ 150,000.00	$ -	$ -	$ 175,000	$ 325,000	$ 1,475,000	$ -	$ -	$ -	$ -	$ 1,975,000
103		**Total Expenditures**		**$ 5,632,391**	**$ 5,466,821**	**$ 7,191,821**	**$ 5,316,821**	**$ 5,291,821**	**$ 28,899,675**	**$ 5,895,000**	**$ 4,481,400**	**$ 4,574,028**	**$ 4,668,809**	**$ 4,765,794**	**$ 58,576,526**
104	***Revenue***	Fees & Permits		$ (100)	$ (100)	$ (100)	$ (100)	$ (100)	$ (500)	$ (100)	$ (100)	$ (100)	$ (100)	$ (100)	$ (1,100)
105		Lakeview Perpetual Fund		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
106		Vtrans Bridge replacement dollars	80% of QC bridge	$ -	$ -	$ (1,500,000)	$ -	$ -	$ (1,500,000)	$ -	$ -	$ -	$ -	$ -	$ (1,500,000)
107		Excavation Fees		$ (300,000)	$ (309,000)	$ (318,270)	$ (327,818)	$ (337,653)	$ (1,592,741)	$ (347,782)	$ (358,216)	$ (368,962)	$ (380,031)	$ (391,432)	$ (3,776,816)
108		Dedicated Tax 1%		$ (2,067,251)	$ (2,087,923)	$ (2,108,803)	$ (2,129,891)	$ (2,151,190)	$ (10,545,057)	$ (2,172,701)	$ (2,194,428)	$ (2,216,373)	$ (2,238,536)	$ (2,260,922)	$ (23,779,207)
109		**Total Revenues**		**$ (2,367,351)**	**$ (2,397,023)**	**$ (3,927,173)**	**$ (2,457,809)**	**$ (2,488,942)**	**$ (13,638,298)**	**$ (2,520,584)**	**$ (2,552,744)**	**$ (2,585,435)**	**$ (2,618,667)**	**$ (2,652,454)**	**$ (29,057,123)**
110	**Rd & Sidewalk Reinvestment Total Deficit (Surplus)**			**$ 3,265,040**	**$ 3,069,798**	**$ 3,264,648**	**$ 2,859,012**	**$ 2,802,879**	**$ 15,261,377**	**$ 3,374,416**	**$ 1,928,656**	**$ 1,988,593**	**$ 2,050,141**	**$ 2,113,340**	**$ 29,519,403**
111															

	A	B	C	F	G	H	I	J	K	L	M	N	O	P	R
112	**ROAD & SIDEWALK ENHANCEMENTS**	**Item**	**NOTES**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**FY 2021**	**FY 17 - 21**	**FY 2022**	**FY 2023**	**FY 2024**	**FY 2025**	**FY 2026**	**TOTAL FY17 - 26**
113	***Expenditures***	Champlain Parkway Budget	$20K match	$ 1,560,000	$ 15,500,000	$ 14,500,000	$ -	$ -	$ 31,560,000	$ -	$ -	$ -	$ -	$ -	$ 31,560,000
114		DPW Projects		$ 93,100	$ -	$ -	$ -	$ -	$ 93,100	$ -	$ -	$ -	$ -	$ -	$ 93,100
115		Transportation Planning		$ 250,000	$ 250,000	$ 250,000	$ 250,000	$ 250,000	$ 1,250,000	$ 257,500	$ 265,225	$ 273,182	$ 281,377	$ 289,819	$ 2,867,102
116		Traffic calming		$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 500,000	$ 103,000	$ 106,090	$ 109,273	$ 112,551	$ 115,927	$ 1,146,841
117		Railyard Enterprise		$ 500,000	$ 500,000	$ 1,000,000	$ 2,000,000	$ 3,000,000	$ 7,000,000	$ 3,000,000					$ 13,000,000
118		TIF Enhancement projects -infrastructure		$ 887,000	$ 5,787,500	$ 2,528,500	$ 7,666,430	$ -	$ 16,869,430	$ -	$ -	$ -	$ -	$ -	$ 16,869,430
119		Bike path slope failure							$ -						$ -
120		Lavallewy lane repaving		$ 63,000					$ 63,000						$ 63,000
121		TIF Waterfront - Cherry St. Imp.				$ 2,700,000			$ 2,700,000						$ 2,700,000
122		Transportation Projects		$ -	$ -	$ -	$ -	$ 947,500	$ 947,500	$ 2,947,500	$ 2,947,500	$ 2,947,500	$ 2,947,500	$ 2,947,500	$ 16,632,500
123		**Total Expenditures**		**$ 3,453,100**	**$ 22,137,500**	**$ 21,078,500**	**$ 10,016,430**	**$ 4,297,500**	**$ 60,983,030**	**$ 6,308,000**	**$ 3,318,815**	**$ 3,329,954**	**$ 3,341,428**	**$ 3,353,246**	**$ 84,931,973**
124	***Revenue***	Federal or State Funding Projects	est. 80%	$ -	$ -	$ -	$ -	$ (758,000)	$ (758,000)	$ (2,358,000)	$ (2,358,000)	$ (2,358,000)	$ (2,358,000)	$ (2,358,000)	$ (13,306,000)
125		WAN BEDI		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
126		Railyard Enterprise		$ (400,000)	$ (400,000)	$ (800,000)	$ (1,600,000)	$ (2,400,000)	$ (5,600,000)	$ (2,400,000)					$ (10,400,000)
127		parks reimburse for bike path slope							$ -						$ -
128		Lavalley lane water resources		$ (63,000)				$ -	$ (63,000)						$ (63,000)
129		TIF Enhancement projects -infrastructure		$ (887,000)	$ (5,787,500)	$ (2,528,500)	$ (7,666,430)	$ -	$ (16,869,430)	$ -	$ -	$ -	$ -	$ -	$ (16,869,430)
130		TIF Waterfront - Cherry St. Imp.				$ (2,700,000)			$ (2,700,000)						$ (2,700,000)
131		Street Capital funding for CP		$ (31,200)					$ (31,200)						$ (31,200)
132		Champlain Parkway Funded Portion		$ (1,528,800)	$ (14,700,000)	$ (13,720,000)	$ -	$ -	$ (29,948,800)	$ -	$ -	$ -	$ -	$ -	$ (29,948,800)
133		CIP carryforward							$ -						$ -
134		Bike/Ped Grant		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
135		**Total Revenues**		**$ (2,910,000)**	**$ (20,887,500)**	**$ (19,748,500)**	**$ (9,266,430)**	**$ (3,158,000)**	$ (55,970,430)	**$ (4,758,000)**	**$ (2,358,000)**	**$ (2,358,000)**	**$ (2,358,000)**	**$ (2,358,000)**	**$ (73,318,430)**
136	**Road & Sidewalk Enhancements Total Deficit (Surplus)**			**$ 543,100**	**$ 1,250,000**	**$ 1,330,000**	**$ 750,000**	**$ 1,139,500**	**$ 5,012,600**	**$ 1,550,000**	**$ 960,815**	**$ 971,954**	**$ 983,428**	**$ 995,246**	**$ 11,613,543**
137															
138	**FLETCHER FREE LIBARARY**	**Item**	**NOTES**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**FY 2021**	**FY 17 - 21**	**FY 2022**	**FY 2023**	**FY 2024**	**FY 2025**	**FY 2026**	**TOTAL FY17 - 26**
139	***Expenditures***	Impact Fee Improvements		$ -	$ -	$ 130,396	$ -	$ -	$ 130,396	$ -	$ 130,396	$ -	$ -	$ 130,396	$ 391,188
140		**Total Expenditures**		**$ -**	**$ -**	**$ 130,396**	**$ -**	**$ -**	**$ 130,396**	**$ -**	**$ 130,396**	**$ -**	**$ -**	**$ 130,396**	**$ 391,188**
141	***Revenue***	Impact Fees ($32,599/year)		$ -	$ -	$ (130,396)	$ -	$ -	$ (130,396)	$ -	$ (130,396)	$ -	$ -	$ (130,396)	$ (391,188)
142		**Total Revenues**		**$ -**	**$ -**	**$ (130,396)**	**$ -**	**$ -**	**$ (130,396)**	**$ -**	**$ (130,396)**	**$ -**	**$ -**	**$ (130,396)**	**$ (391,188)**
143	**Fletcher Free Library Total Deficit (Surplus)**			$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
144															
145	**INNOVATIONS DEPARTMENT**	**Item**	**NOTES**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**FY 2021**	**FY 17 - 21**	**FY 2022**	**FY 2023**	**FY 2024**	**FY 2025**	**FY 2026**	**TOTAL FY17 - 26**
146	***Expenditures***	IT Capital		$ 467,000	$ 358,000	$ 300,000	$ 300,000	$ 250,000	$ 1,675,000	$ 250,000	$ 250,000	$ 250,000	$ 250,000	$ 250,000	$ 3,175,000
147		**Total Expenditures**		**$ 467,000**	**$ 358,000**	**$ 300,000**	**$ 300,000**	**$ 250,000**	**$ 1,675,000**	**$ 250,000**	**$ 250,000**	**$ 250,000**	**$ 250,000**	**$ 250,000**	**$ 3,175,000**
148	***Revenue***	GF Revenue Capital Outlay		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
149		**Total Revenues**		**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
150	**Innovation Dept. Total Deficit (Surplus)**			**$ 467,000**	**$ 358,000**	**$ 300,000**	**$ 300,000**	**$ 250,000**	**$ 1,675,000**	**$ 250,000**	**$ 250,000**	**$ 250,000**	**$ 250,000**	**$ 250,000**	**$ 3,175,000**
151															
152	**FIRE DEPARTMENT**	**Item**	**NOTES**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**FY 2021**	**FY 17 - 21**	**FY 2022**	**FY 2023**	**FY 2024**	**FY 2025**	**FY 2026**	**TOTAL FY17 - 26**
153	***Expenditures***	Specialized equipment - air packs		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
154		**Total Expenditures**		**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
155	***Revenue***	Match for air packs from City Contingency		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
156		Grant		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
157		**Total Revenues**		**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
158	**Fire Department Total Deficit (Surplus)**			$ -	$ -	$ -	$ -	$ -		$ -	$ -	$ -	$ -	$ -	$ -
159															
160	**POLICE DEPARTMENT**	**Item**	**NOTES**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**FY 2021**	**FY 17 - 21**	**FY 2022**	**FY 2023**	**FY 2024**	**FY 2025**	**FY 2026**	**TOTAL FY17 - 26**
161	***Expenditures***	To Reserves		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
162		Tasers operational		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
163		Door access		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
164		Copiers, radios, electronics - operational		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
165		**Total Expenditures**		**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
166	***Revenue***	Police Capital Outlay GL		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
167		**Total Revenues**		**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
168	**Police Department Total Deficit (Surplus)**			$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
169															

	A	B	C	F	G	H	I	J	K	L	M	N	O	P	R
170	**PARKS, RECREATION & W'FRONT**	**Item**	**NOTES**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**FY 2021**	**FY 17 - 21**	**FY 2022**	**FY 2023**	**FY 2024**	**FY 2025**	**FY 2026**	**TOTAL FY17 - 26**
171	***Expenditures***	PP							$ -						$ -
172		PIAP		$ -					$ -						$ -
173		PP underway							$ -						$ -
174		Parks Projects		$ 439,000	$ 910,000	$ 830,000	$ 794,000	$ 770,000	$ 3,743,000	$ 944,000	$ 867,000	$ 857,000	$ 604,000	$ 249,000	$ 8,034,000
175		Overpass Design		$ 100,000	$ -	$ -	$ -	$ -	$ 100,000	$ -	$ -	$ -	$ -	$ -	$ 100,000
176		Bike Path Rehabilitation (Non-TIF)		$ 3,500,000	$ 3,000,000	$ 3,000,000	$ 3,000,000	$ 500,000	$ 13,000,000	$ 500,000	$ -	$ -			$ 14,000,000
177		Bike Path Maintenance		$ 177,760	$ 177,760	$ 177,760	$ 177,760	$ 177,760	$ 888,800	$ 177,760	$ 177,760	$ 177,760	$ 177,760	$ 177,760	$ 1,955,360
178		Trees & Equipment		$ 50,000	$ 150,000	$ 150,000	$ 150,000	$ 150,000	$ 650,000	$ 150,000	$ 150,000	$ 150,000	$ 150,000	$ 150,000	$ 1,550,000
179		TIF Southern Harbour			$ 1,000,000				$ 1,000,000						$ 1,000,000
180		To next FY		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
181		**Total Expenditures**		**$ 4,266,760**	**$ 5,237,760**	**$ 4,157,760**	**$ 4,121,760**	**$ 1,597,760**	**$ 19,381,800**	**$ 1,771,760**	**$ 1,194,760**	**$ 1,184,760**	**$ 931,760**	**$ 576,760**	**$ 26,639,360**
182	***Revenue***	Greenbelt Capital		$ (50,000)	$ (50,000)	$ (50,000)	$ (50,000)	$ (50,000)	$ (250,000)	$ (50,000)	$ (50,000)	$ (50,000)	$ (50,000)	$ (50,000)	$ (550,000)
183		TIF for PIAP projects		$ -	$ (1,000,000)	$ -	$ -	$ -	$ (1,000,000)	$ -	$ -	$ -	$ -	$ -	$ (1,000,000)
184		carry forward CIP New Projects		$ (100,000)	$ -	$ -	$ -	$ -	$ (100,000)	$ -	$ -	$ -	$ -	$ -	$ (100,000)
185		grant-donations		$ (100,000)	$ -	$ -	$ -	$ -	$ (100,000)	$ -	$ -	$ -	$ -	$ -	$ (100,000)
186		Parks Foundation (Bike Path Rehabilitation)		$ (350,000)	$ (350,000)	$ (300,000)	$ -	$ -	$ (1,000,000)	$ -	$ -	$ -	$ -	$ -	$ (1,000,000)
187		Bike Path Maintenance and Improvement	1% escalator	$ (177,760)	$ (177,760)	$ (177,760)	$ (177,760)	$ (177,760)	$ (888,800)	$ (177,760)	$ (177,760)	$ (177,760)	$ (177,760)	$ (177,760)	$ (1,955,360)
188		Impact Fees		$ (102,729)	$ (102,729)	$ (102,729)	$ (102,729)	$ (102,729)	$ (513,646)	$ (102,729)	$ (102,729)	$ (102,729)	$ (102,729)	$ (102,728)	$ (1,130,020)
189		Penny for Parks	1% escalator	$ (353,500)	$ (357,035)	$ (360,605)	$ (364,211)	$ (367,854)	$ (1,803,205)	$ (371,532)	$ (375,247)	$ (379,000)	$ (382,790)	$ (386,618)	$ (4,066,246)
190		**Total Revenues**		**$ (1,233,989)**	**$ (2,037,524)**	**$ (991,094)**	**$ (694,701)**	**$ (698,343)**	$ (5,655,651)	**$ (702,021)**	**$ (705,737)**	**$ (709,489)**	**$ (713,279)**	**$ (717,106)**	**$ (9,901,625)**
191	**Parks, Recreation & W'front Total Deficit (Surplus)**			**$ 3,032,771**	**$ 3,200,236**	**$ 3,166,666**	**$ 3,427,059**	**$ 899,417**	**$ 13,726,149**	**$ 1,069,739**	**$ 489,023**	**$ 475,271**	**$ 218,481**	**$ (140,346)**	**$ 16,737,735**
192															
193	**ADMINISTRATION**	**Item**	**NOTES**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**FY 2021**	**FY 17 - 21**	**FY 2022**	**FY 2023**	**FY 2024**	**FY 2025**	**FY 2026**	**TOTAL FY17 - 26**
194	***Expenditures***			$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
195		New Projects		$ -	$ -	$ -	$ -		$ -						$ -
196		Contingency Fund	$100K	$ 150,000	$ -	$ -	$ -	$ -	$ 150,000	$ 300,000	$ 300,000	$ 300,000	$ 300,000	$ 300,000	$ 1,650,000
197		Project Management CIP	w/3% escalator	$ 94,000	$ 96,820	$ 99,725	$ 102,716	$ 105,798	$ 499,059	$ 108,972	$ 112,241	$ 115,608	$ 119,076	$ 122,649	$ 1,183,402
198		architect		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
199	**801050**	CEDO GO debt service		$ 4,200	$ 4,200		$ -	$ -	$ 8,400	$ -	$ -	$ -	$ -	$ -	$ 8,400
200		**Total Expenditures**		**$ 248,200**	**$ 101,020**	**$ 99,725**	**$ 102,716**	**$ 105,798**	**$ 657,459**	**$ 408,972**	**$ 412,241**	**$ 415,608**	**$ 419,076**	**$ 422,649**	**$ 2,841,802**
201	***Revenue***	GF Revenues for Leases		$ (4,200)	$ (4,200)		$ -	$ -	$ (8,400)	$ -	$ -	$ -	$ -	$ 1	$ (8,399)
202		CIP		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
203		**Total Revenues**		**$ (4,200)**	**$ (4,200)**	**$ -**	**$ -**	**$ -**	$ (8,400)	**$ -**	**$ -**	**$ -**	**$ -**	**$ 1**	**$ (8,399)**
204	**Administration Total Deficit (Surplus)**			**$ 244,000**	**$ 96,820**	**$ 99,725**	**$ 102,716**	**$ 105,798**	**$ 649,059**	**$ 408,972**	**$ 412,241**	**$ 415,608**	**$ 419,076**	**$ 422,650**	**$ 2,833,403**
205															
206	**NEW OPERATIONAL EXPENSES**	**Item**	**NOTES**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**FY 2021**	**FY 17 - 21**	**FY 2022**	**FY 2023**	**FY 2024**	**FY 2025**	**FY 2026**	**TOTAL FY17 - 26**
207	***Expenditures***	Additional Parks Labor 3% esc.		$ 75,000	$ 77,250	$ 79,568	$ 81,955	$ 84,413	$ 398,185	$ 86,946	$ 89,554	$ 92,241	$ 95,008	$ 97,858	$ 944,204
208		Additional DPW 1 Eng, 1 Planner 3% esc		$ 90,000	$ 92,700	$ 95,481	$ 98,345	$ 101,296	$ 477,822	$ 104,335	$ 107,465	$ 110,689	$ 114,009	$ 117,430	$ 1,133,045
209		Add Eng Tech - Streets & Sidewalks		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
210		Additional Maintenance Labor (HVAC)		$ 100,000	$ 150,000	$ 154,500	$ 159,135	$ 163,909	$ 727,544	$ 168,826	$ 173,891	$ 179,108	$ 184,481	$ 190,016	$ 1,787,775
211		City wide security systems		$ -	$ -			$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
212		Architect		$ 35,000	$ 36,050	$ 37,132	$ 38,245	$ 39,393	$ 185,820	$ 40,575	$ 41,792	$ 43,046	$ 44,337		$ 394,962
213		Memorial operating loss		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
214		**Total New Operational Expenditures**		**$ 300,000**	**$ 356,000**	**$ 366,680**	**$ 377,680**	**$ 389,011**	**$ 1,789,371**	**$ 400,681**	**$ 412,702**	**$ 425,083**	**$ 437,835**	**$ 405,303**	**$ 4,259,986**
215	***Revenue***	Downtown TIF $90K	covers 2 employees		$ (92,700)	$ (95,481)	$ (98,345)	$ (101,296)	$ (387,822)	$ (104,335)	$ (107,465)	$ (110,689)	$ (114,009)	$ (117,430)	$ (1,043,045)
216		From Parks Revenues for Memorial		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
217		Street & Sidewalk Projects	covers 1 new employee		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
218		**Total Revenues**		**$ -**	**$ (92,700)**	**$ (95,481)**	**$ (98,345)**	**$ (101,296)**	$ (387,822)	**$ (104,335)**	**$ (107,465)**	**$ (110,689)**	**$ (114,009)**	**$ (117,430)**	**$ (1,043,045)**
219	**New Operational Expenses Total Expenditures**			**$ 300,000**	**$ 263,300**	**$ 271,199**	**$ 279,335**	**$ 287,715**	**$ 1,401,549**	**$ 296,346**	**$ 305,237**	**$ 314,394**	**$ 323,826**	**$ 287,874**	**$ 3,216,941**
220															
221	**GF GRAND TOTALS (w/o Expansion Needs)**		**NOTES**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**FY 2021**	**FY 17 - 21**	**FY 2022**	**FY 2023**	**FY 2024**	**FY 2025**	**FY 2026**	**TOTAL FY17 - 26**
222	**Total General Fund Capital Expenditures**			**$ 19,998,574**	**$ 39,601,116**	**$ 40,966,095**	**$ 24,689,721**	**$ 16,033,951**	**$ 141,289,457**	**$ 19,324,898**	**$ 15,129,097**	**$ 16,779,258**	**$ 14,662,517**	**$ 14,142,043**	**$ 237,361,220**
223	**Total General Fund Revenues**			**$ (12,514,611)**	**$ (31,211,444)**	**$ (30,858,206)**	**$ (18,000,807)**	**$ (11,934,444)**	**$ (104,519,511)**	**$ (13,446,964)**	**$ (11,232,373)**	**$ (10,988,274)**	**$ (11,181,068)**	**$ (11,358,037)**	**$ (174,660,671)**
224	**Total Capital Reinvestment Deficit (Surplus) - General Fund**			**$ 7,483,963**	**$ 8,389,672**	**$ 10,107,889**	**$ 6,688,914**	**$ 4,099,508**	**$ 36,769,946**	**$ 5,877,934**	**$ 3,896,724**	**$ 5,790,984**	**$ 3,481,449**	**$ 2,784,006**	**$ 62,700,550**
225				**$ 7,483,963**	**$ 8,389,672**	**$ 10,107,889**	**$ 6,688,914**	**$ 4,099,508**		**$ 5,877,934**	**$ 3,896,724**	**$ 5,790,984**	**$ 3,481,449**	**$ 2,784,006**	**$ 62,700,550**

	A	B	C	F	G	H	I	J	K	L	M	N	O	P	R
241	**GF EXPANSION (City Wide Growth)**	**Item**	**NOTES**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**FY 2021**	**FY 17 - 21**	**FY 2022**	**FY 2023**	**FY 2024**	**FY 2025**	**FY 2026**	**TOTAL FY17 - 26**
242	***Expenditures***	Imagine City Hall Park	what years	$ -	$ 3,000,000		$ -	$ -	$ 3,000,000	$ -	$ -	$ -	$ -	$ -	$ 3,000,000
243		SW CHP			$ 500,000				$ 500,000						$ 500,000
244	**$540 and $177**	Parks Improvements		$ 240,000	$ 585,000	$ 759,500	$ 365,000	$ 89,000	$ 2,038,500	$ 532,000	$ 607,000	$ 370,000	$ 465,000	$ 320,000	$ 4,421,500
245		Marina		$ -	$ -	$ -	$ 5,000,000	$ 5,000,000	$ 10,000,000	$ -	$ -	$ -	$ -	$ -	$ 15,000,000
246		Fire Dept growth		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
247		Security upgrade		$ 150,000	$ 150,000	$ -	$ -	$ -	$ 300,000	$ -	$ -	$ -	$ -	$ -	$ 300,000
248		Transportation Expansion	$2M	$ -	$ -	$ -	$ -		$ -	$ 2,000,000	$ 2,000,000	$ 2,000,000	$ 2,000,000	$ 2,000,000	$ 10,000,000
249		Facilities Growth		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
250		Parks Facility Relocation		$ -	$ -	$ 500,000	$ -	$ -	$ 500,000	$ -	$ -	$ -	$ -	$ -	$ 500,000
251		Fire Dept. Firetower - training center		$ -	$ -	$ -			$ -		$ 750,000	$ 750,000	$ -	$ -	$ 1,500,000
252		New sidewalks 4.5 miles new	3% escalator	$ 300,000	$ 500,000	$ 500,000	$ 515,000	$ 530,450	$ 2,345,450	$ 546,364	$ 562,754	$ 579,637	$ 597,026	$ 614,937	$ 5,776,618
253		Flynn Avenue parcel purchase	10 yrs no int.	$ 25,000	$ 25,000	$ 25,000	$ 25,000	$ 25,000	$ 125,000	$ 25,000	$ 25,000	$ 25,000	$ 25,000	$ -	$ 250,000
254	**Possible new buildings to expend and/or improve City services to customers**								$ -						$ -
255		BCA Capital Reinvestment		$ 50,000	$ -		$ -	$ -	$ 50,000	$ -	$ -	$ -	$ -	$ -	$ 50,000
256		**Total Expenditures**		**$ 765,000**	**$ 4,760,000**	**$ 1,784,500**	**$ 5,905,000**	**$ 5,644,450**	**$ 18,858,950**	**$ 3,103,364**	**$ 3,944,754**	**$ 3,724,637**	**$ 3,087,026**	**$ 2,934,937**	**$ 41,298,118**
257	***Potential Revenue***	Parks Foundation (Accessible Playground)		$ -	$ (350,000)	$ -	$ -	$ -	$ (350,000)	$ -	$ -	$ -	$ -	$ -	$ (350,000)
258		PIAP/grant funding							$ -						$ -
259		SW TIF			$ (500,000)				$ (500,000)						$ (500,000)
260		New sidewalk grants		$ (240,000)	$ (400,000)	$ (400,000)	$ (412,000)	$ (424,360)	$ (1,876,360)	$ (437,091)	$ (450,204)	$ (463,710)	$ (477,621)	$ (491,950)	$ (4,621,294)
261		Marina funding	new	$ -			$ (5,000,000)	$ (5,000,000)	$ (10,000,000)	$ -	$ -	$ -	$ -	$ -	$ (15,000,000)
262		TIF money Parks new	new		$ (250,000)	$ (250,000)			$ (500,000)						
263		Transportation Expansion	$1.6M	$ -			$ -	$ -	$ -	$ (1,600,000)	$ (1,600,000)	$ (1,600,000)	$ (1,600,000)	$ (1,600,000)	$ (8,000,000)
264		**Total Revenues**		**$ (240,000)**	**$ (1,500,000)**	**$ (650,000)**	**$ (5,412,000)**	**$ (5,424,360)**	$ (13,226,360)	**$ (2,037,091)**	**$ (2,050,204)**	**$ (2,063,710)**	**$ (2,077,621)**	**$ (2,091,950)**	**$ (28,471,294)**
265	**GF Expansion New Investment**			**$ 525,000**	**$ 3,260,000**	**$ 1,134,500**	**$ 493,000**	**$ 220,090**	**$ 5,632,590**	**$ 1,066,273**	**$ 1,894,551**	**$ 1,660,927**	**$ 1,009,405**	**$ 842,987**	$ 12,106,734
266	**Total Net Reinvestment**			**$ 7,483,963**	**$ 8,389,672**	**$ 10,107,889**	**$ 6,688,914**	**$ 4,099,508**	**$ 36,769,946**	**$ 5,877,934**	**$ 3,896,724**	**$ 5,790,984**	**$ 3,481,449**	**$ 2,784,006**	**$ 62,700,550**
267															
268	**Total GF Expenditures with Expansion**			**$ 20,763,574**	**$ 44,361,116**	**$ 42,750,595**	**$ 30,594,721**	**$ 21,678,401**	**$ 160,148,407**	**$ 22,428,261**	**$ 19,073,851**	**$ 20,503,895**	**$ 17,749,543**	**$ 17,076,980**	**$ 256,980,937**
269	**Total Revenues with Expansion**			**$ (12,754,611)**	**$ (32,711,444)**	**$ (31,508,206)**	**$ (23,412,807)**	**$ (17,358,804)**	**$ (117,745,871)**	**$ (15,484,054)**	**$ (13,282,577)**	**$ (13,051,984)**	**$ (13,258,689)**	**$ (13,449,986)**	**$ (186,273,161)**
270	**Total Deficit (Surplus) with Expansion**			**$ 8,008,963**	**$ 11,649,672**	**$ 11,242,389**	**$ 7,181,914**	**$ 4,319,598**	**$ 42,402,536**	**$ 6,944,207**	**$ 5,791,274**	**$ 7,451,911**	**$ 4,490,854**	**$ 3,626,993**	**$ 70,707,776**
271	**Total Net GF & GF Expansion**			**$ 8,008,963**	**$ 11,649,672**	**$ 11,242,389**	**$ 7,181,914**	**$ 4,319,598**	**$ 42,402,536**	**$ 6,944,207**	**$ 5,791,274**	**$ 7,451,911**	**$ 4,490,854**	**$ 3,626,993**	**$ 70,707,776**
272	**Total Capital Fund Expenditures**	**FY17- FY20**		**$ 160,148,407**	**FY 17 - 21**										
273	**Total General Fund Revenues**			**$ (117,745,871)**	**FY 17 - 21**										
274	**Total Deficit FY17-20**	**$ 38,082,938**		**$ 42,402,536**	**FY 17 - 21**										
275															
276	**Potential Revenues**			**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**FY 2021**	**FY 17 - 21**	**FY 2022**	**FY 2023**	**FY 2024**	**FY 2025**	**FY 2026**	**TOTAL FY17 - 26**
277	Gross Receipts - FY17	ten year average over 7% p/y - was 5%	$ 1,600,000	$ (800,000)	$ (1,772,641)	$ (1,896,726)	$ (2,029,497)	$ (2,171,561)	$ (8,670,425)						**$ (8,670,425)**
278	City hall park donations			$ (30,000)					$ (30,000)						**$ (30,000)**
279	Increase Annual Borrowing	go from $2M to up to $4M							$ -						$ -
280	Browns Court Sale				$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
281	Morton Parcel Sale	300,000			$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
282	Transportation Grants			$ (200,000)	$ (200,000)	$ (200,000)	$ (200,000)	$ (200,000)	$ (1,000,000)	$ (200,000)	$ (200,000)	$ (200,000)	$ (200,000)	$ (200,000)	**$ (2,000,000)**
283	City Hall (Grants/Rebates/Savings)			$ (250,000)	$ -	$ -	$ -	$ -	$ (250,000)	$ -	$ -	$ -	$ -	$ -	**$ (250,000)**
284	GF surplus/land sale/BED Pilot			$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
285	Traffic Funding begin FY17	$500K		$ (250,000)					$ (250,000)						**$ (250,000)**
286	City Hall Park Donations	was $500K							$ -						$ -
287	Pomerleau donation $100K 10 years started in FY 16			$ (200,000)	$ (100,000)	$ (100,000)	$ (100,000)	$ (100,000)	$ (600,000)	$ (100,000)	$ (100,000)	$ (100,000)	$ (100,000)		**$ (1,000,000)**
288	REFI Savings	was $130K		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
289	Bond proceeds								$ -						$ -
290		FY 16 carry forward unassigned		$ (307,395)					$ (307,395)						**$ (307,395)**
291	Image Park revenues	6%			$ -				$ -						$ -
292	Transfer To CEDO for Economic Development				$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 400,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 1,000,000
293	Increased Institutional Investment				$ (1,000,000)	$ (1,020,000)	$ (1,040,000)	$ (1,061,208)	$ (4,121,208)	$ (1,082,432)	$ (1,104,081)	$ (1,126,162)	$ (1,148,686)	$ (1,171,659)	**$ (9,754,228)**
294	Increase street Franchise								$ -						$ -
295	**Total Potential Revenue**			**$ (2,037,395)**	**$ (2,972,641)**	**$ (3,116,726)**	**$ (3,269,497)**	**$ (3,432,769)**	**$ (14,829,028)**	**$ (1,282,432)**	**$ (1,304,081)**	**$ (1,326,162)**	**$ (1,348,686)**	**$ (1,271,659)**	**$ (21,362,048)**
296	**Total Capital Needs Deficit (Surplus) with Expansion Needs**			**$ 5,971,568**	**$ 8,677,031**	**$ 8,125,663**	**$ 3,912,417**	**$ 886,828**	**$ 27,573,508**	**$ 5,661,775**	**$ 4,487,193**	**$ 6,125,749**	**$ 3,142,168**	**$ 2,355,334**	**$ 49,345,728**

	A	B	C	F	G	H	I	J	K	L	M	N	O	P	R
392		reduce curb in FY 21	$ 250,000				$24,712,254		$ 27,573,508						
393		reduce GR tax	$ (2,342,254)												
394		Add Transfer to CEDO	$ (400,000)												
395		Eliminate contingency FY 18-21	$ 600,000				net need to borrow		$ 27,573,508						
396		split last year of bike path	$ 500,000												
397		kept in $250,000 FY 17 traffic	$ (2,500,000)												
398															
399		parks projects shifted to after FY 21	$ 531,000												
400		cut transportation expansion FY 21	$ 400,000												
401		Pomerleau's FY 16 $100K donation	$ 100,000												
402			$ (2,861,254)	$ (24,712,254)	$ (27,573,508)										

Burlington Department of Public Works Commission Meeting
Draft Minutes, 20 July 2016
645 Pine Street

Commissioners Present: Robert Alberry; Tiki Archambeau (Vice Chair); Chris Gillman (Clerk); Jeff Padgett (Chair); Justine Sears. **Commissioners Absent:** Jim Barr; Solveig Overby.

Item 1 – Call to Order – Welcome – Chair Comments

DPW Director Chapin Spencer calls meeting to order at 6:33pm and comments on chairing the organizational meeting until commission officers are elected.

Item 2 – Agenda

Commissioner Alberry makes request to pull Consent Agenda Items B, E, and F with Director Spencer agreeing to reassign them as Agenda Items 5.01, 5.02, and 5.03 respectively. Commissioner Archambeau makes motion to approve altered Consent Agenda and is seconded by Commissioner Padgett.

Action taken: motion approved;
Commissioner Alberry: Aye
Commissioner Archambeau: Aye
Commissioner Gillman: Aye
Commissioner Padgett: Aye
Commissioner Sears: Abstain

Director Spencer hands the gavel to Chair Padgett to run the remainder of the meeting

Item 3 – Election of Chair, Vice Chair, Clerk

Commissioner Alberry nominates Commissioner Padgett for Commission Chair and is seconded by Commissioner Gillman.

Action taken: nomination approved;
Commissioner Alberry: Aye
Commissioner Archambeau: Aye
Commissioner Gillman: Aye
Commissioner Padgett: Aye
Commissioner Sears: Abstain

Commissioner Alberry nominates Commissioner Archambeau for Commission Vice Chair and is seconded by Commissioner Gillman.

Action taken: nomination approved;
Commissioner Alberry: Aye
Commissioner Archambeau: Aye
Commissioner Gillman: Aye
Chair Padgett: Aye
Commissioner Sears: Abstaints

Commissioner Alberry nominates Commissioner Gillman for Commission Clerk and is seconded by Vice Chair Archambeau.

Action taken: nomination approved;
Commissioner Alberry: Aye
Vice Chair Archambeau: Aye
Commissioner Gillman: Aye
Chair Padgett: Aye

Commissioner Sears: Abstain

Item 4 – Public Forum

Item 5 – Consent Agenda

A. Traffic Request Status Report

C. Motorcycle Parking Removal on St. Paul St

D. 1 Hour Parking Removal on Pine St

Commissioner Alberry makes motion to approve altered Consent Agenda and is seconded by Vice Chair Archambeau.

Action taken: motion approved.

"Ayes" are unanimous.

Item 5.01 – Flynn Avenue Parking Removal

A) Staff Presentation by Engineering Technician Damian Roy who speaks on the city's plan for removing parking on Flynn Ave for the installation of a bike lane.

B) Commission Questions

Vice Chair Archambeau, Clerk Gillman, and Commissioners Alberry and Sears ask questions on Agenda Item 5.01 with Director Spencer and Technician Roy answering.

C) Public Comment

Cathy Bughman, Ward 5, speaks on Agenda Item 5.01.

D) Commissioner Discussion

The entire commission engages in a discussion over Agenda Item 5.01 with Director Spencer, City Engineer and Assistant Director for Technical Services Norm Baldwin, and Technician Roy.

E) Motion made by Vice Chair Archambeau to accept staff's recommendation.

Seconded by Clerk Gillman.

Discussion

Action taken: motion approved;

Commissioner Alberry: Nay

Vice Chair Archambeau: Aye

Clerk Gillman: Aye

Chair Padgett: Aye

Commissioner Sears: Aye

Item 5.02 – King Street/South Champlain Street Truck Loading Decision

A) Staff Presentation by Senior Transportation Planner Nicole Losch who speaks on the city's plan to move a truck loading zone from King St to South Champlain St.

B) Commissioner Alberry asks questions on Agenda Item 5.02 with Planner Losch answering.

C) Public Comment

D) Commissioner Discussion

E) Motion made by Vice Chair Archambeau to accept staff's recommendation.

Seconded by Commissioner Alberry.

Discussion

Action taken: motion approved;

"Ayes" are unanimous.

Item 5.03 – Cherry Street Parking

A) Staff Presentation

B) Commissioner Alberry asks questions on Agenda Item 5.03 with Technician Roy answering.

C) Public Comment

D) Commissioner Discussion

E) Motion made by Vice Chair Archambeau to accept staff's recommendation.

Seconded by Commissioner Alberry.

Discussion

Action taken: motion approved;

"Ayes" are unanimous.

Item 6 – Driveway Encroachment Pilot Study Report

A) Staff Presentation by Technician Roy who speaks on the city's pilot study (begun 15 April 2016 and ended 15 May 2016) on the driveway encroachment program pilot.

B) Commission Questions

Chair Padgett, Vice Chair Archambeau, and Clerk Gillman ask questions on Agenda Item 6 with City Engineer Baldwin, Parking Enforcement Manager John King, and Technician Roy answering.

C) Public Comment

D) Commissioner Discussion

E) Motion made by Vice Chair Archambeau to give commission's endorsement to staff's recommendation.

Seconded by Clerk Gillman.

Discussion

Action taken: motion approved;

"Ayes" are unanimous.

Item 7 – Pearl Street Parking Reconfiguration

A) Staff Presentation by Planner Losch and Transportation Planning Interns Griffin Gardner and Elizabeth Gohringer who speak on the city's recommendations for a reconfiguration of Pearl Street between Battery St and George St, presenting "Downtown Pearl St Parking Reconfiguration" via Power Point.

B) Commission Questions

Chair Padgett, Vice Chair Archambeau, and Commissioners Alberry and Sears ask questions on Agenda Item 7 with City Engineer Baldwin, Manager King, Planner Losch, and Intern Gardner answering.

C) Public Comment

D) Commissioner Discussion

E) Motion made by Commissioner Alberry to accept staff's recommendation on the parking changes in the presentation.

Seconded by Vice Chair Archambeau.

Discussion

Action taken: motion approved;

"Ayes" are unanimous.

Chair Padgett places Agenda Items 9 and 10 before Agenda Item 8

Item 9 – Draft Minutes of 6-15-16

Commissioner Alberry makes motion to accept draft minutes of 6-15-16 and is seconded by Clerk Gillman.

Action take: motion approved;

Commissioner Alberry: Aye

Vice Chair Archambeau: Aye

Clerk Gillman: Aye

Chair Padgett: Aye

Commissioner Sears: Abstain

Item 10 – Director's Report

Director Spencer reports FY'17 budget's approval by the City Council in June, DPW starting first-in-the-state water line relining program with new technology on Industrial Ave, Isham St, King St, and Pitkin St this summer, the City Council's resolution about the city's continued commitment to diversity and equity through training for boards and commissions and the need for the DPW Commission to have at least one Commissioner participate in an upcoming training, the North Avenue Pilot Project is underway and seeking public feedback, working with CCTA to anticipate the opening of the transit center and also talking with interstate carriers about their possible use of the transit center to make it more multimodal, and the slope failure at Manhattan Drive having been repaired.

Chair Padgett, Vice Chair Archambeau, Clerk Gillman, and Commissioner Alberry engage in a discussion on the Manhattan Drive slope failure repair with City Engineer Baldwin. Vice Chair Archambeau, Clerk Gillman, and Commissioner Sears engage in a discussion on the North Avenue Pilot Project with Director Spencer and Planner Losch.

Item 8 – 10 Year Capital Plan

A) Staff Presentation by Director Spencer, City Engineer Baldwin, and Assistant Director – Water Resources Moir who speak on the city's 10 Year Capital Plan.

B) Commission Questions

Chair Padgett and Vice Chair Archambeau ask questions on Agenda Item 8 with Director Spencer and Assistant Director Moir answering.

C) Public Comment

Ibnar Avilix, a South End resident, speaks on Agenda Item 8 – Chair Padgett and Director Spencer also speak.

D) Commissioner Discussion

Item 11 – Commissioner Communications

Vice Chair Archambeau comments on lines/crosswalks being painted this month and wonders why this hasn't been done sooner and also on a City Council amendment having been put forward about discontent with parking downtown with Director Spencer and Engineer Baldwin responding; Chair Padgett extends his welcome to Commissioner Sears.

Item 12 – Adjournment & Next Meeting Date – September 21, 2016

Motion to adjourn made by Commissioner Alberry and seconded by Vice Chair Archambeau.

Action taken: motion approved;

"Ayes" are unanimous.

Meeting adjourned at 8:33pm.

CITY OF BURLINGTON
DEPARTMENT OF PUBLIC WORKS

645 Pine Street, Suite A
Burlington, VT 05401
802.863.9094 VOICE
802.863.0466 FAX
802.863.0450 TTY
www.burlingtonvt.gov/dpw

To: DPW Commissioners
Fr: Chapin Spencer, Director
Re: **Director's Report**
Date: September 14, 2016

DRAFT 10 YEAR CITY-WIDE CAPITAL PLAN

City staff has been working on a citywide 10 Year Capital Plan over the past two years in an effort to inventory existing assets, identify future needs, and prepare a financing plan to meet the future needs. The General Fund Capital Plan shows a 5 year need of $160M. Approximately $117M (or ~73%) of the total need has existing identified sources. On September 12, the City's Board of Finance reviewed the proposal to address the $42M General Fund gap and voted to recommend Council approval of the 10 Year Capital Plan. The draft plan is expected to go the City Council at either the September 19 or 26 meeting. The proposed financing plan has a blended approach that looks to visitors, institutions, businesses and residents to close the $42M General Fund gap. At the September 2016 Commission meeting we are looking for the Commission to support the City's 10 Year Capital Plan and the proposed financing plan that is included in this packet, and the related Charter Change related to the Traffic Fund. More information is in this DPW Commission packet. Contact me or Martha Keenan (mkeenan@burlingtonvt.gov) with any questions.

CSWD DROP-OFF CENTER

On September 19, the City Council will be voting on a Memorandum of Understanding (MOU) that provides the City a 3-year $50,000 option to purchase the 3 acre parcel at 195-201 Flynn Avenue and lays out the framework for a lease purchase agreement if the City chooses to exercise the option. The shared goal between the CSWD and the City of Burlington is to develop an expanded, safer, more customer-friendly CSWD drop-off center (DOC) in the largest community in the District. The District has an existing DOC at 339 Pine Street that has many constraints. The site at 195-201 Flynn would also offer the City approximately 1 acre of land for municipal use. More information on the item can be found in the September 12 Board of Finance packet here: http://www.boarddocs.com/vt/burlingtonvt/Board.nsf/goto?open&id=ADLJUA4E74D6

NORTH AVENUE PILOT SURVEY UNDERWAY

The installation of the pilot was completed in July and we have been receiving feedback, making adjustments, and collecting traffic data. This week an online survey was launched to collect public feedback on the pilot in advance of the October 17 City Council briefing. The survey can be found here: https://rsgresearch.com/northave?anon=t&s=1. There will also be a public meeting on the pilot on September 20. More information is on the project webpage (https://www.burlingtonvt.gov/dpw/north-avenue-pilot-project).

DOWNTOWN TRANSIT CENTER & INTERSTATE CARRIERS

The Downtown Transit Center is scheduled to open on October 13. We are continuing to work with CCTA to get the interstate transit carriers to serve the Downtown Transit Center. The Downtown Transit Center provides more amenities for customers including a heated waiting area, bathrooms, and connections to local transit routes – much more than the current in-town stop at UVM. The carriers we are working with are Megabus, Greyhound and Vermont Translines.

CITY OF BURLINGTON
DEPARTMENT OF PUBLIC WORKS

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Burlington, VT 05402-0849
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www.burlingtonvt.gov/dpw

Chapin Spencer
DIRECTOR OF PUBLIC WORKS

M E M O R A N D U M

TO: PUBLIC WORKS COMMISSION
FM: CHAPIN SPENCER, DIRECTOR
DATE: SEPTEMBER 15, 2016
RE: PUBLIC WORKS COMMISSION MEETING

Enclosed is the following information for the meeting on September 21, 2016 at 6:30 PM at **645 Pine St – Main Conference Room**

1. Agenda
2. Consent Agenda
3. Driveway Encroachment Ordinance
4. Parking Removal on Starr Farm Rd
5. Request to Modify Resident only Parking on South Prospect St
6. 10 Year Capital Plan
7. Draft Minutes of 7-20-16

Non-Discrimination
The City of Burlington will not tolerate unlawful harassment or discrimination on the basis of political or religious affiliation, race, color, national origin, place of birth, ancestry, age, sex, sexual orientation, gender identity, marital status, veteran status, disability, HIV positive status or genetic information. The City is also committed to providing proper access to services, facilities, and employment opportunities. For accessibility information or alternative formats, please contact Human Resources Department at 865-7145.

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Chapin Spencer
DIRECTOR OF PUBLIC WORKS

M E M O R A N D U M

To: Hannah Cormier, Clerks Office
From: Chapin Spencer, Director
Date: September 15, 2016
Re: Public Works Commission Agenda

Please find information below regarding the next Commission Meeting.

Date: **September 21, 2016**
Time: 6:30 – 9:00 p.m.
Place: **645 Pine St – Main Conference Room**

A G E N D A

		ITEM
1		Call to Order – Welcome – Chair Comments
2		Agenda
3	10 Min	Public Forum
4	5 Min	Consent Agenda

- A Traffic Request Program Status Report
- B Parking Restriction on South Crest Dr
- C Additional Parking on High Grove Court
- D Bus Stop Removal at Pine St & Bank St
- E Parking Restriction @ midblock crosswalk on Mansfield Ave
- F Installing Metered Parking on Pearl St
- G Request to Add Loading Zone on Marble Ave

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5 10 Min Driveway Encroachment Ordinance
- A Communication, D. Roy
- B Commissioner Discussion
- C Public Comment
- D Action Requested –Decision

6 15 Min Parking Removal on Starr Farm Rd
- A Communication, D. Roy
- B Commissioner Discussion
- C Public Comment
- D Action Requested –Decision

7 15 Min Request to Modify Resident Only Parking on South Prospect St
- A Communication, D. Roy
- B Commissioner Discussion
- C Public Comment
- D Action Requested –Decision

8 60 Min Introduction to PlanBVT Walk Bike
- A Presentation, N. Losch
- B Commissioner Discussion
- C Public Comment
- D Action Requested – None

9 30 Min 10 Year Capital Plan
- A Communication, C. Spencer
- B Commissioner Discussion
- C Public Comment
- D Action Requested – Vote on Supporting Plan

10 5 Min Draft Minutes of 7-20-16

11 10 Min Director's Report

12 10 Min Commissioner Communications

13 **Adjournment & Next Meeting Date – October 19, 2016**

MEMORANDUM

September 15, 2016

TO: Public Works Commission

FROM: Damian Roy, DPW Engineering Technician

CC: Norman Baldwin, City Engineer
Dave Allerton, Public Works Engineer

RE: Traffic Request Status Report

New Requests since 7/13/16 =	10
Requests closed since 7/13/16 =	5

RFS BREAKDOWN BY TYPE*

Accessible Space:	0	
Resident Only Parking:	14	
Crosswalks:	15	
Driveway Encroachments:	19	(to be reduced with the adoption of the new Driveway Encroachment Policy)
Signage:	14	
Loading Zone:	5	
Area/Intersection Study:	4	
Parking Prohibition:	10	
Bus Stop:	0	
Geometric Issues:	6	
Parking Meters:	3	
Other:	0	
TOTAL:	90	

9/15/16

MEMORANDUM

September 6, 2016

TO: Public Works Commission

FROM: Damian Roy, DPW Engineer Technician

CC: Norman Baldwin, City Engineer

RE: Request to increase line of sight on South Crest Drive

Background:

The Department of Public Works received a request from South Crest Drive resident Stephen Yorke to evaluate sight lines on the southern end of the street where it bends roughly 45 degrees. Unrestricted parking is currently allowed on both sides of the street creating a narrow travel lane. This narrow travel lane combined with the bend in the road and parked cars blocking sightlines around the bend creates a challenging geometry that many residents of S. Crest Drive feel to be unsafe.

Observations:

South Crest Drive is 30-foot-wide low volume residential street with unrestricted parking on both sides, this road width when reduced by parking can potentially create a 14-foot travel lane for both directions of travel. The city's standard minimum travel lane width for one direction of travel is 9 feet. Most homes are single family with off-street parking available. For the majority of the street, on-street parking is sparse and manageable with the narrowed travel lanes seldom causing issue. The exception to this sparse parking is on the southern end of the street at the Pine Street intersection extending westward up to and often past a 45-degree bend in the road. Here there is daily parking on both sides of the road creating the narrow travel lanes and a near blind spot when approaching the bend. According to both S. Crest residents and the nearby Howard Center located on the opposite side of Pine, the majority of these parked cars are Howard Center employees.

Staff has determined that when on-street parking is full at the bend in the road, vehicles traveling in opposite directions have a maximum possible sight distance of 56 feet, see the

NB 9/9/16

attached existing conditions drawing. By comparison, if 4 on-street parking spaces on the north side of the street were removed centered at the bend then this maximum sight distance would increase to 132 feet, see the attached proposed conditions drawing.

Public outreach has shown that most residents agree that this bend in the road is dangerous and most were happy to learn that the city was looking at restricting parking to increase sightlines. Only one resident spoke out in opposition to the proposed parking restriction stating that the narrowed travel lane and short sightlines had a traffic calming effect. Others expressed concern over the Howard Center's future parking needs as they relate to the completion of the Champlain Parkway fearing that more Howard Center employees will park further into their neighborhood after they lose their overflow parking on the uncompleted parkway. See attached emails.

Conclusions:

At 30 feet wide, South Crest Drive is technically too narrow to allow parking on both sides of the street. This has not caused issue for most South Crest residents as on-street parking is typically sparse and staggered avoiding direct lane-width related conflicts. At the southern end of the street, overflow parking by Howard Center employees create a narrowed travel lane and a blind corner at the 45-degree bend. The narrow travel lane is perceived as manageable by most residents due to relatively low traffic volumes and slow speeds. Staff anticipates that increasing sightlines at the bend in the road will sufficiently increase safety for motorists.

Staff recommends restricting parking at the bend in the road by 40 feet in both directions to increase sightlines. Staff does not recommend restricting parking on one side of the street.

Recommendations:

Staff recommends that the Commission:

- Restrict 40 feet of parking centered at the 45-degree bend on South Crest Drive just west of the South Crest Drive and Pine Street intersection.

North

Request to increase sight lines on South Crest Drive

Existing Conditions

BURLINGTON, VT

BURLINGTON PUBLIC WORKS ENGINEERING DIV.

645 PINE STREET
BURLINGTON, VT 05401
(802) 863-9094

DESIGNED DRR	RFS NO. 5015
DRAWN DRR	SCALE 1"=30'
CHECKED –	DRAWING NO.
DATE	

North

Request to increase sight lines on South Crest Drive

Proposed Conditions

BURLINGTON, VT

BURLINGTON PUBLIC WORKS ENGINEERING DIV.

645 PINE STREET
BURLINGTON, VT 05401
(802) 863-9094

DESIGNED DRR	RFS NO. 5015
DRAWN DRR	SCALE 1"=30'
CHECKED --	DRAWING NO.
DATE	

Requests for Service (/Main.aspx)

#5015 Assigned

New

Technical Services

Traffic Requests

Location: So Crest Dr & Pine St

Per today"s e-mail: I live on Southcrest drive near the corner of pine st, and there is a dangerous intersection that needs attention. The parking allowed on both sides of the street and creates a one car width driving area around a blind corner, I have almost crashed, my roommates have almost crashed there cars and I have also witnesses many near misses. One side of the street needs to be off limits to parking in order to dissipate the danger of this corner.
I acknowledged receipt of e-mail.

Attachments

No Attachments

Browse...

Upload Attachment

Assigned to: Damian Roy

Requested by: Stephen Yorke

Opened: 8/20/2014

Entered By: Helen Plumley

Due: 9/19/2014

Work History

Add Work History

Date	Staff Person	Description
08/26/2014	Colin Brett	staff visited the site to examine existing conditions Details

Dear South Crest Drive Residents

The Department of Public Works (DPW) has received a request from a South Crest resident to improve driver's line-of-sight on South Crest at the first bend in the road just west of the South Crest and Pine Street intersection. The resident states that when vehicles park along the north side of the street a blind corner is created at this bend.

DPW is evaluating the installation of "No Parking Any Time" signs at this bend to help improve driver's line-of-sight. Staff estimates this would remove four on-street parking spaces along the north side.

As part of our evaluation process we are engaging residents of South Crest to gauge whether there might be any issues with eliminating this parking. If you would like to offer any comments regarding this reques please contact me by Monday August 29th.

Thank you!

Damian Roy, Engineering Technician
Burlington Public Works Department
645 Pine St. Burlington VT 05401
Desk: 802.865.5832
Cell: 802.598.8356
Email: droy@burlingtonvt.gov
Web: www.burlingtonvt.gov/dpw

Damian Roy

From: Stephen Yorke <stephen.b.yorke@gmail.com>
Sent: Thursday, August 18, 2016 3:45 PM
To: Damian Roy
Subject: Re: South Crest Drive Sightlines

Damian,

The section of Southcrest Dr that this occurs on is the turn in the road from west to north when entering from Pine st a couple hundred feet from the Pine-Southcrest intersection. during the workweek from 8-5 Howard Center employees park on this turn and it creates a dangerous situation as when cars are on both sides there is only room for one car and you cannot see cars coming in the opposite direction. Everyone who comes over to my house, that I love with any many neighbors have discussed this and agree.
Thank you for responding,
Stephen Yorke

On Thursday, August 18, 2016, Damian Roy <droy@burlingtonvt.gov> wrote:

Hi Stephen,

My name is Damian and I manage the Traffic Request Program for the Department of Public Works. You made a request on August 20, 2014 to evaluate an intersection on South Crest stating parking creates a blind corner. I'd like to get more information regarding this request:

1. What is the exact location where the issue occurs? (Not sure if you were referring to the intersection of South Crest and Pine or the jog further west on South Crest.)

2. How often does this issue occur and at what times of day/week?

3. Have you heard any other residents speak of the same issue?

Even if you don't have these answers any help you could offer is appreciated.

Thank you,

Damian

Damian Roy, Engineering Technician

Burlington Public Works Department

645 Pine St. Burlington VT 05401

Desk: 802.865.5832

Cell: 802.598.8356

Email: droy@burlingtonvt.gov

Web: www.burlingtonvt.gov/dpw

Damian Roy

From: Eugenie Delaney <eugenie.delaney@icloud.com>
Sent: Monday, August 22, 2016 7:55 PM
To: Damian Roy
Subject: South Crest Drive Parking

Hi Damian,

I am so happy to hear that the city will remove parking on the south end of South Crest Drive.

I strongly feel that there should be NO PARKING ON **BOTH** SIDES OF THE STREET from the bend on the south end of South Crest to Pine Street.

There are no homes that need parking on the end of the block and it is VERY DANGEROUS. I have dodged other oncoming vehicles more times than I can count because of poor visibility and with parking on both sides is barely one lane. One time I barely averted a head-on collision. There is plenty of parking for the Howard Center at end of Pine Street and we should not be in DANGER because people block our street.

I thank you for taking the time to get my opinion.

Yours sincerely,

Eugenie Delaney
79 South Crest Drive
Burlington, VT 05401

802-777-2917
eugenie.delaney@icloud.com

Damian Roy

From: Melinda Rouille <melindarouille@gmail.com>
Sent: Monday, August 22, 2016 8:20 PM
To: Damian Roy
Subject: South Crest Drive Parking

Hello Damian,
I can say that the situation on South Crest Drive can be dangerous. When they have the frequent meetings at the Howard Center, it makes it so only one car can get through, it is very dangerous as there are actually two blind curves there, not just one. The plows cannot get through in the winter nor can many other vehicles. If you really want to sol the problem, the section from Pine street up to the curve should be "no parking" and towed at owners expense. I hav had to back up beyond the first curve 2X in the past, b/c cars were coming off Pine Street and there was no other choi but for me to back up. Very dangerous for those turning off from Pine Street. as they may not be able to move out of the way of oncoming traffic if South Crest Drive has a jam, which has happened, and it will only get worse when the Ci Market opens because of the increase in traffic that is already problematic. This is a problem due to Howard Center employees parking there, and I have been told that they are aware of the hazardous parking and risk to others safety. Hopefully, there is a solution that solves it completely, not partially.
Thanks, from property tax payers on South Crest Drive.
Melinda Rouille
John Rouille

Damian Roy

From: Brendan Bush <brendan@brendanbush.com>
Sent: Monday, August 22, 2016 8:48 PM
To: Damian Roy
Subject: South Crest Dr parking

Hi Damian,

We are fully in favor of marking the first bend in the road just west of Pine and South Crest intersection. For what it's worth, the big bend on the Home Ave side of the street is even more dangerous, and often has a big box truck parked there. It's right in front of the big green house that just underwent major siding/insulation/window construction.

Feel free to reach out with any questions, etc.

Brendan Bush & Rachel Moss
84 South Crest Dr.

Damian Roy

From: Tony Shaw <tony@shawrealestatevt.com>
Sent: Tuesday, August 23, 2016 9:32 AM
To: Damian Roy
Subject: North end of South Crest Dr.

Hi Damian,

Thanks for addressing the issue of parking on the south end of South Crest Drive.

I strongly feel that there should be NO PARKING ON **BOTH** SIDES OF THE STREET from the bend on the south end of South Crest to Pine Street, I don't believe any residents of our street use that last leg after the ben to park.

I encountered a driver that nearly sent me and my motorcycle into a neighbors yard right at the bend heading south, the driver never stopped and I was left to collect myself at a complete emergency stand-still. Further - commuters race up and down our street at 8:00 and 5:00 to avoid the wait at Pine & Home, hitting 40-45 mph makes me furious.

I thank you for taking the time to get my opinion.

Thanks much,

Tony Shaw
ShawRealEstateVT
802.343.7226
tony@shawrealestatevt.com

Your referral is the highest compliment I can receive.
Please share my contact information with friends or associates who need a Real Estate agent.

Consumer Information Disclosure: Prospective Buyers and Sellers: KW Vermont represents both Buyers and Sellers through written agency agreements. Unless KW Vermont and you enter into a written agreement for agency representation, you are a customer and not a client. There is no confidentiality between us until there is a signed brokerage service agreement. Link to disclosure: Click here for Disclosure

Damian Roy

From: Sandy McGuire <SandyM@howardcenter.org>
Sent: Friday, August 26, 2016 2:44 PM
To: Damian Roy
Subject: South Crest Comments

Dear Damian,

I am writing on behalf of Howard Center in response to the notification to South Crest residents regarding safety concerns on South Crest Drive at the first bend in the road when traveling West to East from the Pine Street intersection. We are in agreement that there is potential for a "blind corner" on that bend related to cars parked on t North side of South Crest. In our assessment, the issue is cars parked right on the bend (two cars lengths as opposed the suggest four) and is limited to cars parked on the bend as opposed to cars parked on the North side of South Cres Drive closer to Pine Street or further on South Crest.

Thank you for soliciting feedback and please let me know if we can be of assistance.

Regards,

Sandy

Sandra McGuire
Chief Financial & Operations Officer • Howard Center Inc.

Office: 802-488-6900 • Fax: 802-488-6901
208 Flynn Avenue Suite 3J • Burlington, VT 05401
www.howardcenter.org

HOWARD CENTER
Help is here.

HowardCenter.org

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Damian Roy

From: Shawn Nolan <snolanrealtor@aol.com>
Sent: Sunday, August 28, 2016 2:25 PM
To: Damian Roy
Subject: South Crest Dr. Parking, etc.

Hi Damian,

Just a brief note after our telephone conversation last week concerning the dangerous parking at the Pine St. end of c street. As you may recall, allowing the Howard Center workers to park where they have been (both sides of street), creates a dangerous bottleneck in that area that has been a constant issue for me. Only one car can get through at a time, and when cars come barreling through the neighborhood I have been nearly hit more than once while driving between the 2 parked cars.
But FAR more important to me is the fact that even now, Howard Center employees are parking further and further ir South Crest, and when they lose their parking due to the Champlain parkway being built, our neighborhood will becor nothing more than a parking lot for them. This neighborhood will be forever transformed to the detriment of all who reside on the street. Even now, we have become a thoroughfare during peak commute hours with speeding cars com through, both ways, to avoid the Home Ave./ Pine St. intersection.
It is my wish that South Crest Dr. parking be limited to residents and their guests, as we are rapidly losing our sense o safety and community which we once had.

Thank You,

Shawn

Shawn Nolan
46 Southcrest Dr.
802-363-0399

Phone Calls for RFS# 5015, Parking removal on South Crest 8/22/16

- Robert Gutherie, 238-6586, 70 S. Crest, called on 8/22 to say that he believes the parking on the north side of the street at the first bend west of Pine Street should remain as it serves to calm traffic speeds.

- William Westenbaker, 999-0051, 109 S. Crest, called on 8/23 to say that he supports restricting parking around the southern bend in the road and that parking on that end of the street can be dangerous to navigate due to narrow lanes.

- Sean Nolan, 363-0399, 46 S. Crest, call on 8/23 to say that the roadway is too narrow at the south end of the street due to overflow parking from the Howard Center. He fears that with the Champlain Parkway completion the Howard Center will lose its overflow parking on the existing abandoned road and with encroach even more onto South Crest.

MEMORANDUM

September 14, 2016

TO: Public Works Commission

FROM: Damian Roy, DPW Engineer Technician

CC: Norm Baldwin, City Engineer

RE: Additional Parking on High Grove Court

Background:

The Department of Public Works received a request from resident Richard Hillyard of High Grove Court to install two additional parking spaces on High Grove Court. This request was originally received in May of 2013. In October of 2013 the High Grove Court Association voted to not make any changes to parking. After that time, Mr. Hillyard who is the Association's Treasurer contacted DPW to reinstate the original request on behalf of the Association.

Observations:

- Street Characteristics: High Grove Court is a 25-foot-wide low volume residential dead end street with 4 unrestricted on-street parking spaces on the west side. This parking is used by visitors and overflow-of-convenience for residents.

- Public Outreach: Staff distributed flyers to the residents of High Grove to gauge whether installing more parking spaces along the west side of the street would be problematic for anyone. Staff received no negative feedback and one positive response from Mr. Hillyard who was appreciative of staff evaluation of their request.

Conclusions:

Given that High Grove Court is a low volume dead end street and that parking already exists along the west side, staff is not concerned with the additional parking creating a narrowed roadway. Staff sees no reason not to support Mr. Hillyard's request and has determined that three additional spaces can be accommodated on the west side of the street. Staff also recommends that these parking spaces be shifted south to end at the mailboxes on the southern

end and end 14 feet from the sidewalk at the northern end. This will improve sightlines for pedestrians exiting the sidewalk at the southern end of the cul-de-sac. See the attached drawings for clarification.

Recommendations:

Staff recommends that the Commission:

- Extend unrestricted parking on the west side of High Grove Court beginning 14 feet south of the sidewalk curb cut at the cul-de-sac and extending 140 feet southward.

North

Additional Parking on
High Grove Court

Proposed Conditions

BURLINGTON, VT

BURLINGTON PUBLIC WORKS ENGINEERING DIV.

645 PINE STREET
BURLINGTON, VT 05401
(802) 863-9094

DESIGNED DRR	RFS NO. 1452
DRAWN DRR	SCALE NTS
CHECKED NJB	DRAWING NO.
DATE	

North

Additional Parking on High Grove Court

Existing Conditions

BURLINGTON, VT

BURLINGTON PUBLIC WORKS ENGINEERING DIV.

645 PINE STREET
BURLINGTON, VT 05401
(802) 863-9094

DESIGNED DRR	RFS NO. 1452
DRAWN DRR	SCALE NTS
CHECKED NJB	DRAWING NO.
DATE	

Requests for Service (/Main.aspx)

#1452 Assigned

New

Technical Services

Traffic Requests

Location: High Grove Court

Per an email from Richard:
There is room on High Grove Court to add two public parking spaces to the four sanctioned by DPW way back in the late nineties.
At the time the reason for High Grove Court residents only wanting four spots was because of student renters slamming doors and making a racket in the early hours. Since then, most of both parts (High Grove I and High Grove II) of the development are inhabited by owner-occupiers and we"d like to make slight changes to the configuration.
~Current situation: Four parking spaces along the west side of the street, from the curb-cut at the island south towards North Street.
~Proposed: Move the parking sign about six feet south, away from the curb-cut, to offer more visibility (for young children especially on bikes and scooters) and less likelihood of blocking the curb-cut. Extend the space available for public parking by about 12 / 15 yards south towards North Street.
Public parking on the street is predominantly used by visitors, overflow-of-convenience for residents, and often during the day by UVM students and FAHC employees (neither of which is an issue).
There is no desire for resident-only parking.

Attachments

No Attachments

Browse...

Upload Attachment

Assigned to: Damian Roy

Requested by: Richard Hillyard

Opened: 5/14/2013 12:45:10 PM

Entered By: Nicole Losch

Due: 6/13/2013

Work History

Add Work History

Date	Staff Person	Description
04/10/2014	Joel Fleming	Request Status Changed from Closed to New Details
04/10/2014	Joel Fleming	Resident has asked to open this request back up. I will start working on this request in the coming months. Details
10/07/2013	Valerie Ducharme	Complete Details
10/01/2013	Joel Fleming	Staff recieved a email from the residents of the street and they have talked about it and do not want to make any changes to the parking on High Grove Court Details
09/02/2013	Joel Fleming	Staff sent letter out to the effected residents on high grove court. Staff is excepting responses until september 20th. Details

Dear High Grove Court Residents,

The Burlington Department of Public Works (DPW) received a request to increase the amount of available on-street parking on High Grove Court. The request specifies shifting the parking to start several feet further south of the cul-de-sac away from the sidewalk ramp for increased sightlines and safety when exiting the sidewalk and then to extend the parking south to increase the amount of available spaces.

Currently there is 80 feet of parking allowed on the west side of the street, Staff estimate that can be increased to 140 feet and still allow a 10 foot buffer between the parking and the sidewalk ramp on the northern end. This would put the southern end of the parking ending about 4 feet north of the mailboxes.

As part of our evaluation process we would like to open a dialogue with High Court residents. If you have any concerns or questions please contact me by Friday September 9th.

Thank you!

Damian Roy, Engineering Technician

Burlington Public Works Department

645 Pine St. Burlington VT 05401

Desk: 802.865.5832

Cell: 802.598.8356

Email: droy@burlingtonvt.gov

MEMORANDUM

September 15, 2016

TO: Public Works Commission

FROM: Damian Roy, DPW Engineer Technician

CC: Norm Baldwin, City Engineer

RE: Bus Stop Removal and Meter Installation on Pine St.

Background:

The Department of Public Works (DPW) Staff has received a request from Pat Cashman, Director of the DPW Traffic Division, to remove the existing bus stop on the west side of Pine Street just south of Bank Street and to install Smart Meters in its stead once the new Transit Center on St. Paul Street is completed.

Observations:

- *Street Characteristics:* This section of Pine Street is a 43-foot-wide mixed-use collector roadway with on-street smart metered parking on both sides.
- *Public Outreach:* Staff contacted the GMTA Director of Operations Jon Moore who indicated that this bus stop is used as a break area for bus drivers and that the space will no longer be needed after the completion of the new Transit Center on St. Paul Street.

Conclusions:

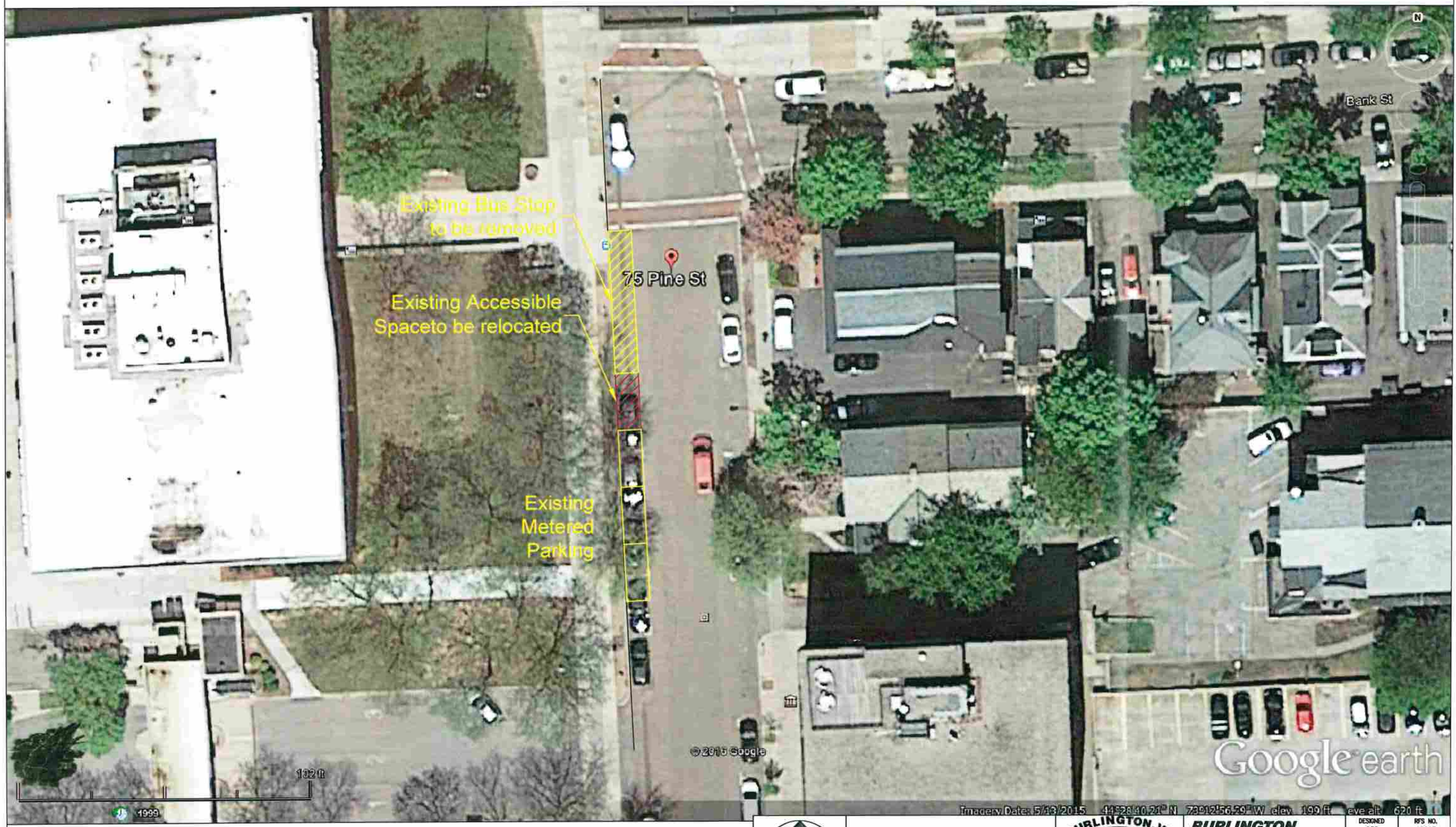
Given that GMTA is the sole user of this bus stop and that they will no longer have need for this space after the completion of the Transit Center, staff recommends removing this bus stop and installing metered parking consistent with the metered spaces in this area. The accessible space that is located immediately south of the existing bus stop should be relocated to the first space south of the crosswalk so that it is as close to the curb cut as possible. The ten feet of space between this accessible space and the crosswalk will accommodate a rear-deployed ramp as per PROWAG standards.

Recommendations:

Staff recommends that the Commission:

- Remove the bus stop, relocate the existing accessible space, and install 2 smart metered parking spaces as indicted on the attached drawing.

NB 9/15/16



North

Bus Stop Removalon Pine St.

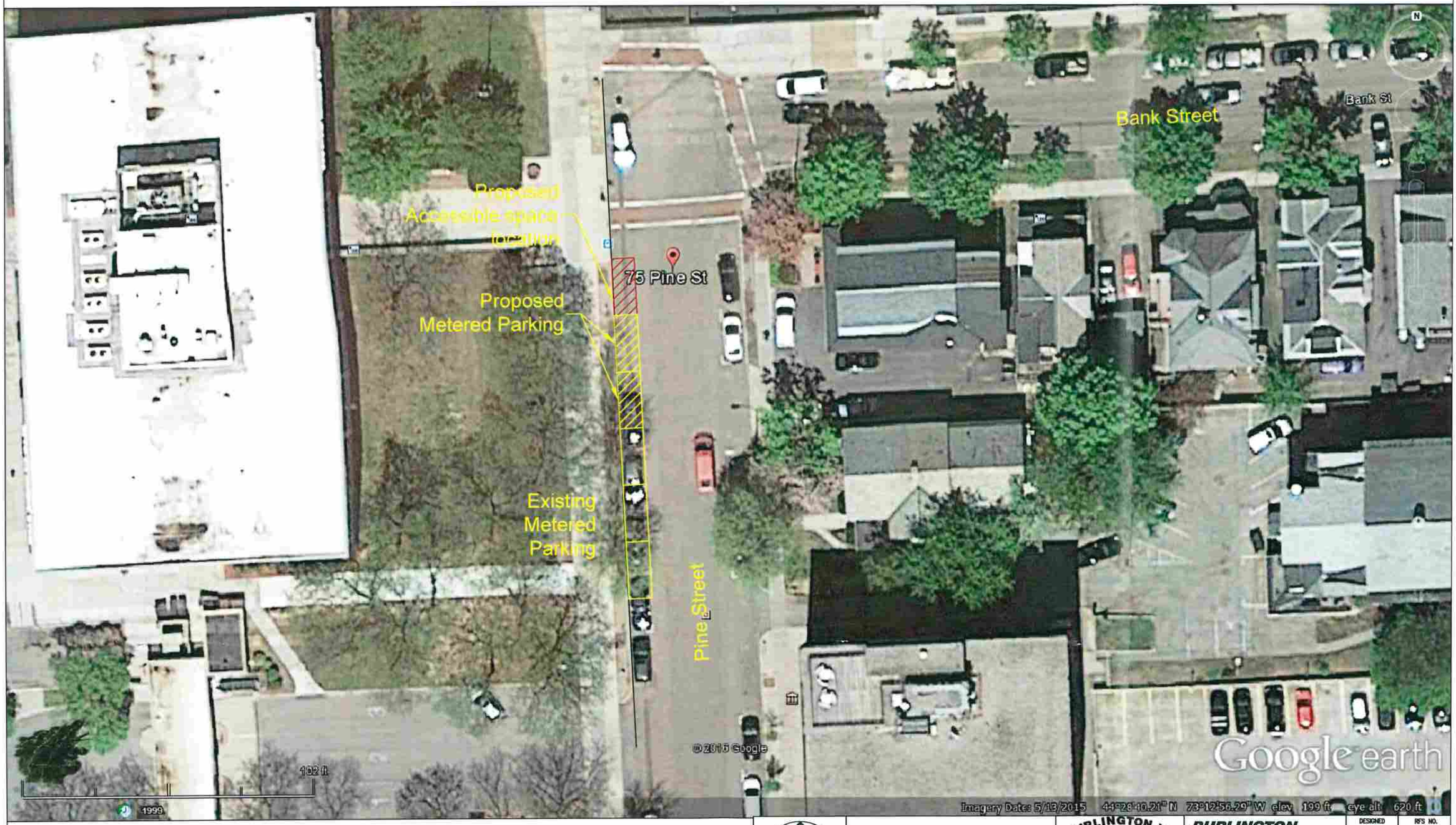
Existing Conditions

BURLINGTON, VT PUBLIC WORKS

BURLINGTON PUBLIC WORKS ENGINEERING DIV.

645 PINE STREET
BURLINGTON, VT 05401
(802) 863-9094

DESIGNED DRR	RFS NO. 12013
DRAWN DRR	SCALE NTS
CHECKED NJB	DRAWING NO.
DATE	



North

Bus Stop Removal on Pine St.

Proposed Conditions

BURLINGTON, VT

BURLINGTON PUBLIC WORKS ENGINEERING DIV.

645 PINE STREET
BURLINGTON, VT 05401
(802) 863-9094

DESIGNED DRR	RFS NO. 12013
DRAWN DRR	SCALE NTS
CHECKED NJB	DRAWING NO.
DATE	

Requests for Service (/Main.aspx)

#12013 Assigned

New

Technical Services

DPW Projects

Location: 75-83 Pine St

Request planning and ordinance support to revert bus break position to metered parking

Attachments

No Attachments

Browse...

Upload Attachment

Assigned to: Damian Roy

Requested by: Patrick Cashman

Opened: 7/14/2016

Entered By: Pat Cashman

Due: 9/30/2016

Work History

Add Work History

No Work History

Damian Roy

From:	Jon Moore <jmoore@ridegmt.com>
Sent:	Friday, August 19, 2016 9:30 AM
To:	Damian Roy
Cc:	Jon Moore
Subject:	Re: Bus Stop @ Pine/Bank

We currently use that stop for driver lunch parking but won't need it once the DTC is open.

Thanks,

Jon Moore
Director of Operations
Green Mountain Transit (GMT)
802-540-2445 (Direct Line)
802-864-2282 (GMT Main Office)

Please note my new email address

On Fri, Aug 19, 2016 at 9:03 AM, Damian Roy <droy@burlingtonvt.gov> wrote:

Morning Jon,

My pleasure on the speed sign. Don't hesitate to shoot those things my way.

Question for you, is CCTA actively using the bus stop on the west side of Pine at the corner of Pine and Bank? If not would you happen to know if any other carriers are?

Thanks!

Damian Roy, Engineering Technician

Burlington Public Works Department

645 Pine St. Burlington VT 05401

Desk: 802.865.5832

Cell: 802.598.8356

Damian Roy

From: richard hillyard <pompeyhccc@hotmail.com>
Sent: Wednesday, September 07, 2016 3:34 PM
To: Damian Roy
Subject: High Grove Court Parking

Hello Damian,

Thanks for your leaflet.
I made the initial request of Nicole and Joel Fleming on behalf of the Board of the High Grove II Condominiu Association, but was later asked to withdraw it.

We then reinstated it, but Joel apparently left.

Our goal is to free up some space on the West side of High Grove Court for additional parking, at least two spaces, more if engineering studies cause more spaces to be recommended.

I don't have anything more to add to your "project" explanation, other than to suggest that a stripe be adde to the north end of whatever parking space you finally advocate - that'll influence "parkers" to keep away from the sidewalk curb-cut which is used by cycling and running children.

I am available at 651-0725 if I can be of further help, but can say unequivocally that the Board representing the seven property owners of High Grove II wholeheartedly support additional parking, and thank you very much for your note.

Richard Hillyard
Treasurer, High Grove II Condominium Association
43 High Grove Court
651-0725

MEMORANDUM

August 8, 2016

TO: Public Works Commission

FROM: Damian Roy, DPW Engineer Technician

CC: Norman Baldwin, City Engineer
Dave Allerton, Public Works Engineer

RE: Mansfield Ave Parking Removal around Crosswalk

Background:

In October 2015 staff evaluated a request to install 3-way stop control at the intersection of Mansfield Avenue and Loomis Street causing all traffic to stop. During staff's evaluation the Mansfield Avenue corridor was determined to have some deficiencies in regards to signage and sightlines pertaining to the midblock crosswalk that provides direct crossing access to Mater Christi School.

Observations:

On street parking is available on the west side of Mansfield Avenue with vehicles routinely parking right up to the crosswalk paint. This practice limits sightlines between pedestrians in the crosswalk and motorists. To alleviate this condition, staff employs the general practice of prohibiting parking 20 feet from crosswalks when evaluating sightlines.

Conclusions:

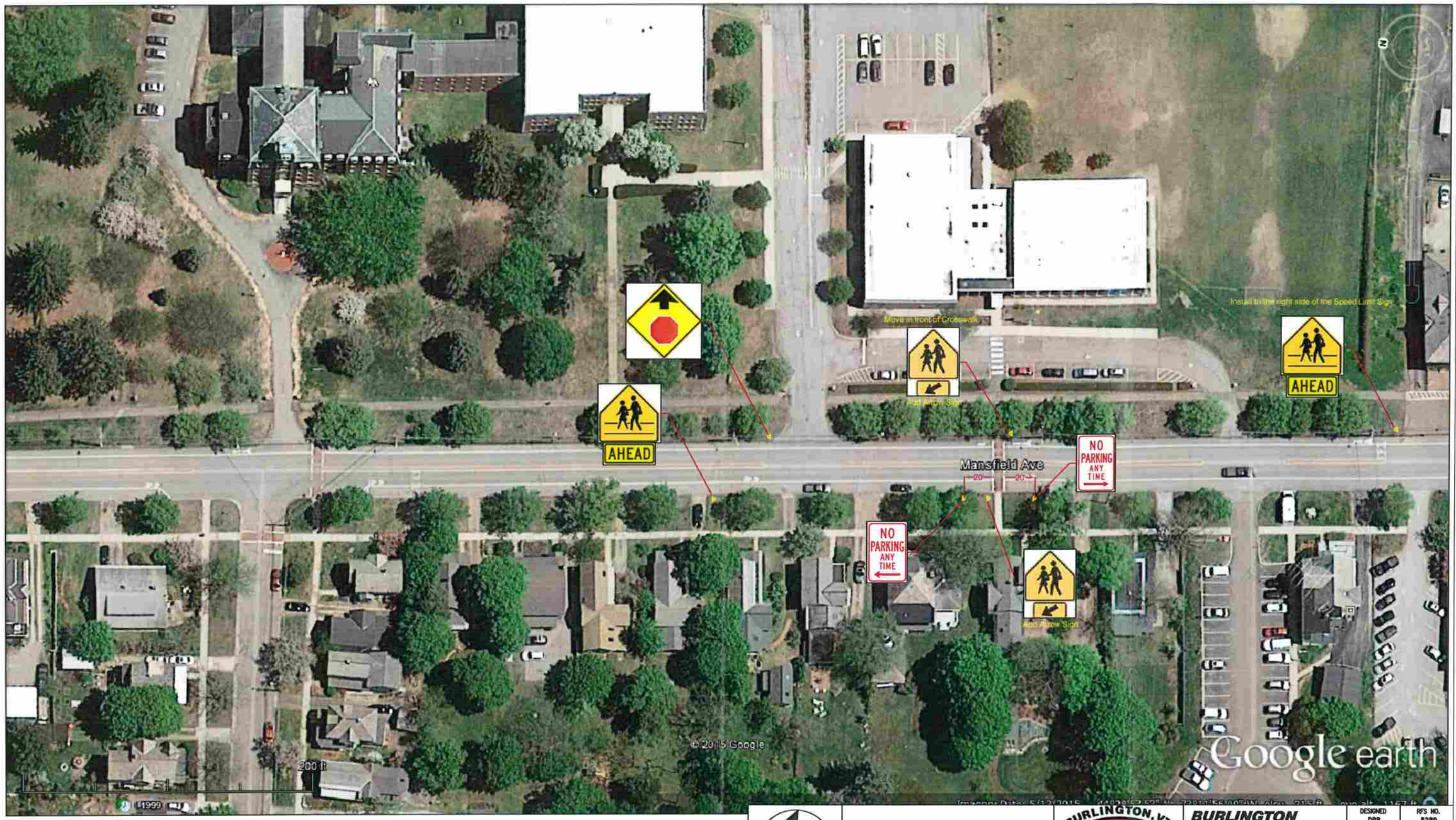
During the 3-Way Stop Control request in October, it was shown that one of the primary reasons for installing stop control was to provide safer crosswalks along Mansfield Avenue especially for school-age pedestrians. In concert with this, prohibiting parking around the midblock crosswalk at Mater Christi School will improve safety for school-age pedestrians and is a standard practice in the city. See the attached drawing showing the parking prohibition along with improved signage for the midblock crosswalk.

NB 9/9/16

Recommendations:

Staff recommends that the Commission adopt:

- No parking on the west side of Mansfield Avenue for 20 feet north and south of the midblock crosswalk at Mater Christi School.



North

Mansfield Avenue Signage

Proposed Conditions

BURLINGTON, VT

BURLINGTON PUBLIC WORKS ENGINEERING DIV.

645 PINE STREET
BURLINGTON, VT 05401
(802) 863-9094

DESIGNED DRR	RFS NO. 5289
DRAWN DRR	SCALE NTS
CHECKED NJB	DRAWING NO.
DATE	

Dear Mansfield Avenue Residents,

The Department of Public Works (DPW) has received a request from a resident to restrict parking around the midblock crosswalk across from Mater Christi School. DPW would restrict parking 20 feet to the north and south of the crosswalk, this would be done to increase sight lines between pedestrians and motorists increasing safety for those using th crosswalk.

As part of our evaluation process we are engaging residents of Mansfield Ave between Loomis Street and Colchester Ave to gauge whether there might be any issues with this parking restriction. If you would like to offer any comments regarding this request please contact me by Friday August 26th.

Thank you!

Damian Roy, Engineering Technician

Burlington Public Works Department

645 Pine St. Burlington VT 05401

Desk: 802.865.5832

Cell: 802.563.5353

Email: droy@burlingtonvt.gov

Web: www.burlingtonvt.gov/dpw

Damian Roy

From: Rob Chandler <rhc8@hotmail.com>
Sent: Friday, August 19, 2016 11:59 AM
To: Damian Roy
Subject: Proposed Parking Restriction on Mansfield Avenue

Dear Mr. Roy,

I live on Mansfield Avenue with my family, and we frequently use the midblock crosswalk that leads to Mater Christi. agree that restricting parking around the crosswalk would better ensure pedestrian safety by improving the sightlines between drivers and pedestrians. As such, I fully support the proposal.

Please let me know if you have any questions or would like any additional information. Thanks.

Rob Chandler
87 Mansfield Avenue

Damian Roy

From: Andy Raubvogel <araubvogel@dunkielsaunders.com>
Sent: Wednesday, August 24, 2016 11:27 PM
To: Damian Roy
Cc: Nancy Kaplan
Subject: Evaluation of proposed Mansfield Ave parking restriction near crosswalk

Damian,

At your suggestion I am writing with comments concerning the proposal to restrict parking 20 feet to the north and south of the crosswalk at the Mater Christi school. We live at 49 Mansfield Avenue, directly adjacent to the crosswal and parking spots at issue, and would likely be the most affected by this change. So here are a few things we would a you to consider:

-- the crosswalk is not heavily used. Most of the children attending the private school do not walk to school and thus not use the crosswalk. While some other neighborhood children (including our daughter) do use the playground next to the school, again the amount of usage is generally light (much lighter than, example, Pomeroy Park). In our 4 years living here, we have never seen or heard of safety problems at the crosswalk addition, the new stop sign and the use of the traffic calming painting and median have all helped to reduce traffic speeds on Mansfield. Thus while we absolutely want the safety of pedestrians to be accounted for, we do not necessarily see the need for this change.

-- If DPW does go forward with the restriction, it should be limited to school hours in order to allow residents to park other times.
In addition, the restriction of 20 feet on either side of the crosswalk seems excessive in terms of the loss of parking a possibly unnecessary. Can it be reduced to 10 or 15 feet? I understand that this may relate to a traffic guideline, but given that the restriction doesn't presently exist we marine there is some discretion in therms of what new restrictio should be imposed. We and other neighbors are already constrained by no parking areas as you go further south, an the spots in front of our house should be available to us and to our visitors (with a visitor's pass).

-- There is a related issue regarding signage and visual clutter.
There are already 3 or 4 separate posts at this location for signage related to biking, the crosswalk, and resident per parking. This would add yet another two signs, for No parking on either side of the crosswalk. Please co-locate as many of these signs as possible to reduce the number of posts. It would also seem that so many signs in one place is confusing to drivers. Why does the biking sign need to be located at this spot? It is completely arbitrary have it there, and so we suggest moving it further down the street to reduce the visual clutter at that location.

Thanks you sincerely for allowing us to provide comments. Please contact me if you have any questions, and add us t any ongoing interested persons list.

Best,

Andy Raubvogel and Nancy Kaplan
49 Mansfield Avenue
238-4312
Araub61@gmail.com

MEMORANDUM

September 9, 2016

TO: Public Works Commission

FROM: Damian Roy, DPW Engineer Technician

CC: Norm Baldwin, City Engineer

RE: Metered Parking Request on Pearl Street

Background:

Staff received a request from Paul Averill practicing dentistry out of 239 Pearl Street to install metered parking along the south side of Pearl Street between South Union Street and Hungerford Terrace to match the metered parking along the north side of this section of Pearl Street. Mr. Averill states that parking has become increasingly difficult for his employees and customers with the completion of the apartment building next door and as more people long-term park outside the downtown core to avoid parking fees.

Observations:

- Street Characteristics: This section of Pearl Street is a 35-foot-wide mixed business/apartment building arterial roadway with 7 10-hour metered parking spaces on the north side and 12 unrestricted parking spaces on the south side leaving two 9½ foot lanes servicing an average annual daily traffic count of 12300 vehicles based on VTrans 1993 survey.

- Off Street Parking: All apartment buildings and businesses have some level of off-street parking options on this section of Pearl Street; although not all businesses have adequate off-street parking for their employees and customers.

- Public Outreach: Staff distributed flyers to the apartment buildings and businesses on Pearl Street between Union and Hungerford on August 11th. John Dubie of Pearl Street Beverage was the sole respondent stating that while he does not have any objection to the metered parking directly, as a firefighter he believes that Pearl Street is too narrow with

NB 9/15/16

too much vehicular, bicycle, and pedestrian volumes to allow parking on both sides of the street.

Conclusions:

Metered parking increases vehicle turnover which benefits businesses. The apartment buildings along this section of Pearl Street all have off-street parking options. There are several businesses on this section of Pearl including Mr. Averill's that would benefit from installing meters.

Recommendations:

Staff recommends that the Commission adopt:

- The installation of 10-hour parking meters on the south side of Pearl Street from Union Street to Hungerford Terrace.

North

10-hour Metered Parking on Pearl Street

Proposed Conditions

BURLINGTON, VT

BURLINGTON PUBLIC WORKS ENGINEERING DIV.

645 PINE STREET
BURLINGTON, VT 05401
(802) 863-9094

DESIGNED DRR	RFS NO. 9965
DRAWN DRR	SCALE 1"=40'
CHECKED NJB	DRAWING NO.
DATE	

Requests for Service (/Main.aspx)

#9965 Assigned

New

Technical Services

Traffic Requests

Location: Pearl St

Requesting Parking meters on the South side of Pearl between Union & Hungerford Terrace

Attachments

Attach Date	Staff	Attachment
01/15/2016 1:45 PM	Valerie Ducharme	View File (/Attachments/2388.pdf)

Browse...

Upload Attachment

Assigned to: Damian Roy

Requested by: Paul Averill

Opened: 1/15/2016

Entered By: Valerie Ducharme

Due: 3/15/2016

Work History

Add Work History

Date	Staff Person	Description
01/15/2016	Valerie Ducharme	See attached letter Details

Paul A. Averill, DDS

802-864-5315 paulaverilldental@comcast.net 239 Pearl Street Burlington, VT 05401

May 7, 2015

Chapin Spencer
Director of Public Works
City of Burlington

Dear Chapin,

As you know from our previous conversations, I believe strongly that we need metered parking on Pearl Street from Union to Hungerford Terrace (South side) to match what is present on the north side of the street. As a result of the devastating fire that destroyed the medical office building next to our practice, parking has become a real problem. In addition to our practice several other offices leased parking from the group next door. (2 other dental practices on our block and Burlington Rehab to name a few) Now that the housing project has started this is no longer possible. It has placed a severe strain on parking in our area and will only get worse once the project is completed and the units are occupied.

Increased metered parking downtown and higher parking fees has also affected the parking situation. Many of the unmetered spots near us are occupied by people working or shopping downtown leaving no spaces for business clients on our block of Pearl Street. (And often parked all day long) We have served patients from the surrounding area as well as those from the downtown area. Most require parking, but some bike and walk to our practice. Presently we are leasing spaces across the street, but if this were ever to end we would be forced to move our practice outside Burlington.

Our practice has been in downtown Burlington for over a hundred and fifteen years, and in its present location since 1958. Over many of these years we have always felt a strong connection with our business and the Burlington community. As of late, we feel that this connection is no longer there as it seems like we are being intentionally forced out. It appears that the total focus on business in Burlington has been on Church street and has not included the many businesses that are within a few blocks of the Marketplace. It seems to me that to have a vibrant and successful downtown it would be necessary to also have a successful business structure in the surrounding area.

As a local business owner I believe we too should be included in the "conversation" to have input to improve our downtown community. I would appreciate the opportunity to discuss this with you in the future.

Sincerely yours,

Paul A. Averill, DDS

CC: Mayor Weinberger

Dear Pearl Street Businesses and Residents,

The Department of Public Works (DPW) has received a request to insta
metered parking on the south side of Pearl Street between South Unic
Street to Hungerford Terrace to match the north side of Pearl Street in
this same block section. Metered parking encourages vehicle turnover
which benefits nearby businesses.

As part of our evaluation process we are engaging residents and busi-
nesses on this block of Pearl Street to gauge whether there might be
any issues with installing these meters. If you would like to offer any
comments regarding this request please contact me by Friday August
19th.

Thank you!

Damian Roy, Engineering Technician
Burlington Public Works Department
645 Pine St. Burlington VT 05401
Desk: 802.865.5832
Email: droy@burlingtonvt.gov

MEMORANDUM

September 9, 2016

TO: Public Works Commission

FROM: Damian Roy, DPW Engineer Technician

CC: Norm Baldwin, City Engineer

RE: Loading Zone Request on Marble Avenue

Background:

Staff received a request from Stuart Sporko, owner of Battery Street Jeans to install a 40-foot vehicle loading zone active 8:00am to 6:00pm on the south side of Marble Avenue in front of his business. Mr. Sporko states that many of his customers, some of them elderly, arrive with boxes of clothes to bring into the store. He says that the loading zone would make this process easier for his customers and that his business received about 4 – 5 such deliveries per day. The Battery Street Jeans' Facebook page states that the store is open from 10:00am to 6:00pm.

Observations:

- *Street Characteristics:* Marble Ave is classified as a 26-foot-wide local residential roadway with one-way traffic traveling in the east to west direction. The roadway has unrestricted parking available on the south side only leaving an 18-foot-wide travel lane, there are a total of 15 existing parking spaces available between Pine Street and Hayward Street. There are 12 residential buildings, several multi-unit, on the street along with 7 Marble Ave (388 Pine Street) housing several businesses.

- *Street Usage:* Staff visited the street on Thursday August 11th and at 7:00am, 10:00am, and 1:00pm to assess parking type and usage. Average utilization is 87% with residents making up the majority of on-street parking. See attached plate count spreadsheet.

- *Off-Street Parking:* All buildings on this section of Marble Avenue have driveways. These driveways are narrow with only width to accommodate one vehicle at a time. Given that most of these buildings are multi-unit dwellings there is a greater need for parking than what the driveways offer. There is a gravel parking lot directly across from

NB 9/13/16

Battery Street Jeans that is owned by Unsworth Properties large enough to accommodate about a dozen vehicles. There is an unauthorized sign in this parking lot that says "Off-Street Parking Lot for 7–19 Marble Ave." According to a representative at Unsworth Properties, this parking lot is intended to serve as the business tenants and customers of Battery Street Jeans and other businesses in the building. Keith Wagner of Wagner Hodgson Landscape Architecture responded to staff's flyer confirming that the gravel lot's use was intended for his employees and Battery Street Jeans.

- *Public Outreach:* Staff distributed flyers to the residents and businesses of Marble Avenue from Pine Street to Hayward Street on August 9th with a deadline to respond to DPW by August 19th. Staff received 5 responses from residents all opposed to installing the loading zone. Most state that parking on the street has become increasingly difficult to find with nearby businesses opening or expanding and that they don't believe that Battery Street Jeans has a legitimate need for a loading zone. They state that on-street parking is extremely limited already and that most renting residents do not have off-street parking options. Other businesses in the area have not expressed a need for a loading zone. See attached emails.

Conclusions:

On-street parking is heavily utilized on Marble Avenue with only 15 spaces servicing approximately 25 – 30 dwelling units. An almost equal amount of parking is available in the gravel parking lot directly across the street from Battery Street Jeans whose customers have access to. No other business has expressed a need for installing a loading zone.

Staff does not support the installation of this loading zone when no other businesses have expressed a need for it and the area residents unanimously oppose it. High parking utilization shows that the available spaces on the street are in high demand for all use and removing a portion of this resource for a singular use is not recommended.

Recommendations:

Staff recommends that the Commission:

- Maintain the current conditions of unrestricted parking on the south side of Marble Avenue from Pine Street to Hayward Street.

North

Request to Install a Loading Zone on Marble Ave.

Existing Conditions

BURLINGTON, VT

BURLINGTON PUBLIC WORKS ENGINEERING DIV.

645 PINE STREET
BURLINGTON, VT 05401

DESIGNED DRR	RFS NO. 11255
DRAWN DRR	SCALE NTS
CHECKED NJB	DRAWING NO.

North

Request to Install a
Loading Zone on Marble Ave.

Requested Conditions

BURLINGTON, VT

BURLINGTON PUBLIC WORKS ENGINEERING DIV.

645 PINE STREET
BURLINGTON, VT 05401

DESIGNED DRR	RFS NO. 11265
DRAWN DRR	SCALE NTS
CHECKED NJB	DRAWING NO.

Requests for Service (/Main.aspx)

#11265 Assigned

New

Technical Services

Traffic Requests

Location: 7 Marble Ave

Mr. Sporko originally requested dedicated parking spaces for his business Battery Street Jeans, after staff informed him that we do not assign parking exclusivity to residents or businesses he requested a 30-min vehicle loading zone. He prefers a 40 foot zone but would settle for a 20 foot zone.

Attachments

No Attachments

Browse...

Upload Attachment

Assigned to: Damian Roy

Requested by: Stuart Sporko

Opened: 5/20/2016

Entered By: Damian Roy

Due: 8/19/2016

Work History

Add Work History

No Work History

ATE COUNT

Location: Marble Ave

Inspector: D. Roy

Date: Thursday 8/11/16			Date:			Date:		
7:00	10:00	13:00	7:00	10:00	13:00	7:00	10:00	13:00
ERX 117	FPK 297	FPK 297						
LT 140	FRF 966	FRF 966						
GCM 832	GCM 832	GCM 832						
GTG 812	GKA 172	FSW 868						
VLS 3783	GGS 550	GKA 172						
GPB 720	VLS 3783	GGS 550						
GPT 717	GPB 720	GPT 717						
GFP 700	GPT 717	BRZ 1536						
BRZ 1536	GFP 700	FLT 243						
GCX 302	BRZ 1536	GCX 302						
346 5411	FLT 243	346 5411						
GGD 969	GCX 302							
6359 XV	346 5411							
	GGD 969							
	6359 XV							
Total Spaces	15	15	15						
Spaces Used	87%	100%	73%						
Resident	13	10	5						
Transient	0	0	1						
Long Term	0	5	5						

Dear Marble Avenue Residents,

The Department of Public Works (DPW) has received a request from Battery Street Jeans to evaluate the installation of a 40 foot loading zone in front of their business frontage on Marble Ave. This loading zone is requested to be in effect from 8:00am to 6:00pm. After that time the space would be open for parking.

As part of our evaluation process we are engaging residents of Marble Ave between Pine Street and Hayward Street to gauge whether there might be any issues with installing this loading zone. If you would like t offer any comments regarding this request please contact me by Friday August 19th.

Thank you!

Damian Roy, Engineering Technician

Burlington Public Works Department

645 Pine St. Burlington VT 05401

Desk: 802.865.5832

Cell: 802.563.5353

Email: droy@burlingtonvt.gov

Web: www.burlingtonvt.gov/dpw

Damian Roy

From: Katey Troutman <krtroutman@gmail.com>
Sent: Tuesday, August 09, 2016 1:23 PM
To: Damian Roy
Subject: Marble Avenue Loading Zone

Dear Mr. Roy, or to Whom it May Concern,

I am a resident of Marble Avenue and I do not support the implementation of the proposed loading zone.

My lease does not permit me to use off-street parking; parking my vehicle on the street is my only option. As currently stands it is often *impossible* or nearly impossible to park on my own street, partially due to the fact that employees of the various businesses and organizations housed at the same building as Battery Street Jean are parking their cars on the street as well. This is evidenced by how empty the street is on Sundays in comparison to the remainder of the week.
Additionally, tourists, ArtsRiot patrons, Battery Street Jeans customers, and attendees of the Truck Stop event housed at ArtsRiot *also* frequently park on Marble Avenue, making it even more difficult for me, and many fellow residents to find parking on my own street. If this loading zone were implemented, the competition for parking would make residing on Marble Avenue very, very inconvenient. As I previously said, my lease does not afford me with off-street parking and I believe that this would severely impact my day-to-day life. I would consider moving residences if this loading zone were implemented given how difficult the parking situation on Marble Avenue *already* is for residents.

I suggest that Battery Street Jeans find a way of better utilizing the existing space they have rather than negatively influencing the day-to-day lives of residents so profoundly. I believe that to implement such a loading zone would create further tension between the residents of Marble Avenue and the customers/employees of the immediate area than already exist. Please, please, please do not allow this loading zone to move forward. The influence and inconvenience of such a project would be dramatic.

Thank you,
Katey Troutman
(8 Marble Avenue)

Damian Roy

From: John Desmond <jpdesmond90@gmail.com>
Sent: Tuesday, August 09, 2016 8:26 PM
To: Damian Roy
Subject: Proposed Loading Zone | Marble Avenue

Damian Roy,

As a resident of Marble Avenue and someone who has lived in this neighborhood for the last sever years, I stand in strong opposition to the proposed loading zone for Battery Street Jeans.

As an employee of Burlington's Public Works Department, I feel I do not need to tell you how park in Burlington is an increasingly complicated issue and the South End is far from an exception. I lov where I live and hope to stay here for years to come, but being a tenant rather than a property owner leaves me at a disadvantage when it comes to competing with businesses and commercial property owners in my neighborhood.

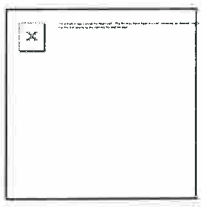
I do not have the luxury of off-street parking and while this did not dissuade me from moving into my current residence initially, there has been a visible increase in the competition for parking between residents, local business, and their patrons, ultimately resulting in more frequent parking-related headaches for my household. Additionally, my slightly non-traditional work schedule would put me at a particular disadvantage as the time of effect for the loading zone would require me to park my car each morning before leaving - while a few minutes of my time to do so may not seem terrible burden, the mandate of doing so daily would become an annoyance very, very quickly.

I want to make clear my stance that the current renaissance in the South End is an undeniably goo thing for both the residential and commercial community as it presents not only opportunities for business development, but also a richer experience for those of us fortunate enough to live in such an exciting part of a truly wonderful city - my only request is that such development does not slow push out those of us who have come to call this street "home".

Regards,

John

--



Damian Roy

From: Keith Wagner <hkwagner@wagnerhodgson.com>
Sent: Wednesday, August 10, 2016 3:26 PM
To: Damian Roy
Subject: Loading area in front of Battery Street Jeans

Hi Damian-
Thank you for reaching out regarding Battery Street Jeans (BSJ) request for the 40 loading zone.
I believe there is a number of issues with this concept. I have been a tenant in this building for close to 18 years and t on street parking is critical for not only the businesses in the area but also the residents on Marble Ave. So,
I know why the owner wants this- he wants parking at his door step. Since Rick Davis' non-profit moved into the building, occupying a portion of the old Burlington Furniture space, there has been parking issues. We were told that non-profit would park at Rick's Maltex building and only use 1 or 2 spaces in front of their front door. This is not the case and the landlord is aware of this and has tried to police it.
The gravel lot at the corner of Marble and Pine is for our employees and BSJ to use. But since the non-profit uses up many of the spaces in the gravel lot, it has caused BSJ to start making his own 'misleading' signage about whose to use the gravel parking . In fact, we have many employees park on the street because of this new non-profit. Also, my clien often are forced to park on the street if the lot is full. That being said, everyone is working it out and everything is fin just the way it is.
It is clear to me, that he wants it a loading zone so he can say people are 'dropping off or picking up used clothing for consignment'. He doesn't open most days during the week until close to noon. So, it seems odd to me that he would request the loading zone to be from 8:00 am to 6:00 pm. There is absolutely no reason to compromise the parking fo all, for one individual.
I understand that he wants to make a living, but his convenience should not come at the cost to other(long standing businesses.
The loading zone idea and request should not be allowed. I don't believe we need to make a loading zone ploy into a 'privatized parking' area for Battery Street Jeans.
Thanks again for your inquiry- I appreciate it!

Regards,
H. Keith Wagner, FASLA
Principal

Personal email: hkwagner@wagnerhodgson.com

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LANDSCAPE ARCHITECTURE

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426 E. Allen Street, Hudson, NY 12534

VT 802.864.0010
NY 518.567.1791
F 802.864.6267
W www.wagnerhodgson.com

Damian Roy

From: Jeff Hodgson <jhodgson@wagnerhodgson.com>
Sent: Friday, August 12, 2016 4:20 PM
To: Damian Roy
Subject: Marble Avenue

Damien

As more businesses have moved into the area parking has become tight. I personally do not feel that this loading zon equitable and in fact would make parking in this neighborhood even tighter. Battery Street Jeans doesn't even open until noon, so I'm not sure why he would need it to begin at 8am. Great Harvest bakery gets deliveries frequently out the street. It works because the street is one way but wide enough for a truck to double park and cars can still get by fine.

Jeff Hodgson, FASLA
Partner

Personal email: jhodgson@wagnerhodgson.com

WAGNERHODGSON
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430 Warren Street, Hudson, NY 12534

VT 802.864.0010 ext. 101
NY 518.567.1791

W www.wagnerhodgson.com

Damian Roy

From: sara <sara@burlingtontelecom.net>
Sent: Thursday, August 18, 2016 11:59 AM
To: Damian Roy
Subject: Loading Zone in front of Battery Street Jeans

Hi Damien,

I was recently made aware that Battery Street Jeans was seeking to block parking in front of their store. I am a Five Sisters resident and the owner of Great Harvest Bread which shares space in the same building as BSJ.

I think that reducing the parking along Marble Avenue is a bad idea.
When Burlington Furniture moved out of their space earlier this year, one business was divided up into several space When the space was Burlington Furniture, there were only 4-5 employees vying for parking.
Now with the Permanent Fund, Lets Grow Kids, Green State Gardener, and soon Dedalus Wines coming in, there are or more employees looking for parking. Also, many of the homes at the bottom of Marble Ave are multi-family residences which place greater demands on the street's single side parking than single family homes.

BSJ has already asked that employees of neighboring businesses leave two spaces in the parking lot across Marble Av for their customers, and the neighbors are respecting those spaces. I feel that to lose additional spaces will ultimatel affect residents and create more of a headache for all of us.

Respectfully,
Sara Brown
Charlotte Street and Great Harvest Bread Co.

RFS# 11265 – Marble Ave Loading Zone

8/15 – Sam Hemingway, 578-6305, shem9648@gmail.com, owner of 8 Marble Ave called to state that he is opposed to installing a loading zone in front of Battery Street Jeans. His tenants at 8 Marble Ave have very limited off-street parking and rely on street parking. He also states that despite what the sign in the gravel parking lot says that he and his tenants do not have access to that lot.

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DZR
7/13/16

Damian Roy – DPW Engineering Technician
July 12, 2016

DRIVEWAY ENCROACHMENT PILOT STUDY REPORT

Background

The Department of Public Works' (DPW) Driveway Encroachment Pilot Study was active from April 15th 2016 through May 15th 2016 prohibiting parking within two feet of driveways on Henry Street, Weston Street, Loomis Street, Brookes Avenue, and North Williams Street affecting approximately 150 households. The purpose of this pilot study was to measure the positive and negative impacts to on-street parking, driveway ingress/egress, and to gauge residential support for this parking restriction.

During the study, Burlington Police Department (BPD) parking enforcement officers patrolled the area recording violations and issued citations when a complaint was received. After the study, staff distributed approximately 180 Driveway Encroachment Survey Questionnaires with accompanying cover letter. Residents could complete the questionnaire and return it via mail or could follow the link provided on the cover letter to fill out online. Residents were able to complete the questionnaire and return it to DPW on or before June 8th.

Observation Summary

There are currently 18 requests in queue from residents throughout the city to restrict parking around their driveways. These driveways are mainly located in densely populated mixed-unit residential streets where parking is at a premium and often when there is typically 30 to 40 feet of curb space between driveways. Most driver's perceive 35 feet as more space than one vehicle requires and often try to squeeze two vehicles in that space to maximize available parking – leading to driveway encroachment.

Of the 180 surveys distributed, Staff received and reviewed 31 responses from residents. These survey responses and comments are included in the following pages of this document.

The following is a summation of the feedback staff received.

Positive feedback for implementing a Driveway Encroachment Parking Restriction:

- Improved vehicle safety and maneuverability into and out of driveways
- Improved sightlines between vehicles, pedestrians, and vehicles in the travel lane
- Improved quality of life and residential atmosphere

Negative feedback and/or criticism to implementing a Driveway Encroachment Parking Restriction:

- The 2 foot restriction being inadequate in sufficiently improving vehicle encroachment to driveways, suggestions include 3 feet and 5 feet as well as measuring from the curb cut rather than the straight line edge of the driveway.
- Loss of on-street parking as a result of reduced available curb line.
- Loss of on-street parking due to people parking overly cautiously around driveways
- A perceived prejudice towards renters and lower income residents in favor of home owners and higher income residents
- Resident response unanimously supported the idea of line striping around driveways and parking stalls. Residents both for and opposed of the proposed parking restrictions felt that line striping

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the parking limit near driveways would improve awareness of the restriction, increase compliance and efficiency, and lead to more available spaces.

Driveway Encroachment Pilot Study Survey Results

Question #1: Overall, how severe would you describe the issue of vehicles parking too close to your driveway BEFORE the pilot?

Severe	5	17%
Significant	12	40%
Somewhat of an issue	5	17%
Not Significant	3	10%
Not an issue	5	17%

Question #2: Overall, how much improvement to this issue did you experience DURING the pilot?

Greatly Improved	10	32%
Somewhat Improved	7	23%
Could not tell	7	23%
No Improvement	7	23%
Condition Worsened	0	0%

Question #3: Do you feel that sight distances when exiting your driveway were improved?

Greatly Improved	10	33%
Somewhat Improved	7	23%
Could not tell	7	23%
No Improvement	6	20%
Condition Worsened	0	0%

Question #4: Was turning into and out of your driveway any easier?

A lot easier	11	37%
Somewhat easier	8	27%
Could not tell	5	17%
Wasn't any easier	6	20%
Condition worsened	0	0%

Question #5: Do you feel that having line striping around driveways would improve the effectiveness of this parking restriction?

Yes	18	60%
Maybe	4	13%
Neutral	3	10%

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Probably not	1	3%
No	4	13%

Question #6: Do you feel that the amount of available parking was negatively affected during the pilot?

Yes, greatly	6	19%
Yes, somewhat	1	3%
Could not tell	12	39%
Not really	6	19%
Not at all	6	19%

Question #7: If given the choice, would you like to have this parking restriction in effect in your area at all times?

Yes	22	71%
No	9	29%

Question #8: Please feel free to write any questions, comments, concerns, or recommendations you might have for DPW Staff regarding the Driveway Encroachment Pilot Study.

The following responses were submitted via online survey:

1. I have a roommate who I share one off street parking spot with. When the off street spot is unavailable, we rely on street parking. Our options for street parking were considerably reduced during this time, forcing us to drive to other streets to park. However, my off-street parking/house is not on the side of the street where the parking occurs. Therefore, I am unable to say whether it was easier or not to move in and out of the driveway. It seemed like a significant improvement for those residents, though.

2. Parking became even more limited. It seems individuals frequently chose to park in the middle of two spaces in order to make sure that they were not encroaching on a driveway. Also, many individuals who parked even slightly back from a driveway made another space unavailable by doing so. We are renters on Brooke's ave and do not have designated street spots or enough room in our driveway for all of our cars. Life became more annoying during the encroachment study, because of drastically more limited parking options, although we certainly feel for those who have their driveways encroached upon. I feel a potential way to remedy this would be to have clear designated parking spots. This would ensure that individuals both park far enough away from driveways but not too far as to make another spot unavailable

3. Please do not do this. This neighborhood needs to be accommodating of renters and tenants so people can afford to live here. And I say this as a homeowner! I think this driveway rule is prejudicial. You can contact me at 802 . 734.6731 if you have any questions. My name is Margaret Tamulonis and I live on north Willard street.

4. Thank you!! My driveway is opposite the side of the road vehicles can park on....having the 2ft clearance by the driveway allows me to back out more safely, going straight out of my driveway and not risking hitting a car opposite of me. I greatly appreciate this!

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5. Parking isn't that bad on upper Henry but it's nice to be able to park close during busy times so status quo seems fine. We live in the city!

6. This was not at all well advertised or explained. or at the very least it was entirely ignored on my street. I had to report at least two cars during the course of the study for parking way too close or hanging over into the line of entrance/egress from my driveway.

7. This tight parking at driveways is a constant problem on upper North Street, where renters and hospital employees vie for parking day and night. I had no idea there was a program to remedy the issue, and have seen no improvement as the mostly out-of-state young people who park so close to the driveway have no idea there's a program too. Painting lines or creating a fine for parking like this would be more effective.

8. Nothing is different here on north Winooski Ave...parking is still very bad and getting in and out of the driveway can be dangerous and difficult.. had no idea you were even trying this out. Was it in all neighborhoods?

9. Before this pilot, we had cars parked very close to our driveway which made it impossible to safely back out of the driveway into the street. Also, Brookes ave is such a narrow street that having the cars parked so close to the driveway makes turning onto the street from the driveway very cumbersome and challenging. I'm really hopeful that this change happens for we homeowners on the street.

10. My "yes" answer to question #7 is contingent upon the pavement markings. Without the markings, drivers are unsure what exactly is "2 feet", and overcompensated. When this occurred, the parking spaces in front of my home reduced from 3 to 2. Several other curbs have room for two cars, but during this pilot drivers were cautious and parked right in the middle, eliminating several opportunities to meet intended capacity. I also am concerned when I park / my bumper hangs across the end of my own driveway due to lack of available parking, that I would get ticketed/ towed. That is an existing concern regardless of Pilot, as I've been told by Parking Dept. that they do not verify whether the car is the property owners before they ticket/ tow - so anyone could call on my car being in violation of this new rule if they wanted to. Thank you for considering my feedback.

11. Two feet is not enough of a buffer. I live in an area where most residents park on the street and there is no resident only parking situation. People, before and now park at the edge of a driveway apron and sometimes even block part of a driveway apron. It should be a 5 foot setback and it should be enforced.

12. Bigger issue is not having resident permit parking on North Williams. Cars of strangers constantly circling and jockeying, squeezing in, unloading at all times of day and night degrades neighborhood feel.

The following responses were hand-written and sent in by mail:

13. I'm at 54 Brookes. We have historically had extreme difficulty getting out of our driveway especially in the winter. We're on the north side and pulling out is near impossible when the tenants across the street do not pull in close to the curb. I have been told that "if a police cruiser can navigate the street then there is nothing that can be

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done." I have taken to parking in the street when it is snowy because I can't access my very long and accommodating driveway. This is dangerous because I have MS and fall very easily. There is no handicap parking near my house on the street.

14. I wish that we had done this when my kids were little. We never could let them near the end of the driveway because of obstructed views – not that it wouldn't still have been dangerous, but it would have been safer. We have had to drive up on the grass to access our driveway when it's blocked, that's not cool. Also, there are times we can't get out and that's a safety issue. We live with some elements that lend themselves to frequent emergencies. Also, I think most people are willing and understanding – they just don't realize they're blocking a driveway. So marking where to park (and not to park) is going to solve the problem, I think.

15. The minute the signs came down the encroaching began again. We've had two instances of blocking since the signs came down. Both cars were 2 feet over our driveway.

16. There is no parking on our side of Brookes Ave. The parking on the opposite side of Brookes already has "reduced parking" enforced to mitigate previous space issues (not enough egress for those of us with no driveway directly opposite).

17. Two feet is not enough – especially in the winter with snow banks. I am not sure how it will work in the winter at all with snow. How will someone see the lines? I still believe that residential parking for N. Williams would be the best solution, as Damian supported several years ago, but it was defeated at a meeting that N. Williams St. residents were not informed of.

18. Post permanent ordinance and add parking distance to curb. Adding a parking distance from curb would improve site distance up and down street! Limiting SUVs and trucks would help site distance also (within 20' of a curb cut). I have a Toyota Prius that cannot see over SUVs and trucks when backing out of my driveway. Also, make permanent ordinance, add signage for residential parking, sign posts.

19. Why are you spending tax payer money on such studies?

20. Parking on the lower end of Loomis St. (between Weston and Willard) was severely impacted. Curbs where 2 cars should fit had only 1 car parked – generally because people were overly cautious (left 4' of space rather than 2'). 95% of the time I am able to park my car directly outside of my house, whereas during the survey period this was reduced to 50% - I often had to park at the top of the block (near Prospect & Mansfield) where my car is both out of eyesight and earshot (it's been broken into before). In my opinion, too many street parking permits are provided to students – why should every student who is squished into a 6-bedroom house receive a permit? There are not enough spaces on the street as it is to match the permits.

21. Isn't the 2 foot restriction already part of city code? Lower Henry seems to have more issues than upper Henry but we've experienced more encroachment the past 6 months – usually depends on how many vehicle that renter have / amount of on-street parking.

CITY OF BURLINGTON
DEPARTMENT OF PUBLIC WORKS

645 Pine Street
Post Office Box 849
Burlington, Vermont 05402-0849
802.863.9094 VOX
802.863.0466 FAX
802.863.0450 TTY

Quantifying the Affirmative versus the Negative.

Each question except questions #7 and #8 on the survey was designed to have five multiple choice answers, two answers in the affirmative, one neutral, and two in the negative. In order to derive a clear consensus from these questions, a point system can be applied to quantify overall public opinion of the Driveway Encroachment Pilot Study by assigning a number of points to each answer:

For Example, answering "Severe" to question #1 yields a +2 to the affirmative, "Significant" +1 to the affirmative, "Somewhat of an issue" 0 or neutral, "Not Significant" -1, "Not an issue" -2. These point values are then multiplied by the number of responses for that choice.

Question #1: Overall, how severe would you describe the issue of vehicles parking too close to your driveway BEFORE the pilot?

Severe	5	17%	(5x2) = 10 points
Significant	12	40%	(12x1) = 12 points
Somewhat of an issue	5	17%	(5x0) = 0 points
Not Significant	3	10%	(3x1) = 3 points
Not an issue	5	17%	(5x2) = 10 points

From this example we can derive 22 points in the affirmative for Driveway Encroachment and 13 points in the negative for Driveway Encroachment. Applying this system to the survey questions will yield the following:

Question #1:	22 points in the affirmative 13 points in the negative	
Question #2:	27 points in the affirmative 7 points in the negative	
Question #3:	27 points in the affirmative 6 points in the negative	
Question #4:	30 points in the affirmative 6 points in the negative	
Question #5:	40 points in the affirmative 9 points in the negative	
Question #6:	18 points in the affirmative 13 points in the negative	(note: affirmative/negative answers to question #6 are reversed purposely)

The summation of these numbers show:

164 points in favor of applying the Driveway Encroachment Parking Restriction
54 points not in favor of applying Driveway Encroachment Parking Restriction

Based on this point system, DPW estimates that public opinion is 3 to 1 in favor of applying a Driveway Encroachment Parking Prohibition. This result is mirrored by Question #7 showing 71% in favor, 29% opposing – nearly a 3 to 1 ratio.

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Conclusions

Based on resident's feedback, the two foot parking restriction is a clear improvement for safe access into driveways and onto the street system when on-street parking is on the same side of the street. The restriction alleviates the challenge of having a driveway encroached or blocked resulting in severe inconvenience and diminished quality of life. Conversely for properties without off-street parking options, this restriction represents a direct reduction in available spaces. These residents also expressed a diminished quality of life as they are less likely to find parking close to their homes. These conflicting needs are the main source of disparity between these two groups.

All Burlington residents should have reasonable access to their homes and the street system. A blocked driveway or a driveway that is encroached such that it is impossible or unsafe to navigate is unacceptable. Staff would seek to both restrict parking away from driveways while minimizing the subsequent loss of parking. This may best be achieved through the practice of painting parking brackets around driveways on problematic streets. Several residents have commented that the total amount of available parking spaces were reduced when drivers parked too far away from driveways, exceeding the two foot restriction and further reducing the available number of parking spaces. Visually defining the parking restriction by painting brackets would provide drivers a visual reference that would promote more efficient parking and minimize the potential loss of parking.

To achieve this, Staff proposes to:

- Implement a city-wide ordinance restricting parking adjacent to all driveways and curb cuts by two feet as measured by the straight line edge of the driveway.

While this proposed ordinance would be in effect throughout the city, painting brackets would only occur on streets that meet certain characteristics and at locations where residents have expressed encroachment to be a significant issue. Staff has identified the two primary characteristics that lead to driveway encroachment and affect a resident's ability to safely access their driveway or the roadway to be:

- A high rate of parking occupancy during peak times, at or above 90%
- The street travel width 18 feet or less
- A documented history of multiple violations at a specific location

Note: This list can be expanded on if it is deemed to not adequately encompass enough streets experiencing chronic driveway encroachment.

Recommendation

Staff recommends the Commission adopt the following amendment to the Burlington Code of Ordinances Appendix C, §7 and to Chapter 20-55 General Prohibitions:

7 No-parking areas.

(a) No person shall park any vehicle at any time in the following locations:

(1) – (538) As Written.

(b) No person shall park any vehicle at any time in front of another person's driveway and within two feet of another person's driveway as measured from the straight-lined edge of the driveway.

CITY OF BURLINGTON
DEPARTMENT OF PUBLIC WORKS

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20-55 General Prohibitions.

(a) No operator or driver of any vehicle shall stop, stand or park the same in any of the following places, except when necessary to avoid conflict with other traffic or in compliance with the direction of a police officer or official traffic sign or except momentarily to pick up or discharge a passenger:

(1)-(3) As Written.

(4) In front of another person's driveway and within two feet of another person's driveway as measured from the straight-lined edge of the driveway.

MEMORANDUM

September 7, 2016

TO: Public Works Commission

FROM: Damian Roy, DPW Engineer Technician

CC: Norm Baldwin, City Engineer

RE: No Parking zone on Starr Farm Road

Background:

Staff has received several requests via SeeClickFix to evaluate the parking conditions on the eastern end of Starr Farm Road. Throughout the year but especially when school is in session, parking overflow from the Flynn Elementary School and Kindred Transitional Care and Rehabilitation park on the Starr Farm greenbelt area and/or partially on the roadway between Grey Meadow Drive and North Avenue. This has caused extensive erosion of the greenbelt and is in violation of General Prohibition 20-55 (6). The public has expressed concern that the street is too narrow to allow parking either on the roadway or on the greenbelt area.

Observations:

- *Street Characteristics:* Starr Farm Road is a low volume 25-foot-wide connector street providing access to several residential neighborhoods on the western end along with two nursing homes and an elementary school on the eastern end. Parking is currently restricted on the north side of the street starting at North Avenue extending westward 100 feet and on the south side of the street starting at North Avenue extending westward 660 feet. See the attached ordinances and drawings for reference.

- *Street Usage:* Parking occurs primarily along the north side of the street on the greenbelt beginning 100 feet west of North Ave and extending westward up to the Starr Farm Nursing Center. This parking is most heavily utilized during the school year during pick-up and drop-off operations and during sporting events but can also be observed to a lesser extent throughout the day during the school year.

KJB 9/15/16

- *Off-Street Parking:* Both the Flynn Elementary School and Kindred Transitional Care and Rehabilitation have off-street parking options for their customers. The school has a dedicated drop-off area on the west side of North Avenue with 17 short term parking spots but this is inadequate as parents often choose to exit their vehicles and escort their children to classes. The general practice for most parents who do this is to park on the north side of Starr Farm Road.

- *Public Outreach:* Staff visited the School and Kindred Transitional Care several times to talk to their management. During these visits staff learned of the existing parking behaviors and communicated the issues with both facility representatives. Kindred Transitional Care was aware of the issues created by the greenbelt parking but stated that parking on the roadway would be a worse condition as the road width would be challenging for emergency vehicles which frequent the facility. The school principal commented that parents do not feel safe parking on the roadway and choose to park in the greenbelt instead.

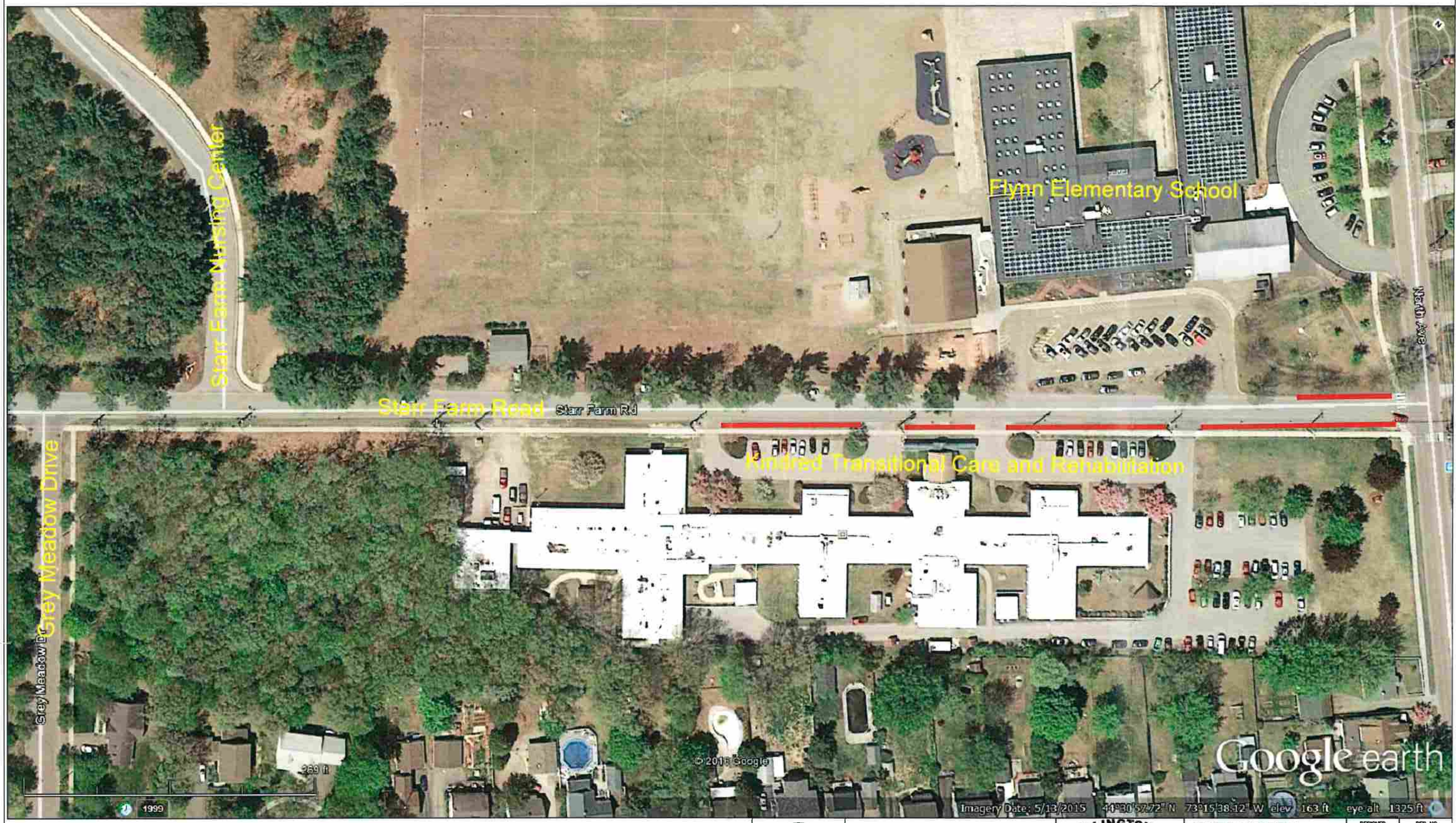
Conclusions:

Under current conditions, it is legal to park on the north side of the street as long as the vehicle is on the roadway. The street is too narrow to accommodate parking on one side of the street. The existing street is 25 feet wide and we would need at least 26 feet of roadways width to accommodate on-street parking on one side. DPW is highly concerned with children and elderly entering and exiting parked vehicles on a narrowed roadway. DPW recommends restricting parking along both sides of Starr Farm Road beginning at North Avenue and extending west until Grey Meadow Drive where the residential area begins.

Recommendations:

Staff recommends that the Commission:

- Restrict parking on the north and south sides of Starr Farm Road from North Avenue extending west to Grey Meadow Drive.



North

Starr Farm Road Parking
Existing Conditions

BURLINGTON, VT

BURLINGTON PUBLIC WORKS ENGINEERING DIV.

645 PINE STREET
BURLINGTON, VT 05401

DESIGNED DRR	RFS NO. 12288
DRAWN DRR	SCALE NTS
CHECKED	DRAWING NO.
DATE	

North

Starr Farm Road Parking
Proposed Conditions

BURLINGTON PUBLIC WORKS ENGINEERING DIV.
645 PINE STREET
BURLINGTON, VT 05401
(802) 863-9094

DESIGNED DRR	RFS NO. 12288
DRAWN DRR	SCALE NTS
CHECKED NJB	DRAWING NO.
DATE	

Starr Farm Road Existing Traffic Ordinance

20-55 General prohibitions.

(a) No operator or driver of any vehicle shall stop, stand or park the same in any of the following places, except when necessary to avoid conflict with other traffic or in compliance with the direction of a police officer or official traffic sign or except momentarily to pick up or discharge a passenger:

(6) On any sidewalk or in any crosswalk; or on the greenbelt, so-called, being that area of a public street located between the roadway edge and the sidewalk, or, if no sidewalk exists, between the roadway edge and the adjacent property line;

7 No-parking areas.

No person shall park any vehicle at any time in the following locations:

- (324) On the north side of Starr Farm Road, for a distance of 100 feet west of North Avenue.
- (333) On the south side of Starr Farm Road, for a distance of 660 feet west of North Avenue.
- 458) On both sides of Starr Farm Road beginning one hundred fifty (150) feet east of the easternmost section of Pleasant Avenue extending west two hundred (200) feet west of the bikepath.

Requests for Service (/Main.aspx)

#12288 Assigned

Investigation

Technical Services

Traffic Requests

Location: Starr Farm Road Burlington, VT

Parking along Starr Farm Road

is the section of road by Flynn school across from the nursing home legal parking? If so can we get some signs or other mods to help get the cars fully off the road for parking and make them real spots? The section across from the nursing home is frequently full during the summer days (even with plenty of open spaces in the lots) and are often out in the road enough where meeting car traffic has some challenges. I have seen a few close calls.
View SeeClickFix

Attachments

No Attachments

Browse...

Upload Attachment

Assigned to: Damian Roy

Requested by: See,Click,Fix

Opened: 8/6/2016 12:57:01 PM

Entered By: SeeClickFix

Due: 8/9/2016 12:57:01 PM

Work History

Add Work History

Date	Staff Person	Description

08/25/2016	Norm Baldwin	given the roadway does not have a curb and there is physical opportunity to purl over onto the greenbelt, people are parking on the greenbelt, there is a general city prohibition for parking on the greenbelt and it is impractical to sign for a general prohibition. I have requested the Police department to issue warning tickets and subsequent violations a ticket be issued with a fine. With the Street only wide enough to accommodate one lane of parking and two lanes of travel, public works staff will be advancing a proposal to prohibit parking on on the north side of the street at the Public Works Commission this coming Septembers Meeting. I have forwarded this to the attention of our Engineering Technician Damian Roy to evaluate and prepare this item to be heard at the Commission. Details
08/25/2016	Norm Baldwin	Request Status Changed from Closed to Investigation Details
08/10/2016	Valerie Ducharme	closed until contact info is provided. Details
08/08/2016	Damian Roy	No contact information provided by the requestor. Closing until name, number and/or email is provided. Details

Burlington, VT (/burl...

Follow this Place

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Check the "who's watching" section below to see who's already here!
GET STARTED!

Acknowledged by: Burlington, VT

Parking on lawns or yards · Acknowledged

2-58 Starr Farm Road Burlington, Vermont • Show on Map

Issue ID: 2877906
Viewed: 19 times
Neighborhood: Burlington
Reported: about 5 hours ago

REPORTER
An anonymous SeeClickFix user
Civic Points: 0

DESCRIPTION
Continues

Share 0 0 0

NEARBY ISSUES

Pothole

Parking on lawns or yards

proper license ??

Pothole

4 COMMENTS

IT Department (Verified Official)
RFS 12636 assigned. If received outside of normal business hours, we will investigate this issue on the next business day.
about 4 hours ago · Flag

ACKNOWLEDGED **Bill Ward Director of Code Enforcement** (Verified Official)

Issue acknowledged. I will be changing this to "on Street Parking violations" so it gets routed directly to the Burlington Police Parking unit.

The area where the cars are parking is part of the greenbelt and it is something the Parking Unit has been monitoring. The greenbelt is the area between the curb and the sidewalk, or if there is no sidewalk, between the curb and the adjacent property line. Yard parking is when the vehicle is off the city right-of-way away and fully on the adjoining property.

We will make sure the Police Department Parking Enforcement Unit knows about your concern.

about 4 hours ago · Flag

Bill Ward Director of Code Enforcement (Verified Official)
This issue was recategorized from Parking on lawns or yards to On street parking violations.
about 4 hours ago · Flag

Jiberjab (Registered User)
I agree that this area needs some attention. However, I think we need to be a bit more visible in the expectations for the area. Just ticketing everyone can result in a very poor outcome especially for some who have done this for several school years without an issue. Often this area is needed for a very short term need for drop off at the school or special activities. This is

4 TOTAL VOTES VOTE!

- Main
- Photos and Videos 1
- Notified 3
- Follow
- Flag Issue

NEARBY ISSUES

Pothole
Reported by Holt

Parking on lawns or yards
Reported by An anonymous SeeClickFix user

proper license ??
Reported by Gil

Pothole
Reported by Holt

Parking on lawns or yards
Reported by BTVtaxpayinghomeowner

Here's who's watching this area. Want to set up a FREE watcher account for yourself or your organization?
FREE SETUP!

not all day parking. If this is not acceptable then we need some collaboration with the school district to ensure adequate parking for the parents, family and friends attending school functions and the staff of the school in addition to the nursing home across the street. Convert some of this space to parking if necessary but there is an obvious need to address here and ticketing is not the answer.
35 minutes ago Flag

NEW COMMENT

Write a comment...

I want to...
◉ Leave this issue **Acknowledged**

Attach: Photo Video Comment

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Language: English ▾

Burlington, VT (/burl...

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GET STARTED!

Acknowledged by: Burlington, VT

Restore green space? - Acknowledged

2-58 Starr Farm Road Burlington Vermont • Show on Map

Issue ID: 2816636
Viewed: 71 times
Neighborhood: Burlington
Reported: on 08-19-2016

REPORTER
BTVtaxpayinghomeowner
Civic Points | 5620

DESCRIPTION

Can the City please look into restoring the green space on Starr Farm Rd in front of the elementary school?

Share 0 0 0

NEARBY ISSUES

Parking on lawns or yards

Pothole

Parking on lawns or yards

proper license ??

2 COMMENTS

IT Department (Verified Official)
RFS 12409 assigned. If received outside of normal business hours, we will investigate this issue on the next business day.
08-19-2016 · Flag

ACKNOWLEDGED DPW (Verified Official)
Issue acknowledged assigned to Street Department
08-19-2016 · Flag

NEW COMMENT

Write a comment...

I want to...
◉ Leave this issue **Acknowledged**

Attach: Photo Video Comment

5 TOTAL VOTES VOTE!

Main
Photos and Videos
Notified 3
Follow
Flag Issue

NEARBY ISSUES

Parking on lawns or yards
Reported by An anonymous SeeClickFix user

Pothole
Reported by Holt

Parking on lawns or yards
Reported by An anonymous SeeClickFix user

proper license ??
Reported by Gil

Pothole
Reported by Holt

Here's who's watching this area. Want to set up a FREE watcher account for yourself or your organization?
FREE SETUP!

Burlington, VT (/burl...

Follow this Place

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Check the "who's watching" section below to see who's already here!
GET STARTED!

Acknowledged by: Burlington, VT

Parking on lawns or yards · Acknowledged

2-58 Starr Farm Road Burlington, Vermont • Show on Map

Issue ID: 2856733
Viewed: 73 times
Neighborhood: Burlington
Reported: on 08-31-2016

Tagged: road safety

REPORTER
An anonymous SeeClickFix user
Civic Points: 0

DESCRIPTION

Please install barriers to Starr Farm Rd adjacent to Flynn Elementary school to prevent parking on the grass or construct an appropriate drop off lane. Child safety and Environmental issue.

Share 0 0 0

NEARBY ISSUES

Parking on lawns or yards

Pothole

Parking on lawns or yards

proper license ??

7 COMMENTS

IT Department (Verified Official)
RFS 12538 assigned. If received outside of normal business hours, we will investigate this issue on the next business day.
08-31-2016 Flag

ACKNOWLEDGED Street Patrol (Verified Official)
Acknowledged
08-31-2016 Flag

Street Patrol (Verified Official)

This vehicle was already ticketed by 9:30 this morning by the Burlington Police Department parking unit.
08-31-2016 Flag

CLOSED DPW (Verified Official)
Content blocked by rejections
08-31-2016 Flag

REOPENED BTVtaxpayinghomeowner (Registered User)
Please Enforce no parking from the hours of 7:30-8:30 and 2-4.
08-31-2016 Flag

ACKNOWLEDGED DPW (Verified Official)

5 TOTAL VOTES VOTE!

Main
Photos and Videos 1
Notified 3
Follow
Flag Issue

NEARBY ISSUES

Parking on lawns or yards
Reported by An anonymous SeeClickFix user

Pothole
Reported by Holt

Parking on lawns or yards
Reported by An anonymous SeeClickFix user

proper license ??
Reported by Gil

Pothole
Reported by Holt

Here's who's watching this area. Want to set up a FREE watcher account for yourself or your organization?
FREE SETUP!

Burlington, VT (/burl...

Follow this Place

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Check the "who's watching" section below to see who's already here!
GET STARTED!

Parking along Starr Farm Road · Archived

Starr Farm Road Burlington, VT • Show on Map

Issue ID: 2772084
Viewed: 154 times
Neighborhood: Burlington
Reported: on 08-06-2016

Tagged: signs, traffic

REPORTER
An anonymous SeeClickFix user
Civic Points: 0

DESCRIPTION

is the section of road by Flynn school across from the nursing home legal parking? If so can we get some signs or other mods to help get the cars fully off the road for parking and make them real spots? The section across from the nursing home is frequently full during the summer days (even with plenty of open spaces in the lots) and are often out in the road enough where meeting car traffic has some challenges. I have seen a few close calls.

Share 0 0 0

NEARBY ISSUES

Unstable bridge sides

Parking on lawns or yards

Pothole

Pothole

11 COMMENTS

Post a New Comment

IT Department (Verified Official)
RFS 12288 assigned. If received outside of normal business hours, we will investigate this issue on the next business day.
08-06-2016 · Flag

ACKNOWLEDGED **DPW** (Verified Official)
Issue acknowledged assigned to Technical Services
08-08-2016 · Flag

DPW (Verified Official)
In order to proceed with t his traffic request we would need some contact information via phone number or e mail. Please provide or call us with information.
08-08-2016 · Flag

BTVtaxpayinghomeowner (Registered User)
Issue# 2619380 posted on 6/22 as well, acknowledged by code enforcement, no follow-up to date.
08-08-2016 · Flag

BTVtaxpayinghomeowner (Registered User)
photo from today

08-10-2016 · Flag

0 TOTAL THANKS SAY THANKS!

Main
Photos and Videos 1
Notified 3
Flag Issue

NEARBY ISSUES

Unstable bridge sides
Reported by Azur Moulaert

Parking on lawns or yards
Reported by An anonymous SeeClickFix user

Pothole
Reported by Holt

Pothole
Reported by Holt

Parking on lawns or yards
Reported by BTVtaxpayinghomeowner

Here's who's watching this area. Want to set up a FREE watcher account for yourself or your organization?
FREE SETUP!

CLOSED DPW (Verified Official)
Closing this issue until contact info is provided - please call 863-9094 x 3
08-10-2016 Flag

REOPENED BTVtaxpayinghomeowner (Registered User)
Why does a concerned citizen need to provide DPW with their contact information when reporting activity on City property. Providing my name and contact information removes any anonymity through SCF and prevents this issue from being transparent to everyone else interested in this issue. Why is DPW and Code Enforcement trying to dismiss this reporting?
08-10-2016 Flag

CLOSED DPW (Verified Official)
The reason is - no means to contact person for more information - we need to research the whole problem to find the proper solution
08-11-2016 Flag

REOPENED BTVtaxpayinghomeowner (Registered User)

If DPW and CE is not dismissing this report, then please do not close the issue until it has been researched and been resolved. Not sure why it was closed again or what additional information you could possibly need from the reporting citizen? Certainly seems like the City is trying to ignore this issue. This tact has been used to close other issues that Burlington wishes to ignore.

This is illegal parking on City property. Seems to be heavily used by the nursing home across the street (Parking on grass also occurring around their parking lot as well). This is not a new issue and occurs every day; This is damaging to City property, an environmental issue effecting Lake Champlain, and a SAFETY issue. There is no sidewalk on this side of Starr Farm; Parents and Children going to Flynn often walk in the road and visitors to the nursing home often walk into traffic from between parallel parked cars. NEEDS TO BE ADDRESSED, NOT DISMISSED BY BURLINGTON OFFICIALS.

Burlington City Ordinances prohibit parking on the property of another without permission. This happens every day.

"Preserving outside green space like lawns, sidewalk "green belts" and tree and planting areas is important because they beautify our neighborhoods, muffle noise, clean the air, give oxygen, slow down storm water and make a healthy environment for all of us. Erosion of green space has been shown to increase run-off of toxic products. This "non-point source pollution" has been cited by the EPA as a major contributor to pollution of lakes and waterways. Preservation of grassy areas helps to keep Lake Champlain clean and healthy. Please do your part for the Lake!"
-https://www.burlingtonvt.gov/CodeEnforcement/Yard-Parking

I hope DPW and CE will look into this. I hope the City enforces their codes on City property as they would to any property owner on private property.

08-11-2016 Flag

Pat Cashman (Registered User)
There appears to have been an error in posting our response with our response being associated with a different report. I'm going to paste that response here using my user account far the sake of timeliness. If there are any concerns or questions I am available at 863-0460 and I will continue to monitor this issue. Thank you, Pat Cashman Assistant Director for Traffic and Parking. Thank you for communicating with us on this issue.
I would like to preface my input with an assurance that the request for contact information by DPW to the initial poster was in no way intended to stifle input but instead an attempt to assist the poster with initiating a solution to their observed issue. Specifically; parking on Starr Farm Road. To restrict parking on Starr Farm Road beyond what is already restricted would require an ordinance change, which would require personnel from the DPW Engineering Services branch to work with the requestor to fully flesh out and understand the problem, provide public notice, develop a staff position, and take through the Public Works Commission. It was with the best of intentions we here at DPW sought contact information in order to move on to the next step in working together to define the problem and initiate a solution.
In order to answer the initial question from the initial post; "Is the section of road by Flynn school across from the nursing home legal parking?" – The answer is "yes" based on our assumption that the poster is referring to the North side of Starr Farm Road more than 100 feet from the intersection with North Avenue. This is with the qualification that parking off the surface of the road on the greenbelt is against ordinance throughout the city so any such parking would have to be on the road surface. In this case the greenbelt would be within 9' 9" of the edge of the road as that is the limit if the public right of way on Star Farm Road. The only sections of Starr Farm Road that are currently restricted from parking per ordinance are:
Appendix C, Sect 7, para 324: On the north side of Starr Farm Road, for a distance of 100 feet west of North Avenue.
Appendix C, Sect 7, para 333: On the south side of Starr Farm Road, for a distance of 660 feet west of North Avenue.
Appendix C, Sect 7, para 458: On both sides of Starr Farm Road beginning one hundred fifty (150) feet east of the easternmost section of Pleasant Avenue extending west two hundred (200) feet west of the bike path.
If the original poster would like to seek an ordinance change in order to extend existing "No-parking Areas" or create additional "No-parking areas" then we would certainly invite their or any other resident's participation in initiating that process with our Engineer Services personnel. Our Engineering Services personnel can be reached through DPW Customer Service at 863-9094.

In regards to the second issue raised subsequently in this See, Click, Fix pertaining to parking on the greenbelt. Such parking is already precluded by ordinance in Section 20-55 "General Prohibitions" and, as it relates to parking in the public right of way, is subject to enforcement by the Burlington Police Department. DPW has been in communication with BPD on this issue requesting a review for enforcement in this area as this appears to be an enduring problem. Thank you for identifying this area for attention.
08-15-2016 Flag

CLOSED **BTVtaxpayinghomeowner** (Registered User)
Thank you.
08-16-2016 Flag

Comments are closed for archived issues.

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Burlington, VT (/burl...

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Acknowledged by: Burlington, VT

Parking on lawns or yards · Acknowledged

2-56 Starr Farm Rd Burlington Vermont • Show on Map

Issue ID: 2619380
Viewed: 523 times
Neighborhood: Burlington
Reported via: mobile application
Reported: on 06-22-2016

Tagged: bad driving

REPORTER
BTVtaxpayinghomeowner
Civic Points: 5620

DESCRIPTION

Illegal parking on City property. Seems to be heavily used by the nursing home across the street. This is not a new issue, but is damaging to the property. Burlington City Ordinances prohibit parking on the property of another without permission.

"Preserving outside green space like lawns, sidewalk "green belts" and tree and planting areas is important because they beautify our neighborhoods, muffle noise, clean the air, give oxygen, slow down storm water and make a healthy environment for all of us. Erosion of green space has been shown to increase run-off of toxic products. This "non-point source pollution" has been cited by the EPA as a major contributor to pollution of lakes and waterways. Preservation of grassy areas helps to keep Lake Champlain clean and healthy. Please do your part for the Lake!"
-https://www.burlingtonvt.gov/CodeEnforcement/Yard-Parking

Share 0 0 0

NEARBY ISSUES

Parking on lawns or yards

Pothole

Parking on lawns or yards

proper license ??

6 COMMENTS

IT Department (Verified Official)
RFS 11779 assigned. If received outside of normal business hours, we will investigate this issue on the next business day.
06-22-2016 Flag

ACKNOWLEDGED **Code Enforcement** (Verified Official)

Issue acknowledged. We are evaluating this further. The Police and and Code Enforcement cannot ticket yard parking in Wards 4 and 7 because the ordinance it is specific to Wards 1, 2, 3, 8 and parts of 5 and 6.

This issue will have to be determined based on the zoning ordinance. We will have to review the files to determine if this was ever an accepted area for parking. Initial review indicates it is not a new issue. The Google Earth image attached shows cars parked in this area in October 2014.

We will post an update when the evaluation is complete.

9 TOTAL VOTES VOTE!

Main
Photos and Videos 3
Notified 3
Follow
Flag Issue

NEARBY ISSUES

Parking on lawns or yards
Reported by An anonymous SeeClickFix user

Pothole
Reported by Holt

Parking on lawns or yards
Reported by An anonymous SeeClickFix user

proper license ??
Reported by Gil

Pothole
Reported by Holt

Here's who's watching this area. Want to set up a FREE watcher account for yourself or your organization?
FREE SETUP!

06-23-2016 Flag

Jessica (Registered User)
This area is heavily used for parking when school is in session. There is not adequate parking for the school
07-06-2016 Flag

Holt (Registered User)
Content blocked by rejections
07-20-2016 Flag

BTVtaxpayinghomeowner (Registered User)
follow-up?
08-08-2016 Flag

BTVtaxpayinghomeowner (Registered User)
Photo from today

08-10-2016 Flag

NEW COMMENT

Write a comment...

I want to...

◉ Leave this issue **Acknowledged**

Attach: Photo Video Comment

Report Issues on Your Mobile Phone

(http://itunes.apple.com/us/app/seeclickfix/id322000552?mt=8)

(https://market.android.com/details?id=com.seeclickfix.ma.android)

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Language: English ▾

MEMORANDUM
September 7, 2016

TO: Public Works Commission

FROM: Damian Roy, DPW Engineer Technician

CC: Norman Baldwin, City Engineer

RE: Resident Only Parking on South Prospect

Background:

The Department of Public Works (DPW) has received a request from Perry Laroque of 308 South Prospect Street to install full time resident only parking on the north side of South Prospect Street from Henderson Terrace to Cliff Street. Per staff's instruction, Mr. Laroque generated a petition showing support for full time resident parking from the property owners on this section of South Prospect. The petition listed 7 names accounting for 6 properties out of the 8 properties on this block resulting in 75% favor of his request. DPWs Standard Operating Procedure for Resident Parking specifies at least 51% of property owners must support a resident parking request per the Resident Parking Study.

Observations:

This section of South Prospect is primarily residential with close proximity to the UVM campus. Parking is allowed on the east side of the street with signs designating Resident Only Parking from 12am to 6**am**. City ordinance sec.27(c)(2) specifies this section of South Prospect as Resident Only Parking from 12am to 6**pm**. Staff believes that this is a typographical error in the ordinance. The ordinance was originally intended to reduce college student parking in the late night hours in an attempt to reduce noise and disruption to residents.

Staff conducted plate counts depicting the level and type of parking usage on the street, see attached. This information shows that parking is heavily utilized during the day by long term and transient parkers with usage above 85%, meeting the Resident Parking Study's recommendation of a minimum of 85% usage.

In May 2016 staff prepared a recommendation to present to the Public Works Commission where staff concluded that a hybrid solution would best balance the public's need for parking as well as providing parking for the residents and their guests. This hybrid prohibition would instate 24/7 resident only parking along with 4-hour time-limited parking between 8am and 5pm available for non-residents between Henderson and Cliff. This hybrid prohibition would allow residents to park in the time-limited zone unrestricted while non-

NB 9/15/16

residents have the ability to park in the zone but for no longer than 4 hours. Parking Enforcement has committed to checking the zone during this time period recording what cars are parked and then returning at a later time to check if the zone again. If a vehicle is found to be parked within the zone for longer than 4 hours it would receive a $75 ticket. Other communities such as Portland ME, Ithica NY, and Charleston SC have installed this type of hybrid solution to balance parking needs. See the attached picture showing signage from Ithica NY indicating this type of prohibition. Staff then distributed this recommendation to the South Prospect residents in preparation for the June PWC meeting. Residents did not respond favorably to staff's recommendation and requested we suspend our presentation to the commission and hold a meeting to better understand staff's recommendations and to voice their needs and concerns. Staff held neighborhood meetings on June 21st and September 7th. After much conversation regarding balancing the needs of the neighborhood against the needs of the general public, a mutually agreeable proposal was developed.

Conclusions:

This section of South Prospect is heavily utilized for parking representing a significant need for this space during the day. It is also recognized that residents need to have adequate and reasonable access to their homes. To balance these needs, staff recommends installing full time resident parking along with the hybrid prohibition that limits non-residents to a 4-hour parking limit once per day from 8am to 5pm while allowing permitted residents to park unrestricted. It is staff's position that these two restrictions will provide reasonable access to residents of the street and parking during the day for the general public.

Recommendations:

Staff recommends that the Commission adopt:

- Installing full time resident parking and 4-hour parking for non-residents on South Prospect from Henderson Terrace to Cliff Street from 8am – 5pm as shown on the attached drawing.

North

South Prospect
Resident Parking
Existing Conditions

BURLINGTON PUBLIC WORKS ENGINEERING DIV.

645 PINE STREET
BURLINGTON, VT 05401

DESIGNED DRR	RFS NO. 9779
DRAWN DRR	SCALE NTS
CHECKED NJB	DRAWING NO.
DATE	

North

South Prospect
Resident Parking
Proposed Conditions

BURLINGTON PUBLIC WORKS ENGINEERING DIV.
645 PINE STREET
BURLINGTON, VT 05401

DESIGNED DRR	RFS NO. 9779
DRAWN DRR	SCALE NTS
CHECKED NJB	DRAWING NO.
DATE	

2 HOUR
PARKING
8 am - 5 pm
Mon - Fri
ONCE PER DAY
ZONE 3
REGISTERED
RESIDENTS EXEMPT

ATE COUNT

Location: S. Prospect,Henderson-Cliff Inspector: D. Roy

Date: 3/31/16			Date: 4/7/16			Date: 4/8/16		
7:00	10:00	13:00	7:00	10:00	13:00	5:30	10:00	13:00
	391-795	BFD 909	ESY 752					
	B54427R	GMD 243	FSM 452					
	GNY 323	FGB 737	GRH 352					
	GHA 576	FWY 669	U26170					
	FGB 737	FAX 777	KZ3739					
	FWY 669	334 GXA	51012					
	FAX 777	GDA 211	334 GXA					
	334 GXA	GNY 903	830 AKB					
	GDA 211	EST 721	391 795					
	GDG 840	GAP 171						
	GMD 243	FML 520						
	EST 721	FXA 275						
	GAP 171	366 GWK						
	FML 520	123519						
	FXA 275	FNP 763						
	366 GWK	9076M						
	7M91	51012						
	FNP 763	GRH 702						
	9076M	U26170						
	51012	GRH 352						
	GRH 702	GRW 114						
	U26170	GLG 589						
	GRH 352	GBS 197						
	GRW 114	FSM 452						
	GLG 589							
	GBS 197							
	FSM 452							
Total Spaces	28	28	28					
Spaces Used	96%	92%	32%					
Resident	21%	18%	32%					
Transient	18%	11%	0%					
Long Term	57%	57%	0%					

Petition to Change Parking Regulations on the 300 block of South Prospect

We, the undersigned, are in FAVOR of changing the current parking regulations from "Resident Only 12am-6am" to "Resident Parking Only" on the 300 Block of South Prospect Street (from Henderson to Cliff St.)

Name	Address	Email	Phone	Signature
✓				
✓				
✓				
✓				
✓				
✓				

Requests for Service (/Main.aspx)

#9779 Assigned New

Assigned to: Damian Roy **Requested by:** Perry Laroque

Technical Services Traffic Requests

Opened: 12/15/2015 **Entered By:** Damian R

Location: 308 S Prospect St

Due: 4/15/2016

Perry is looking to A: confirm what the parking regulation is on this section
of Prospect, and B: wants to either change the parking regs for Prospect to
limit or eliminate UVM students taking up all the parking or to acquire RPP
for his household. He is at the corner of Prospect and Henderson and his
driveway is on Henderson.

Work History Add Work Histor

Date	Staff Person	Description
04/11/2016	Damian Roy	Mr. Laroque has expanded his request to installing full-time resident only parking on South Prospect from Henderson Terr. to Cliff Street. He has submitted a petition to staff supporting this request. Details

Attachments

No Attachments

Browse... No file selected.

Upload Attachment

Damian Roy

From: perrytomtom@hotmail.com on behalf of Perry La Roque <perrylaroque@hotmail.co
Sent: Thursday, April 07, 2016 10:56 AM
To: Damian Roy
Subject: RE: 300 Block South Prospect Petition

I just need enough time to get our neighbors there. There is a lot of interest in attending to see this change through. Thanks!

Perry LaRoque
(608) 215-3175

From: droy@burlingtonvt.gov
To: perrylaroque@hotmail.com
Subject: RE: 300 Block South Prospect Petition
Date: Thu, 7 Apr 2016 14:45:49 +0000

The next Public Works Commission meeting is on April 20th but as of today I'm not certain I will be able to get it on th agenda. Once I make the agenda, I will let you know.

Damian Roy, Engineering Technician
Burlington Public Works Department
645 Pine St. Burlington VT 05401
Desk: 802.865.5832
Cell: 802.598.8356
Email: droy@burlingtonvt.gov
Web: www.burlingtonvt.gov/dpw

From: perrytomtom@hotmail.com [mailto:perrytomtom@hotmail.com] **On Behalf Of** Perry La Roque
Sent: Thursday, April 07, 2016 10:44 AM
To: Damian Roy
Subject: RE: 300 Block South Prospect Petition

Any update on the meeting?
Perry LaRoque
(608) 215-3175

From: droy@burlingtonvt.gov
To: perrylaroque@hotmail.com
Subject: RE: 300 Block South Prospect Petition
Date: Tue, 22 Mar 2016 12:43:08 +0000
Hi Perry,

The April meeting will be held on Wednesday the 20th. It is difficult to judge how much weight the Commission lends resident input, in my experience it definitely makes a difference when one interest is heavily supported at the meeting. The Commission also considers staff's recommendations which are based on empirical evidence whenever possible and are not always in line with resident's interests. If you are wondering if it would be beneficial to have yourself and your neighbors attend the April meeting then yes it is.

Please keep in mind, that I can offer no guarantees at this time that your request will be heard at the April meeting, although that is my goal. As we get closer I will keep you apprised of my progress.

Best,
Damian

Damian Roy, Engineering Technician
Burlington Public Works Department
645 Pine St. Burlington VT 05401
Desk: 802.865.5832
Cell: 802.598.8356
Email: droy@burlingtonvt.gov
Web: www.burlingtonvt.gov/dpw

From: perrytomtom@hotmail.com [mailto:perrytomtom@hotmail.com] **On Behalf Of** Perry La Roque
Sent: Monday, March 21, 2016 6:18 PM
To: Damian Roy
Subject: RE: 300 Block South Prospect Petition

Thanks Damian. How much weight is given to the will of the residents on the block? Are we likely to get this changed? People are very concerned about the current parking regulations and feel strongly that they are changed. When is the April meeting?

Thanks,

Perry
Perry LaRoque
(608) 215-3175

From: droy@burlingtonvt.gov
To: perrylaroque@hotmail.com
Subject: RE: 300 Block South Prospect Petition
Date: Mon, 21 Mar 2016 13:45:12 +0000
Hi Perry,

Thank you for providing the petition. I will begin the process of evaluating your request with the goal of having it presented at the April Commission. If I am successful in making the agenda, I will be notifying you and the others on t petition of the meeting date and time so that you may attend. At the meeting, you may speak during the public forum or during the agenda item.

I'll be in touch, any questions feel free to ask.

Damian

Damian Roy, Engineering Technician
Burlington Public Works Department
645 Pine St. Burlington VT 05401
Desk: 802.865.5832
Cell: 802.598.8356
Email: droy@burlingtonvt.gov
Web: www.burlingtonvt.gov/dpw

From: perrytomtom@hotmail.com [mailto:perrytomtom@hotmail.com] **On Behalf Of** Perry La Roque
Sent: Sunday, March 20, 2016 1:17 PM
To: Damian Roy
Subject: 300 Block South Prospect Petition

Hi Damian,

I have attached our neighborhood petition to change the parking regulations along the 300 block of South Prospect from "Resident Only 12am-6am" to "Resident Only". You will see that 6 out of the 7 permanent residential property owners (one resident could not be reached) have signed the petition and have communicated their strong support for this change to me. The only two other properties on the block, whic are owned by landlords, could not be reached, but regardless, this petition represents 66% of the property owners on the street voting in favor of the changes. Please let me know if you need the original copy of the petition.

If the Commission meeting is open to the public, I would like to attend in order to be available to further advocate on behalf of the permanent residents of our block.

Thanks for all of the help,

Perry LaRoque
308 South Prospect Street
Perry LaRoque
(608) 215-3175

From: droy@burlingtonvt.gov
To: perrylaroque@hotmail.com
Subject: RE: Your Request
Date: Fri, 18 Mar 2016 17:26:06 +0000

Yes this is for residential properties only. If you'd like to start your own petition that is fine, just make sure that it specifies the time restriction (at all times) and has a place for:

- Signature
- Printed name
- Address
- Email Address
- Phone number

The sorority members themselves do not have a vote on this petition. Only the owners of the property. Planning and Zoning should have listed who that would be or perhaps the sorority sisters can point you in the right direction.

Damian Roy, Engineering Technician
Burlington Public Works Department
645 Pine St. Burlington VT 05401
Desk: 802.865.5832
Cell: 802.598.8356
Email: droy@burlingtonvt.gov
Web: www.burlingtonvt.gov/dpw

From: perrytomtom@hotmail.com [mailto:perrytomtom@hotmail.com] **On Behalf Of** Perry La Roque
Sent: Friday, March 18, 2016 1:21 PM
To: Damian Roy
Subject: RE: Your Request

Great. This is for residential addresses only, correct? So UVM wouldn't have a vote?

I am pushing for "Resident Only" so should I just create my own? Otherwise, I can wait.

Thanks.

Perry

From: droy@burlingtonvt.gov
To: perrylaroque@hotmail.com
Subject: RE: Your Request
Date: Fri, 18 Mar 2016 15:42:21 +0000

Yes you will need to fill out a petition showing 51% support from the *property owners*. I'm working to create a standardized petition form that will include a section showing the different RP times offered so that each person can indicate which time restriction they support. You will need to collect signatures from the properties on South Prospec beginning at Henderson and ending at Cliff Street. So 307 S Prospect to 369 S Prospect (according to googlemaps).

I should have a standardized petition form made hopefully early next week if you'd like to wait and pick it up. If we move quickly, I might be able to get this on the April Public Works Commission agenda.

Damian Roy, Engineering Technician
Burlington Public Works Department
645 Pine St. Burlington VT 05401
Desk: 802.865.5832
Cell: 802.598.8356
Email: droy@burlingtonvt.gov
Web: www.burlingtonvt.gov/dpw

From: perrytomtom@hotmail.com [mailto:perrytomtom@hotmail.com] **On Behalf Of** Perry La Roque
Sent: Friday, March 18, 2016 11:17 AM
To: Damian Roy
Subject: RE: Your Request

Thanks for reaching back out. I was traveling to Boston and went through a Dead Zone.

I wanted to know about the process for changing the parking in front of our house from Resident 12am-6a to Resident Only. You mentioned a petition with 51% of the people that share the block. We are on a stran block, so I'd like to know who is included. I am confident we can get an almost unanimous vote. We've alre talked to most of our neighbors about it.

Thanks!

From: droy@burlingtonvt.gov
To: perrylaroque@hotmail.com
Subject: Your Request
Date: Fri, 18 Mar 2016 15:03:54 +0000
Hello Perry,

I must apologize, after our phone conversation the other day I usually take notes on what was said so when go back to that request I don't miss anything. However after our conversation I was immediately pulled int something else and now I can't remember the second part of your request. Resident parking permits for Henderson I got, could you reiterate the second half of your request here in email. That would help me out

Thanks,
Damian

Damian Roy, Engineering Technician
Burlington Public Works Department
645 Pine St. Burlington VT 05401
Desk: 802.865.5832
Cell: 802.598.8356
Email: droy@burlingtonvt.gov
Web: www.burlingtonvt.gov/dpw

Burlington Department of Public Works Commission Meeting
Draft Minutes, 20 July 2016
645 Pine Street

Commissioners Present: Robert Alberry; Tiki Archambeau (Vice Chair); Chris Gillman (Clerk); Jeff Padgett (Chair); Justine Sears. **Commissioners Absent:** Jim Barr; Solveig Overby.

Item 1 – Call to Order – Welcome – Chair Comments

DPW Director Chapin Spencer calls meeting to order at 6:33pm and comments on chairing the organizational meeting until commission officers are elected.

Item 2 – Agenda

Commissioner Alberry makes request to pull Consent Agenda Items B, E, and F with Director Spencer agreeing to reassign them as Agenda Items 5.01, 5.02, and 5.03 respectively. Commissioner Archambeau makes motion to approve altered Consent Agenda and is seconded by Commissioner Padgett.

Action taken: motion approved;
Commissioner Alberry: Aye
Commissioner Archambeau: Aye
Commissioner Gillman: Aye
Commissioner Padgett: Aye
Commissioner Sears: Abstain

Director Spencer hands the gavel to Chair Padgett to run the remainder of the meeting

Item 3 – Election of Chair, Vice Chair, Clerk

Commissioner Alberry nominates Commissioner Padgett for Commission Chair and is seconded by Commissioner Gillman.

Action taken: nomination approved;
Commissioner Alberry: Aye
Commissioner Archambeau: Aye
Commissioner Gillman: Aye
Commissioner Padgett: Aye
Commissioner Sears: Abstain

Commissioner Alberry nominates Commissioner Archambeau for Commission Vice Chair and is seconded by Commissioner Gillman.

Action taken: nomination approved;
Commissioner Alberry: Aye
Commissioner Archambeau: Aye
Commissioner Gillman: Aye
Chair Padgett: Aye
Commissioner Sears: Abstaints

Commissioner Alberry nominates Commissioner Gillman for Commission Clerk and is seconded by Vice Chair Archambeau.

Action taken: nomination approved;
Commissioner Alberry: Aye
Vice Chair Archambeau: Aye
Commissioner Gillman: Aye
Chair Padgett: Aye

Commissioner Sears: Abstain

Item 4 – Public Forum

Item 5 – Consent Agenda

A. Traffic Request Status Report

C. Motorcycle Parking Removal on St. Paul St

D. 1 Hour Parking Removal on Pine St

Commissioner Alberry makes motion to approve altered Consent Agenda and is seconded by Vice Chair Archambeau.

Action taken: motion approved.

"Ayes" are unanimous.

Item 5.01 – Flynn Avenue Parking Removal

A) Staff Presentation by Engineering Technician Damian Roy who speaks on the city's plan for removing parking on Flynn Ave for the installation of a bike lane.

B) Commission Questions

Vice Chair Archambeau, Clerk Gillman, and Commissioners Alberry and Sears ask questions on Agenda Item 5.01 with Director Spencer and Technician Roy answering.

C) Public Comment

Cathy Bughman, Ward 5, speaks on Agenda Item 5.01.

D) Commissioner Discussion

The entire commission engages in a discussion over Agenda Item 5.01 with Director Spencer, City Engineer and Assistant Director for Technical Services Norm Baldwin, and Technician Roy.

E) Motion made by Vice Chair Archambeau to accept staff's recommendation.

Seconded by Clerk Gillman.

Discussion

Action taken: motion approved;

Commissioner Alberry: Nay

Vice Chair Archambeau: Aye

Clerk Gillman: Aye

Chair Padgett: Aye

Commissioner Sears: Aye

Item 5.02 – King Street/South Champlain Street Truck Loading Decision

A) Staff Presentation by Senior Transportation Planner Nicole Losch who speaks on the city's plan to move a truck loading zone from King St to South Champlain St.

B) Commissioner Alberry asks questions on Agenda Item 5.02 with Planner Losch answering.

C) Public Comment

D) Commissioner Discussion

E) Motion made by Vice Chair Archambeau to accept staff's recommendation.

Seconded by Commissioner Alberry.

Discussion

Action taken: motion approved;

"Ayes" are unanimous.

Item 5.03 – Cherry Street Parking

A) Staff Presentation

B) Commissioner Alberry asks questions on Agenda Item 5.03 with Technician Roy answering.

C) Public Comment

D) Commissioner Discussion

E) Motion made by Vice Chair Archambeau to accept staff's recommendation.

Seconded by Commissioner Alberry.

Discussion

Action taken: motion approved;

"Ayes" are unanimous.

Item 6 – Driveway Encroachment Pilot Study Report

A) Staff Presentation by Technician Roy who speaks on the city's pilot study (begun 15 April 2016 and ended 15 May 2016) on the driveway encroachment program pilot.

B) Commission Questions

Chair Padgett, Vice Chair Archambeau, and Clerk Gillman ask questions on Agenda Item 6 with City Engineer Baldwin, Parking Enforcement Manager John King, and Technician Roy answering.

C) Public Comment

D) Commissioner Discussion

E) Motion made by Vice Chair Archambeau to give commission's endorsement to staff's recommendation.

Seconded by Clerk Gillman.

Discussion

Action taken: motion approved;

"Ayes" are unanimous.

Item 7 – Pearl Street Parking Reconfiguration

A) Staff Presentation by Planner Losch and Transportation Planning Interns Griffin Gardner and Elizabeth Gohringer who speak on the city's recommendations for a reconfiguration of Pearl Street between Battery St and George St, presenting "Downtown Pearl St Parking Reconfiguration" via Power Point.

B) Commission Questions

Chair Padgett, Vice Chair Archambeau, and Commissioners Alberry and Sears ask questions on Agenda Item 7 with City Engineer Baldwin, Manager King, Planner Losch, and Intern Gardner answering.

C) Public Comment

D) Commissioner Discussion

E) Motion made by Commissioner Alberry to accept staff's recommendation on the parking changes in the presentation.

Seconded by Vice Chair Archambeau.

Discussion

Action taken: motion approved;

"Ayes" are unanimous.

Chair Padgett places Agenda Items 9 and 10 before Agenda Item 8

Item 9 – Draft Minutes of 6-15-16

Commissioner Alberry makes motion to accept draft minutes of 6-15-16 and is seconded by Clerk Gillman.

Action take: motion approved;

Commissioner Alberry: Aye

Vice Chair Archambeau: Aye

Clerk Gillman: Aye

Chair Padgett: Aye

Commissioner Sears: Abstain

Item 10 – Director's Report

Director Spencer reports FY'17 budget's approval by the City Council in June, DPW starting first-in-the-state water line relining program with new technology on Industrial Ave, Isham St, King St, and Pitkin St this summer, the City Council's resolution about the city's continued commitment to diversity and equity through training for boards and commissions and the need for the DPW Commission to have at least one Commissioner participate in an upcoming training, the North Avenue Pilot Project is underway and seeking public feedback, working with CCTA to anticipate the opening of the transit center and also talking with interstate carriers about their possible use of the transit center to make it more multimodal, and the slope failure at Manhattan Drive having been repaired.

Chair Padgett, Vice Chair Archambeau, Clerk Gillman, and Commissioner Alberry engage in a discussion on the Manhattan Drive slope failure repair with City Engineer Baldwin. Vice Chair Archambeau, Clerk Gillman, and Commissioner Sears engage in a discussion on the North Avenue Pilot Project with Director Spencer and Planner Losch.

Item 8 – 10 Year Capital Plan

A) Staff Presentation by Director Spencer, City Engineer Baldwin, and Assistant Director – Water Resources Moir who speak on the city's 10 Year Capital Plan.

B) Commission Questions

Chair Padgett and Vice Chair Archambeau ask questions on Agenda Item 8 with Director Spencer and Assistant Director Moir answering.

C) Public Comment

Ibnar Avilix, a South End resident, speaks on Agenda Item 8 – Chair Padgett and Director Spencer also speak.

D) Commissioner Discussion

Item 11 – Commissioner Communications

Vice Chair Archambeau comments on lines/crosswalks being painted this month and wonders why this hasn't been done sooner and also on a City Council amendment having been put forward about discontent with parking downtown with Director Spencer and Engineer Baldwin responding; Chair Padgett extends his welcome to Commissioner Sears.

Item 12 – Adjournment & Next Meeting Date – September 21, 2016

Motion to adjourn made by Commissioner Alberry and seconded by Vice Chair Archambeau.

Action taken: motion approved;

"Ayes" are unanimous.

Meeting adjourned at 8:33pm.

CITY OF BURLINGTON
DEPARTMENT OF PUBLIC WORKS

645 Pine Street, Suite A
Burlington, VT 05401
802.863.9094 VOICE
802.863.0466 FAX
802.863.0450 TTY
www.burlingtonvt.gov/dpw

To: DPW Commissioners
Fr: Chapin Spencer, Director
Re: **Director's Report**
Date: September 14, 2016

DRAFT 10 YEAR CITY-WIDE CAPITAL PLAN

City staff has been working on a citywide 10 Year Capital Plan over the past two years in an effort to inventory existing assets, identify future needs, and prepare a financing plan to meet the future needs. The General Fund Capital Plan shows a 5 year need of $160M. Approximately $117M (or ~73%) of the total need has existing identified sources. On September 12, the City's Board of Finance reviewed the proposal to address the $42M General Fund gap and voted to recommend Council approval of the 10 Year Capital Plan. The draft plan is expected to go the City Council at either the September 19 or 26 meeting. The proposed financing plan has a blended approach that looks to visitors, institutions, businesses and residents to close the $42M General Fund gap. At the September 2016 Commission meeting we are looking for the Commission to support the City's 10 Year Capital Plan and the proposed financing plan that is included in this packet, and the related Charter Change related to the Traffic Fund. More information is in this DPW Commission packet. Contact me or Martha Keenan (mkeenan@burlingtonvt.gov) with any questions.

CSWD DROP-OFF CENTER

On September 19, the City Council will be voting on a Memorandum of Understanding (MOU) that provides the City a 3-year $50,000 option to purchase the 3 acre parcel at 195-201 Flynn Avenue and lays out the framework for a lease purchase agreement if the City chooses to exercise the option. The shared goal between the CSWD and the City of Burlington is to develop an expanded, safer, more customer-friendly CSWD drop-off center (DOC) in the largest community in the District. The District has an existing DOC at 339 Pine Street that has many constraints. The site at 195-201 Flynn would also offer the City approximately 1 acre of land for municipal use. More information on the item can be found in the September 12 Board of Finance packet here: http://www.boarddocs.com/vt/burlingtonvt/Board.nsf/goto?open&id=ADLJUA4E74D6

NORTH AVENUE PILOT SURVEY UNDERWAY

The installation of the pilot was completed in July and we have been receiving feedback, making adjustments, and collecting traffic data. This week an online survey was launched to collect public feedback on the pilot in advance of the October 17 City Council briefing. The survey can be found here: https://rsgresearch.com/northave?anon=t&s=1. There will also be a public meeting on the pilot on September 20. More information is on the project webpage (https://www.burlingtonvt.gov/dpw/north-avenue-pilot-project).

DOWNTOWN TRANSIT CENTER & INTERSTATE CARRIERS

The Downtown Transit Center is scheduled to open on October 13. We are continuing to work with CCTA to get the interstate transit carriers to serve the Downtown Transit Center. The Downtown Transit Center provides more amenities for customers including a heated waiting area, bathrooms, and connections to local transit routes – much more than the current in-town stop at UVM. The carriers we are working with are Megabus, Greyhound and Vermont Translines.

Walk Bike planBTV

WALK BIKE MASTER PLAN
BURLINGTON, VT

DRAFT FOR PUBLIC REVIEW: JULY 1, 2016

DuBois & King, Inc.
STREETPLANS — Miami · San Francisco · New York
GPI — Greenman-Pedersen, Inc.

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MANY THANKS

To the Burlington City Council and the hundreds of residents and business owners that participated in the creation of this plan.

To the organizations that funded this plan.

- Vermont Agency of Transportation (VTRANS)
- AARP Vermont
- Chittenden County RPC

To the two committees that helped guide the process:

The Technical Committee provided guidance on the plan's goals, public involvement process, priority improvements, strategies, and performance measures. With leadership from the Burlington DPW, the Committee included representatives from:

- Local Motion
- VTRANS
- AARP Vermont
- Chittenden County Regional Planning Commission
- CCTA

The Advisory Committee provided additional strategic guidance around priority improvements, strategies, and public involvement. Members of this Committee served as liaisons in outreach and communications efforts. They are also responsible for submitting the final Master Plan to the City Council for Adoption. Members include representatives from:

- Local businesses
- Residents from each of the 4 districts
- City Councilors
- Burlington Walk-Bike Council
- Burlington School District
- Burlington Advisory Committee on Accessibility
- University of Vermont Transportation & Parking Services
- Vermont Department of Health
- Representatives for relevant City Departments such as the Police and Fire Departments, Planning & Zoning, Community & Economic Development, and Burlington Parks, Recreation & Waterfront

(full bleed photo representing active transportation here - showing multiple modes)

Burlington's first comprehensive plan focused on walking and biking.

Welcome to Burlington's first comprehensive plan focus on walking and biking. In the pages ahead, this document will provide background information about the planning process, examine existing conditions, and make recommendations for how Burlington can improve pedestrian and bicycle conditions. While this plan is specifically focused on walking and biking, it serves as a compliment to past and ongoing planning efforts in Burlington, and throughout the region, including:

- Ongoing planBTV South End process (Draft plan released June 2015)
- 2016 Chittenden County Regional Planning Commission (CCRPC) Regional Bicycle and Pedestrian Plan
- 2016 Vermont Comprehensive Energy Plan
- 2015 planBTV Parks, Recreation & Waterfront Master Plan
- 2014 Burlington Bike Path Intersections Scoping Study
- 2014 North Avenue Corridor Study
- 2013 planBTV: Downtown and Waterfront Master Plan
- 2011 Comprehensive Transportation Plan for the City of Burlington
- 2011 Chittenden County Bike Share Feasibility Study
- 2011 Colchester Avenue Corridor Plan
- 2011 North Winooski Avenue & Archibald Street Intersection: Pedestrian Safety & Mobility Evaluation
- 2010 Final Report of the Waterfront South Access Project
- 2010 Chittenden County Transportation Authority Transit Development Plan
- Ongoing advancement of the Shelburne Road Rotary Redesign Project

For additional information on these related planning efforts, please visit: www.burlingtonvt.gov

STARBUCKS COFFEE
SHOPPING MALL

STEPHEN & BURNS

skirack.com

STOP

LET'S DO THIS.

Making Burlington a more walkable, bikeable place will improve quality of life for everyone.

When it comes to walking and biking, Burlington has a lot to be proud of. With access to forest, mountains, lakes, and river, Burlington's appeal for outdoor recreation is hard to match. The Burlington Bike Path is a tremendous asset to the City's parks system and is an immensely popular attraction during the summer, fall and spring and, increasingly, the winter months. Church Street Marketplace is a vibrant hub of pedestrian activity, surrounded by a walkable downtown with well-preserved historic architecture. Compact development patterns make Burlington inherently conducive to travel on foot and by bike. Indeed, the city has been awarded Silver level Bicycle Friendly Community and Walk Friendly Community designations, and in 2013 endorsed a community effort to "Go for Gold." The Queen City is consistently rated as one of the most livable and creative small cities in America.

Still, like many communities across the country, Burlington is experiencing growing demand for safer streets with better walking and biking options. Burlington's vision for becoming a more walkable, bikeable place has been articulated in every transportation-related plan adopted in the past decade. Many city agencies and non-profits are already working toward the ambitious goal of making Burlington the best small city for walking and biking on the East Coast. But up until now, Burlington has not had any dedicated plan defining strategies and priorities for walk/bike-related investments. As Burlington's first comprehensive plan devoted to improving pedestrian and bicycle conditions, this plan creates a road map to help Burlington rapidly transform into a place where walking and biking are viable, and enjoyable, transportation options for people of all ages and abilities, all year round. Why are walking and biking important for Burlington? First, people care about it! Even with limited infrastructure and no comprehensive plan in place, census data shows that more Burlington residents that are getting to work by bike or on foot. Second, safer walking and biking conditions will improve the quality of life for everyone. A growing body of data from around the country documents that growth in walking and biking brings a host of environmental and economic benefits tied to reduced traffic congestion, reduced vehicle emissions, lower road maintenance costs, savings in healthcare costs, increased independence for those who can't drive, and more. Cities around the nation are paying attention - in September of 2015 the Surgeon General even issued a national Call to Action, urging communities to improve access to safe and convenient places to walk and wheelchair roll for people of all ages and abilities. In the pages ahead, we'll take a closer look at what improved walking and biking conditions can do for Burlington, set goals for walk and bike improvements, and outline a path to help Burlington reach those goals. This plan has been a long time coming. Let's do this, Burlington!

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LETTER FROM MAYOR

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LETTER FROM PUBLIC WORKS DIRECTOR

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EXECUTIVE SUMMARY SECTION HERE

Executive Summary to include:

- Plan Vision and Goals, with overarching success metrics
- Selection of priority actions related to infrastructure/ engineering, including those related to bike parking and bike share
- Simplified, summary map of key investments
- Selection of priority actions related to policy, education, encouragement, enforcement, equity, and evaluation/planning

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EXECUTIVE SUMMARY SECTION HERE

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VISION

IMAGINE A FUTURE WHERE...

- ...Burlington's Streets were safe enough that parents could let their kids walk or bike to school, to the park, or to a friend's house without worry; and that older adults could comfortably walk or bike from their house to community destinations such as the grocery store, or the pharmacy.

- ...walking, biking, and taking the bus were the preferred choice for students and adults living or working in Burlington, all year round.

- ...Burlington's transportation network improved our local economy and quality of life, leading people to stay in Burlington and invest in our community.

GOALS

THIS PLAN IS ABOUT 2 THINGS:

- CREATING SAFER STREETS FOR EVERYONE
- AND, MAKING WALKING AND BIKING A VIABLE (AND ENJOYABLE) WAY TO GET AROUND TOWN.

GOAL:

CREATING SAFER STREETS FOR EVERYONE...

We will eliminate traffic-related fatalities and serious injuries by 2026.

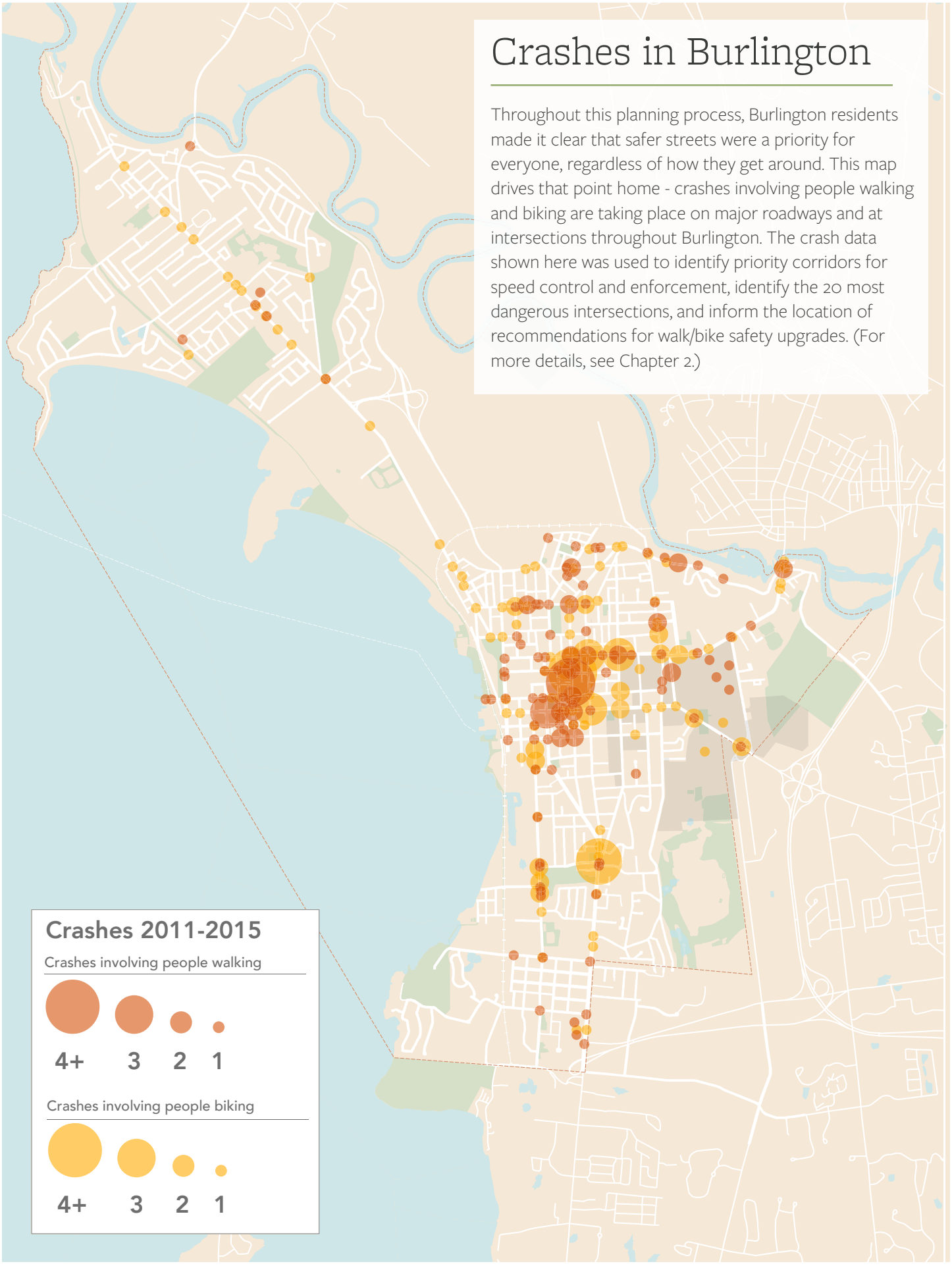
Traffic-related deaths and injuries are preventable. It isn't accurate to call serious collisions "accidents" - for the most part these incidents are the result of factors that we can change, such as unforgiving roadway designs and poor behavior.

To achieve the ambitious goal above, Burlington must approach the issue of street safety from multiple angles – creating infrastructure that emphasizes safety, predictability, and the potential for human error, along with targeted programs related to education, enforcement, and more.

This safety goal has been developed in the spirit of Vision Zero principles. For more information about Vision Zero and what it means, see the Policy and Protocol Action Plan in Chapter 3.

Crashes in Burlington

Throughout this planning process, Burlington residents made it clear that safer streets were a priority for everyone, regardless of how they get around. This map drives that point home - crashes involving people walking and biking are taking place on major roadways and at intersections throughout Burlington. The crash data shown here was used to identify priority corridors for speed control and enforcement, identify the 20 most dangerous intersections, and inform the location of recommendations for walk/bike safety upgrades. (For more details, see Chapter 2.)



GOAL:

MAKING WALKING AND BIKING A VIABLE (AND ENJOYABLE) WAY TO GET AROUND TOWN...

By 2026, reliance on drive-alone trips will be low, and alternative modes will make up the majority of commute trips in Burlington.

Mode share (also called mode split or modal share) is a way to measure the percentage of travelers using a particular type of transportation.

In the United States, it is difficult to measure exactly how many people walk and bike for transportation. The best data available for understanding Burlington's mode share comes from the U.S. Census Bureau's American Community Survey (ACS), which only asks for information about a person's journey to work. We know that getting to work is only a small part of the picture of a person's transportation habits - commuting to work constitutes approximately 20% of all person miles of travel in the United States. Additionally, the framework for collecting journey to work data has changed over time. In the year 2000 and prior, journey to work data was collected as part of the decennial census. Today, it is collected through the ACS, which is a more frequent survey from a smaller pool of people than the decennial census. This variation makes it difficult to make a clean comparison to recent data and data collected in the year 2000 and before.

Though not perfect, these data sources can help us understand trends in how people move around Burlington. This plan recommends that Burlington work with local and regional partners to collect more detailed data about transportation habits going forward (see details in Chapter 4). For now, we can use census data to set the goal of shifting mode share to the point where alternatives to driving alone make up the majority (51%) of Burlington's commute trips by 2026.

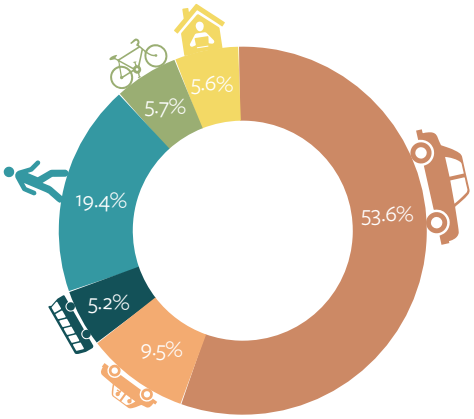
Our Mode Share Goal

Burlington's 2026 Mode Share Goal

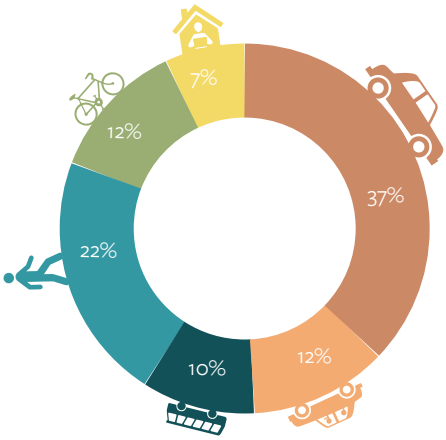
Burlington's mode share goal sets a target in which reliance on drive-alone trips is low, and use of alternate modes (carpooling, transit, walking, biking, and even telecommuting) makes up over half (or 51%) of commute trips.

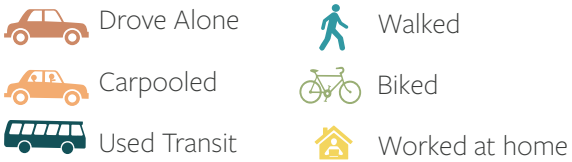
In the chapters ahead, we'll provide details on what Burlington's mode share looks like today, and why increased use of alternative modes benefits everyone. We'll also outline specific projects and actions to help the city meet this ambitious goal. The mode share goal will serve as a baseline to help the city determine if progress is being made towards the larger plan vision of making walking and biking a viable (and enjoyable) way to get around town.

Burlington in 2013*



2026 Mode Share Goal





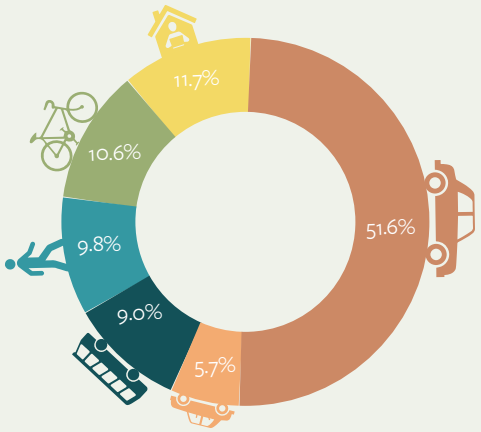
How does Burlington's target stack up with goals in leading cities?

Davis, CA

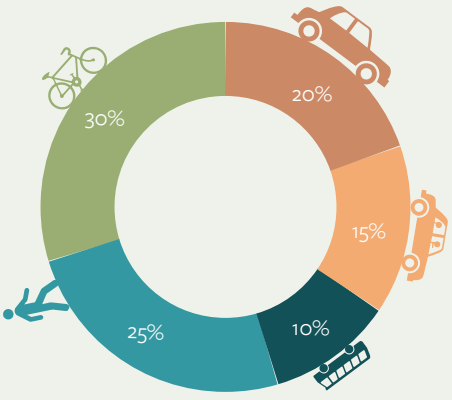
30%

The City of Davis Bicycle Action Plan set a target for 30% bicycle mode share by 2020 (working from a 2013 mode share of 20%).

Boulder, CO - 2013*



Boulder, CO - 2035 Target**



** 2013 data based on 2009-2013 American Community Survey 5-year estimates*

** City of Boulder 2014 Transportation Master Plan (note "working from home" was not detailed in the goals)

PART 1:
WHY?

...do we want to create safer streets for everyone, and make walking and biking a viable (and enjoyable) way to get around town?

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Photo by Nic Anderson

...BECAUSE OUR CITY HAS ASKED FOR THIS.

Burlington residents have called for better walking and biking conditions in every transportation-related plan adopted in the past decade.

The Transportation Plan envisions a balanced investment in complete streets that will function safely for all users, with street design guidelines that have been widely applied on projects in recent years.

The Downtown and Waterfront Plan envisions green and healthy streets for the downtown district.

The redevelopment of the Burlington Town Center, in keeping with the Downtown and Waterfront Plan, may provide a much needed north-south bicycle connection through the heart of downtown.

The Burlington Parks, Recreation & Waterfront Master Plan notes "Connection" as a key focus area, and calls for better linkages to Burlington's parks and waterfront bike path through improved cycling infrastructure (including more east-west links), consistent wayfinding, and improved sidewalks. As a parallel effort, Burlington Parks, Recreation & Waterfront also completed a Scoping Study in 2014, focused on creating recommendations for improvements at 12 roadway crossings with the Burlington Bike Path.

The draft South End plan (undergoing revisions at this time) envisions a highly pedestrian centric arts hub, and a walkable, bikeable Pine Street corridor.

For more details and analysis of public input for this plan, see Chapter 2.

Because a walkable, bikeable city benefits *everyone*.

Beyond responding to a clear community priority and increasing safety, walking and biking investments will also bring economic, environmental, and health-related benefits that will improve quality of life for everyone in Burlington.

Families

Walking/biking increase household purchasing power. Households in automobile-dependent communities devote 50% more—an extra $3,000 on average—to transportation than households in communities with better bike and pedestrian facilities.*

Young Adults

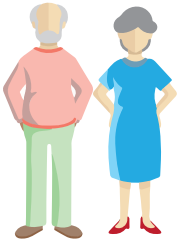
Walk/bike investments help attract and retain talent. Bike friendliness can be a factor in where people decide to live and work. In 2009, Portland, OR surveyed recent transplants who bike to work, and 62% of respondents said the city's bike friendliness was a factor in their decision to move there.*

Small Business Owners

Human-friendly streets boost retail performance. After the construction of a protected bike lane on 9th Ave. in NYC, local businesses saw a 49% increase in retail sales. On other streets in the borough, the average was only 3%.*

Major Employers

Better walk/bike conditions contribute to a healthy and happy workforce. The more often an employee cycles and the longer the distance traveled, the lower the rate of absenteeism.*



Older Adults

Walking/biking keeps people fit, healthy, and socially connected as they age. An adult cyclist typically has a level of fitness equivalent to someone 10 years younger and a life expectancy two years above the average.*

Teens

Walking/biking can help set teens up for healthy lives. Adolescents who walk or bike to school watch less TV and are less likely to smoke than their peers who are driven to school. They also get more overall physical activity.*

Young Children

Walking/biking improves kids' academic performance.

Studies have shown that girls who walk or bike to school perform better on tests. Longer commutes were associated with higher test scores, regardless of how much exercise kids got outside of school.*

Our Local Environment

Walking/biking reduces greenhouse gas emissions.

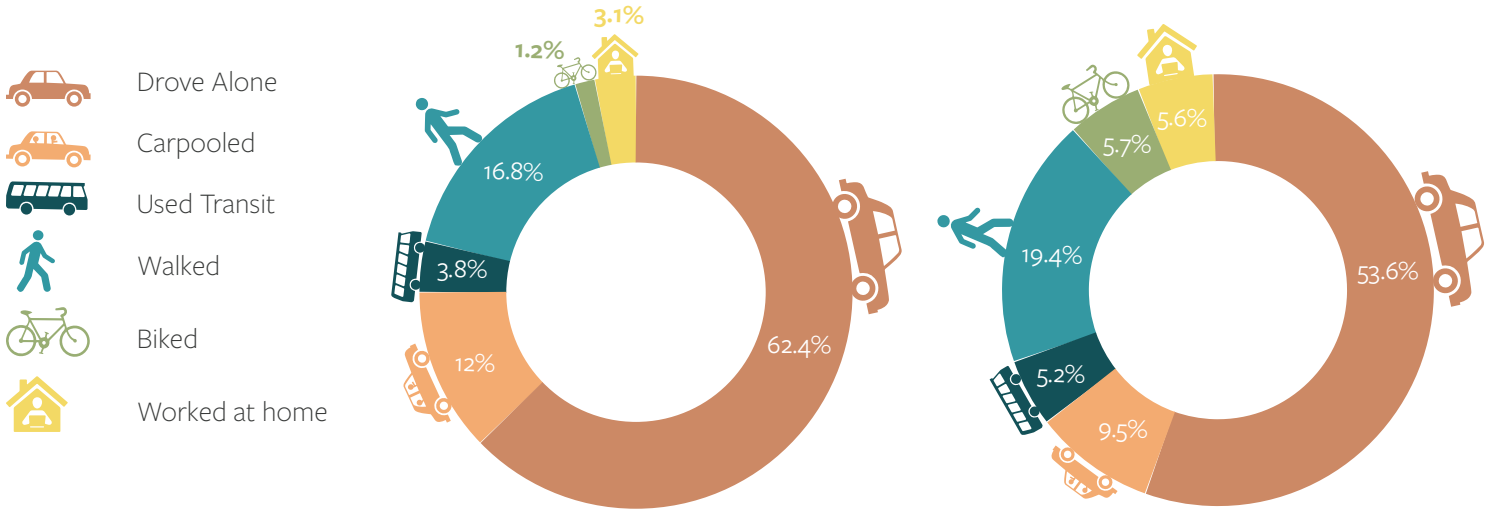
A 5% increase in the walkability of a neighborhood is associated with a per capita 32.1% increase in active travel, 6.5% fewer miles driven, 5.6% fewer grams of NOx emitted, and 5.5% fewer grams of volatile organic compounds (VOCs) emitted.*

**Data sources provided in Appendix.*

...BECAUSE PEOPLE ARE WALKING & BIKING MORE.

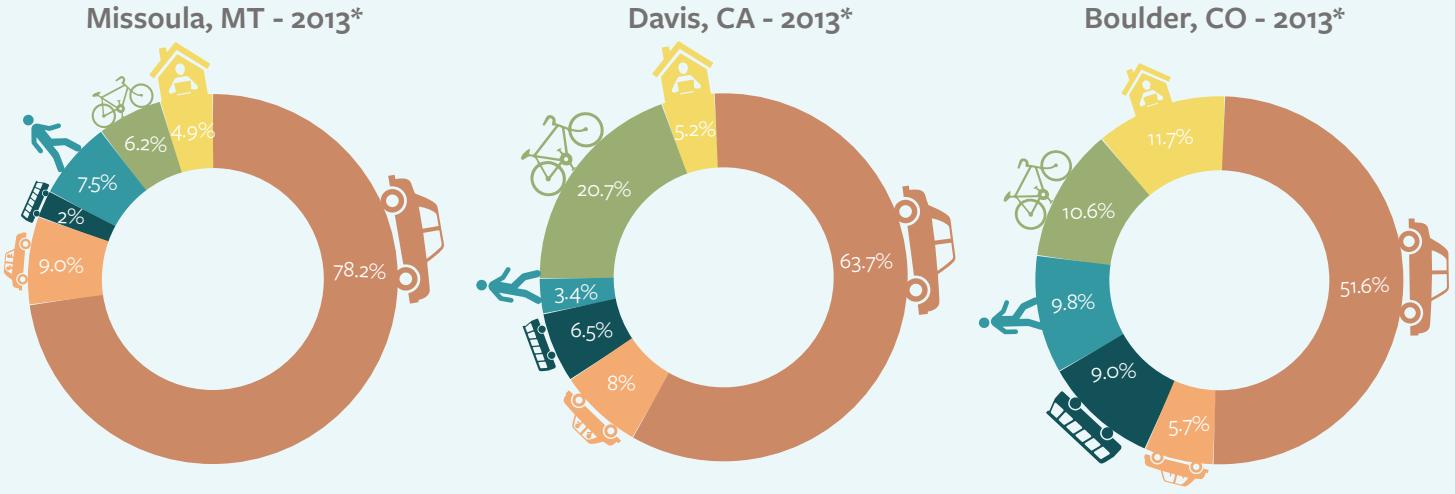
Burlington has seen a significant increase in the percentage of people commuting by public transit, biking or walking.

Journey to work



Compared to other parts of the country, Burlington boasts a high rate of people walking to work. The percentage of people walking or biking to work in Burlington has grown overall since the year 2000, but Burlington can still do better. Comparison of ACS 5-Year Estimate data for 2009 and 2013 in Burlington actually shows a slight decline in people walking to work (from 21.1% to 19.4%). And, while bicycle mode share is growing, it does not yet match the high percentages shown in the leading cities below.

How does Burlington's mode share stack up with that of leading cities?



Source Notes: Year 2000 data is based on the 2000 Census. Year 2013 data is based on 5-Year Estimates from the American Community Survey - a more frequent survey from a smaller pool of people. Though not a perfect source or comparison, these data points can help us get a snapshot of mobility trends in Burlington, and in other cities of similar size and/or climate that are leaders in walk/bike mode share. For more info on data sources and limitations, see page 22.

...BECAUSE BURLINGTON'S INFRASTRUCTURE ISN'T KEEPING UP WITH DEMAND

Recent projects are building momentum, but as the data below and on the previous page illustrates, Burlington's infrastructure still isn't good enough to making walking and biking a viable way to get around town.

95 miles of city streets

130 miles of sidewalk

12.2 miles of shared use paths

0 miles of protected bike lanes

12% of streets have bike lanes (11.9 miles total)

3% of streets have shared lane markings (2.9 miles total)

"Gold Level" Bike-Friendly cities are doing much better, typically featuring

65% of arterial streets with bike lanes.

To achieve the recognition and high levels of walk/bike mode share that other leading cities benefit from, Burlington will have to do better.

Of course, it isn't *only* about infrastructure. Burlington has a rich landscape of events, programs, and policies that support a culture of walking and biking. For more on these non-infrastructure elements, see Chapter X.

...BECAUSE BURLINGTON'S STREETS DON'T FEEL SAFE.

51%

of Burlington residents over the age of 45 feel that the City's streets are unsafe for cyclists.*

The 5 Streets that Feel Most Unsafe

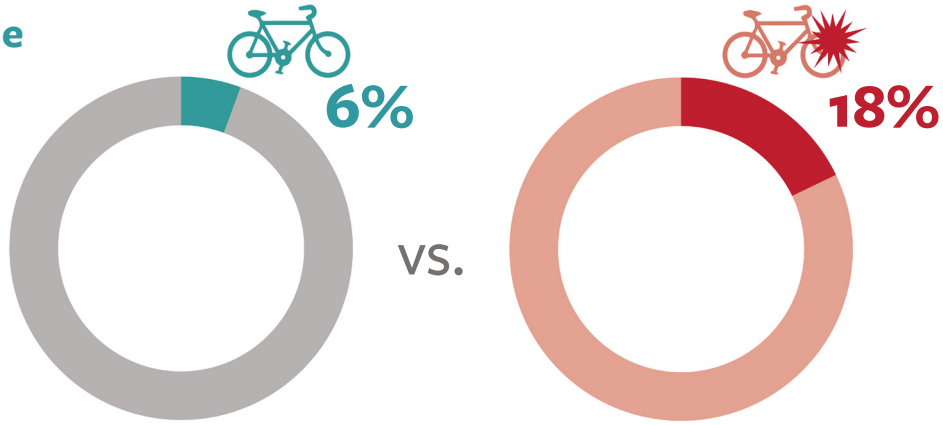
We asked over 500 Burlingtonians of all ages to tell us what streets felt the most unsafe for walking and biking. Here's what we heard:

- **Shelburne Road**
- **Pine Street**
- **North Avenue**
- **Battery Street**
- **Main Street**
- **Plus a "Dis-Honorable mention" for North/South Winooski Avenue (#6)**

High injury rate for people riding bikes in Burlington underscores the need for safer streets

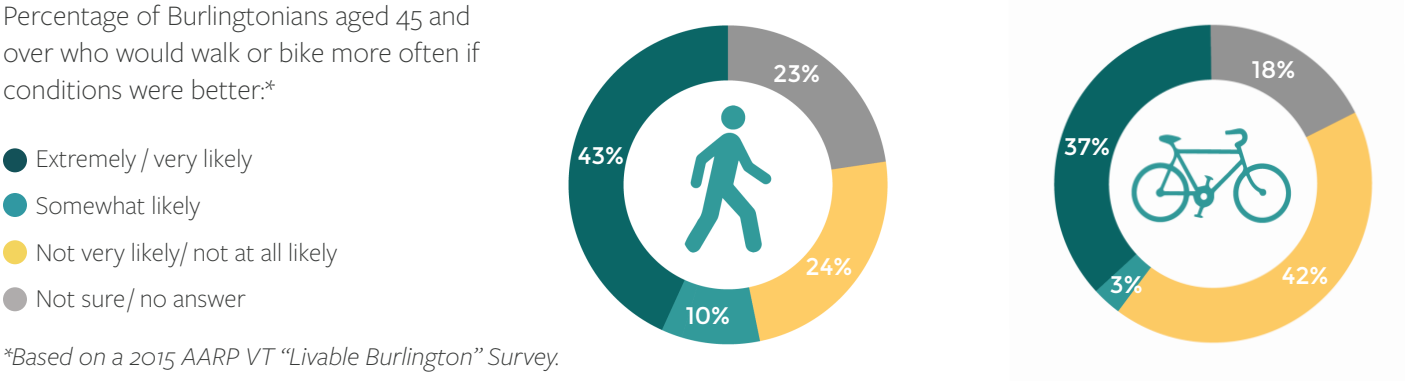
In 2013, about **6% of people regularly rode a bike** to work in Burlington.

But, of 771 traffic-related injuries in Burlington since 2011, **18% involved people riding bicycles.**

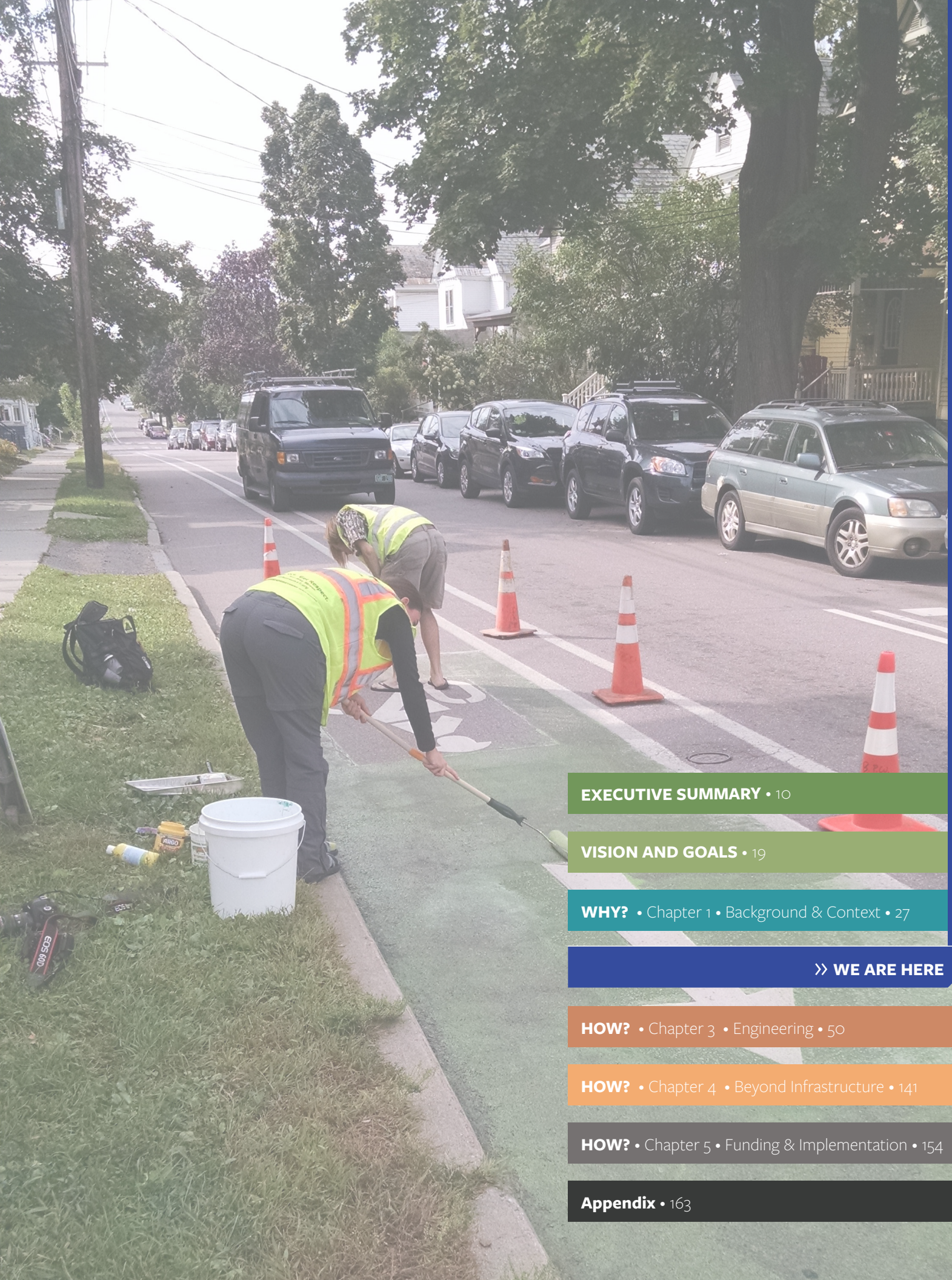


Burlington residents would walk or bike more often if conditions were better.

Percentage of Burlingtonians aged 45 and over who would walk or bike more often if conditions were better:*



Based on a 2015 AARP VT "Livable Burlington" Survey.



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How Public Input Helped Shape the Plan

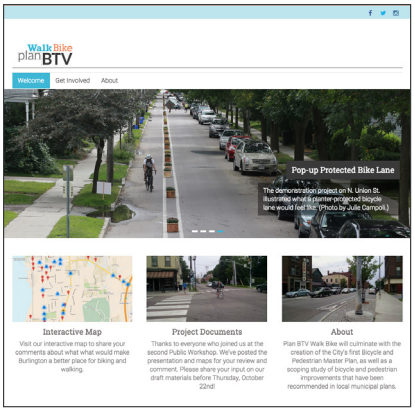
Through the activities described on the following pages, people shared many diverse opinions, concerns, and hopes about walking and biking in Burlington. The left column below summarizes the topics and issues that came up repeatedly across activities, from surveys to focus groups. The right column explains how this plan responds to what we heard from the community.

What we heard...	What we did
"Burlington needs a **dense, connected bikeway network**, that includes 'low-stress' **protected facilities** appropriate for **people of all ages and abilities**."	Created a bold plan that sets ambitious goals for making Burlington a more walkable and bikeable place, and positions Burlington to achieve Gold-level status as a walk and bike friendly community in the next 5 years.
"**Safety** is a huge priority. It should be the major focus of the plan."	Identified safety as a top priority in the plan vision, and set an ambitious goal to eliminate traffic-related fatalities and serious injuries by 2026.
"Burlington needs **safe intersections** for all modes. Intersections should be a major focus of the plan's pedestrian projects, in particular."	Structured walk recommendations around improving Burlington's most dangerous intersections (identified through crash data analysis and public input). And, outlined recommendations for an extensive network of low-stress bikeways that include protected intersections.
The plan must address **"gateway" areas** in and out of Burlington from South Burlington, Winooski, etc.	Recommended stronger and safer connections, with protected bikeways/ shared use paths at all entry/exit points on the cities border.
"**Speeding** is a major issue of concern, as is **aggressive driver behavior**."	Recommended target actions for enforcement. And, outlined a plan for infrastructure that will calm traffic on key corridors throughout the city, bringing speeds in line with Burlington's urban context.
"The plan must **embrace the winter climate** and integrate best practices for year-round maintenance of pedestrian and bicycle facilities."	Integrated best practices from cities that are leaders in active transport for winter climates (such as Montreal) in a special Winter Action Plan (see Chapter 3).

What we heard...	What we did
The network should minimize hills and **respond to grades**.	Recommended east-west cycling connections, like climbing and protected bike lanes to make cycling more appealing and unfavorable topography less intimidating.
"**Maintenance matters.** Poor pavement conditions of sidewalks and bike lanes reduces safety and mobility for people walking and biking."	Outlined best practices for maintenance of walking and biking infrastructure. Recommendations also call out the need for sidewalk maintenance funding reform and include strategies for reducing maintenance costs long-term.
"Puddles splash pedestrians and create hazards for people biking. We should aim to integrate **green infrastructure** into projects to **alleviate flooding**."	Outline tools for integrated green infrastructure into active mobility upgrades including planter-protected bike lanes, rain-garden curb extensions, and more street trees.
"Enforcement is important, but so is **engineering**. A sign with a low speed limit will not be enough to **encourage slow, careful driving** if the street is designed like a drag strip."	Established principles in Chapter 2 for using street design to "enforce" desired speeds and improve safety. This chapter also identifies focus corridors for speed control and enforcement, and outlines design tactics.
"Drivers are not the only ones who need education about safety and courtesy. Pedestrians feel threatened by **people biking on sidewalks** or **riding the wrong way** in streets and bike lanes."	This plan recommends bold infrastructure upgrades that will support "good" behavior - safer and more direct bike routes will discourage sidewalk and wrong-way riding. The plan also outlines strategies for education around safe walking and biking habits in Chapter 4.
"Talk is cheap. We **need to see projects hit the ground. NOW.**"	First, we invited people to experiment with and experience options through demonstration projects. A demonstration project policy will accompany this plan, enabling residents and organizations to continue to test recommendations. The 12-month Priority Action Lists in Chapter 3 set DPW up to make change all over the city in the next year, with little else than paint. Finally, the plan recommends pilots for key projects and outlines a path for implementation of many projects over 5 years.

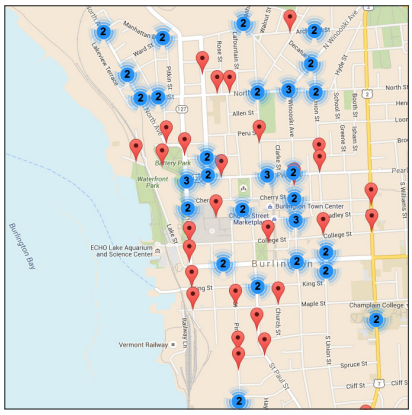
Summary of outreach activities

ONLINE OUTREACH



Dedicated Project Website

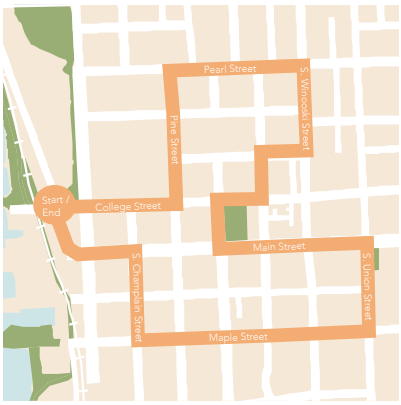
Social Media



Interactive map

The website and social media platforms were used to spread the word about the plan and disseminate materials such as the PlanBTV Walk/Bike Survey. The website featured an interactive map which allowed people to provide geo-located comments about walk/bike issues and ideas. Comments from the interactive map helped inform the list of top 20 priority intersections for upgrades and specific bike facility recommendations (see Chapter 3 for recommendation details).

HANDLEBAR + WALKABOUT SURVEYS INVOLVED:



Walk and bike tours.

Studying existing conditions.

Recording observations.

The Handle and Walkabout Surveys invited members of the public to participate in walking and biking tours to discuss and document existing conditions. The surveys helped us identify important routes for bikeway upgrades, observe conditions at dangerous intersections, and document existing bicycle parking. Importantly, these tours provided an opportunity for members of the public to impart "insider" information that might not be readily available in past plans and maps, such as the locations of informal footpaths around schools and parks (shown on the maps in Chapter 3).

PLANBTV WALK/BIKE SURVEY

The 24-question PlanBTV Walk/Bike Survey provided important information about existing conditions and community priorities for walking and biking in Burlington. The Survey was distributed through the mailing lists of the organizations on the Steering and Advisory Committees, and was promoted through public events and public workshops for the plan.

Who took the survey?

Over 540 people completed the survey between July and December of 2015. Survey responders were:

- Nearly all were full time residents of Burlington, 66% owned their own home and just under 30% rented.
- 67% work in Burlington, and over 65% have a commute of less than 5 miles. Commutes of this length are well suited to walking or biking.
- Seasonal bicycle commuters. Over 60% of respondents bike to work (compared to 5.7% citywide). But, a large percentage (62%) only bike seasonally, suggesting that improved winter infrastructure could have a big impact in Burlington's mode share.

66%

of 540 survey respondents said that they don't bicycle in Burlington because they don't feel safe.

TOP PRIORITIES FOR INFRASTRUCTURE*

- **Safer and easier intersections crossings**
- **Improvements to increase comfort and safety for people walking** (shade trees, wider sidewalks, fewer curb cuts, landscaping, plowing/ timely snow and ice removal, seating, separation from traffic)
- **Traffic calming and lower speeds**
- **More bike lanes**, paths, trails that are **protected** or separated from car traffic
- A more connected/ **continuous bicycle network**

What does this tell us?

It's all about speed control and infrastructure! For more information about how street design is related to speed and safety, see Chapter 3.

TOP PRIORITIES FOR PROGRAMS*

- Far and away, the top priority was **education and enforcement campaigns to improve driver behavior**
- **Traffic calming and lower speeds***Note that respondents were allowed to select more than one option for each category, resulting in percentages that total over 100%.*

What does this tell us?

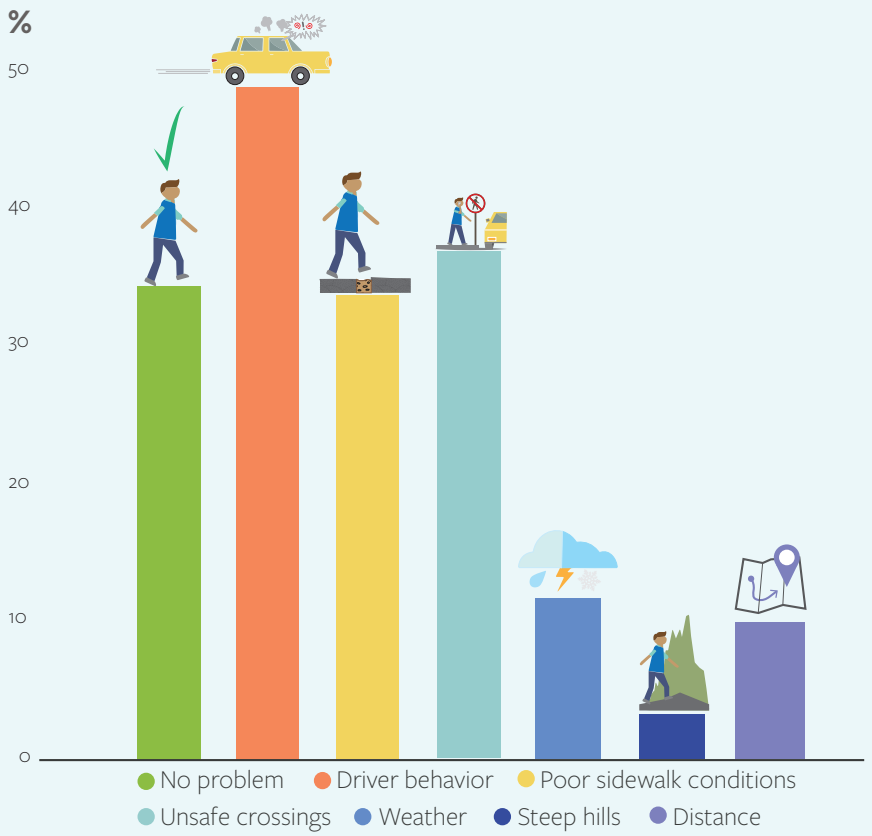
Conflict between people walking/biking and people driving is a major pain point. Survey respondents feel that aggressive driver behavior and high speeds are major threats to safety. Safer street design is a major priority to address these concerns. Although enforcement is important, street design sends strong signals about how to move through a space. See Chapter 3 for visual examples.

What makes you feel unsafe or uncomfortable walking around Burlington?

On a scale of 1-10, most survey respondents said they felt very safe walking (8-9 rating). Of the factors that make people feel unsafe or uncomfortable walking, driver behavior was the biggest problem, followed by unsafe crossings and poor sidewalk conditions. Survey respondents said that the most important infrastructure upgrades that would encourage them to walk more were:

- Safer, low-stress intersection design
- Better conditions (including benches, shade trees, etc.)
- More traffic calming/speed reductions
- More off-road trails and paths

They also noted the need for increased education around and enforcement of laws protected pedestrian priority. Recommendations related to education and enforcement can be found in Chapter 4.

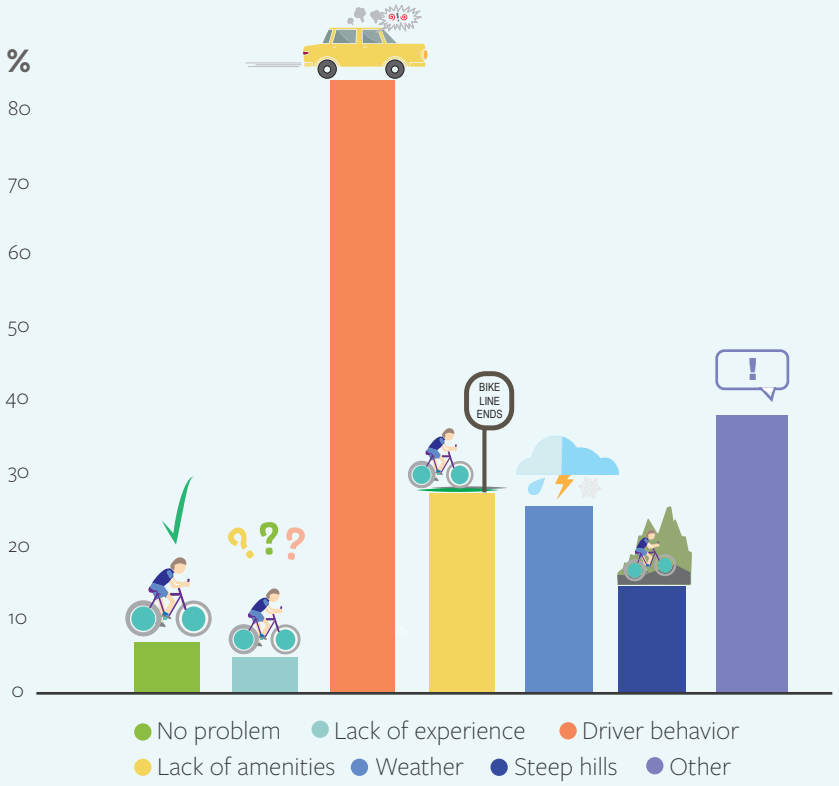


What makes you feel unsafe or uncomfortable biking in Burlington?

Although most survey respondents were confident and frequent cyclists, they reported feeling only moderately safe biking in Burlington. Driver behavior was listed as the main reason for feeling unsafe. To improve safety, respondents called for:

- More protected bike lanes and paths
- A more connected and continuous bicycle network throughout the city
- Additional signage reinforcing rules protecting cyclists
- More traffic calming/speed reductions
- Education and enforcement campaigns to improve driver behavior

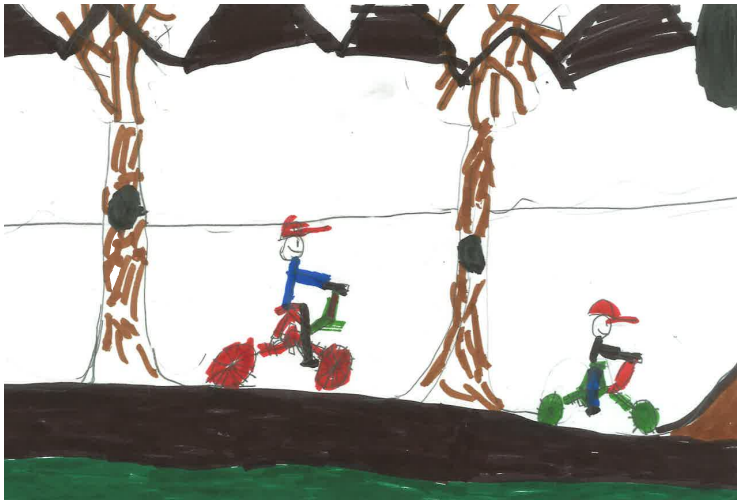
These desires are reflected in the recommended projects and actions in Chapters 3 and 4.

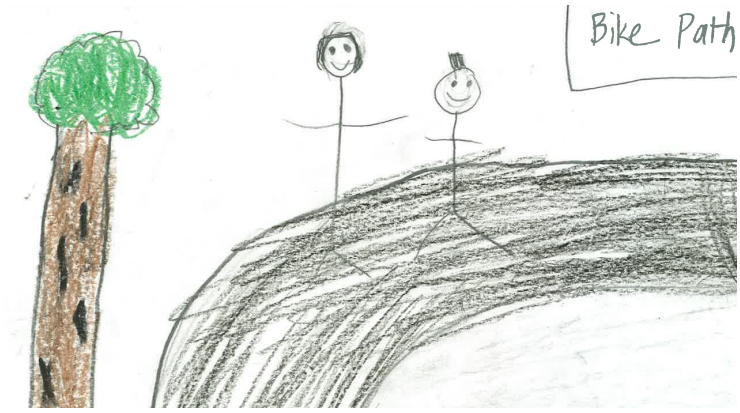


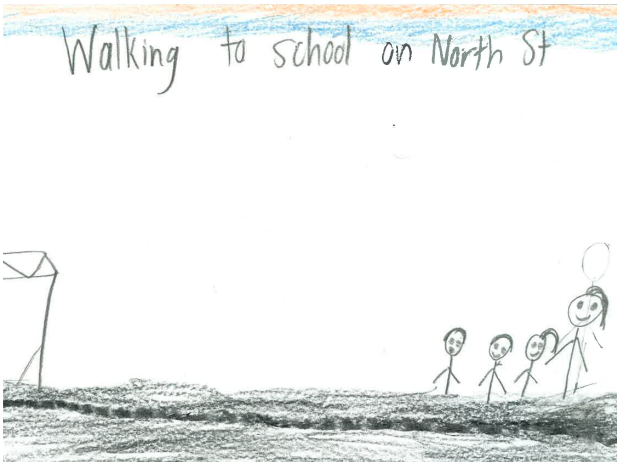
STUDENT SURVEY

With the help of their teachers, students from the Sustainability Academy completed an adapted version of the survey to share information about their walking and biking habits. Here's what we learned:

- Nearly all students enjoyed walking or biking around Burlington with their family, and many walk to school regularly.
- Favorite places to walk and bike included parks and playgrounds, the waterfront bike path, and on neighborhood streets in order to run errands.
- Most students do not walk or bike around Burlington by themselves or with friends, because their parents do not think it is safe for them to do so.







PUBLIC WORKSHOPS

The project team hosted in-person workshops to obtain input around key project milestones:

- **July 2015** - This initial Public Workshop defined the project's scope and approach. One key workshop activity used the "25/10" framework to rapidly define people's top priorities. For this exercise, everyone wrote down a single priority idea for making Burlington a better place to walk and bike. Each idea was passed around the room and scored on a scale of 1-5 by whichever 5 person happened to wind up with the idea in hand (1 indicated a less important idea and 5 indicated an idea with potential for high impact). The following page highlights the ideas that emerged with the highest scores.
- **September 2015** - This Public Workshop recapped public input to date and presented draft recommendations for improvements across the 5 E's. In small groups, participants had the opportunity to ask questions and provide specific feedback on draft proposals. Following the Workshop, the project team posted all draft materials on the project website for an additional 1-month comment period.
- **January 2016** - This Public Workshop provided an opportunity for the team to present revised recommendations, answer questions, and collect additional public input on the proposals in the plan.

These Public Workshops were a critical component of the planning process, and were supported by the many other online and in-person outreach strategies described in this section of the document.

If you could pick one priority project or policy to make Burlington more walkable or bikeable, what, and where would it be?

TOP PRIORITIES FOR **BETTER WALKING**

- Calm traffic and improve pedestrian crossings on S. Winooski Ave., especially near City Market (potentially using a 4-to-3 lane conversion).
- Install ADA accessible crosswalk and signal activators at key intersections citywide.
- Upgrade crossings at all major streets to have rapid flashing beacons, and follow-through on enforcement of pedestrian priority at these crossings.
- Widen sidewalks and narrow streets where pedestrian volumes are high, so that cars will be forced to drive 20 miles per hour.
- Add sidewalks on Leddy Dr. to connect Leddy Park and Leddy Beach with the Ethan Allen Shopping Center.
- Time pedestrian crossing signals so that walkers don't have to wait so long to cross.

TOP PRIORITIES FOR **BETTER BIKING**

- Create a two-way protected bike lane on N. Champlain from Pearl St. to Manhattan Ave., taking away one lane of traffic.
- Focus on adding more protected bike lanes citywide!
- Create protected bike lanes on North Avenue.
- Add protected bike lanes to S. Winooski Ave., through a 4-to-3 lane conversion.
- Provide protected bike lanes and/or a bike boulevard to get out of town commuters into the city safely.
- Create a protected North-South bike lane connection to enhance access to downtown and grocery stores.
- Legalize bikes crossing with pedestrians when the pedestrian signal comes on.

FOCUS GROUPS

In order to expand outreach and obtain input from underrepresented groups, the project team hosted Focus Groups with the VNA Family Room, a community resource center in the Old North End.

As parents of small children or new arrivals to America, Focus Group participants provided a unique perspective on walking/biking and street safety. While some bike regularly, most said they rely heavily on transit, driving, or walking. Common destinations included:

- Parks and playgrounds, especially Battery Park
- Old North End commercial corridor on North Street
- Local schools, especially H.O. Wheeler Elementary
- The Ethan Allen Homestead, which is a major hub for services and activities including summer camps

Walking was a key transportation mode for all attendees. When asked about specific streets or intersections that feel unsafe for walking, participants mentioned:

- Shelburne Road, and the Shelburne Rotary area
- North Avenue
- The intersection of Manhattan Ave. and 127
- Crossing to Battery Park from the Old North End
- Intervale/Elmwood intersection
- North Street crossings, such as at Murry St.
- Gateway areas from Winooski (such as the Winooski Bridge) or South Burlington.

Of the participants who did bike regularly, many stated that they typically bike on the sidewalk because they feel unsafe riding on the street. They noted that creating more protected bicycle routes should be a priority of the plan, and that affordable access to bikes and equipment would be helpful.

Participants also noted that there is a need to educate drivers about how to share the road with cyclists. Participants had positive experiences with Open Streets BTV and felt that doing more Open Streets events would be a great thing for Burlington.

Finally, participants noted that personal security is an important consideration when discussing pedestrian safety. Several people said that they feel unsafe walking around some parts of Burlington at night due to poor lighting and a high prevalence of people loitering and openly drinking on the sidewalk.

The planning team used "Demonstration Projects" to expand outreach and test possibilities for enhanced pedestrian and bicycle infrastructure.

Demonstration Projects refer to short-term or pop-up installations created with donated, borrowed or low-cost materials. For PlanBTV Walk/Bike, the Department of Public Works partnered with Local Motion and dozens of volunteers to create a series of Demonstration Projects in Burlington's Old North End and South End neighborhoods. These projects expanded the conversation about walking and biking beyond the traditional public workshop framework, allowing residents, business owners, and city agencies to physically experience and react to new types of pedestrian and bicycle infrastructure. To maximize public input, the project were installed during Burlington's popular South End Art Hop and Open Streets BTV events.

SOUTH END DEMONSTRATION: PARKLET AND PEDESTRIAN SAFETY UPGRADES @ ART HOP

The demonstration at Pine St. and Kilburn St. showed how the city might make walking safer and easier. The project featured a new "parklet" for sitting and socializing (pictured top left) and an artistic curb extension to reduce crossing distance for pedestrians (pictured bottom left). The parklet space included a tent with interactive activities to generate conversation and collect public input about walking and biking in Burlington.

OLD NORTH END DEMONSTRATION: BETTER BIKE LANES @ OPEN STREETS BTV

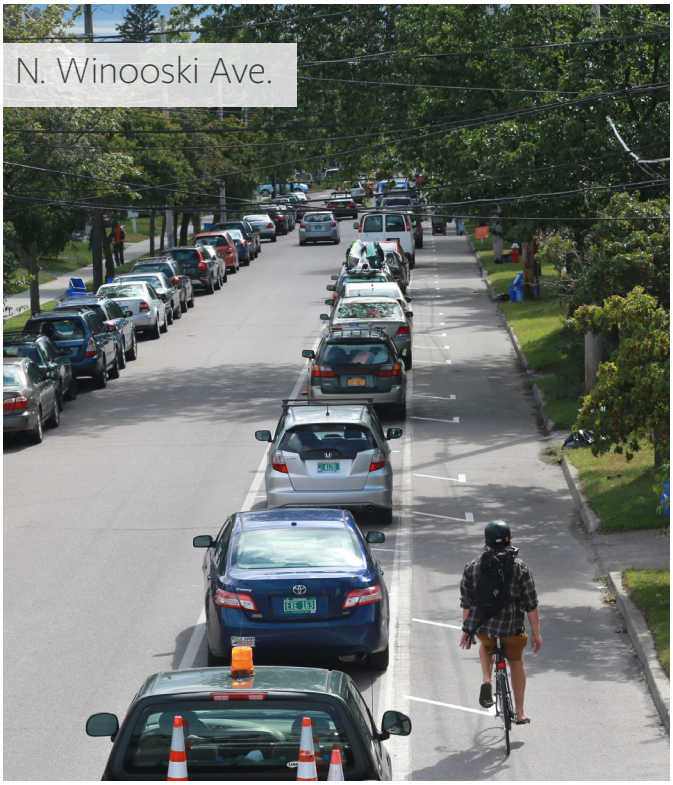


Photo by Julie Campoli

This demonstration project showcased various options for enhanced bike lanes on several streets adjacent to the Open Streets BTV route.

For this demonstration, the team created:

- Burlington's first parking-protected bike lane along one block of N. Winooski Ave. (pictured top left);
- A planter-protected bike lane on N. Union St. (pictured bottom left);
- Connections between the two protected bikeways - with a Neighborhood Greenway on Grant Street (pictured bottom right) and intersection treatments at Union and Pearl (see photos on following page)

Adjacent to the demonstration projects, volunteers set up outreach booths to talk to people about the plan and ask them about their priorities for a more walkable, bikeable Burlington.

Photo by Julie Campoli

MOVING TO PERMANENT ENHANCEMENTS AT THE UNION & PEARL INTERSECTION

Volunteers used temporary paint to add high-visibility lane markings to Union Street, providing a safe transition for cyclists crossing the intersection at Pearl.

Just 6 weeks after the demonstration project occurred, Burlington Public Works installed permanent pavement markings at the intersection.

Photos above by Julie Campoli

Photo by Nick Meltzer

WHAT WE LEARNED

The demonstration projects represented an unprecedented collaboration between Burlington's government agencies, advocates, local businesses, and residents, and they helped our team gather input for the plan. They also allowed a broad base of people not normally involved with the technical planning process to experience new and unfamiliar street design types. If this were the only outcome, then the projects could be considered a success!

Yet, beyond raising awareness and gathering input, our team learned what didn't work. Some aspects of the designs tested were imperfect. For example, the number of parking spaces moved off the curb on N. Winooski Ave. limited visibility for motorists turning into driveways located along the west side the street. Such conflict points between people driving and cycling could be ameliorated by changing the design approach, which underscores the value of testing design in the first place.

That said, the conversations we had with people during the demonstrations helped us deepen our understanding of what people like about protected bikeways, and what their interests and concerns are for more permanent infrastructure. Of course, there are many ways to design protected bike lanes besides the parking and planter-protected types shown in the demonstrations. Public input during the demonstration underscored that adding protected facilities remains a high priority for people in Burlington.

In addition to sparking important community conversations, the demonstrations allowed our team to gather some hard data. The Chittenden County Regional Planning Commission (CCRPC) collected vehicle speed and volume data on North Winooski Ave. and North Union St. from Friday, September 11 through Wednesday, September 23. The data allowed us to see how vehicle traffic was affected with and without the demonstration projects. Here is what we learned:*

- Volumes of vehicles did not change significantly; in fact volumes on both Union and Winooski were slightly higher during the pilot than on the following weekend, possibly due to re-routing of traffic during the Open Streets BTV event.
- Vehicle speeds were significantly lower during the demonstrations, as shown in the graphs to the right.

Thus, the two demonstrations showed that each of the primary corridors has additional capacity for motoring, and that redesigning the street with protected bikeways could lead to a much higher percentage of drivers observing the speed limit!

**Speed data (right) was collected in partnership with CCRPC. Data is limited to between the hours of 10:00 a.m. on Saturday through 4:00 p.m. on Sunday. Demonstration project data was collected during these hours September 12 to 13; Normal Conditions data was collected during these same hours on September 19-20.*

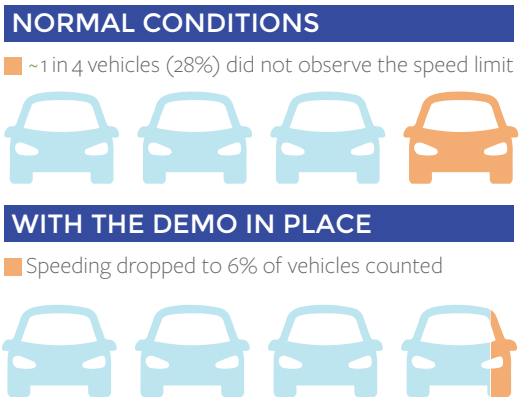
IDENTIFYING PRIORITY LOCATIONS FOR PROTECTED BIKES LANES

During the Demonstrations, Local Motion surveyed over 330 people to determine their top priorities for the location of protected bike lanes. As you'll see in Chapter 2, this plan recommends protected bike lanes at all of the Top 5 priority locations:

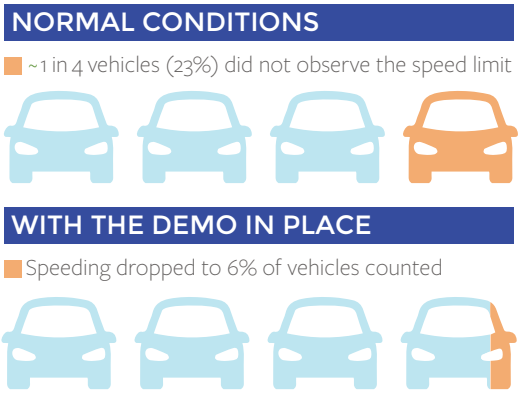
- ✓ **Main St.**
- ✓ **Pearl St./Colchester Ave.**
- ✓ **Winooski Ave./Union St.**
- ✓ **North Ave.**
- ✓ **Battery St.**

THE DEMONSTRATION PROJECTS RESULTED IN A MUCH HIGHER PERCENTAGE OF DRIVERS OBSERVING THE SPEED LIMIT.*

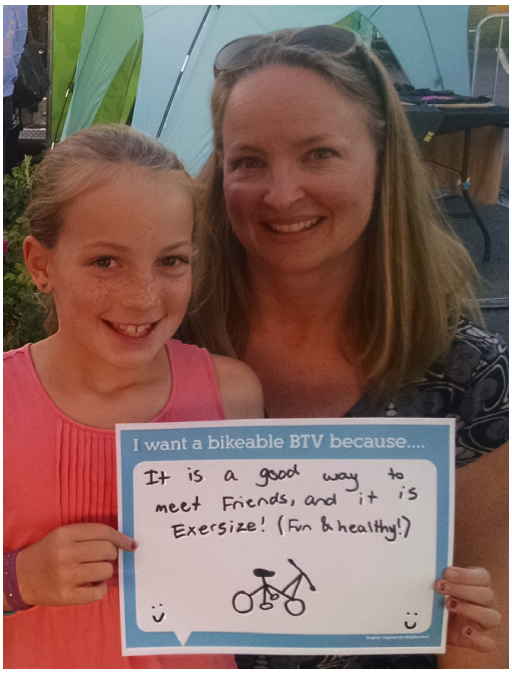
SPEEDING ON N. WINOOSKI AVE.



SPEEDING ON N. UNION ST.

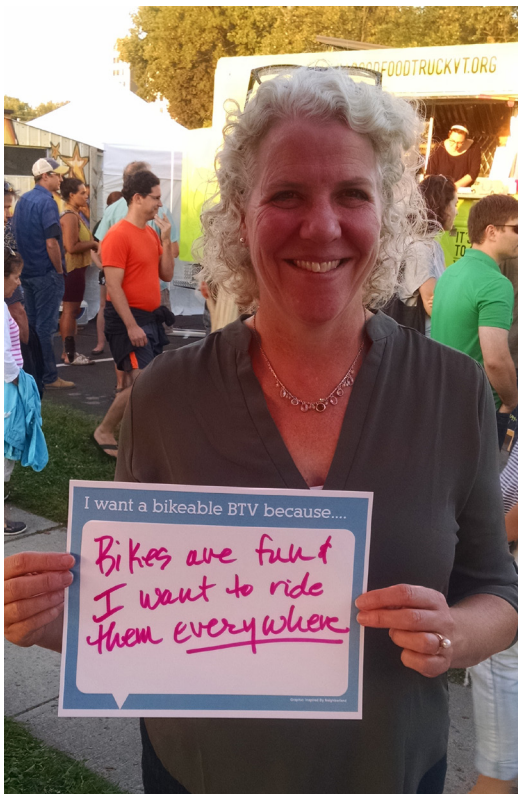


Burlington's residents want their city to be a more walkable, bikeable place because...



"Active transportation is more sustainable, and it saves me money!"

"Biking is good for my health and overall well-being."

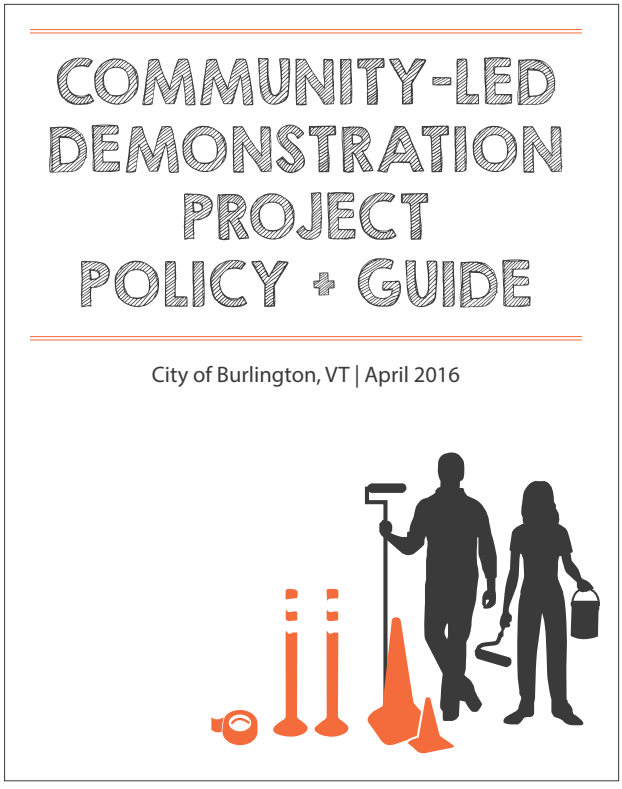


WHAT'S NEXT?

The City of Burlington is developing a guide and policy framework to help individuals and community organizations spearhead more short-term demonstration projects.

This guide and policy support Burlington's existing pilot project ordinance. That ordinance (Article 1 Chapter 20 Section 3) allows the Department of Public Works to implement temporary traffic and parking projects on public streets in order to evaluate the merits and impacts of proposed street design projects. This new policy breaks the process into even smaller segments, making it easier for everyday residents, advocacy organizations, and community groups to spearhead short-term demonstration projects (lasting from 1-7 days) alongside DPW and other agencies.

The September 2015 Demonstration Projects certainly helped inform the walk-bike master planning process. Ideally, the community-led projects authorized by this new policy will continue to inform city-led projects, including the temporary initiatives authorized by the pilot project ordinance.



PART 2:
HOW?

...do we create safer streets for everyone, and make walking and biking a viable (and enjoyable) way to get around town?

THE 6 ES

This plan is organized around "6 Es". Each E represents an element that will help us achieve the community's vision for walking and biking, and reach the bold goals outlined at the start of this plan:

- Eliminating traffic-related fatalities and serious injuries by 2026.
- Shifting mode share so that by 2026, reliance on drive-alone trips will be low, and alternative modes will make up the majority of commute trips in Burlington.

The E's offer a framework for how we'll reach these goals through: engineering, evaluation & planning, education, encouragement, enforcement, and equity. Following through with the recommended actions in all of these areas will position Burlington to meet the plan goals and become the best city on the East Coast for walking and biking.

It is important to note that implementing recommendations in this plan (particularly those in Chapter 4) will require a collaborative effort between DPW and other city and regional agencies, Neighborhood Planning Assemblies, non-profit organizations, and local businesses and residents.

CHAPTER 3

Refers to infrastructure such as intersection upgrades, sidewalks, trails, shared-use paths, and bike lanes.

CHAPTER 4

EVALUATION & PLANNING

Focuses on planning for walking and biking as viable modes of transportation. This involves creating a comprehensive plan, like the document you're reading now. It also involves establishing metrics for measuring success, and funding adequate staff and advocacy resources to accomplish goals.

EDUCATION

Refers to non-infrastructure related programs that help people of all ages and abilities gain the skills and confidence to walk or bike for transportation. It also involves educating all road users about rights and responsibilities.

ENCOURAGEMENT

Refers to programs that celebrate walking and biking and establish both modes as a normal parts of everyday life and transportation. Examples include events such as Open Streets BTV or Bike to Work Day.

ENFORCEMENT

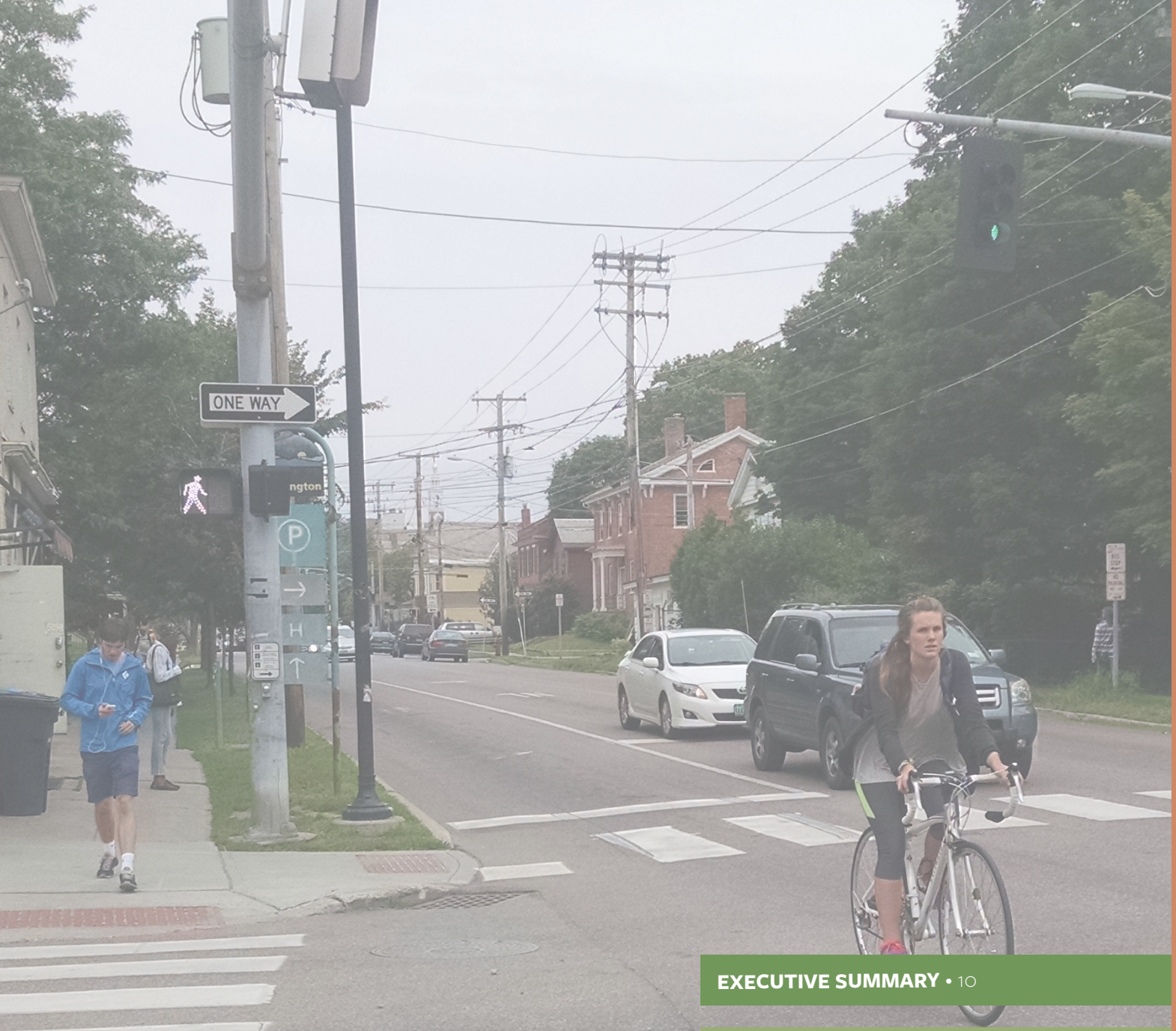
Focuses on making sure the road is safe for all users. This involves establishing laws and regulations that treat people walking or biking equitably within the transportation system. It also involves efforts to be sure that law enforcement officers understand these laws, know how to enforce them, and apply them equitably to ensure public safety.

EQUITY

Walking or biking should be viable options for people throughout Burlington. For the purposes of this plan, we've defined equity in terms of:

- Geography – the distribution of walking or biking improvements and programs within the community
- Social/Demographic factors – the distribution of walking or biking improvements across diverse populations

Equity is also related to enforcement, as it is essential that rules are enforced in an equitable manner.



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DESIGNING SAFER STREETS

Streets are often the most vital yet underutilized public spaces.

Infrastructure that accommodates the needs of all road users is perhaps the most tangible characteristic of a walk- or bike-friendly community. The presence (or absence) of safe streets and crossings is a key factor in people's decision to walk or ride a bike when they run errands or travel to work or school. Engineering is also a key determinant of people's behavior when they drive – a posted speed limit of 25mph or a "Pedestrian Crossing" sign will not be enough to encourage slow, careful driving if the street is designed like a drag strip.

The streets of the most advanced walk- and bike-friendly communities provide well-connected walking and bicycling networks that feature safe pedestrian crossings, bikeway facilities of varying types, and shared use paths. These facilities are supported by amenities such as benches, street trees, water fountains, and secure and convenient bicycle parking. Finally, these communities benefit from proactive policies that help them maintain existing infrastructure.

To realize the plan vision and achieve Burlington's mode share and safety goals, Engineering will be a critical focus area. Infrastructure for walking and biking emerged as the biggest area of needed improvement in Burlington's 2013 "Go for Gold" Blueprint. It also stood out as a major priority at public workshops and in the PlanBTV Walk Bike survey. (For more details on how public input helped shape the plan, see Chapter 2).

Chapter 3 of the plan presents recommendations for infrastructure projects that will increase safety for all people, whether they are driving, biking or walking. In addition to responding to issues and concerns we heard throughout the planning process, the recommendations in this chapter are guided by existing conditions analysis and current research and best practices, both of which are described further in the pages ahead.

WE ARE HERE

ENGINEERING

EVALUATION & PLANNING

EDUCATION

ENCOURAGEMENT

ENFORCEMENT

EQUITY

For definitions of the "6 E's" framework guiding this plan, please see page 49.

Creating a Cycle of Sustainable Transportation Investments

PEAK TRAFFIC

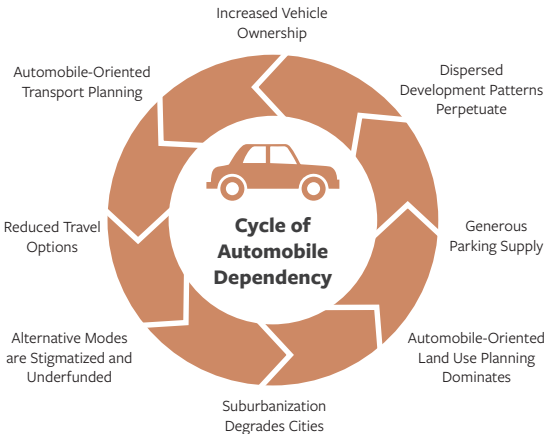
Based on a long history (since 1975) of consistent data collection on vehicular traffic volumes, it is clear that Burlington hit "peak traffic" in most locations between 1995 and 2000. Since then, traffic volumes have declined on ALL of the city's streets for which data is available. (See graph at the bottom of the page.) After a 50+ year period of transportation planning where it was always a baseline assumption that vehicular traffic would grow, our planning of the street network should respond to this change, and consider the right design of our streets and intersections given these well documented trends.

ASKING THE RIGHT QUESTIONS

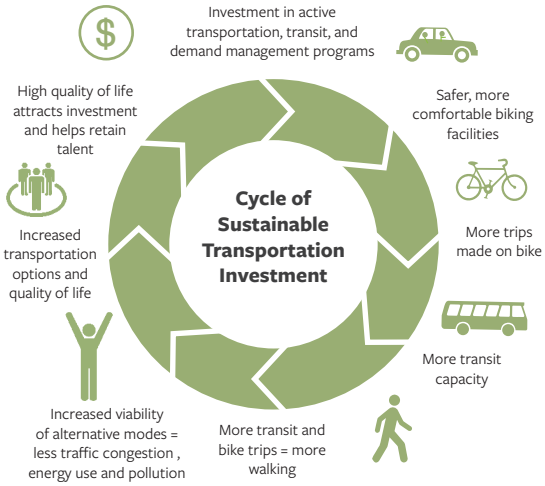
In looking at projects that may change the balance of space allocated to vehicles and people walking or biking, the question to ask should not be limited to "What will happen to the traffic?" We should also ask: "What will happen if we provide an attractive, low stress bikeway in this corridor? What will happen if we make safe and accessible street crossings for people walking or taking the bus? What are the outcomes for transportation access and choice? Will these changes reduce need for peak hour traffic capacity or parking?"

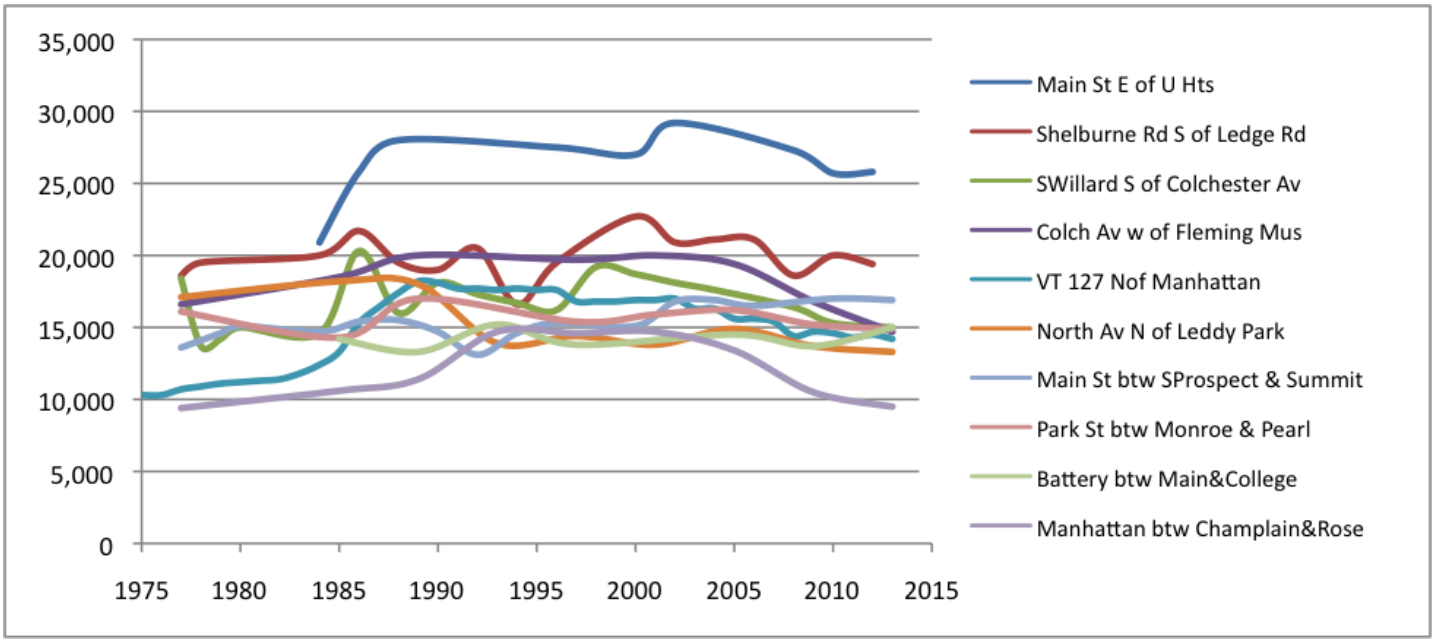
Designing safe streets for all modes will help make walking and biking a viable (and enjoyable) way to get around town. When coupled with other land use and urban design policies, walk/bike improvements can help communities instigate a sustainable cycle of investments that reinforce a safe, low-cost, and healthy transportation system.

Vicious Cycle



Sustainable Cycle





The Connection Between Design, Speed, and Safety

Image by Wes Craiglow.

"Vision Cone" image by NACTO: www.nacto.org

WIDE, OPEN STREETS = HIGH SPEEDS

The image comparison to the left illustrates the impact that street design has on vehicle speed. The wide, unobstructed lane in the top photo encourages high speeds. The narrow, tree-lined street at the bottom is designed to enforce the slow, careful driving that would be desirable on a neighborhood, residential street. This comparison graphic was created by Wes Craiglow, Deputy Director of Planning and Development for the City of Conway, AR. But, these principles are not unique to his community. The data collected during the Demonstration Projects described on page 42 demonstrated the same principle. For the demonstration, volunteers placed temporary planters in the bike lane buffer on S. Union St. to "enforce" the existing narrow lane striping. With the lanes narrowed, the rate of vehicle speeding dropped from about 25% to 6%!

HIGH SPEEDS = DANGEROUS STREETS

The series of images on the lower left illustrate that As a driver's speed increases, his peripheral vision narrows severely. There is a direct correlation between higher speeds, crash risk, and the severity of injuries.

LOWER SPEEDS ≠ LOWER CAPACITY

Reducing speed on city streets does not reduce their capacity to handle emergency vehicle or peak hour traffic. In fact, the optimal speed for traffic efficiency is around 25 mph due to the ability of drivers to safely follow the car ahead more closely and make efficient use of street space. It is also worth considering that the urban street network's capacity is primarily constrained by a relatively small number of bottleneck intersections, and changing the width of travel lanes will have little effect on the overall performance of the street network.

SAFE STREETS DESIGN PRINCIPLES

In addition to the concepts discussed on the previous pages, recommendations in this Chapter are based on best practices for safe street design, summarized in the principles below.

ACCESS + MOBILITY FOR ALL

Streets should allow people to travel in a safe, dignified, and efficient manner no matter their age, gender or level of ability. Though the focus of this plan is on improving conditions for walking and biking, recommendations must also consider the needs of people driving. Streets must allow for harmony between multiple modes - allowing for safe and efficient movement of trucks, public transit, and emergency response vehicles.

ENVIRONMENTAL SUSTAINABILITY

Sustainable streets protect and enhance natural ecosystems with tools including greenbelts, pervious pavements, and bioswales to control stormwater. Street trees are a vital part of sustainable streets: they provide shade, filter the air, and slow traffic. Street trees have been shown to be associated with lower crime rates, higher household income, and increase home values. Integrating ecological considerations into street design can also ease maintenance costs, as uncontrolled stormwater can damage street surfaces over time.

The Dekum Bike Corral in Portland, OR features rain gardens and an "eco roof" shelter. Photo and project by Buster Simpson.

SAFETY + SECURITY

Streets should be designed to reduce or eliminate traffic-related fatalities or serious injuries. As described on the following page, vehicle speed is one of the most significant factors in crash severity, and controlling speed will have a big impact on street safety. Street safety is also closely connected to public life - well-lit streets that encourage walking and biking throughout all hours of the day provide more "eyes on the street," and increase people's sense of security.

LAND USE CONTEXT

Street design should both respond to and influence the character of neighborhoods, advancing the community vision for the future. Street design is inherently connected to land use - compact land use patterns and connected multi-modal streets support transportation options. Options reduce demand for drive-alone trips, easing parking pressure and traffic congestion. In Burlington, this can be seen in many Neighborhood Activity Centers that provide essential services within walking distances of people's home and/or place of employment.

CLIMATE CONSIDERATIONS

Street design should respond to local environmental factors such as climate. Recommendations for improving walking and biking conditions in Burlington must embrace the city's winter climate and integrate best practices for providing safe walking and biking options year-round.

Image at right by Annie Follett, via Local Motion Facebook Page Winter Bicycle Commuter Photo Contest.

COMFORT

When creating new walk and bike infrastructure, comfort is an important consideration. For example, sidewalks should be made as wide as practical and retrofitted to be fully ADA accessible. They should feature amenities such as benches and shade elements. Bikeways should allow people on bikes to be separated from the sidewalk. They should be designed to allow people on bikes to pass each other safety and ride two abreast wherever possible. These are just a few examples of how consideration for comfort can inform design.

Image by People for Bikes: peopleforbikes.org

CONNECTIVITY

A dense, connected street network helps make walking and biking viable modes of transportation. Intersection density is one of the most important ways to create slower, safer streets - high ratios of intersections are associated with fewer the fatalities. Cul-de-sacs and dead-end streets should be avoided; they create indirect routes that cause people to drive longer distances and discourage walking and biking. Where existing cul-de-sacs cannot be connected to the street grid, multi-use paths should be used to at least improve connectivity for people walking and biking. Connectivity also matters for the network of walk/bike facilities within the street grid. For example, bike lanes or sidewalks that suddenly drop off discourage people from biking or walking.

Action is essential! In Fall 2015, DPW completed a handful of small projects that improved safety with paint. Burlington should continue acting fast. The 12-Month Priority Implementation Plan outlines more small projects that can be implemented in the next year. For large projects, Burlington should look for opportunities to use "pilot" projects to test options and inform public decision making.

ECONOMIC DEVELOPMENT

Streets are an economic asset to cities. Well-designed streets have been shown to generate higher revenues for businesses and increase home values. Streets should be designed to support a mixture of commercial and cultural activities, and leveraged to attract economic opportunities and attract talent.

ACTION!

Burlington can start improving safety now with low-cost materials. The 12-Month Priority Implementation Plans outline dozens of small projects that can be implemented quickly with little else than paint. For large projects that require significant capital planning and investment, Burlington should look for opportunities to use "pilot" projects to test options and inform public decision making.

ACTION PLAN

The following pages outline actions in the realm of engineering that will help Burlington apply the safe streets design principles and meet the goals outlined in this plan. These recommended actions are then followed by three chapter sections focusing on sub-areas of the city: New North End, Downtown | Old North End | Campus Area, and the South End. Each sub-area section contains an analysis of existing conditions and a 12-month Priority Action List, which sets up DPW and its partners to make change all over the city in the next year, with little else than paint. Sub-area sections also include maps with recommended projects for five-year and longterm time frames. Moving the recommendations in this chapter from paper to pavement will help make Burlington the best small city for walking and biking on the East Coast.

The City of Palo Alto is pilot testing neighborhood traffic circles as a tool to create streets that self-enforce appropriate speeds. Photo by Josh Mello.

#1. Engineer and design city streets to self-enforce appropriate target speeds.

Street design sends the strongest signal of how to move through space. To increase safety, engineer and design city streets to self-enforce a maximum target speed of 25mph or less along major corridors and 20mph or less on neighborhood and downtown streets. The Priority Streets for Speed Control map on page 63 illustrates recommended locations for creating corridor, neighborhood, and downtown "slow zones." Treatments in these priority locations might include a variety of traffic calming measures including raised crossings, walk/bike roadway markings, or signage.

Roundabouts are one great way to achieve lower speeds, and they are a tool that should be closely considered for intersections in slow zone areas in particular. Roundabouts come in many sizes and styles, and each type has a place on Burlington's streets. For more details, see the Field Guide to Roundabouts in the Appendix of this Guide.

Signal timing is another important factor in designing streets to self-enforce target speeds. Modify signal timing to reduce off-peak speeding and increase exclusive pedestrian crossing times (including lead pedestrian intervals) along and across all priority corridors and intersections by 2026.

Success Metric: All crashes (walking, bicycling, driving) resulting in serious injuries decrease 50% by 2021, 100% by 2026 (achieving the plan goal outlined at the start of this document).

Responsibility: City of Burlington Department of Public Works; VTrans

#2: Improve safety at all 20 priority intersections.

Focus investments on all 20 priority intersections identified in the Citywide Walk Plan Priorities at the start of this chapter, detailed in the Chart on page 65. Use the interim and permanent infrastructure treatments outlined in the Illustrated Glossary of Safe Streets Treatments found in the Appendix of this plan.

Success Metric: All 20 of the Burlington's most dangerous intersections are improved by 2026, or two per year for the next 10 years.

Responsibility: City of Burlington Department of Public Works; VTrans

#3: Provide a connected network of sidewalks and safe intersections.

This action can be implemented with the following approach:

- Provide a sidewalk on at least one side of every street in Burlington.
- For new development, do not allow cul-de-sacs to be built except where natural features or linear rights of way (river, wetlands, rail line etc.) exist.
- New development should achieve, at a minimum, an intersection density of 140 intersections per square mile.
- Automate all pedestrian signals in downtown Burlington.
- Retrofit existing parking lot driveway curb cuts so that pedestrians and bicyclists are clearly visible and have the right-of-way at conflict points; limit the number and width of proposed curb cuts and driveway access points to maximize safety by giving priority to pedestrians.
- Where paths do not currently exist, disconnected streets and cul-de-sacs should be retrofitted to include bicycle and pedestrian access, with a priority where such connection would provide access to a low-stress facility, such as a protected bikeway or shared use path.
- Upgrade key intersections to include ADA accessible ramps and crosswalk and signal activators.

Success Metrics:

- XX miles of new sidewalk miles implemented by 2026
- Ensure that all crosswalks are provided no more than 500 feet apart, Except where unique land use or topographic conditions dictate fewer crossings
- Walking mode share increase to 20.5% by 2021, 22% by 2026

Responsible Parties: Burlington Department of Public Works; Burlington Planning Department; Burlington Community and Economic Development Office; CCRPC; VTrans; and property owners, including major institutions (UVM, Champlain College etc.)

#4: Create a dense, interconnected bicycle network that serves the needs of people of all ages and abilities.

By implementing the projects recommended in the network maps in this plan, Burlington can:

- Increase the total bicycle network to at least 43 street miles, or at least 45% of the city's 95-mile street network by 2026.
- Provide a shared use path, neighborhood greenway, or protected bike lane connection to every school in Burlington by 2026.
- Provide a bikeway connection to every Neighborhood Activity Center, major employer, and adjacent communities by 2026.
- Provide at least 12 miles of on-street protected bikeways by 2026.
- Provide 90% of Burlington's residents with a bikeway facility within a 1/4 mile of their home by 2026.

As new bikeway projects are implemented to create this network, the City should add wayfinding at key decision points to indicate the best way to get to major destinations and areas of the city (for example Downtown, or the New North End). Burlington should develop a simple template bicycle wayfinding sign that can be installed at major decision points as new bicycle facilities are added to the network.

Success Metrics:

- Cycling mode share increases to 9%, by 2021, 12% by 2026
- Implement at least 28 miles of new bikeway miles by 2026.
- 65% of the city's bikeway miles are classified as low-stress routes by 2026.

Responsible Parties: City of Burlington Department of Public Works; Burlington Planning Department; Burlington Parks, Recreation, and Waterfront Department; Burlington Police Department; Burlington Fire Department; Burlington Community and Economic Development Office; CCRPC; and VTrans

Fell Street Bike Lane in San Francisco.

#5: Leverage walk/bike projects to add green infrastructure to Burlington's streets.

Integrate green infrastructure (permeable paving materials, rain gardens, street trees, garden walks etc.) into complete streets design and neighborhood greenway projects to control stormwater, reduce the heat island effect, and enhance beauty.

Success Metrics: Urban runoff is reduced by at least 80% compared to prior conditions along streets that receive green infrastructure treatments.

Responsible Parties: Burlington Department of Public Works; Burlington Planning Department; Burlington Parks, Recreation, and Waterfront Department; CCRPC; and VTrans

#6: Improve and Expand Bicycle Parking Citywide.

Build more high-quality, secure bicycle parking spaces, including bicycle racks, on-street bike corrals, shelters, bike lockers, and bike rooms / stations within public buildings and parking garages. Require more secure indoor bicycle parking for multi-family residential development and covered bicycle parking at major community destinations. Create and conduct a bi-annual bicycle parking survey for multi-family residential and commercial properties.

These mandates may be achieved by revising Chapter 8, section 8.2.2 of Burlington's zoning code and expanding DPW's Bicycle Parking Assistance Program to include on-street bike corrals and bike shelters. (See Bicycle Parking Recommendations on page 135 for more details.)

Success Metrics:

- In addition to those racks installed on private property, the city should install at least 100 high-quality bicycle parking spaces in the public right of way per year, or 1,000 new spaces by 2026.
- Annual bicycle theft reduced 50% by 2026.
- A high-capacity "station" is built within 3 years of plan adoption. See additional metrics related to bike parking on page 135 of this plan.

Responsible Parties: Burlington Department of Public Works; Burlington Planning Department; Burlington Parks, Recreation, and Waterfront Department; and property owners, including major institutions (UVM, Champlain College etc.).

Bike Share station in Aspen, CO. (Photo by Frias Properties of Aspen.)

#7: Implement a robust bicycle sharing system.

Work with key institutional partners such as the University of Vermont and Champlain College to create a public bicycle share program. The first step is to build from the 2011 Chittenden County Bike Share Feasibility Study to conduct a detailed, localized study to guide implementation. The study should recommend a preferred fleet system and include detailed guidance on station locations, with a phased plan for roll out. It should also provide recommendations related to funding and maintenance. Once a detailed study has been completed, Burlington should seek program funding through public health and transportation organizations, as well as local corporate and foundation sponsors. Once funding is solidified, Burlington can implement a cost-effective, high-density, equitable bike share system for Burlington's residents and visitors.

Success Metrics:*

- Complete a bike share implementation study and begin funder outreach in 2017.
- Implement a bicycle sharing system by 2021. Achieve a maximum spacing distance of 1,000 feet between station within the coverage area.

Responsible Parties: Burlington Department of Public Works; Burlington Planning Department; Burlington Parks, Recreation, and Waterfront Department; and property owners, including major institutions (UVM, Champlain College etc.).

**Note that the target timelines listed above assume the City leads this effort. If the City is able to serve as a leader and convener, but approach bike share implementation with a coalition of highly involved partners, implementation can and should be expected to occur much faster.*

#8: Create more walk priority or walk-exclusive spaces.

The Church Street Marketplace in Downtown Burlington is a much-loved walk-only zone. Stretching for 4 blocks, the Marketplace is a hub of activity with over 100 places to eat or shop, as well as year-round programming from festivals to street entertainers. In lieu of a fully closed street, many communities around the country are creating "shared streets". Also referred to as a "woonerf," a shared street is designed to encourage very low vehicle speeds and prioritize the needs of people walking and biking. (See the Illustrated Glossary of Safe Streets Treatments in the Appendix of this document for more detail.)

Burlington should look for opportunities to create new pedestrian priority or pedestrian-exclusive public spaces for people walk, play, and socialize. One way to do this is by creating a placemaking program that incentivize neighborhoods and business owners to spearhead public realm improvements (such as parklets or pedestrian plazas). More details about this approach can be found in the Policy and Protocols Section of the plan. At the same time, the City of Burlington should consider shared and pedestrian-priority streets as a part of its street design toolkit. The sub-area sections of this plan propose several new shared street conditions: intersection upgrades at the North, Murray and Rose Street intersection, the South Winooski Avenue and Bank Street intersection, and along Bank Street are examples.

Success Metrics:

- Create and implement a placemaking program by 2018.
- Measure economic gains for business and property owners following installation of projects.

Responsible Parties: DPW, CEDO, Department of Parks, Recreation & Waterfront, and NPAS

Lawson Lane in Burlington. (Photo by Rainy_J Tripadvisor.)

#9: Support investment in a Downtown Alley Walk.

The 2013 PlanBTV Downtown and Waterfront Plan notes that are several contiguous blocks of alleys moving east to west through downtown, towards the Lake. Some of these alleys have restaurants and businesses tucked away along them - Lawson's Lane is a primary example. The Downtown and Waterfront Plan recommends that the City emphasize and further activate this fledgling "Alley Walk," by adding interesting lighting and supporting investment in additional storefronts and outdoor dining spaces. The Lawson/Mechanics Lane Alley Walk, and others, could become a distinguishing asset in downtown Burlington, with signage to help make the connection from downtown to the Lake.

Success Metrics:

- [Forthcoming]

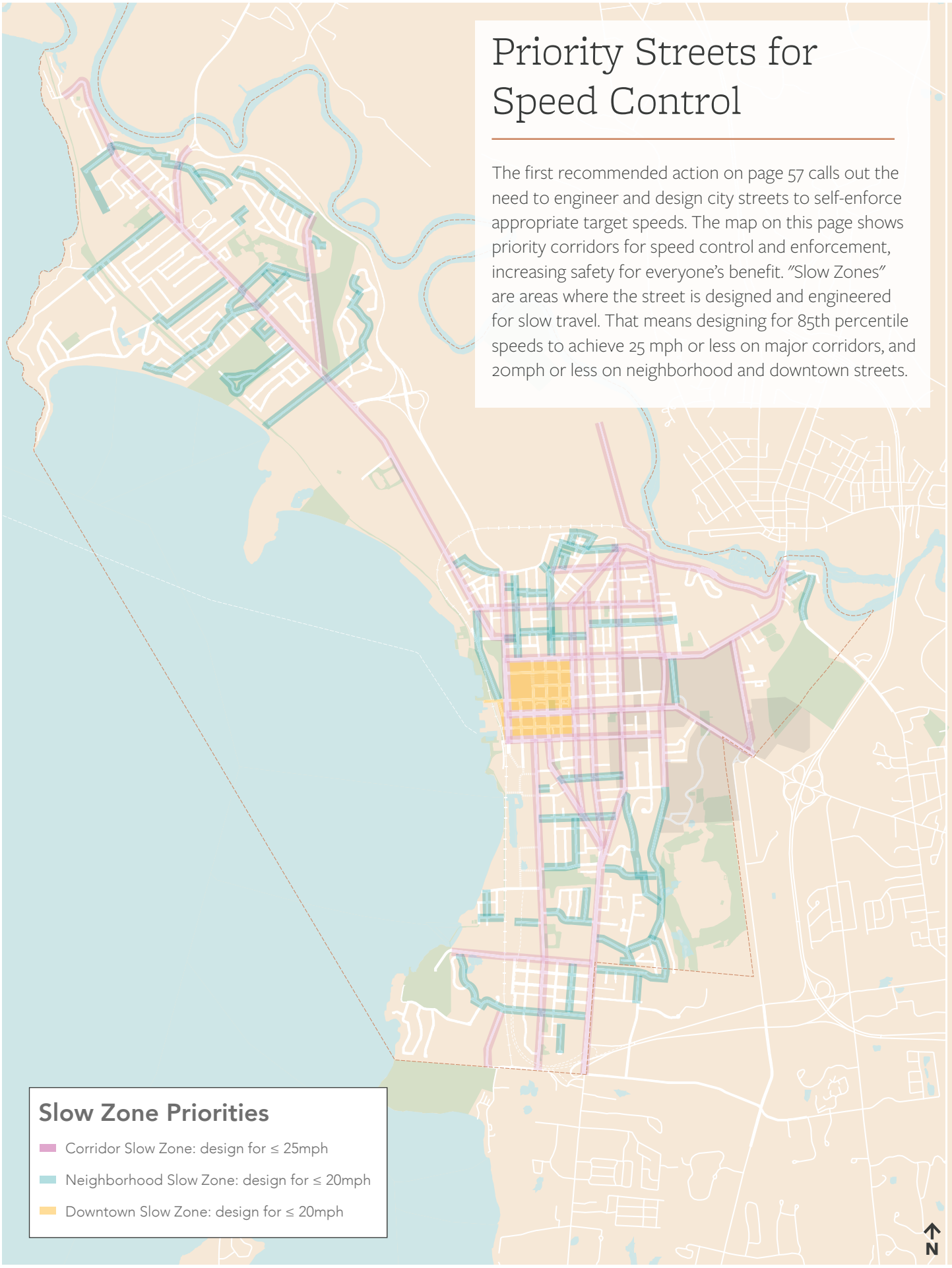
Responsible Parties: DPW, CEDO, local businesses, and private property owners.

THE MULTI-MODAL DAY

The chart below illustrates how public transit, walking and biking can work together to create a "Multi-Modal Day".

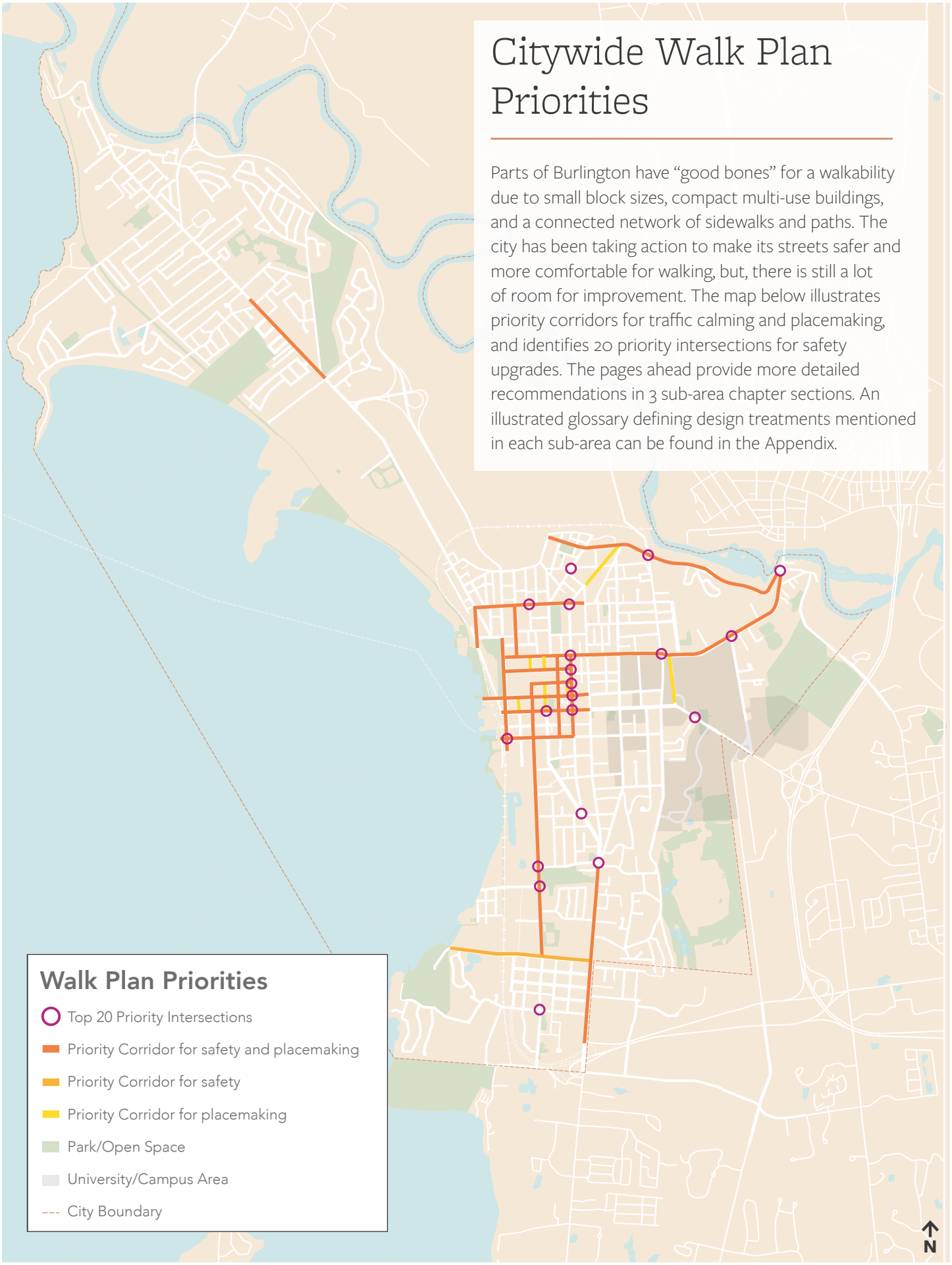
Priority Streets for Speed Control

The first recommended action on page 57 calls out the need to engineer and design city streets to self-enforce appropriate target speeds. The map on this page shows priority corridors for speed control and enforcement, increasing safety for everyone's benefit. "Slow Zones" are areas where the street is designed and engineered for slow travel. That means designing for 85th percentile speeds to achieve 25 mph or less on major corridors, and 20mph or less on neighborhood and downtown streets.



Citywide Walk Plan Priorities

Parts of Burlington have "good bones" for a walkability due to small block sizes, compact multi-use buildings, and a connected network of sidewalks and paths. The city has been taking action to make its streets safer and more comfortable for walking, but, there is still a lot of room for improvement. The map below illustrates priority corridors for traffic calming and placemaking, and identifies 20 priority intersections for safety upgrades. The pages ahead provide more detailed recommendations in 3 sub-area chapter sections. An illustrated glossary defining design treatments mentioned in each sub-area can be found in the Appendix.



Of the 80 crashes at intersections from 2011-2015, more than three quarters (61) of these happened at 17 of the 20 priority intersections listed on the map on the previous page, and in the chart below. The additional three locations in the priority list were added based on public input. Each of these locations has its own story, and deserves further study and research. The City should develop a plan for each intersection, and consider short term/low cost pilots to seek low-cost and rapid interventions. When evaluating options for each intersection, roundabouts and mini traffic circles should be closely considered - roundabouts offer many benefits and can be pilot tested in some scenarios. (See pages 174-175 in the Appendix for more information about roundabout types and potential opportunity sites.) As long-term projects are implemented, the City should continue to work towards upgrading intersections to include ADA accessible features. The chart below summarizes key issues, potential solutions, and next steps for each of the Top 20 Priority Intersections.

Top 20 priority intersections for safety upgrades

LOCATION	KEY PROBLEMS	IDEAS TO CONSIDER	NEXT STEPS
1. Bank and South Winooski	Conflicts at driveway crossings (City Market and Simons gas station); vehicle speed and lighting also factors	Reduce speeds thru lane re-assignment; Land use/urban design/access changes to reduce driveway crossing distances and conflicts.	2016 Corridor Study planned; demos/pilots of curb extensions and lane reassignment while study is developed
2. Archibald and Intervale	Turning traffic failing to yield to pedestrians in crosswalk; lighting; snow removal also factors	Curb extensions or median islands to reduce speeds and enhance visibility	Pilot projects to evaluate options
3. College and South Winooski	Turning traffic failing to yield to pedestrians in crosswalk; lighting; speed also factors	Mini roundabout; reduce crossing distance and/or speeds with curb extensions	2016 Corridor Study; demos/pilots of curb extensions and lane reassignment while study is developed
4. Main and South Winooski	Turning traffic failing to yield to pedestrians in crosswalk; long crossing distance and speed also factor	Advance or exclusive pedestrian phase; roundabout; reduce crossing distance and/or speeds with curb extensions	Great Streets initiative; 2016 Corridor Study; demos/pilots of curb extensions while design is developed
5. Main and St. Paul	Turning traffic failing to yield to pedestrians in crosswalk; long crossing distance and speed also factor	Roundabout; reduce crossing distance and/or speeds with curb extensions	Great Streets Initiative 2016 (Downtown TIF project); demos/pilots of curb extensions while design is developed
6. Riverside: Intervale to Hillside	Conflict points in parking lots and at driveway crossings create unsafe conditions for people walking or biking	Enhance visibility of walkers; reduce speeds to reduce conflicts; land use/urban design/access changes to reduce driveway crossing distances and conflicts	Add pavement markings at conflict points; pilot more robust urban design changes as needed

Top 20 priority intersections for safety upgrades

LOCATION	KEY PROBLEMS	IDEAS TO CONSIDER	NEXT STEPS
7. North St near Murray	Conflicts between vehicles and mid-block crossings or people leaving parked cars. Speed is a factor	Raised-textured intersection to reduce speeds and enhance visibility of pedestrians.	Study/pilot projects needed to determine best approach for traffic calming
8. Loomis at North Prospect	Oncoming or turning traffic fails to yield to crossing pedestrians. Speed is a factor	Curb extensions to reduce speeds and crossing distance, and enhance visibility	Traffic calming project underway for middle block of Loomis Street (2016 design/construction)
9. Pearl and North Winooski	Southbound left turn traffic fails to yield to pedestrians in crosswalk on Pearl.	Exclusive or advance pedestrian phase; Curb extensions to reduce speeds and crossing distance, and enhance visibility	2016 Corridor Study; demos/pilots while study is developed
10. Cherry and South Winooski	Turning or side street traffic failing to yield to pedestrians in crosswalk	Curb extensions across Cherry to increase visibility and reduce crossing distance; roundabout; advanced pedestrian phase	2016 Corridor Study; demos of curb extensions while study is developed
11. North Winooski at North	Turning vehicles from Winooski failing to yield to pedestrians crossing North	Exclusive or advance pedestrian phase; Curb extensions to reduce speeds and crossing distance, and enhance visibility	2016 Corridor Study; demos/pilots while study is developed
12. Lakeside and Pine	Lack of crossing phase; turning vehicles failing to yield to pedestrians in crosswalk	Pedestrian crossing signal with advanced or exclusive phase; Corner truck aprons	Crossing signals installed 2015/2016. Champlain Parkway-intersection reconstruction
13. Barrett and Colchester	Turning traffic failing to yield to pedestrians in crosswalk	Exclusive or advance pedestrian phase; Curb extensions to reduce speeds and crossing distance, and enhance visibility Roundabout for long term safety and operations	Pedestrian signals already planned for installation (year?) Intersection Scoping Study in progress. Use demos/pilots while study is developed.

Top 20 priority intersections for safety upgrades

LOCATION	KEY PROBLEMS	IDEAS TO CONSIDER	NEXT STEPS
14. East Ave and Colchester	Turning traffic failing to yield to pedestrians in crosswalk	Mid-block, median-protected crossings to the west of this intersection will reduce crossings at intersection, Roundabout for speed management and safety	2011 Corridor Study reviewed this intersection. Scoping is recommended.
15. Pine and Locust	Turning traffic failing to yield to pedestrians in crosswalk; speed is a factor	Curb extensions to reduce crossing distance and improved visibility of crossing pedestrians; roundabout	Champlain Parkway project in progress. Demos/interim treatments recommended until reconstruction begins.
16. Shelburne Rotary	Turning traffic failing to yield to pedestrians in crosswalk	2021 roundabout construction planned	Implement interim design measures (See Appendix for details)
17. Shelburne and Home	Turning vehicles failing to yield to pedestrian in crosswalk	Reducing speeds, reducing crossing distances, advanced or exclusive pedestrian phase	Future Corridor Study planned (not programmed yet)
18. Maple/Battery	Lack of pedestrian signals; Turning traffic failing to yield to pedestrians in crosswalk	Reduce distances with curb extensions; exclusive pedestrian phase	Pedestrian signals, upgraded curb ramps / sidewalk access improvements to be installed 2016/2017.
19. Main/University Heights	High speeds, high volumes of vehicles, pedestrians and bicycles on regional corridor.	Enhancements to increase visibility of signal and crossing; change signal cycle; wider median refuge	Scoping study 2016
20.Howard/St Paul/ Winooski	Lack of pedestrian signals, long signal cycle, turning traffic failing to yield to pedestrians in crosswalk	Curb extensions to reduce crossing distances; exclusive or advance pedestrian phase	Scoping study planned for Howard/St Paul/ Winooski in 2016. Pilot test alternatives during scoping.

From Pilot to Permanent

Burlington can start improving safety now with low-cost materials. Along with other parts of this plan, the charts on the previous pages make suggestions for use of pilot projects to evaluate and advance proposed design changes. So, how much can a quick, temporary project really do for a neighborhood? As the case here suggests... quite a lot!

The City of Palo Alto Transportation Division used a 3-month pilot project to evaluate the merits of a neighborhood traffic circle in a residential neighborhood. The project arose as a response to community concerns about safety at the intersection of two streets heavily used by kids biking to school. Parents in the neighborhood raised concerns that the intersection was unsafe: though one of the streets, Coleridge Ave., had a stop sign in place at each edge of the intersection, the other street allowed free flowing traffic, making it difficult for children to cross safely.

Parents and local neighbors originally requested stop signs at the intersection, but after the city's analysis ruled out this option, the Transportation Division began searching for other solutions. The city identified a neighborhood traffic circle as one option for addressing community concerns. A small, neighborhood-level traffic calming project of this nature didn't warrant a full 1-year public outreach process, and the city felt that a pilot may be a more effective way to evaluate the concept and gather public input.

An on-call traffic consultant created the design for the traffic circle using bolted down rubber curb stops-- that the city already had on hand-- four type 1 barricades with traffic circle signs attached, and yellow traffic paint. The type 1 barricades were used to temporarily hold the traffic circle signs, but were quickly upgraded to delineators once available. A sign on the street corner also clearly stated the name and duration of the pilot project and invited people to call or email with questions or concerns. There have been no complaints from the community thus far, and Safe Routes to School leaders of the nearby school reported very positive feedback.

The City of Palo Alto now plans to move forward with a permanent traffic circle in July of 2016, to be built with a mountable concrete curb with dirt and landscaping in the middle. The permanent project

This process of testing traffic safety projects has been a success for the City of Palo Alto: it has helped the City gather community input, while immediately improving safety at the intersection using temporary materials. The pilot has also enabled a permanent traffic circle to be built in only four months time.

Building the Long-term (15 yr) Bicycle Network

The following page outlines the long-term vision for a fully connected bicycle network that appeals to people of all ages and abilities.

Of course, this network will not be built overnight. The diagrams on this page show how infrastructure can be improved incrementally, building on Burlington's existing base of bikeways and paths over the next 15 years to achieve the network illustrated in the long-term map. Starting on page 74, the plan will zoom in on 3 sub-areas of the City and describe recommended projects for each area.

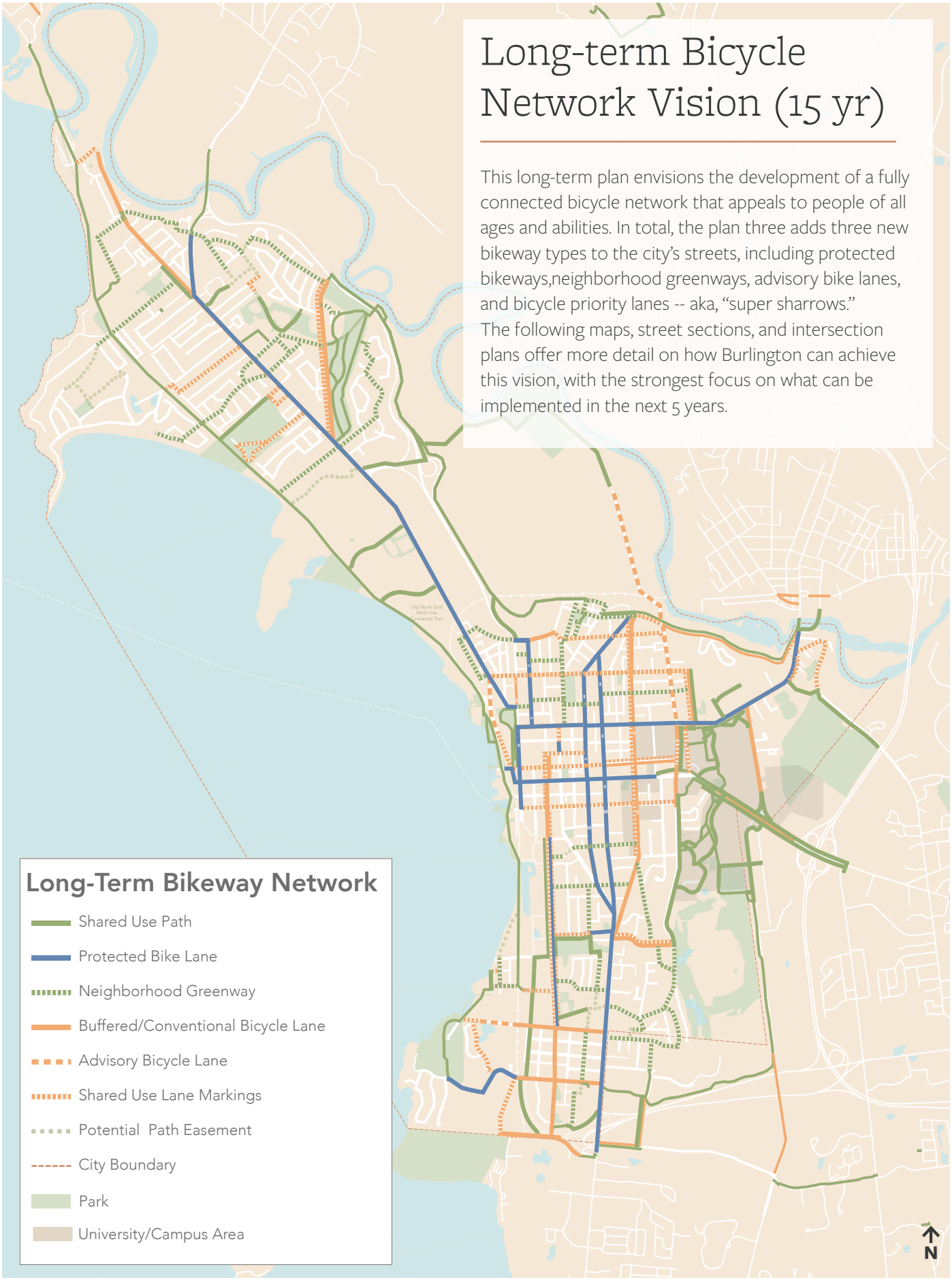
EXISTING BICYCLE NETWORK

PROPOSED 5-YR BICYCLE NETWORK

PROPOSED LONG TERM BICYCLE NETWORK

Long-term Bicycle Network Vision (15 yr)

This long-term plan envisions the development of a fully connected bicycle network that appeals to people of all ages and abilities. In total, the plan three adds three new bikeway types to the city's streets, including protected bikeways,neighborhood greenways, advisory bike lanes, and bicycle priority lanes -- aka, "super sharrows." The following maps, street sections, and intersection plans offer more detail on how Burlington can achieve this vision, with the strongest focus on what can be implemented in the next 5 years.



TO MAXIMIZE BENEFITS OF WALK/BIKE INVESTMENTS, WE MUST CREATE STREETS THAT WORK FOR PEOPLE OF ALL AGES AND ABILITIES

Imagine you are skiing down a mountain for the first time in years. You're a bit unsure on your skis, so you start with an easy trail marked with a green circle. Halfway down the mountain, the trail dumps you into a black diamond run - a section of steep and bumpy terrain only appropriate for experts. Assuming you make it to the bottom in one piece, you'd likely want to call it a day and head into the lodge for some cocoa. And, you'd probably vow never to return to that resort again!

The same is true for walking and biking. Burlington has some exemplary shared-use paths, but it lacks a connected network of bikeways and safe intersections to help people get to them. Burlington also has bike lanes in place, but they are not part of a continuous network, and none are protected. Let's face it, a stripe of white paint isn't enough to make a busy street a comfortable place to bike for everyone. People judge a potential journey on foot or on bike by the most challenging section of the route. If part of a trip requires people to ride in heavy traffic or cross a busy road without a safe intersection it's not a "low stress" experience. Riders and walkers who are less confident are not going to do it more than once.

While Burlington works to become a more walkable and bikeable community, it is important that we not lose sight of who we are planning for. We are not working to simply create more recreational opportunities for strong and fearless walkers and riders. We are responding to a significant demographic and behavior shift, meeting the demand for a community where walking and biking are as efficient, safe, and comfortable as driving a car. And, in order to do that, we need to create streets that work for people of all ages and abilities.

Imagine if a ski resort had an easy run that suddenly dumped inexperienced skiers into a black diamond trail, only appropriate for experts. People wouldn't go to that resort more than once!

The same principle applies to walking and biking. For walking and biking to be viable modes of transportation, Burlington must create continuous pedestrian and bicycle networks that work for people of all ages and abilities.

LET'S BUILD A NETWORK THAT WORKS FOR ISABELLA*

Isabella is 12 years old. Like most girls her age, she is exploring her independence. She wants to travel around town with her friends and bike to school, the library, and Church Street Marketplace. She's ready to travel her world by bike, but is the network ready for her? She likes to ride, but she is small and her skills aren't fully developed. She's sometimes a little wobbly and it's hard for her to see over parked cars near intersections.

To ride safely around her world, Isabella needs a low-stress, connected bike network. And, if we build a network that works for Isabella, wouldn't it work beautifully for the rest of us too?

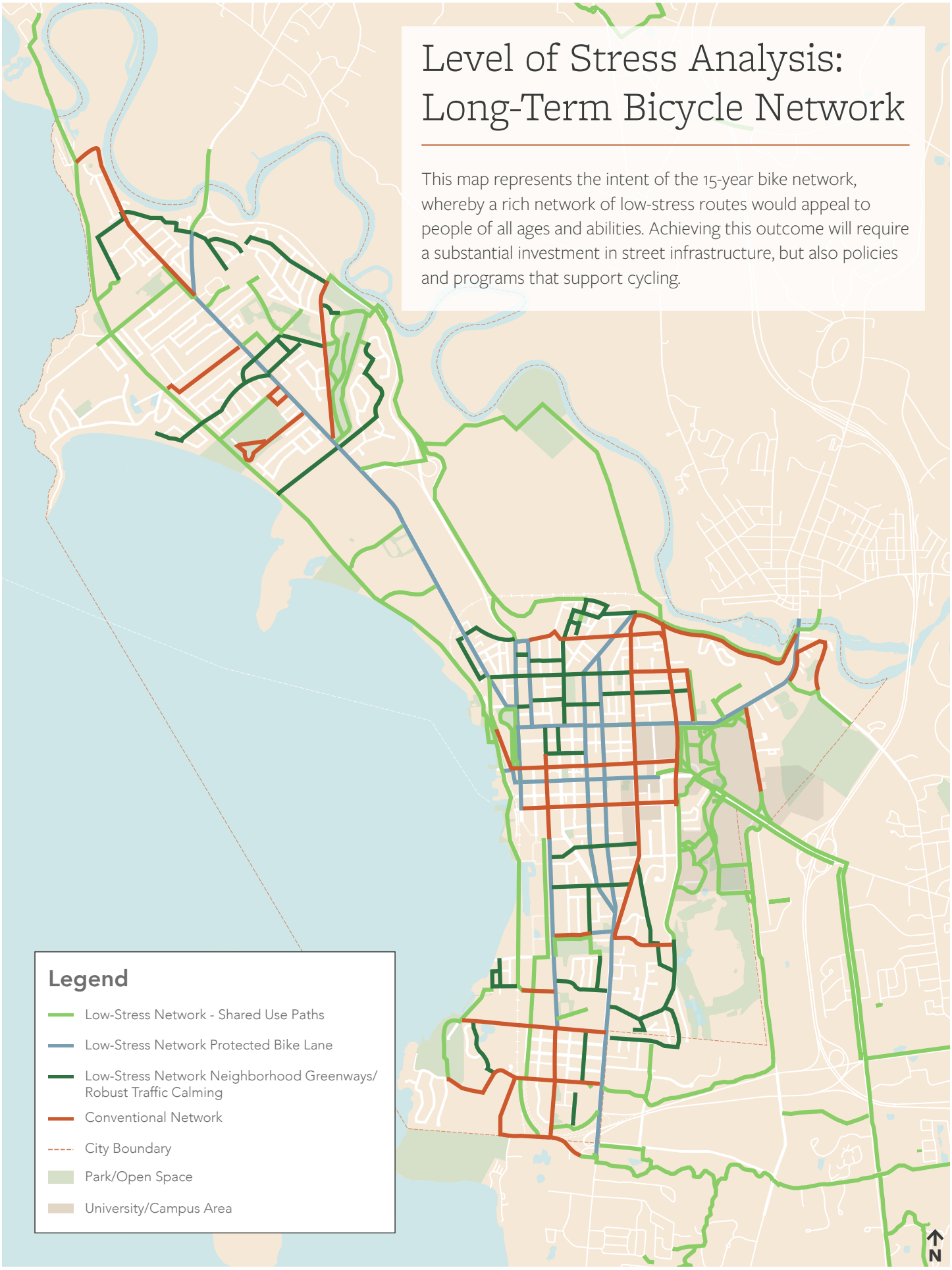
** Ski Route analogy, Isabella image and text developed by People for Bikes, as part of The Green Lane Project: http://www.peopleforbikes.org/green-lane-project*

Level of Stress Analysis: Existing Bicycle Facilities

This map represents existing low-stress bicycle connections. While some low-stress facilities do exist, they do not connect in any reliable way. For walking and biking to be viable modes of transportation, Burlington must create continuous pedestrian and bicycle networks that work for people of all ages and abilities.

Level of Stress Analysis: Long-Term Bicycle Network

This map represents the intent of the 15-year bike network, whereby a rich network of low-stress routes would appeal to people of all ages and abilities. Achieving this outcome will require a substantial investment in street infrastructure, but also policies and programs that support cycling.



Zooming in: Existing Conditions and Recommendations

This section of the plan will present details of existing conditions, followed by recommendations for both the walk and bike mode. To allow us to zoom in on challenges and responses at a neighborhood level, this section is divided into three "sub-areas":

- Sub-Area 1: New North End
- Sub-Area 2: Downtown | Old North End | Campus Area
- Sub-Area 3: South End

Each Sub-Area section will explore existing conditions and present maps with recommendations for walk and bike projects. These maps are followed by section and plan view drawings to illustrate options for a selection of the recommended projects. The Illustrated Glossary of Safe Streets Treatments in the Appendix provides more detail about the facility types and treatments recommended in the pages ahead. For intersections not discussed in the Top 20 chart in Chapter 3, refer to the Project Bank in the Appendix to see how treatments in the Glossary may be applied to the specific location.

SUB-AREA 1:

NEW NORTH END

Note: Dotted white street lines indicate conceptual street connections that have been discussed in other city or regional plans.

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EXISTING CONDITIONS SUMMARY

Most of the New North End was developed in the latter half of the twentieth century, after Burlington's more historic districts were established, closer to the downtown core.

The New North End is home to nearly one-third of Burlington's population. There are many older adults living in the New North End - this area represents AARP's largest membership base in Burlington. Younger people and families are also moving into the area at a significant rate, and there are four schools in the sub-area.

North Avenue acts as the major spine of the New North End, and the neighborhood is home to several major recreational destinations including Ethan Allen Park, Leddy Park, North Beach Park, and the Island Line Trail. Ethan Allen Shopping Center on North Avenue is a major commercial destination. The North Avenue Corridor Study's Health Impact Assessment estimates that approximately 45% of New North End households could walk or bike to Hannaford, the only full service supermarket within the study area, if safe, inviting infrastructure were present. Land use patterns in the New North End are less compact than in other parts of Burlington, and connectivity is mixed. Some residential neighborhoods follow a "cul-de-sac" style development pattern and lack direct connections to nearby streets, parks, and commercial areas. In some cases, informal foot paths have emerged through parks and green spaces to enhance connectivity, such as between Gosse Court and James Avenue.

Though several new crosswalks are in the works, connectivity is reduced by significant gaps in crossings along North Avenue.

Though the New North End features shared use paths along Route 127, at the waterfront, and in parks, bikeway infrastructure is very limited. There are no marked bikeway connections to allow New North End residents to safety travel from their homes to the great trails and parks in the neighborhood. North Ave. and other neighborhood streets lack bike lanes of any kind. As a result, people frequently ride on the sidewalk, reducing pedestrian safety and comfort.

12-Month Priority Action List

START NOW!

Ongoing projects to continue:*

1 PILOT TEST NORTH AVENUE BIKEWAY OPTIONS

Pilot test and evaluate buffered/protected bikeway treatments along North Avenue, between Shore Road and Plattsburg Avenue; VT-127 and Institute Road; and Institute Road and Berry Street. For protected segments, test vertical post delineators and "armadillos" for durability, protection, and aesthetics. This pilot will include a 4-to-3 conversation of North Avenue between VT-127 and Shore Road, planned for implementation in the Summer of 2016. Pending results of the 2016 Pilot Project, add protected/conventional/buffered bike lanes on North Avenue where feasible.

2 STRIPE NEW CROSSWALKS ACROSS NORTH AVENUE

Stripe five additional high-visibility crosswalks across North Avenue at Ward Street, Burlington College, Village Green / Killarney Drive, Gosse Court, and Green Acres Drive / Cayuga Court. This project is funded for 2017 Construction.

3 BURLINGTON BIKE PATH RENOVATION (CITYWIDE)

The City is currently working on enhancing the Burlington Bike Path through a multi-phase rehabilitation project led by Burlington Parks, Recreation, and Waterfront. The project proposes the rehabilitation of the approximate 8 mile multi-use path that runs along the Lake Champlain waterfront. Project limits extend throughout the entire city beginning with the southern terminus at the path intersection with Queen City Park Road and extending north to the Winooski River Bridge.

New projects:

4 IMPROVE CONNECTION BETWEEN NORTH AVENUE AND GOSSE COURT.

Add shared use path pavement markings and signs to Woodbury Road/Hunt Middle School driveway, connecting North Avenue and Gosse Court.

5 LEDDY PARK BIKEWAY CONNECTOR

Add shared lane markings in both directions on Leddy Park Road.

**Note that ongoing project lists include major projects with significant impact to the network of walkable, bikeable streets and intersections. Additional projects are in progress. These lists are not intended to be comprehensive.*

Sub-Area 1: 5-Year Action Plan

Major Community Destinations

- Public School
- University Area
- Park
- Area within 5-min. walk of Neighborhood Center

Planned Projects

- Crossing Upgrade - Already Funded for Construction

Existing Bikeways/Paths

- Shared Use Path
- Existing Informal Path
- Conventional Bike Lane
- Shared Use Lane Markings

Proposed Walk Projects

- Recommended New Sidewalk
- 12-mo Intersection or Crossing Upgrade
- 5-yr Intersection or Crossing Upgrade

Proposed Bikeways/Paths

- Shared Use Path
- Protected Bike Lane
- Neighborhood Greenway (includes Traffic Calming)
- Buffered/Conventional Bike Lane
- Advisory Bike Lane
- Shared Use Lane Markings with Traffic Calming
- Potential Path Easement

Note: Dotted white street lines indicate conceptual street connections that have been discussed in other city or regional plans.

LIST OF RECOMMENDED PROJECTS TO BE IMPLEMENTED IN THE NEXT 2-5 YEARS

Please see map on previous page for additional details.

Project Name	Proposed Action
Crescent/Shore Greenway	Shared lane markings and traffic calming
Farrington Parkway Greenway	Shared lane markings and traffic calming
Gosse Court Greenway	Shared lane markings and traffic calming
Marshall Drive Greenway (Gosse to Heineberg)	Shared lane markings, green infrastructure and traffic calming
North Ave Intersection Safety	High visibility crosswalks, curb extensions with epoxy/sand, flexposts or other creative materials (at Shore, Cottage Grove, Poirier, Saratoga, and Institute)
Old North End Multiuse Connector Trail	Shared use path between North Ave and Island Line Trail
Plattsburg Ave. Bikeway	In the short term, mark and sign conventional bike lanes (with more robust treatment coming in the long-term)
Starr Farm Road Sidewalk	Add new sidewalk
Venus Ave Connector	Begin planning for neighborhood connector between Venus Ave. and Sandra Cir.
Western Ave Sidewalk	Add new sidewalk

Sub-Area 1: Long Term Plan

Major Community Destinations

- Public School
- University Area
- Park
- Area within 5-min. walk of Neighborhood Center

Planned Projects

- Crossing Upgrade - Already Funded for Construction

Existing Bikeways/Paths

- Shared Use Path
- Existing Informal Path
- Conventional Bike Lane
- Shared Use Lane Markings

Proposed Walk Projects

- Recommended New Sidewalk
- 12-mo Intersection or Crossing Upgrade
- Intersection or Crossing Upgrade

Proposed Bikeways/Paths

- Shared Use Path
- Protected Bike Lane
- Neighborhood Greenway (includes Traffic Calming)
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- Shared Use Lane Markings with Traffic Calming
- Potential Path Easement

Note: Dotted white street lines indicate conceptual street connections that have been discussed in other city or regional plans.

Shore Road Neighborhood Greenway

The plan view drawings on the following pages illustrate recommended treatments for a neighborhood greenway along Shore Road and Crescent Beach Drive in Burlington's New North End. Typically applied to residential streets with low vehicle volumes and speeds, neighborhood greenways use traffic calming measures (such as chicanes, diverters, or mini roundabouts) to emphasize priority for people walking or biking. Through use of greening elements (such as the rain garden curb extensions shown below), neighborhood greenways can also improve stormwater management, beautify the street, and increase public life along neighborhood streets.

The proposed Shore Road neighborhood greenway would provide a low-stress connection between the waterfront, Island Line Trail, St. Marks Catholic Church, North Avenue bikeway, Hunt Middle School, Smith Elementary, and Ethan Allen Park trails, and the 127 Bike Path via bikeways proposed for Ethan Allen Parkway.

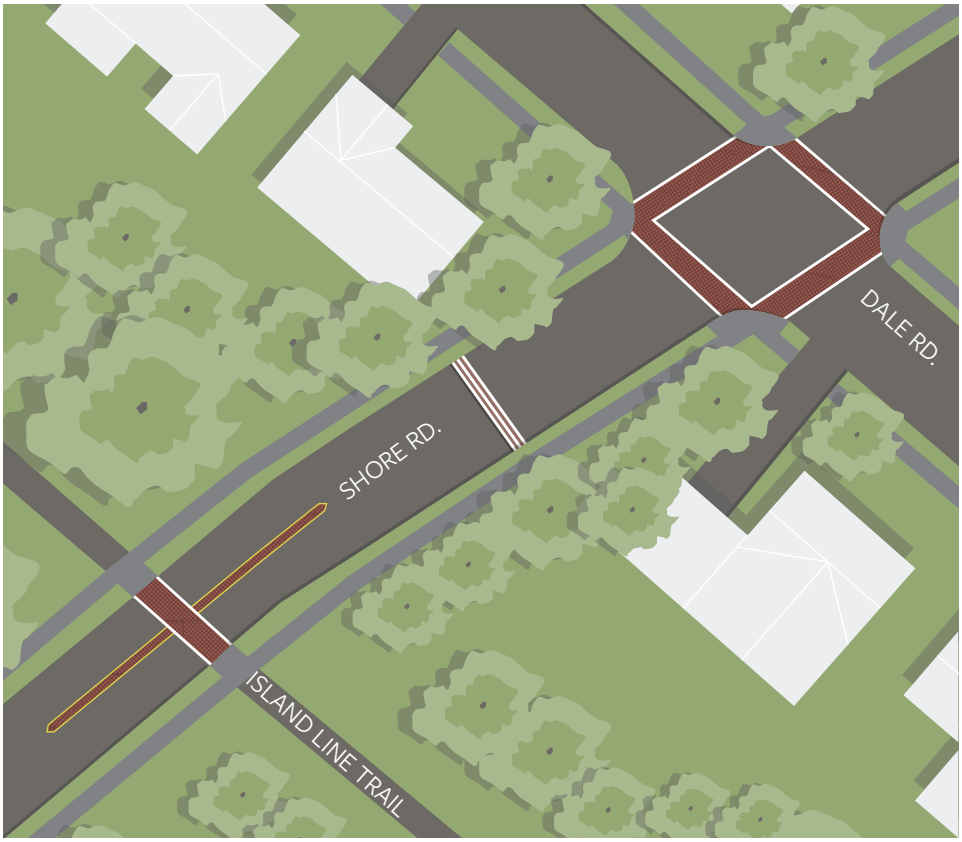
EXISTING CONDITIONS

Crescent Beach Drive is a low-volume, residential street, appropriate for neighborhood greenway traffic calming treatments. While curbside parking is permitted, residences on the street have ample parking options in driveways and attached garages. The street provides access to public waterfront facilities at the western edge.

PROPOSED GREENWAY

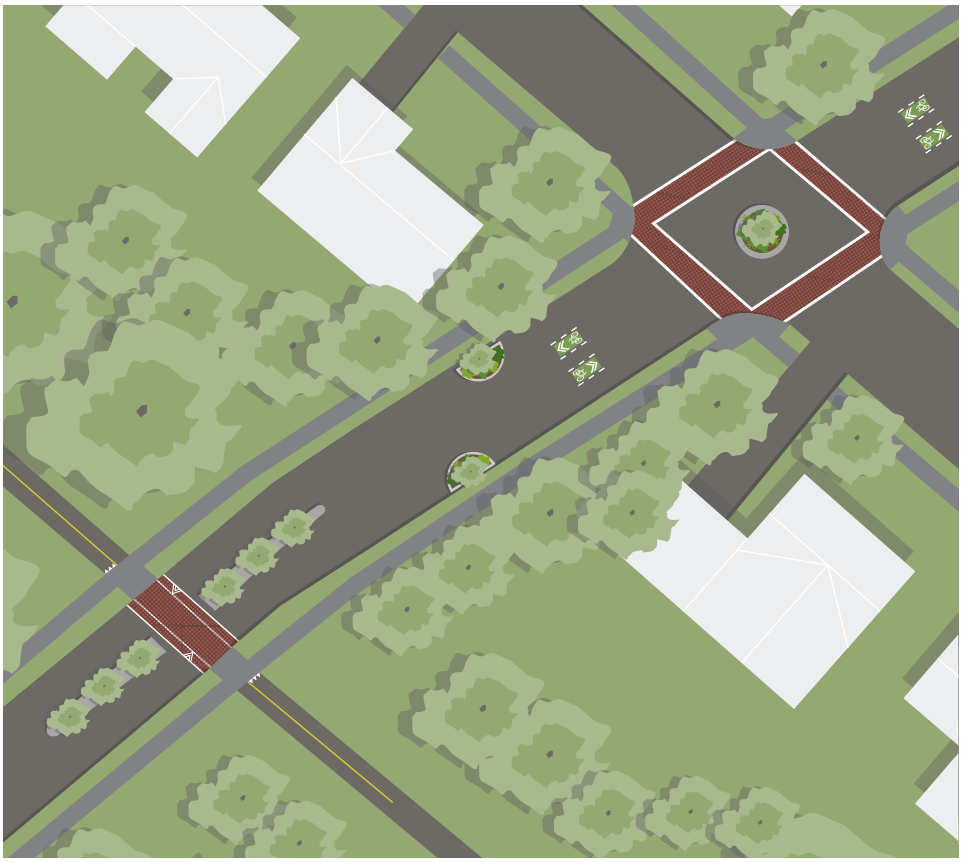
Rain garden curb extensions calm traffic and help manage stormwater, while adding beauty and greenery to the street.

Highly-visible, green "super sharrow" markings indicate that people on bikes and people driving are to share the same lane. The sharrows also function to recommend proper cyclist positioning in the lane and provide wayfinding along the greenway route.



EXISTING CONDITIONS

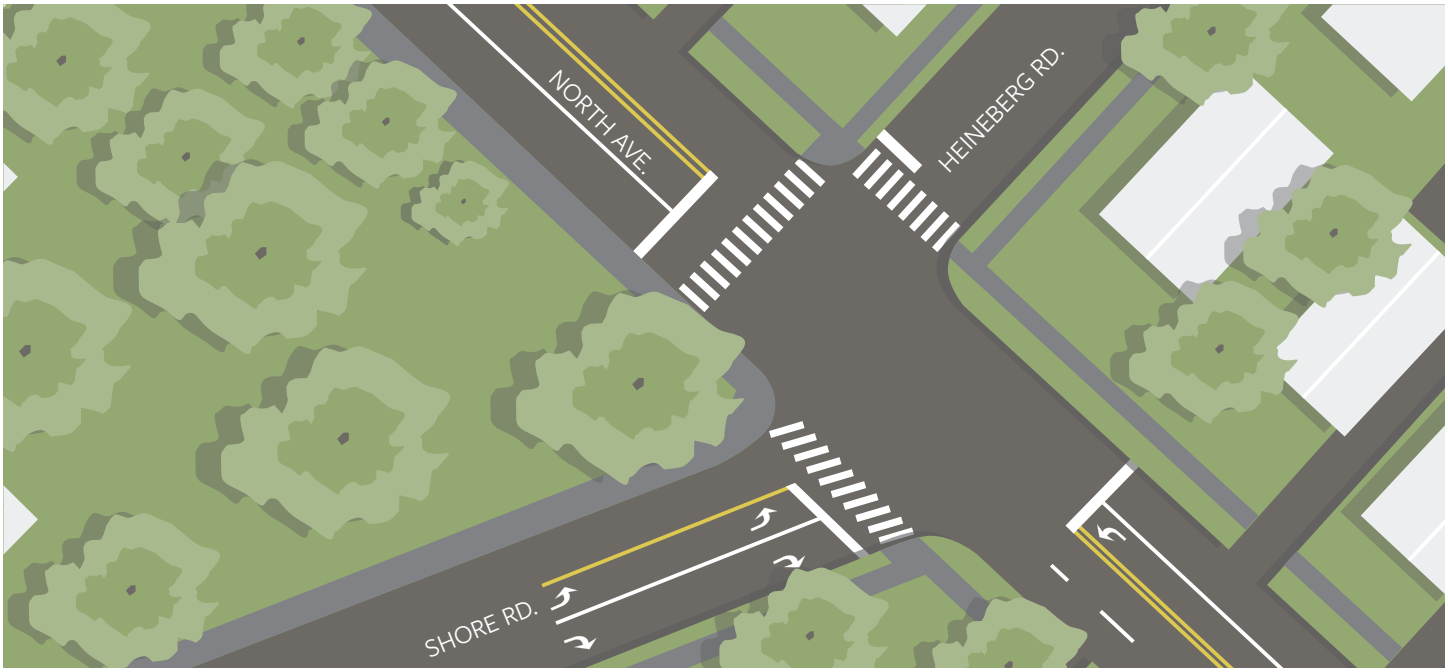
Shore Road is a low-volume, residential street. Curbside parking is permitted but not often needed, as most homes have driveways and attached garages. Shore Road lacks striping but features some traffic calming measures, such as small speed bumps and crosswalks. The Island Line Trail crosses Shore Road just south of the Dale Road intersection.



PROPOSED GREENWAY

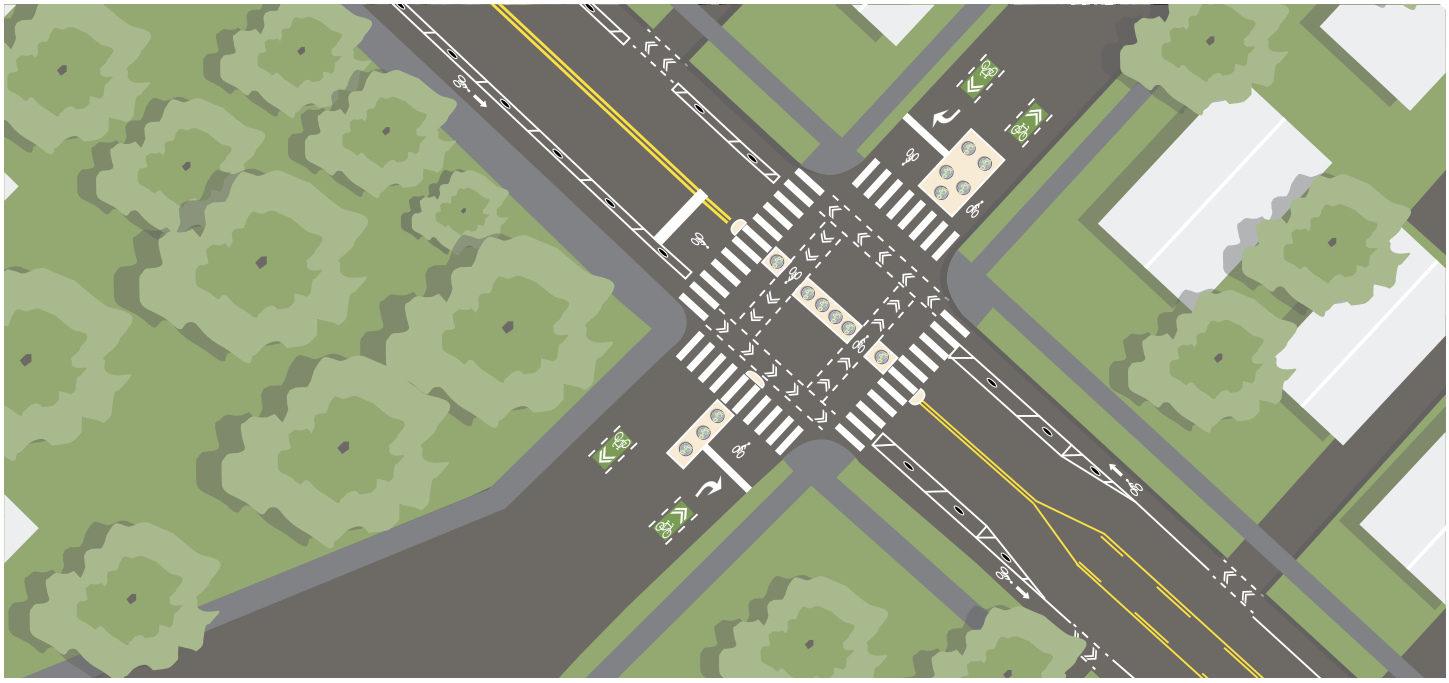
Neighborhood greenway treatments would send a strong message that Shore Road is a priority street for people walking and biking. Recommended treatments include:

- A neighborhood traffic circle at Dale Road.
- Chicanes with greenery to calm traffic, help manage stormwater, and add beauty to the street.
- Median enhancements, adding trees and greenery.
- Highly-visible, green "super sharrow" markings to indicate a shared lane condition, recommend proper cyclist positioning in the lane, and provide wayfinding.
- Raised crossing to improve safety and visibility where the trail crosses Shore Road.
- Trail striping for lateral positioning and yield markings where the trail approaches the sidewalk.



SHORE ROAD GREENWAY AND NORTH AVENUE INTERSECTION: EXISTING CONDITIONS

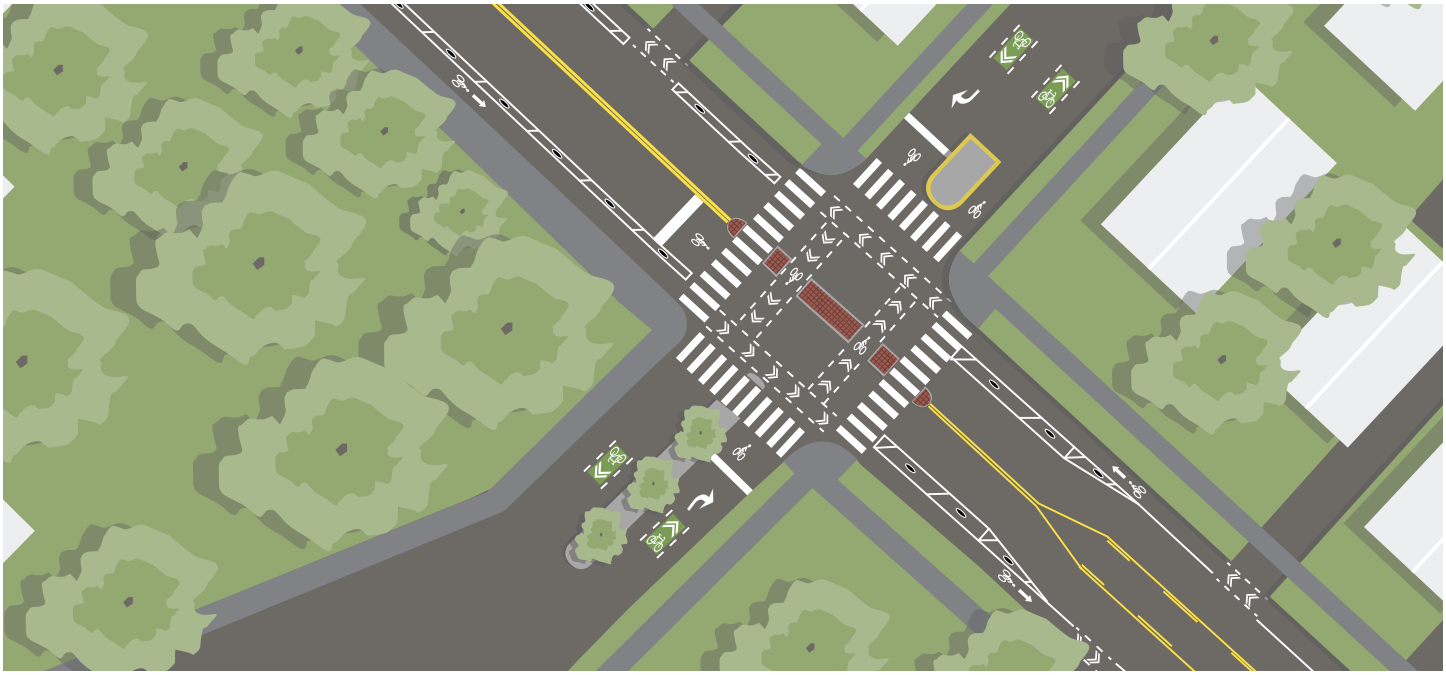
For the Shore Road neighborhood greenway to provide the desired low-stress connectivity benefits, the intersection of Shore Road, North Avenue, and Heineberg Road must be upgraded. The North Avenue Corridor Study proposes a concept which would relocate a portion of Shore Road to better align with Heineberg Road. Implementation of this concept is dependent on right-of-way donation from St. Mark Church, as the church property would be impacted.



SHORE ROAD GREENWAY AND NORTH AVENUE INTERSECTION: PROPOSED PILOT IMPROVEMENTS

- Turn lane restrictions and a bike box on Shore Road
- Crossbike intersection markings across North Avenue
- Median upgrades on North Avenue and Heineberg Road
- A bike box and super sharrow markings on Heineberg Road

These drawing above shows how protected bikeway treatments could dovetail with the potential re-alignment of Shore Road in the future (re-alignment information is based on concept drawings from the North Avenue Corridor Study).



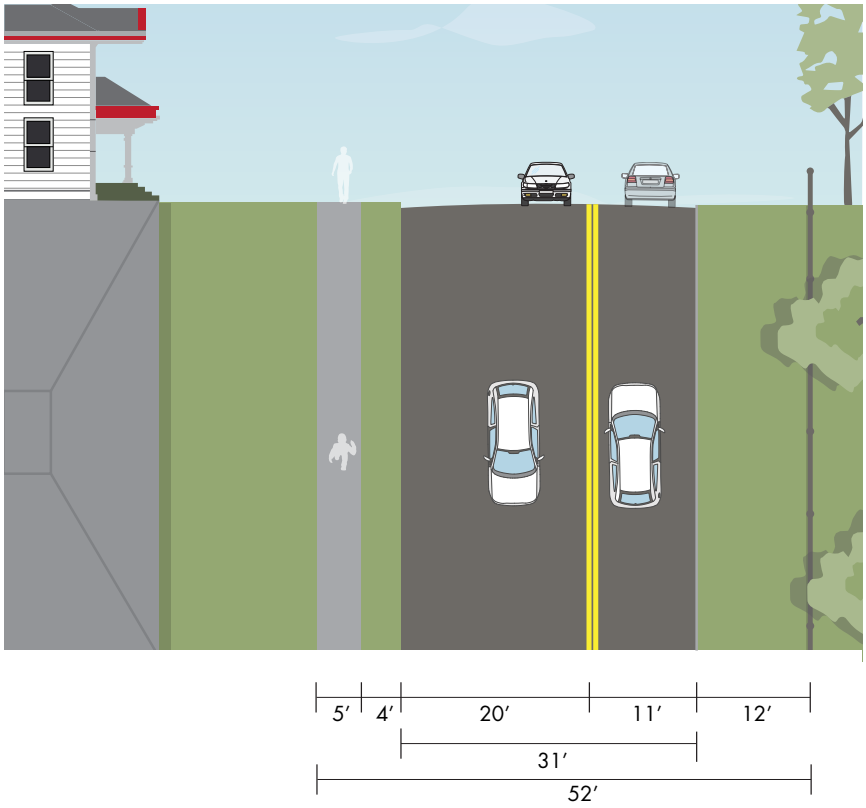
SHORE ROAD GREENWAY AND NORTH AVENUE INTERSECTION: PROPOSED

Based on results of the pilot phase, long-term build out of intersection upgrades at a re-aligned Shore Road, North Avenue, and Heineberg Road intersection would involve:

- Robust median upgrades where Shore Road meets North Avenue, with new street trees to calm traffic and add beauty.
- A bicycle box at North Avenue to provide cyclists with a safe space to wait at a red light.
- Crossbike markings to indicate the designated space for bicycle movement across North Avenue.
- Robust median upgrades on North Avenue providing a pedestrian refuge island at the crosswalk.
- A permanent protected bike lane on North Avenue
- Bikeway markings at conflict points along North Avenue, such as at driveways.
- A median diverter and bicycle box where Heineberg Road meets North Avenue.

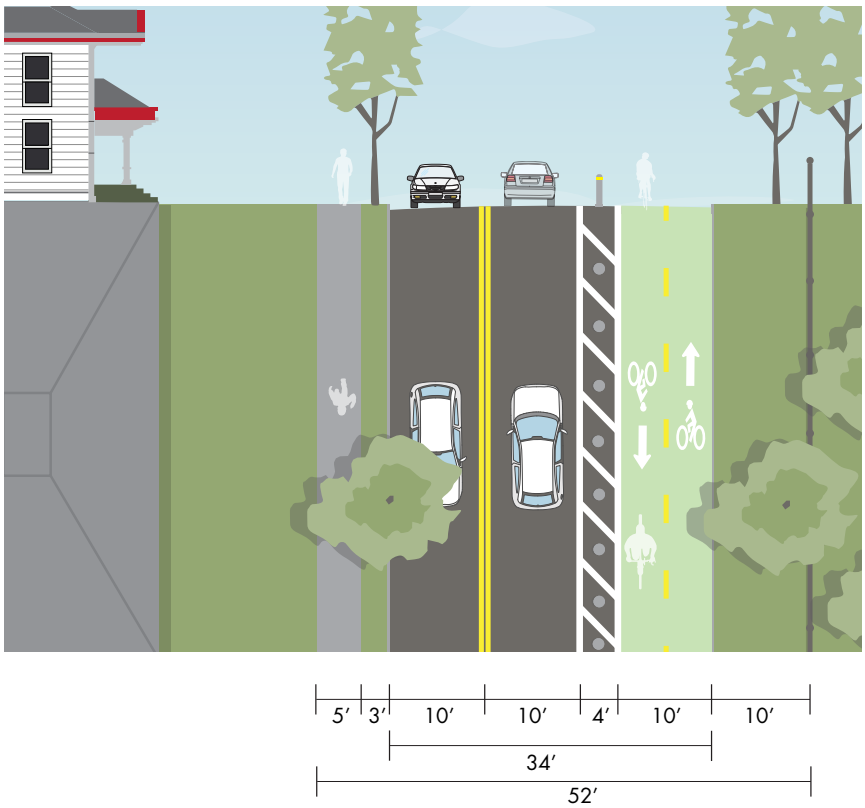
Plattsburg Avenue Two-Way Protected Bike Lane

The following pages outline a proposal for a two-way protected bicycle lane on Plattsburg Avenue. The bike lane would provide a key connection between Burlington and Colchester. Plattsburg Avenue connects residential neighborhoods in the New North End with North Avenue, providing access to: JJ Flynn Elementary School; a neighborhood greenway proposed for Rivers Edge Drive / Sunset Drive; and an existing trail that connects Plattsburg Avenue to the Heineberg Drive/127 Bridge into Colchester.



EXISTING CONDITIONS

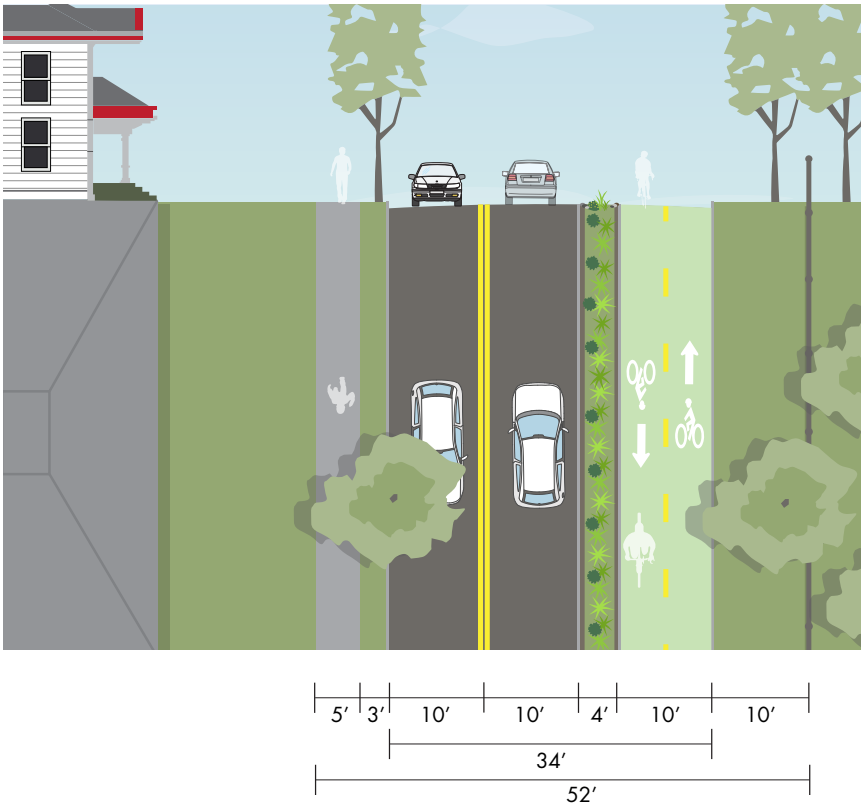
Plattsburg Avenue features two-lane traffic with a curbside parking lane on the west side of the street. Homes on the street typically feature driveways and garages for resident parking. The New Mount Calvary Cemetery on the east side of the street provides a continuous wall with no curb-cuts.



OPTION 1

Widen and re-stripe Plattsburg Avenue to remove the parking lane and move vehicle travel lanes to the west. This makes space for a two-way protected bicycle lane on the east side, which should be a minimum of 10 feet wide. This option is a moderate cost alternative when compared to Option 2 on the following page: it can be created by repurposing part of the greenbelt and then using low-cost materials such as paint and bollards to create the bikeway.

Existing conditions on Plattsburg Avenue, looking north east.



OPTION 2

In option 2, the bicycle lane is separated from the vehicle travel lane by a planted greenbelt or linear rain garden. Again, the lane should be a minimum of 10 feet wide. The planter treatment will help manage stormwater and add greenery and beauty to the street.

SUB-AREA 2: DOWNTOWN | OLD NORTH END | CAMPUS AREA

Note: Dotted white street lines indicate conceptual street connections that have been discussed in other city or regional plans.

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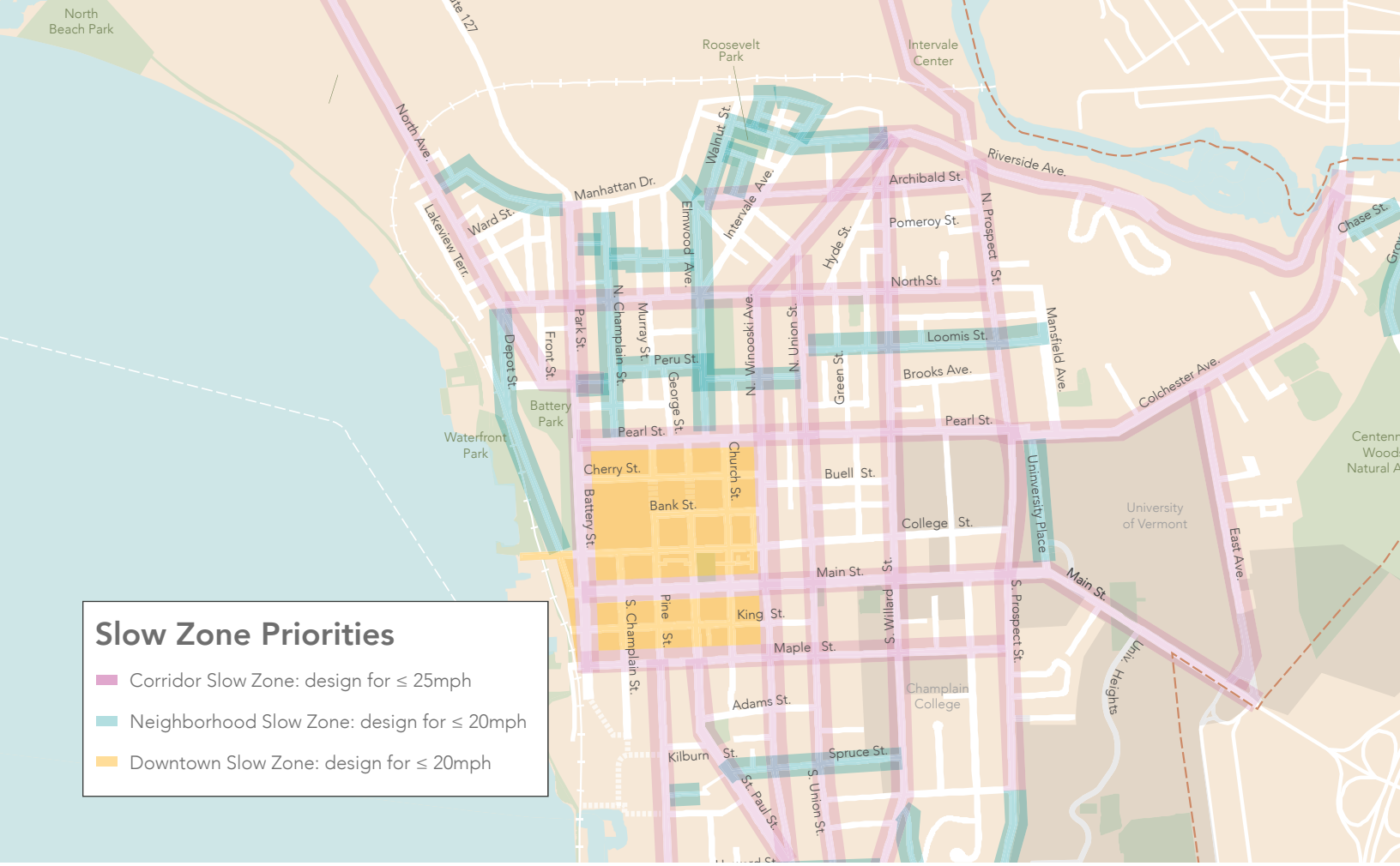


EXISTING CONDITIONS SUMMARY

The Downtown | Old North End | Campus Area sub-area represents Burlington's most compact land use patterns, especially in the historic downtown core.

This sub-area contains many major generators of walk/bike traffic, including campuses for the University of Vermont and Chaplain College. Downtown Burlington is home to hundreds of retail businesses, and neighborhood activity centers, such as North Street in the Old North End, also serve important commercial functions in the sub-area. Major recreational facilities, such as Battery Park and Waterfront Park are an attraction for tourists and residents alike.

In part due to the presence of two large universities, the population in the Downtown | Old North End | Campus Area sub-area is young compared to other parts of the city. Single person households, and non-related groups living together make up a significant segment of the population, reflecting a strong base of young professionals. This sub-area also has a high percentage of renter households.

This sub-area is often considered the most walkable area of Burlington due to its well-connected sidewalk network and high level of intersection density. The sub-area also contains the highest concentration of on-street bike infrastructure. Still, connectivity is an issue. In some areas, poorly maintained sidewalks and unsafe intersections reduce walkability. And, though bike lanes do exist on some streets, they do not connect or form any type of continuous network. Safety is another major concern in this sub-area. The vast majority of crashes involving people walking or biking take place here. Seventy-five percent of the top 20 priority intersections are located in this sub-area, further underscoring the need for improved walk and bike infrastructure.

Given the high concentration of commercial areas, recreational facilities, and major institutions, bicycle parking is particularly important in this sub-area. Current bicycle parking resources in Downtown | Old North End | Campus Area do not meet demand, and the recommendations in the Bike Parking Action Plan note a number of strategies to ameliorate this problem.

12-Month Priority Action List

START NOW!

Ongoing projects to continue:*

1. **COLCHESTER AVENUE SIDEPATH WIDENING**
   Funded for 2017 Construction.

2. **CONNECTORS THROUGH BURLINGTON TOWN CENTER**
   Create connections through Burlington Town Center at Pine and St Paul Streets. Ongoing project subject to development agreement, eligible for Downtown TIF funding.

3. **MAIN STREET STREETSCAPE REDESIGN**
   Dubbed the "Great Streets Project" this project involves planning for a streetscape redesign on Main Street from Battery to Union. The project is funded through the Downtown TIF and Great Streets Project funding. Funding for construction is currently available for the Church to Pine street segment of the project.

4. **MAPLE AND BATTERY INTERSECTION IMPROVEMENTS**
   Crossing improvements planned at this intersection will be implemented in 2016/2017.

5. **SAINT PAUL ST. STREETSCAPE IMPROVEMENTS (INCLUDING THE MAIN ST. /ST. PAUL INTERSECTION)**
   This two-block streetscape improvement (stretching from Maple to Main street) is funded through the downtown TIF program.

6. **ONGOING TRAFFIC CALMING PROJECTS**
   In progress on Grant Street, Loomis Street, King Street and Ward Street. Funded through the Traffic Calming Fund.

7. **BURLINGTON BIKE PATH RENOVATION (CITYWIDE)**
   The City is currently working on enhancing the Burlington Bike Path through a multi-phase rehabilitation project led by Burlington Parks, Recreation, and Waterfront. The project proposes the rehabilitation of the approximate 8 mile multi-use path that runs along the Lake Champlain waterfront. Project limits extend throughout the entire city beginning with the southern terminus at the path intersection with Queen City Park Road and extending north to the Winooski River Bridge.

**Note that ongoing project lists include major projects with significant impact to the network of walkable, bikeable streets and intersections. Additional projects are in progress, and these lists are not intended to be comprehensive.*

12-Month Priority Action List

START NOW!

New projects:

8 CREATE NEIGHBORHOOD GREENWAY ON LAKEVIEW TERRACE

Add bikeway markings and traffic calming treatments on Lakeview Terrace to create a low-stress Neighborhood Greenway as an alternative to the southernmost blocks of North Ave.

9 IMPROVE SAFETY AT COLCHESTER AND EAST AVENUE

Extend the eastbound Colchester Avenue bike lane to the East Avenue Intersection with shared lane marking treatments through the right turn lane. Pilot test a median treatment to increase safety for pedestrians crossing Colchester.

10 PILOT TEST DELINEATORS TO REINFORCE N. UNION STREET BUFFERED BIKE LANE

Pilot test and evaluate vertical post delineators and "armadillos" for durability, protection, and aesthetics within the North Union Street buffered bike lane, from Pearl to North Street.

11 ADD A BIKE LANE AND CURB EXTENSIONS TO PEARL STREET

Stripe a bike lane on Pearl Street between Battery Street and N. Winooski Ave. Add interim curb extensions to improve pedestrian safety at the intersection of Pearl and N. Champlain Streets.

12 ADD BIKEWAY MARKINGS ON COLLEGE TO CONNECT WITH THE PATH ACROSS PROSPECT

Add intersection striping treatments to carry College St. bikeway across the Prospect intersection, to connect with the path on the UVM campus.

13 USE PILOT PROJECTS TO TEST RECOMMENDATIONS FROM THE WINOOSKI CORRIDOR STUDY

The City is currently working on a corridor study to evaluate alternatives for Winooski Avenue from Riverside to Howard. As this planning effort continues, use pilot and interim design measures to improve safety for people walking and biking. One potential focus is the segment between Maple and Main Streets. Overall, improving safety and connectivity south of Pearl Street should be a major priority.

14 ADD BIKE PARKING AT HIGH NEED LOCATIONS

Add bike racks in high use areas such as Church Street, Pearl Street, and Main Street.

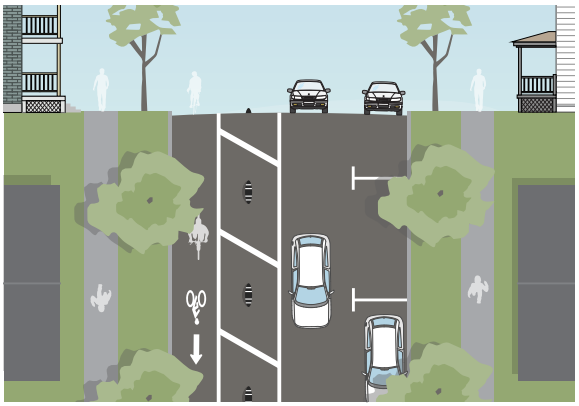
15 PILOT TEST IMPROVEMENTS ON DEPOT STREET

Revisit concept plans developed for Depot Street in the 2009 Waterfront North Access Scoping Study, and develop a plan to improve pavement conditions and use pilot projects to test alternatives. Recommendations in the Study suggested adding traffic calming features, new lighting, upgraded bicycle/pedestrian facilities, and more.

16 ADD CURB EXTENSIONS AT THE MAIN ST. / S. CHAMPLAIN INTERSECTION

Use rapid implementation materials to add curb extensions at this intersection.

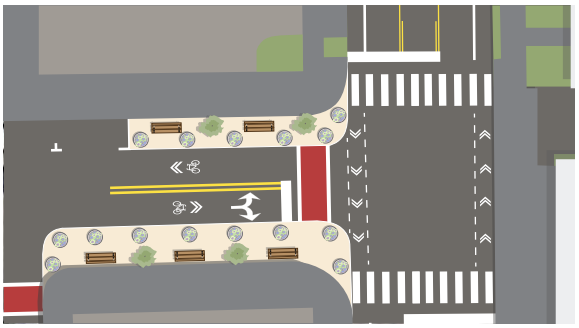
17



ADD A PROTECTED BIKE LANE TO N. WINOOSKI AVE., BETWEEN NORTH UNION ST. AND PEARL ST.

Remove on-street parking along the west side of North Winooski, between North Union Street and Pearl Street. Replace with a southbound protected bike lane created using flex posts; use lane reassignment or a thru/advisory/mixing zone bike lane treatment and bicycle box for the Pearl Street intersection approach; ban right turn on red.

18



PILOT TEST IMPROVEMENTS AT THE INTERSECTION OF S. WINOOSKI AVENUE AND BANK STREET

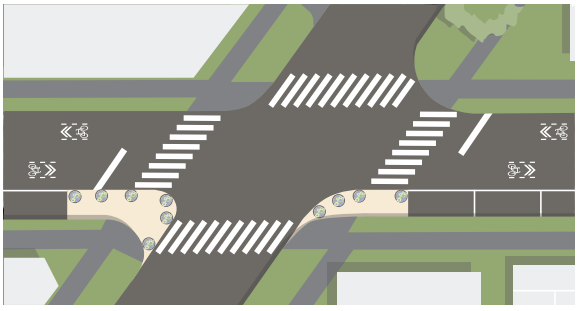
Use paint or epoxy-gravel mix and planters to extend the north and south side sidewalk at the intersection of Bank Street and South Winooski; Ban right turn on red and provide a lead pedestrian interval.

19

IMPROVE SAFETY ALONG RIVERSIDE SHARED USE PATH

Conflict points in parking lots and at driveway crossings create unsafe conditions for people walking or biking along Riverside. In the short term, add pavement markings at conflict points, and pilot intersection improvements at Intervale and Hillside in particular. Pavement markings might include high-visibility chevron markings, green paint or similar treatments. Markings should extend the bike lanes in both directions to and across each intersection using thru/advisory lane or sharrow treatments and crossing markings. Sharrows can be used to close the gap between the end of the eastbound bike lane and the intersection of Colchester Avenue/Barrett Street. As properties are redeveloped in the long-term, public realm enhancements should be required, including raised crossings for bicyclists and pedestrians at all driveway curb cuts.

20



PILOT TEST BIKEWAY UPGRADES AND SLOW ZONE TREATMENTS ON ARCHIBALD

Pilot test and evaluate bicycle priority shared lanes (“super sharrows”) on Archibald Street; install interim design curb extensions using paint or epoxy-gravel treatment where appropriate, such as the intersection of Archibald and Intervale Avenue.

Note: Dotted white street lines indicate conceptual street connections that have been discussed in other city or regional plans.

LIST OF RECOMMENDED PROJECTS TO BE IMPLEMENTED IN THE NEXT 2-5 YEARS

Please see map on previous page for additional details.

Project Name	Proposed Action
Bank Street Bikeway	Mark and sign shared use lanes
Cherry and South Winooski Intersection Improvements	Create rapid implementation curb extensions while 2016 Corridor Study is developed
Colchester Ave Bikeway	Stripe bike lanes on Colchester Ave. east of East Ave., with a more robust treatment to come in the long-term.
Colchester Ave Bridge to Winooski	Implement a lane reassignment with 3 travel lanes and a 2-way shared use path across the bridge, or build a new bridge for people walking/biking
Colchester Ave Hospital Crossing	Install high visibility pedestrian crossing
College/S. Willard Intersection	Consider mini-roundabout or high visibility pedestrian crossings
Main St/University Heights Crossing	Install high visibility pedestrian crossing
Main Street Complete Streets Upgrades (Battery to Winooski)	Design TBD with Great Streets Project; goal is protected bicycle lanes on this segment.
Main Street Complete Streets Upgrades (Winooski to Summit)	Protected bicycle lanes and improvements for pedestrians, per scoping study
Main Street Complete Streets Upgrades (Summit to University Place)	Add a shared use path on UVM property to connect to Main St path
Main Street Path on UVM Campus	Continue UVM Shared Use Path to fill gap from University Heights to the Jughandle
Main Street/S. Winooski Ave Intersection	Consider roundabout or mini-roundabout and lane reassignment
Maple Street Bikeway	Mark and sign shared lane treatments
N. Champlain Street/ Bikeway	Protected 2-way bicycle lanes on west side of street, lane reassignment
N. Winooski Bikeway (Union to Riverside)	Mark and sign protected bicycle lanes
North St Bikeway	Traffic calming with epoxy/sand, flexposts or other creative materials; shared lanes or advisory bike lanes
North Street near Murray	Study/pilot projects needed to determine best approach for traffic calming
North/North Ave Intersection	High visibility crosswalks, curb extensions with epoxy/sand, flexposts or other creative materials
ONE Greenway - Loomis Street segment	Shared lane markings, green infrastructure and traffic calming. Intersection improvements at Loomis/Prospect.
ONE Greenway - Sherman, Peru & Grant	Shared lane markings, green infrastructure and traffic calming
Pearl St/South Williams Crossing	Re-establish high visibility crosswalk
Pearl/Prospect/Colchester Intersection	High visibility crosswalks, realignment integrating curb extensions with epoxy/sand, flexposts or other creative materials
Pearl/Winooski Intersection	High visibility crosswalks, curb extensions with epoxy/sand, flexposts or other creative materials
Riverside Ave/Colchester Ave Intersection	High visibility crosswalks, curb extensions with epoxy/sand, flexposts or other creative materials
Riverside Ave/N. Prospect Intersection	High visibility crosswalks, curb extensions with epoxy/sand, flexposts or other creative materials

LIST OF RECOMMENDED PROJECTS TO BE IMPLEMENTED IN THE NEXT 2-5 YEARS (CONTINUED...)

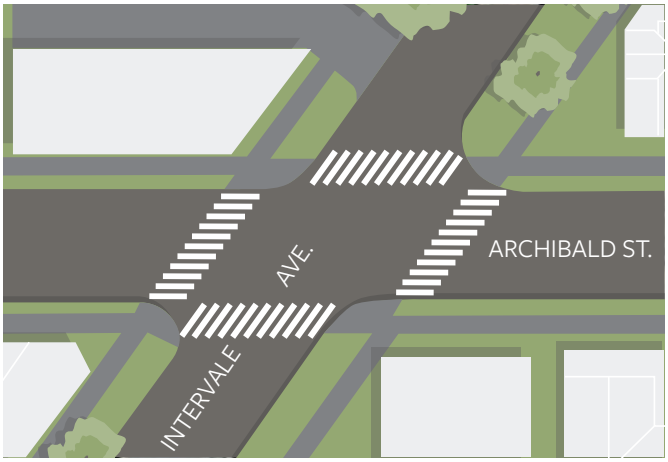
Please see 5-year project map for additional details.

Shelburne Rotary Upgrade	Implement pilot project to clarify traffic patterns and improve safety by narrowing vehicular lanes and adding curb extensions.
Shelburne and Home Street Intersection Improvements	Pilot recommendations from planned corridor study (not programmed yet) - aim to reduce speeds, reduce crossing distances.
S/N Union Bikeway (Main to N. Winooski)	Complete protected bicycle lanes with preferred rapid implementation treatment (flexposts or armadillos, etc.)
S. Union Bikeway (Shelburne to Main)	Establish protected bicycle lanes with flexposts or armadillos; consider lane reassignment with one-way street for vehicles
S. Union/Main Intersection	Consider mini-roundabout; high visibility crosswalks, curb extensions with creative materials
S. Willard St Bikeway (Cliff to Hyde)	Extend northbound bicycle lane from North Street to Hyde, add shared lane markings southbound
S. Willard/Main Intersection	High visibility crosswalks, curb extensions with creative materials
S. Willard/Pearl Intersection	High visibility crosswalks, curb extensions with creative materials
S. Winooski Ave/College St Intersection	Consider mini-roundabout; high visibility crosswalks, curb extensions with creative materials
S. Winooski Bikeway-Main to Pearl	Mark and sign bicycle lanes in both directions; reassignment of vehicle lanes

Note: Dotted white street lines indicate conceptual street connections that have been discussed in other city or regional plans.

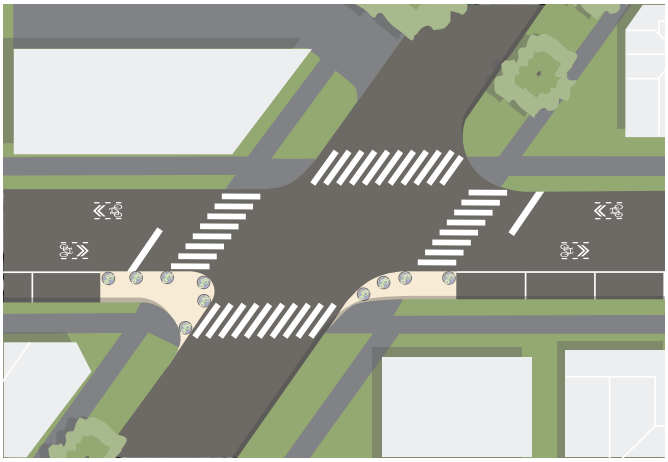
Intervale Ave. + Archibald Ave. Intersection Upgrade

Archibald provides critical east-west connections to Prospect Street, Integrated Arts Academy, and numerous neighborhood parks. It also intersects with a variety of proposed bikeways on Walnut Street, Elmwood Avenue, North Winooski Avenue, and North Prospect Street. Intervale intersects Archibald and is an important connection to the existing Riverside Avenue path facilities, public transit services, and several high-density shopping and housing areas. The Archibald/Intervale intersection has been identified as a top priority for improvement, based on crash data and public input. The drawings on this page illustrate how pilot and long-term design changes could be used to improve safety at the Archibald/Intervale intersection. The City should evaluate options to add similar traffic calming treatments at *all* intersections along Archibald, especially at Elmwood, N Winooski and Willard. Traffic calming treatments should establish a target speed of 20mph on Archibald. Slowing the whole corridor down in this manner is critical for creating a condition in which people biking will feel safe sharing the lane with cars on this key east-west corridor.



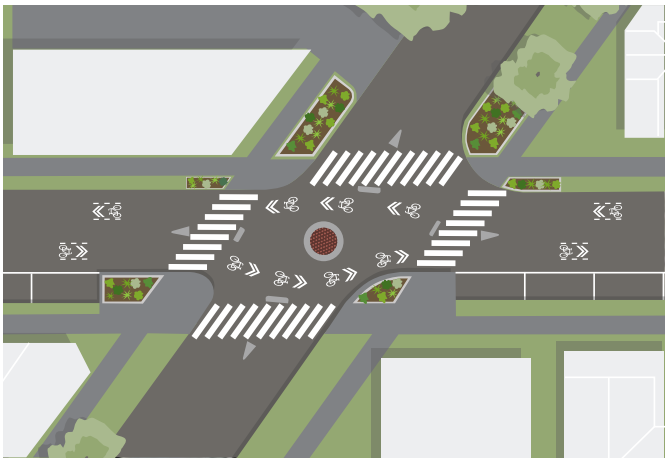
EXISTING CONDITIONS

Beyond simple crosswalks, this intersection, and the streets leading into it, lack amenities for people walking and biking. Curbside parking is permitted in the south side of Archibald, and along the west side of Intervale.



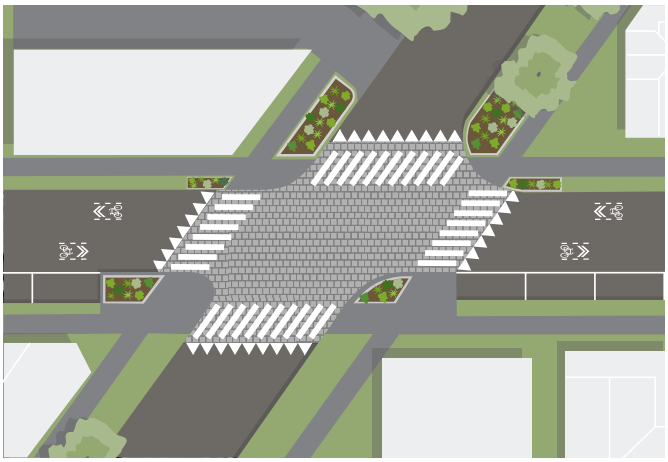
SHORT-TERM / PILOT

In the short-term, use paint and temporary planters to tighten turning radius for people driving, and shorten crossing distances and improve visibility for people walking. Clearly stripe parking spaces. Add bikeway markings along Archibald to create a new east-west route.



OPTION 1

Upgrade temporary curb extensions and add a mountable neighborhood traffic circle to permanently calm traffic and improve safety for people walking and driving. Option 1 upgrades include permanent rain gardens and expanded sidewalk space. Rain gardens will help control stormwater and add protection and beauty.



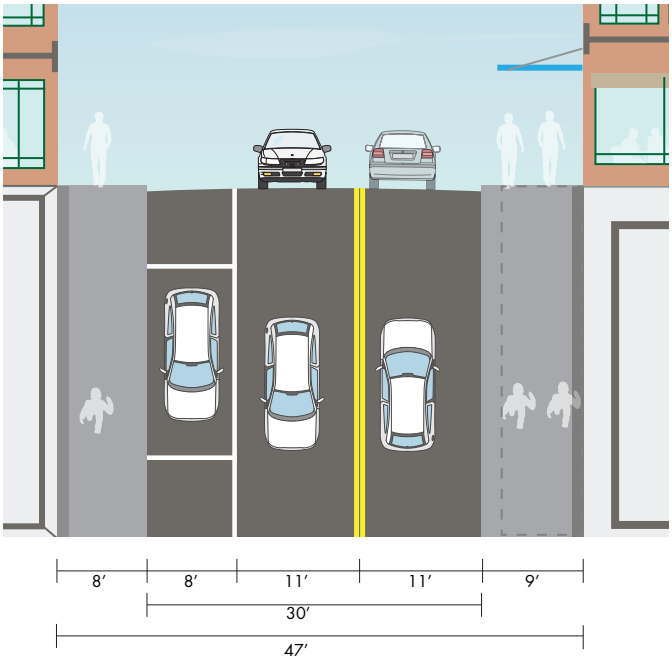
OPTION 2

For Option 2, create a raised intersection to slow people driving and increase the visibility and priority of people walking and biking. Use permeable pavers to help control stormwater and reduce maintenance costs.

North Street Bikeway

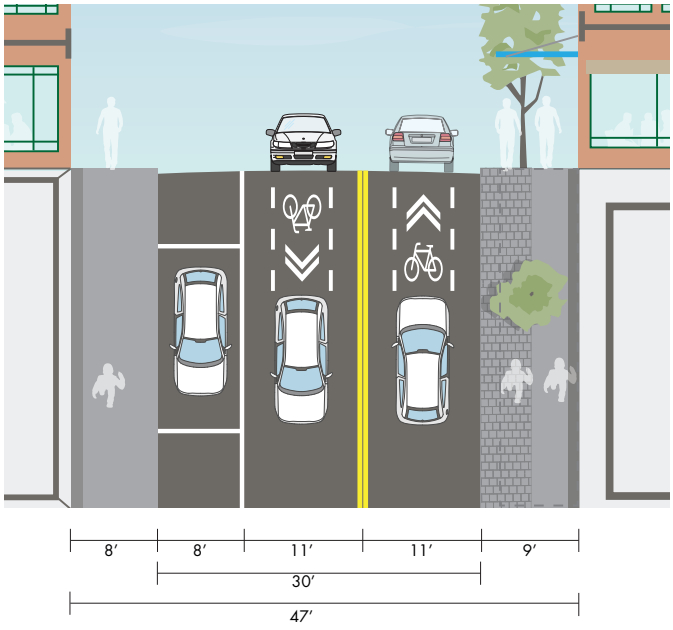
North Street is an important community destination in the Old North End neighborhood, providing access to a compact shopping district and an elementary school. It is also an important east-west connector, intersecting with existing bike facilities on Willard, Union, and North Winooski, all of which are slated for further improvements as part of this plan. Despite a high volume of cyclists on North Street, no bikeway facility exists there. This plan proposes recommendations for making North Street a safer place to walk and bike, while also balancing the parking and delivery needs of adjacent businesses on the corridor.

The drawings on this and the following page illustrate how robust traffic calming treatments (such as raised intersections) could be used to calm traffic speeds along the entire North Street corridor. The drawings on the following page provide an example of one potential treatment for the North/Murray/Rose intersection, which was identified as a top priority Intersection based on crash data and public input. This drawing is just one example. The City should evaluate options to add traffic calming treatments at *all* intersections throughout the North Street Bikeway in order to slow the whole corridor down. This approach is critical for creating a condition in which people biking will feel safe sharing the lane with cars.



EXISTING CONDITIONS

North Street features parallel parking on one side, with moderately sized vehicle travel lanes and sidewalks. Dense urban form and buildings oriented to the street help make North walkable, but the lack of mature street trees and safe crossings is a concern. Without removing parallel parking, existing street and sidewalk conditions do not provide enough space to accommodate a separated or protected bicycle lane.



PROPOSED

Given the compact and commercial land use context, North Street should be a slow zone for people driving. To increase safety for people walking while still preserving parking, add high visibility sharrow markings (aka “super sharrows”) throughout North Street. Slow vehicle speeds should also be enforced with additional traffic calming treatments at each intersection, such as raised intersections, curb extensions, street trees, and leading pedestrian intervals. Amenities such as public art and benches should also be a priority for this corridor.

North, Murray + Rose Street Intersection Upgrade

These drawings illustrate a robust traffic calming proposal for the North/Murray/Rose intersection, which was identified as one of the top 20 Priority Intersections based on crash data and public input. The City should evaluate options to add traffic calming treatments at *all* intersections throughout the North Street Bikeway in order to slow the whole corridor down.

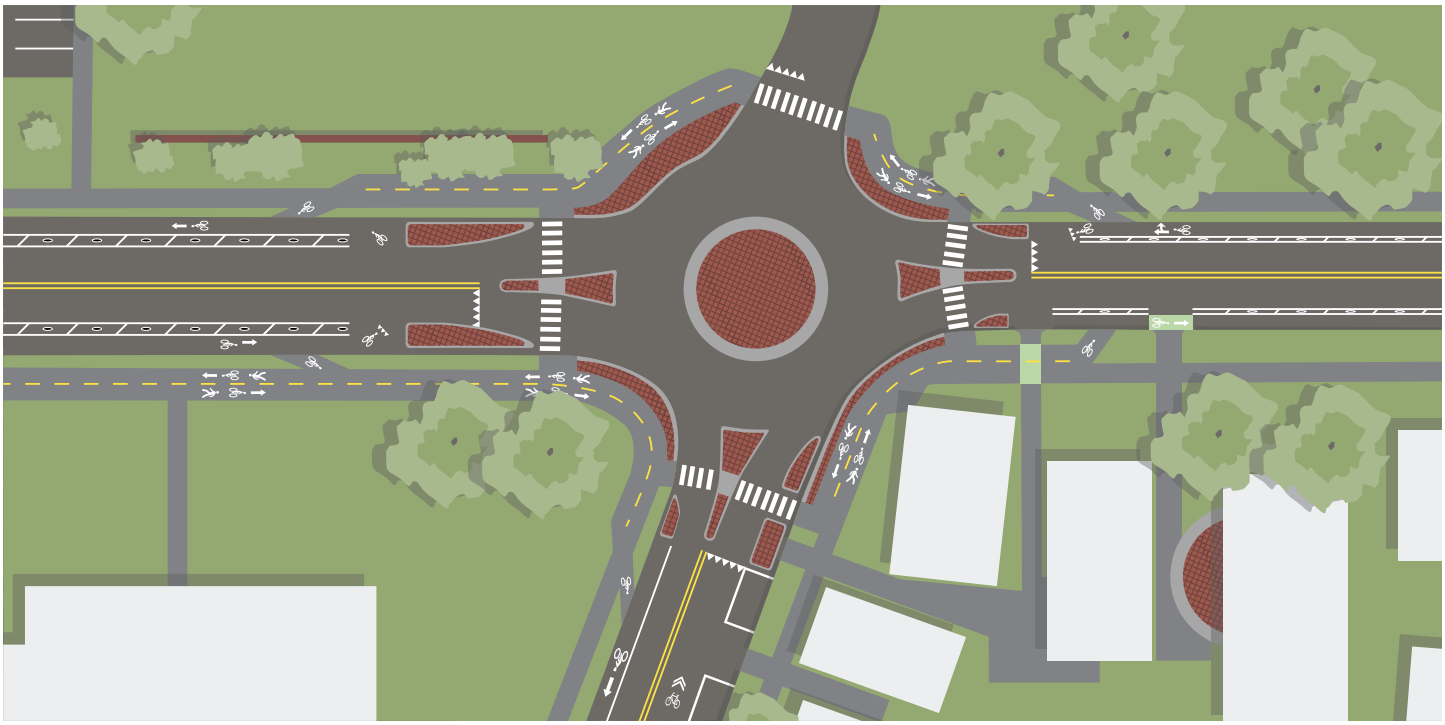
EXISTING CONDITIONS: Existing crosswalks do not provide a direct or logical path for people walking across this intersection, and people often cross where no crosswalk is present. Although there is a high volume of cycling traffic on North Street, no marked facility exists.

PROPOSED: Upgrade the entire North/Murray/Rose intersection to create shared street condition. Improvements would include raising the intersection to increase visibility of and indicate priority for people walking and biking. Use permeable pavers to help control stormwater and reduce maintenance costs. Add benches and landscaping planters for comfort, beauty, and further stormwater management. Add high-visibility sharrow markings to mark the route for people biking. The North/Murray/Rose intersection should be the first priority for traffic calming, but traffic calming treatments should be applied at *all* intersections throughout the North Street Bikeway. This approach will slow the whole corridor down, making it safer and more comfortable for people biking to share the lane with cars.

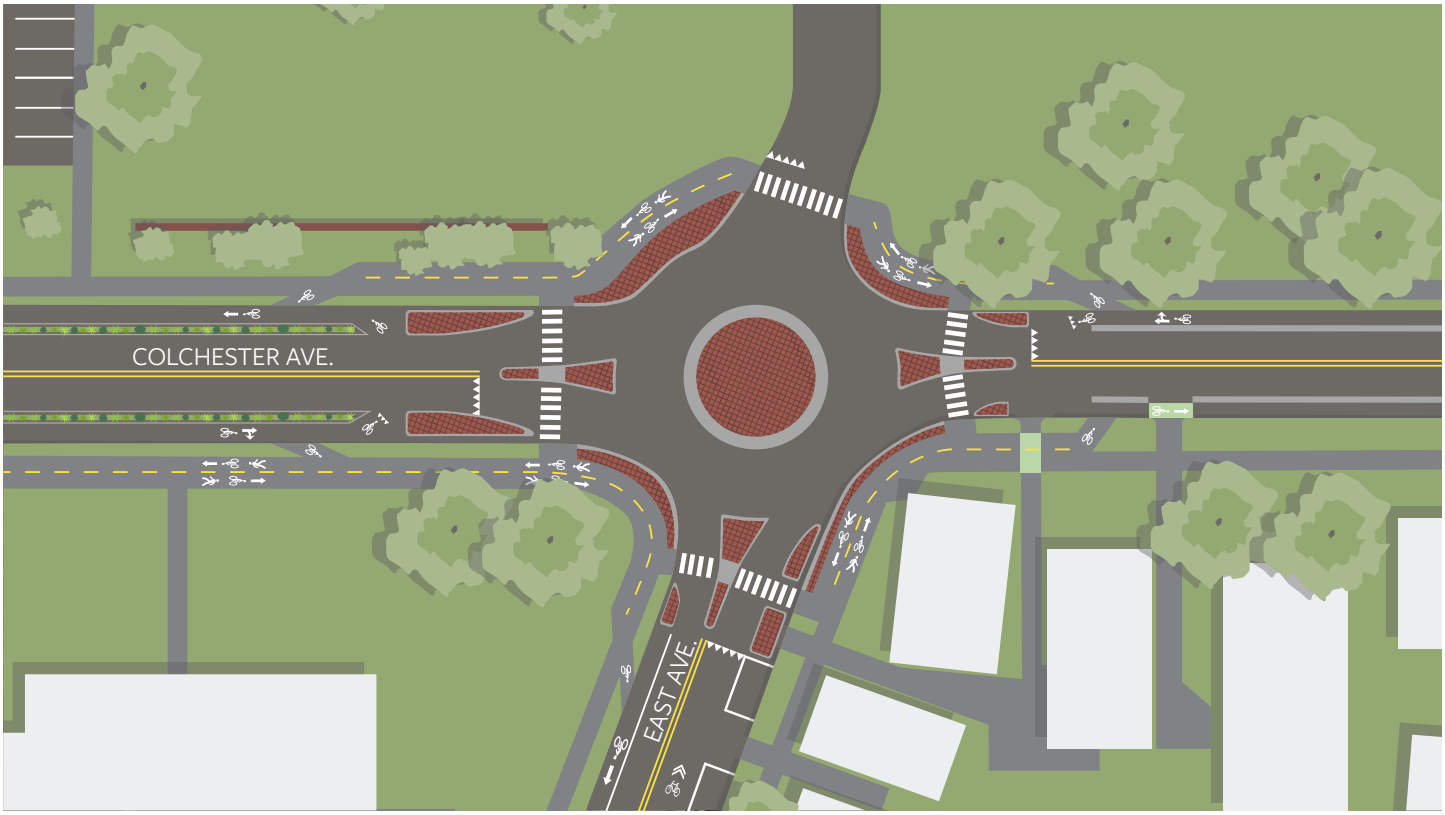
East Avenue + Colchester Avenue Mini Roundabout

This intersection is adjacent to the UVM campus and sees a very high volume of bicycle and pedestrian traffic. It was identified as one of the top 20 Priority Intersections based on crash data and public input.

EXISTING CONDITIONS: The eastbound bike lane on Colchester Avenue drops at this intersection, forcing people on bikes to merge with heavy vehicle traffic. High volumes of pedestrians cross Colchester Avenue to access key destinations on UVM's campus, and traffic calming is needed to increase safety.



OPTION 1: A mini-roundabout is recommended at this intersection to reduce vehicle speeds, without creating congestion (see Appendix for more on mini roundabouts). Upgrades should include protected median refuge islands for people crossing Colchester and East Avenues, as well as low-cost protected bikeway treatments along both streets. These treatments would be supported by off-road shared path facilities on campus property at the south edge of Colchester Avenue.

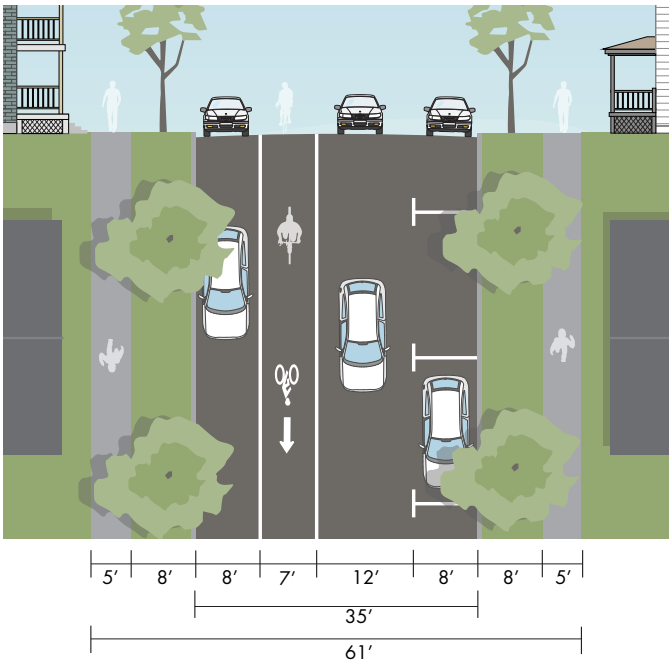


OPTION 2

The drawing above shows a second option for bikeway facilities on Colchester Avenue. In this scenario. the bike lane protection extends from the median at East Avenue, using linear rain gardens to control stormwater and create a continuous physical barrier between people biking and vehicle traffic.

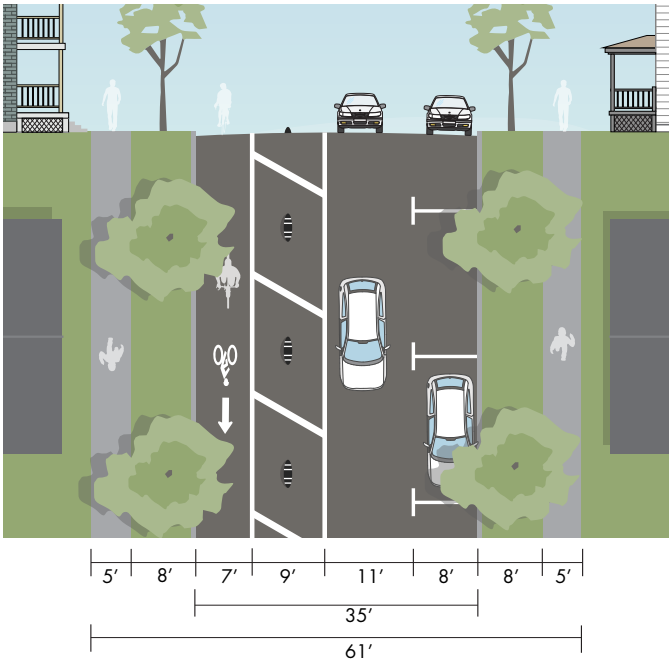
North Winooski Avenue Protected Bike Lane

North Winooski Avenue is a major pain point for people biking. It is a critical north-south connector route and features many important commercial and civic/service destinations north of North Street. Though a south-bound bike lane exists along a stretch of N. Winooski, it drops off completely at Pearl, dumping people biking into a congested and confusing intersection, with one thru lane and two turn lanes. Based on land-use context and high volume of pedestrian and bicyclist traffic, N. Winooski Avenue should be a slow zone for people driving.



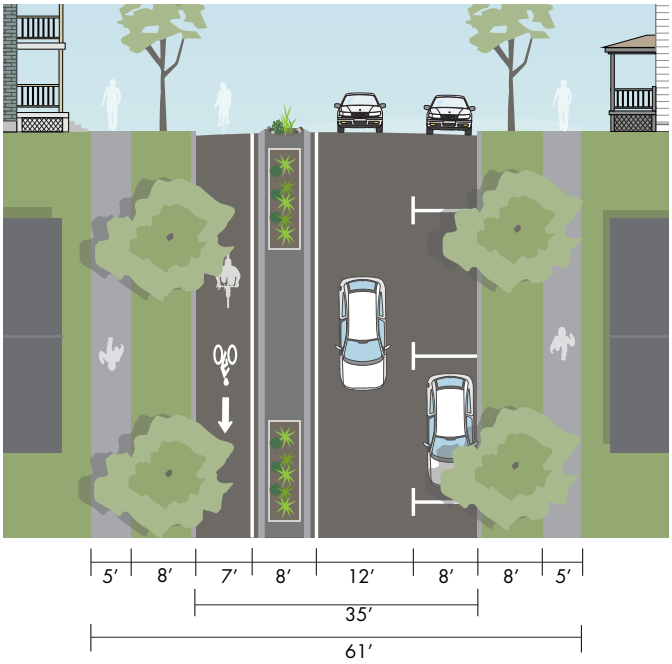
EXISTING CONDITIONS

North Winooski Avenue features one-way traffic with a moderate travel lane width and parallel parking on each side. The existing south-bound bike lane lacks protection and drops off before reaching Pearl Street. The nearest northbound bike lane is located on Union Street, so there is no direct route for people who want to travel north on N. Winooski by bike. Consequently, wrong-way riding is an issue. Street trees and a generous greenbelt provide a pleasant environment for pedestrians, but street seat amenities are lacking in commercial areas.



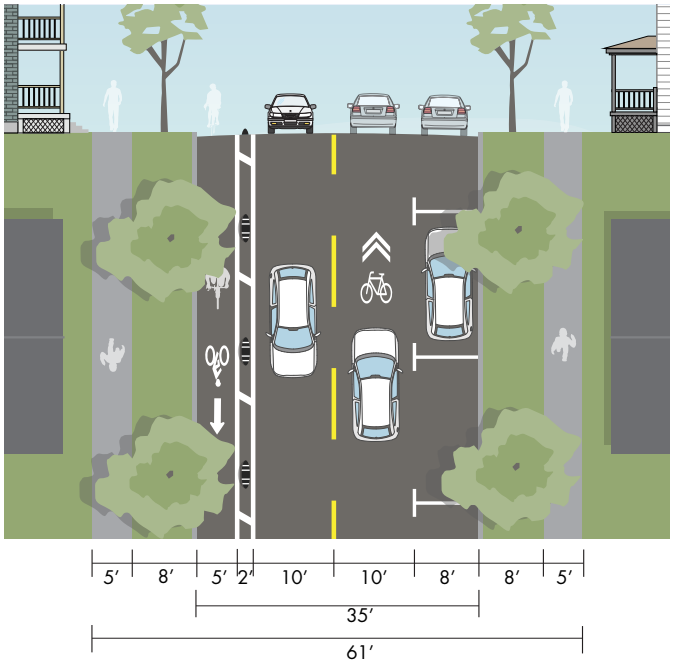
OPTION 1: PILOT PROTECTED BIKE LANE

Pilot test a protected bike lane on N. Winooski using paint and mountable “armadillo” barriers (or vertical delineators) to reinforce separation between the bike and vehicle lanes. In this scenario, parking is removed on the west side of the street, and one-way traffic patterns for bike and car lanes remain unchanged.



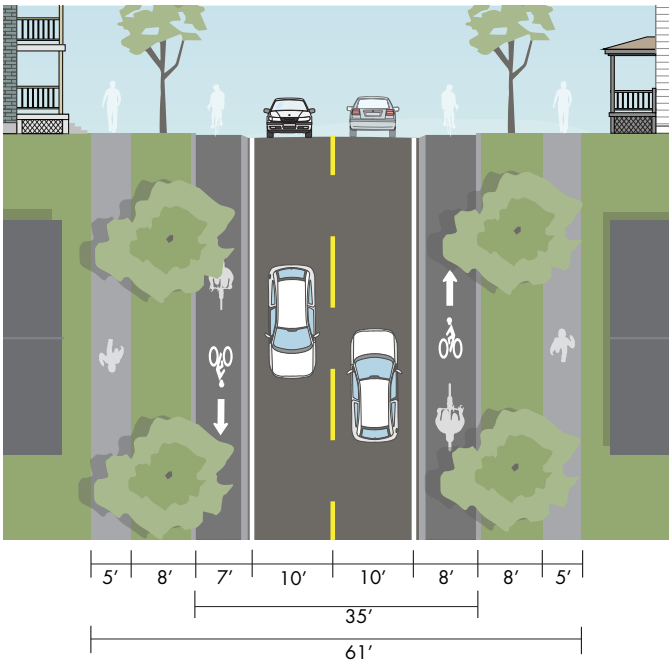
OPTION 1A: PROTECTED BICYCLE LANE

In the long term, upgrade the protected bike lane with a low mountable curb. One-way traffic patterns for bike and car lanes remain unchanged.



OPTION 2: SHORT-TERM/ PILOT

This option assumes that N. Winooski Avenue is converted into a two-way street. Parallel parking is preserved on the east side of the street, with a shared lane marking for north-bound bicycle traffic. Southbound cyclists are separated from vehicles with a protected bicycle lane. In the pilot phase, the bicycle lane can be tested using paint and low, mountable armadillo barriers or vertical delineators.

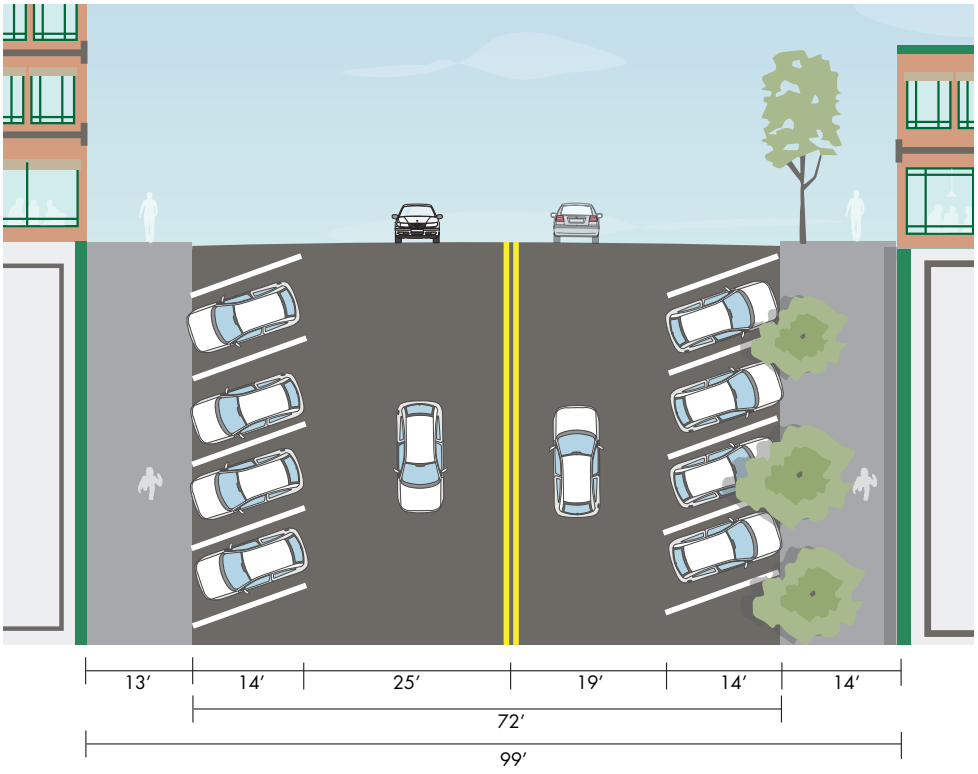


OPTION 2A: PROTECTED BICYCLE LANE

In the permanent phase of the project, the protected bicycle lane would be upgraded with a permanent mountable curb in both directions. The protected bike lane could be flush with the sidewalk and greenbelt, providing additional breathing room for those biking with wider cargo bikes.

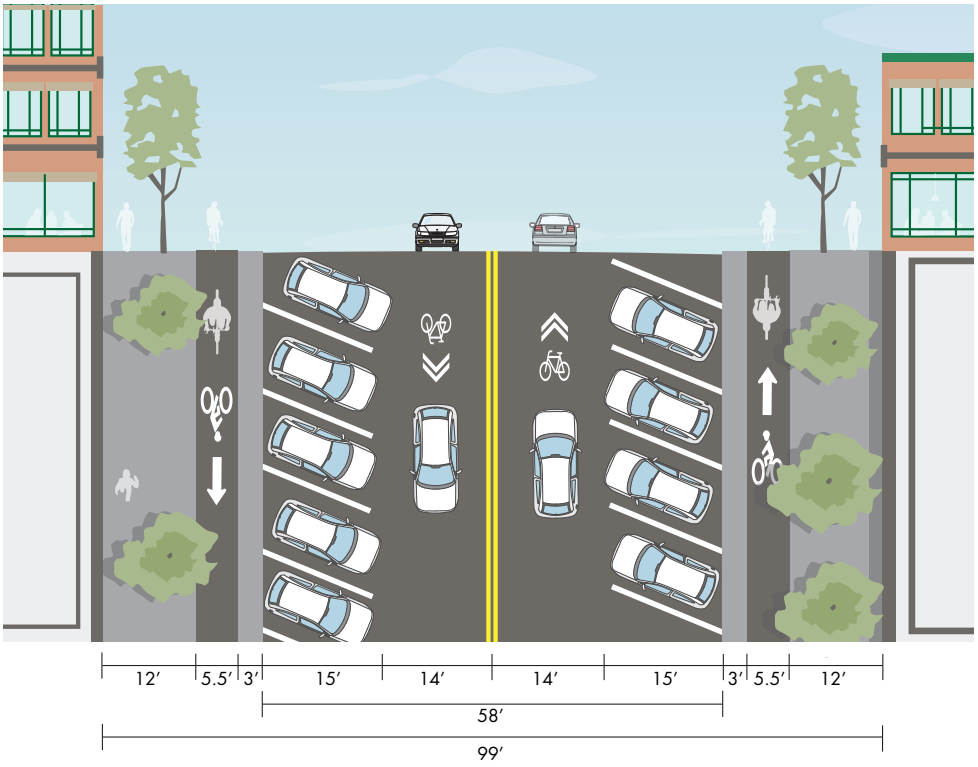
Main Street Bicycle Lane (at Pine Street)

Main Street is a critical east-west route in Downtown Burlington, with compact land use and high volumes of vehicle, pedestrian, and cyclist traffic. Several blocks of Main Street feature head-in angled parking, but parking and road width conditions vary somewhat from block to block. Currently, Main Street does not have any marked bicycle facilities.



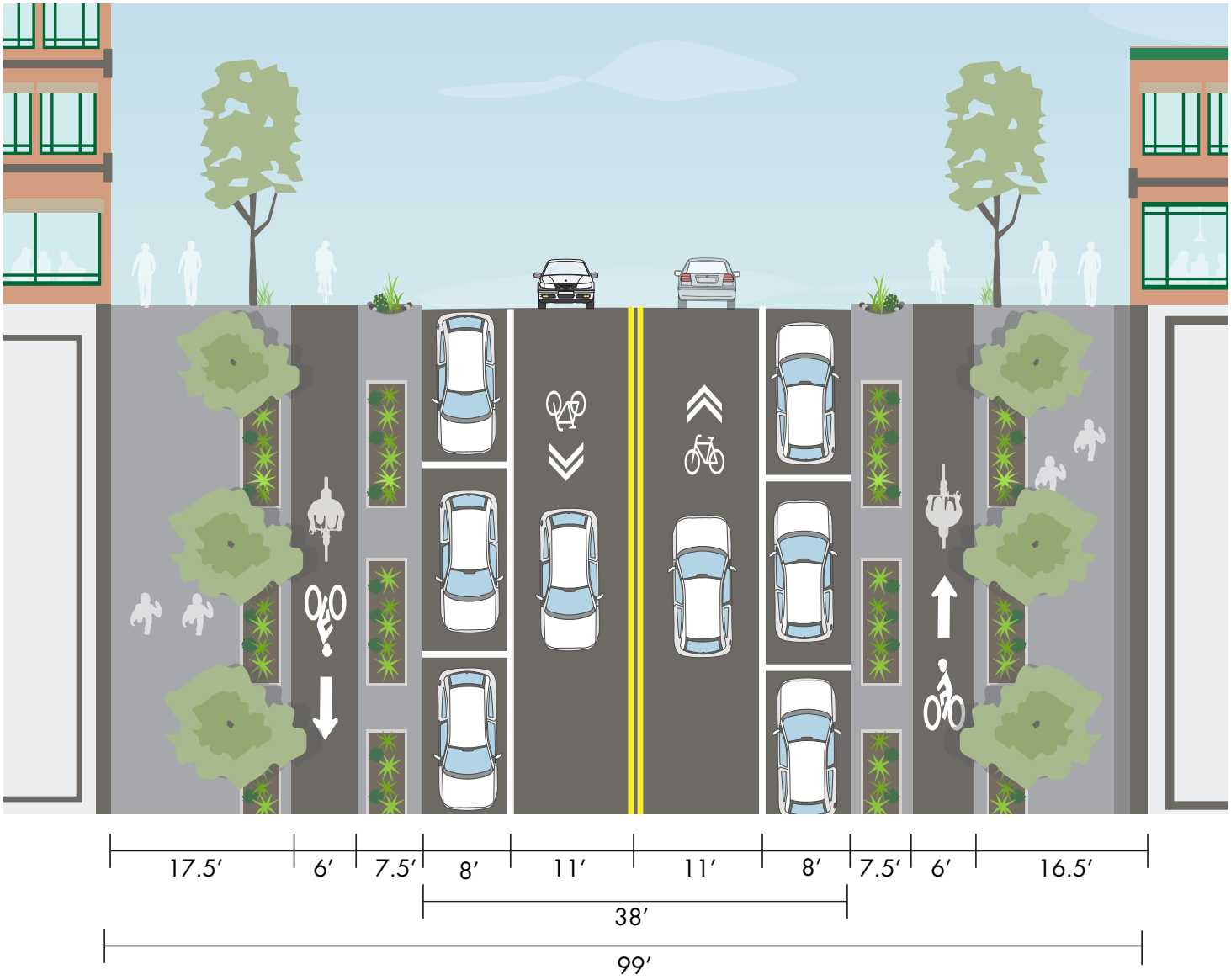
EXISTING CONDITIONS

Conditions at Pine Street include wide travel lanes (19-25 feet) and head-in parking, with no bicycle facility. The sidewalk is wide and features street trees but few other amenities for people walking.



OPTION 1

One option for adding the recommended bicycle facilities on Main is to add a sidewalk-level bike lane, protected by parked cars. The bike lane is clearly marked to avoid conflict between people walking and biking. Back-in angle parking makes motorists better able to see oncoming cars and bikes as they exit the parking space. Narrowed vehicle travel lanes calm traffic.

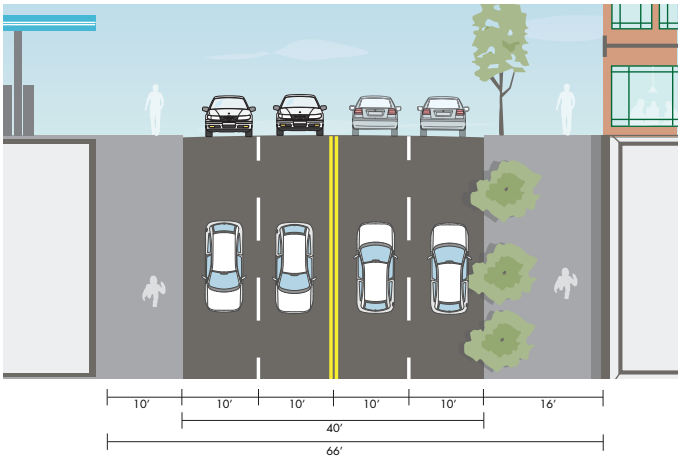


OPTION 2

Option 2 illustrates the use of rain gardens to create a protected bicycle facility. Planters provide a more defined and visible separation of space for people driving, biking or walking. Because this treatment requires more space, parallel parking is provided instead of the rear-angle option previously illustrated.

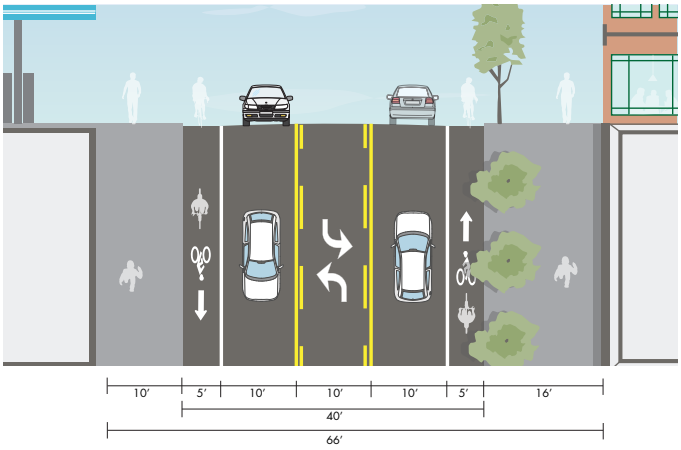
South Winooski Avenue Bikeway (at Bank Street)

Though it is adjacent to Burlington's walkable downtown core, S. Winooski Avenue feels like a hostile environment to people walking and biking. This corridor features 4 the top 20 Priority Intersections for safety upgrades. The bike lane on N. Winooski Avenue drops at Pearl Street, and people continuing down Winooski by bike are left with no designated facility. New development, such as the City Market at Bank Street, has led to a spike in walk/bike traffic in the area. S. Winooski should be a target for redesign as land use continues to develop in support of a more walkable, bikeable corridor.



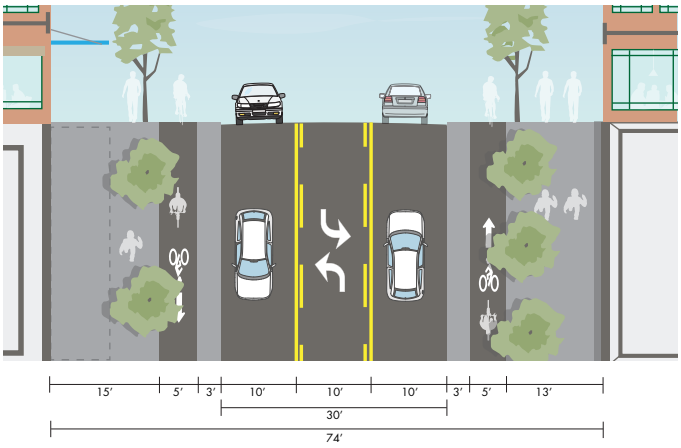
EXISTING CONDITIONS

South Winooski Avenue features two relatively narrow travel lanes in each direction, and no street parking. Wide sidewalks feature street trees, but other amenities for people walking or biking (such as benches and bike parking) are lacking.



PHASE 1

Phase 1 assumes existing land use patterns continue, with a re-striping of the roadway to allow a vehicle and conventional bike lane in each direction, as well as a center turn lane. This phase could also include addition of pedestrian amenities as space allows, such as benches.

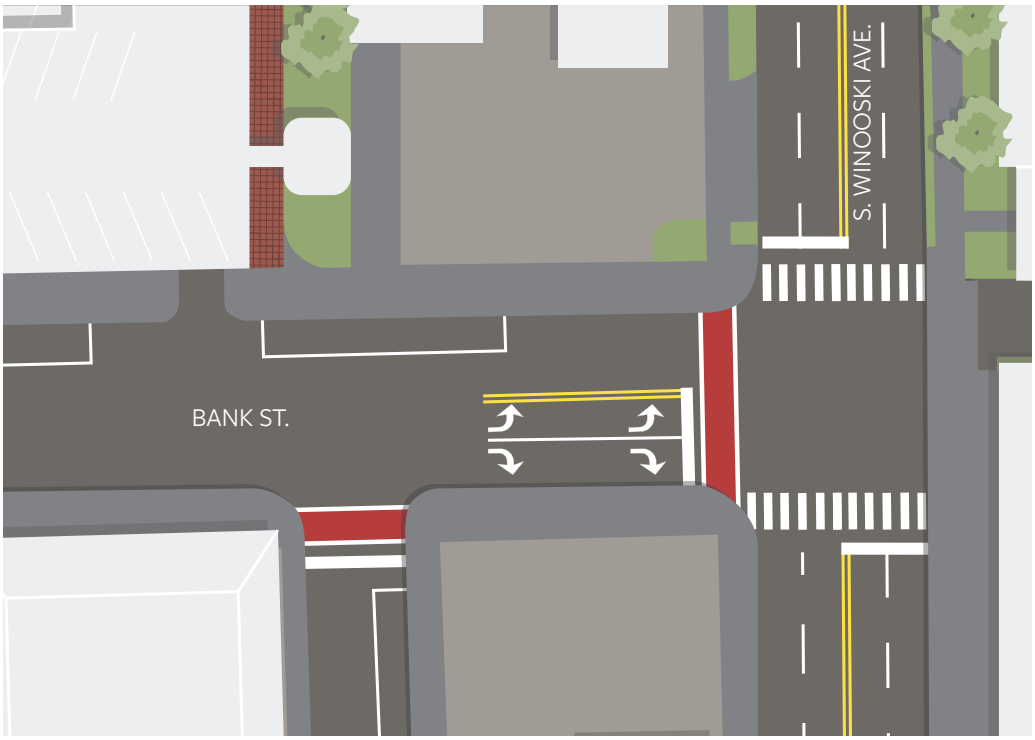


PHASE 2

Phase 2 assumes that over time, South Winooski Avenue will continue to densify, with more compact mixed used buildings. In this land use context, higher volumes of bicycle and pedestrian traffic can be expected. Increased investment in the area may merit more comprehensive street redesign, allowing for wider sidewalks and a protected bike lane. Such a redesign should consider upgrades to enhance pedestrian safety and comfort, such as high visibility treatments at driveways and additional amenities along the widened sidewalk space.

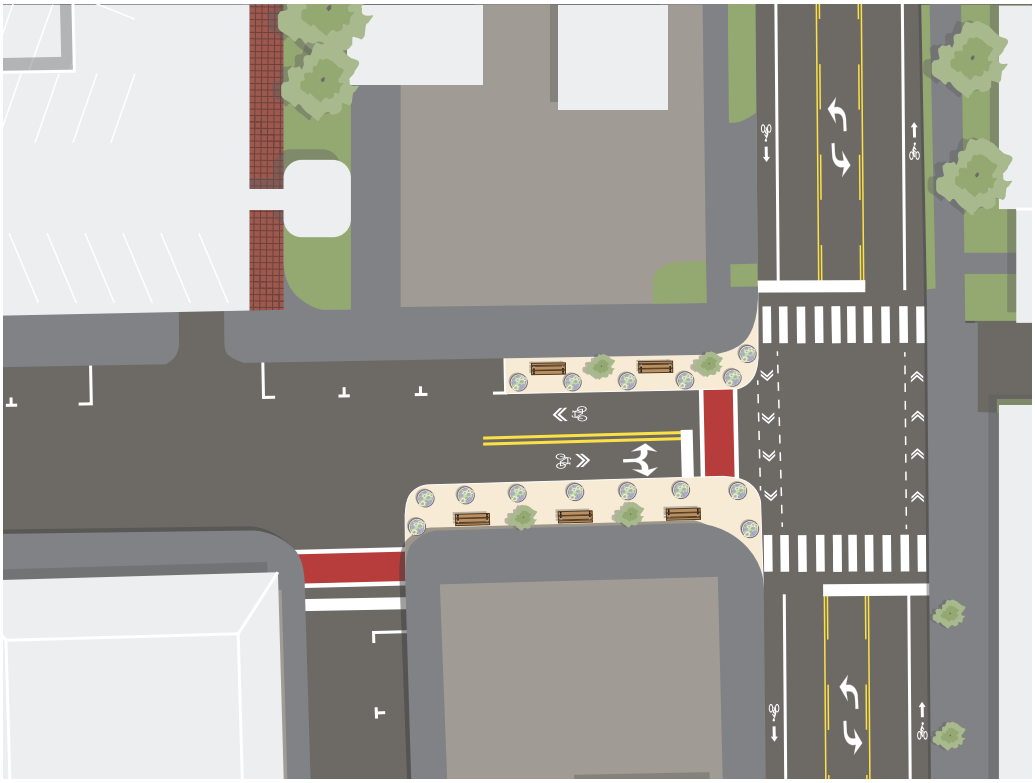
South Winooski Avenue + Bank Street Intersection Upgrades

To support the design changes recommended for S. Winooski Avenue on the previous page, Burlington should re-design the S. Winooski Avenue and Bank Street intersection to improve safety and comfort for people walking and biking. This intersection is one of the top 20 Priority Intersections identified for safety upgrades.



EXISTING CONDITIONS

Today, Bank Street features turn lanes in each direction onto S. Winooski Avenue, resulting in conflicts at the gas station driveway on Bank and at crosswalks on S. Winooski.



PILOT PHASE

Temporary materials such as paint, planters, and potted trees can be used to pilot test curb extensions and other traffic calming measures. In this scenario, the redundant Bank Street gas station entrance is transformed into a pedestrian plaza space, serving as a compliment to existing outdoor dining space at the City Market across S. Winooski Avenue. The pilot can occur with or without the road diet that is shown on S. Winooski Avenue.

OPTION 1

The first option for a permanent upgrade features shared lane markings and expanded pedestrian space on Bank. The intersection is raised and uses special pavers to indicate priority for people walking or biking. This option assumes that W. Winooski features a conventional bike lane, with bike boxes at Bank.

OPTION 2

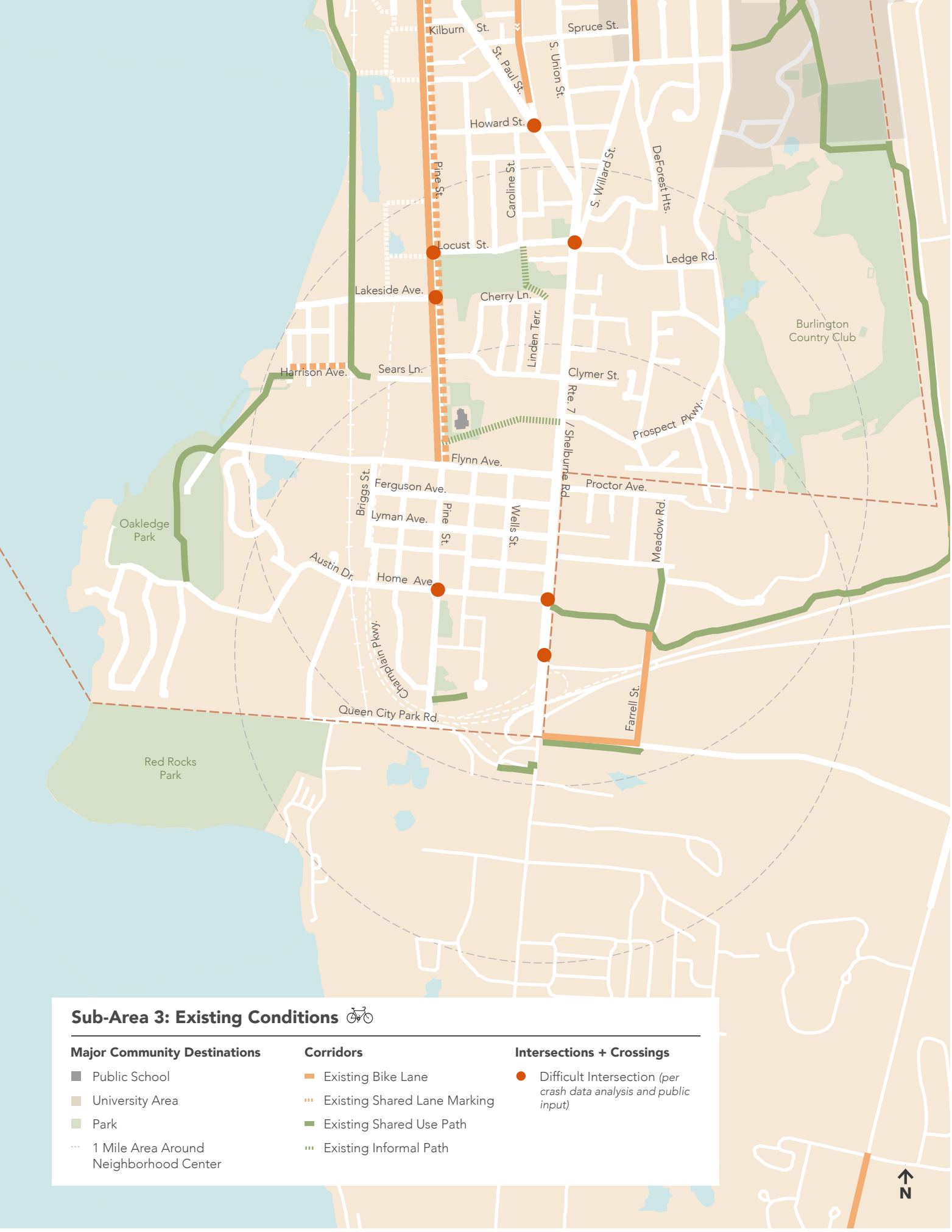
In option 2, S. Winooski Avenue features a protected bike lane. Conflict points (such as the City Market driveway) are marked with green paint so that people driving know to expect bike traffic ahead.

OPTION 3

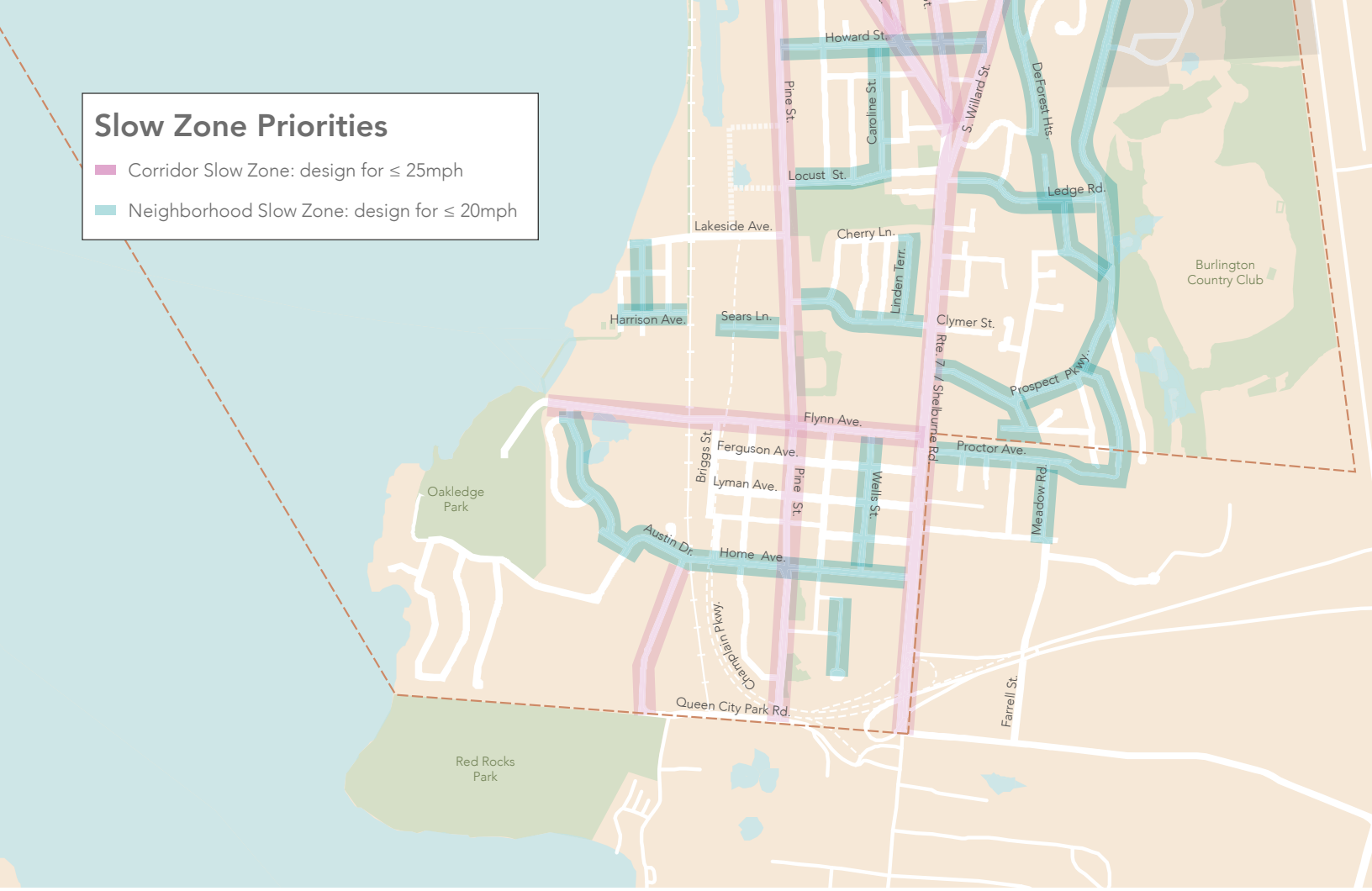
Option 3 illustrates a full build-out of a shared street on Bank. In this scenario, an entire block of Bank Street is raised up to sidewalk level and treated with special pavers to indicate priority for people walking or biking. Vehicles share this lane but travel at very slow speeds (10mph or less).

SUB-AREA 3: SOUTH END

Note: Dotted white street lines indicate conceptual street connections that have been discussed in other city or regional plans.



Note: Dotted white street lines indicate conceptual street connections that have been discussed in other city or regional plans.



EXISTING CONDITIONS SUMMARY

Beginning in the 19th Century, the South End emerged as an important industrial hub. Especially around Pine Street, the area's architecture and land use patterns reflect a century of industrial land use. Today, many of the South End's commercial buildings are being adapted for a new generation of makers and businesses big and small. The South End accounts for 90% of Burlington's industrial space, and about 30% of Burlington's office space. Though housing is limited, residential neighborhoods are an important part of this sub-area's fabric, from the Five Sisters neighborhood to Red Rocks, and beyond.

Major generators of walk/bike traffic in this sub-area include several large employers (such as Dealer.com), artist and maker studio spaces, and many popular shopping and dining destinations. Major recreational facilities include Oakledge Park, the Island Line Trail, and access to the waterfront.

Pedestrian counts taken by the City of Burlington suggest that more people are walking on Pine Street, a major spine for this sub-area. The number of pedestrians counted has more than doubled in the past 8 years, but the number of crashes involving injuries to people walking or biking has also increased.

The sidewalk network in this sub-area is relatively continuous, but lack of safe crossings are an issue. Both Shelburne Road and Pine Street feature long gaps with no safe crosswalk available. On-street bicycle facilities are almost non-existent. In some areas, residential streets do not connect to the rest of the street grid, making it difficult for residents to walk or bike to neighborhood destinations. A handful of informal foot paths have emerged as a result, such as the well-known cut through at Callahan Park.

Conditions for people walking or biking are particularly poor at the southern end of this sub-area, making it difficult to reach the major commercial destinations South of the city on foot or on bike. The Shelburne Road Rotary is another major pain point for pedestrian and bicycle mobility - though a long-term plan is in the works, many people expressed concern about this intersection, and high levels of frustration with dangerous conditions in the present moment.

12-Month Priority Action List

START NOW!

Ongoing projects to continue:*

1 CHAMPLAIN PARKWAY

This project includes a shared use path, curb extensions, crossing improvements, bike lanes from Kilburn to Main Streets.

2 SHELBURNE ROTARY

This ongoing VTrans Safety Project features a redesign of the Shelburne Rotary. Movement on safety improvements to the rotary is a very high priority for the community. The proposed short-term upgrades proposed on page 124 should be implemented as soon as traffic patterns allow the adjustments.

3 LOCUST STREET AND BIRCHCLIFF PARKWAY WALKABILITY PROJECTS

Install speed tables and new pedestrian crossings along Locust Street and Caroline Street / Charlotte Street. Install a speed table and new sidewalk on the north side of Birchcliff Parkway, between Bittersweet Lane and Cherry Lane.

4 BURLINGTON BIKE PATH RENOVATION (CITYWIDE)

The City is currently working on enhancing the Burlington Bike Path through a multi-phase rehabilitation project led by Burlington Parks, Recreation, and Waterfront. The project proposes the rehabilitation of the approximate 8 mile multi-use path that runs along the Lake Champlain waterfront. Project limits extend throughout the entire city beginning with the southern terminus at the path intersection with Queen City Park Road and extending north to the Winooski River Bridge.

**Note that ongoing project lists include major projects with significant impact to the network of walkable, bikeable streets and intersections. Additional projects are in progress, and these lists are not intended to be comprehensive.*

12-Month Priority Action List

START NOW!

New projects:

5 **AUSTIN DRIVE BIKEWAY**

Restripe Austin Drive to add a 2-way protected bike lanes on north side of street.

6 **BIRCHCLIFF PARKWAY GREENWAY**

Add shared or advisory bike lane markings to Birchcliff Parkway create a greenway, leveraging planned traffic calming treatments.

7 **LEDGE ROAD SHARROW/BIKE LANES**

Stripe an eastbound bike lane and westbound sharrow on Ledge Road from Shelburne to Prospect. Add traffic calming features to slow vehicle speeds.

8 **ADD INTERIM DESIGN CURB EXTENSIONS ALONG PINE STREET**

Using temporary paint/epoxy gravel treatment and planters add interim design curb extensions along Pine Street at Kilburn Street, Marble Avenue, Howard Street, Locust Street, and Flynn Avenue.

9 **ADD SIGNAGE ALONG PINE STREET**

Add “Bikes May Use Full Lane” signs on the east side of Pine Street, north of Flynn Ave.

10 **IMPROVE BICYCLE CONNECTIVITY ALONG PINE ST.**

Eliminate parking to stripe conventional bicycle lanes along Pine Street, south of Lakeside Avenue to the end of Pine.

11 **ADD BIKEWAY MARKINGS AND SIGNAGE TO QUEEN CITY PARK ROAD**

Working with South Burlington, add 5 ft. bike lanes or sharrows on Queen City Park Road as space allows.

12 **IMPROVE SAFETY AT THE PINE STREET AND LAKESIDE INTERSECTION**

Where the existing southbound bike lane on Pine Street crosses Lakeside, add markings to reinforce bike lane along Lakeside and the Cumberland Farms driveway.

Sub-Area 3: 5-Year Action Plan

Major Community Destinations

- Public School
- University Area
- Park
- Area within 5-min. walk of Neighborhood Center

Planned Projects

- Crossing Upgrade - Already Funded for Construction

Existing Bikeways/Paths

- Shared Use Path
- Existing Informal Path
- Conventional Bike Lane
- Shared Use Lane Markings

Proposed Walk Projects

- Recommended New Sidewalk
- 12-mo Intersection or Crossing Upgrade
- 5-yr Intersection or Crossing Upgrade

Proposed Bikeways/Paths

- Shared Use Path
- Protected Bike Lane
- Neighborhood Greenway (includes Traffic Calming)
- Buffered/Conventional Bike Lane
- Advisory Bike Lane
- Shared Use Lane Markings with Traffic Calming
- Potential Path Easement

Note: Dotted white street lines indicate conceptual street connections that have been discussed in other city or regional plans.

LIST OF RECOMMENDED PROJECTS TO BE IMPLEMENTED IN THE NEXT 2-5 YEARS

Please see map on previous page for additional details.

Project Name	Proposed Action
Callahan Park Greenway	Shared lane markings and traffic calming
Flynn Ave Bikeway	Mark and sign bicycle lanes
Home Ave/Pine St Intersection	Consider mini-roundabout and shared lane markings
Howard Street Greenway	Shared lane markings and traffic calming
Linden Terrace Greenway	Traffic calming, shared lanes or advisory bike lanes
Pine Street Bikeway (Queen City Park to Flynn)	Mark and sign bicycle lanes
S. Winooski/Howard/St. Paul Intersection	Consider mini-roundabout or signal phasing changes; high visibility crosswalks, curb extensions with creative materials
Shelburne Road Crossings	Install high visibility pedestrian crossings

Sub-Area 3: Long Term Plan

Major Community Destinations

- Public School
- University Area
- Park
- Area within 5-min. walk of Neighborhood Center

Planned Projects

- Crossing Upgrade - Already Funded for Construction

Existing Bikeways/Paths

- Shared Use Path
- Existing Informal Path
- Conventional Bike Lane
- Shared Use Lane Markings

Proposed Walk Projects

- Recommended New Sidewalk
- 12-mo Intersection or Crossing Upgrade
- Intersection or Crossing Upgrade

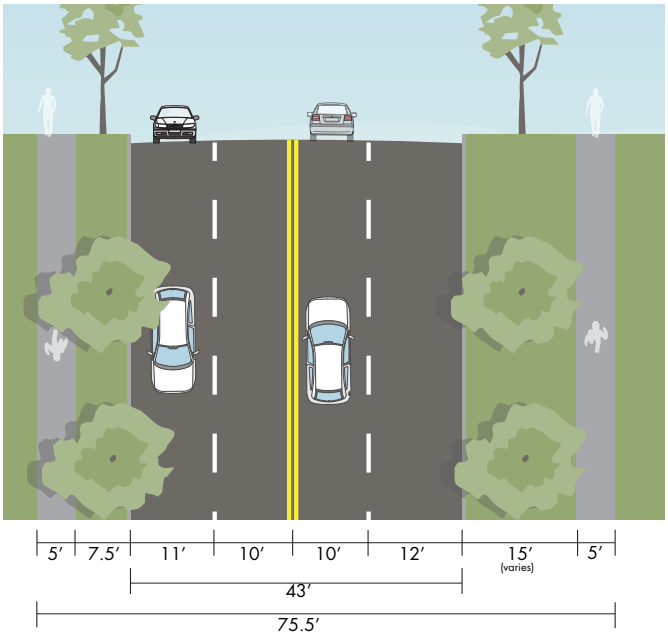
Proposed Bikeways/Paths

- Shared Use Path
- Protected Bike Lane
- Neighborhood Greenway (includes Traffic Calming)
- Buffered/Conventional Bike Lane
- Advisory Bike Lane
- Shared Use Lane Markings with Traffic Calming
- Potential Path Easement

Note: Dotted white street lines indicate conceptual street connections that have been discussed in other city or regional plans.

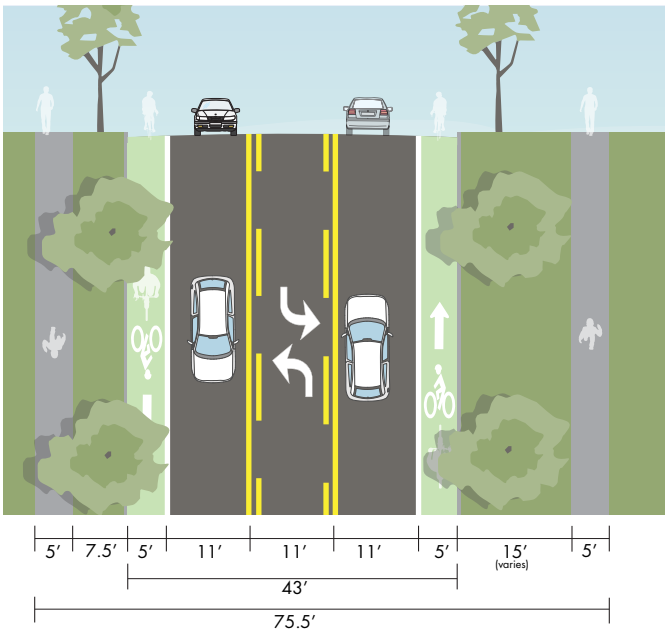
Shelburne Road Bikeway

Shelburne Road is a major north-south spine connecting the City's south end with the downtown core and the commercial centers and highway entrances at the southern edge of the city. Public input and crash data analysis have identified Shelburne Road as an unsafe and uncomfortable place for people biking and walking. The proposals below assume that traffic demand on Shelburne Road is lessened when the Champlain Parkway is opened. These are just a few ideas for Shelburne Road. Existing plans such as the draft PlanBTV South End Plan and the 2011 Comprehensive Transportation Plan for the City of Burlington call for a dedicated multi-modal corridor and land use study for Shelburne. This study should be used to generate more detailed strategies for making Shelburne a more walkable, bikeable, and crossable roadway.



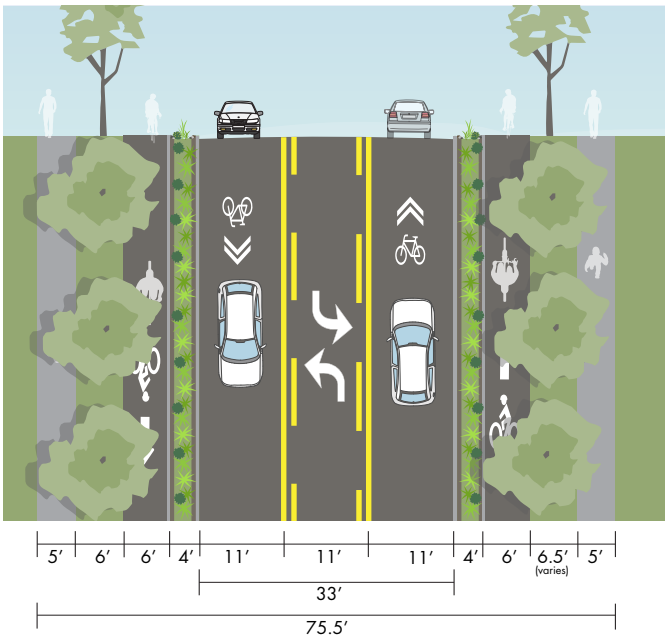
EXISTING CONDITIONS

Shelburne Road features two travel lanes of moderate width in either direction and no dedicated bike facility. Sidewalks are narrow, but are protected by a generous greenbelt and mature street trees. Driveway curb-cuts do create conflict points for people walking on the sidewalk. And, because most people do not feel comfortable riding their bikes in the Shelburne travel lane, sidewalk riding is another threat to pedestrian safety and comfort. Shelburne also features sections of roadways that greatly exceed the maximum recommended spacing between pedestrian crossings.



OPTION 1

Option 1 illustrates the option of providing only one travel lane in each direction, with a center turn lane. Such a shift would allow for a narrow, conventional bike lane in each direction.

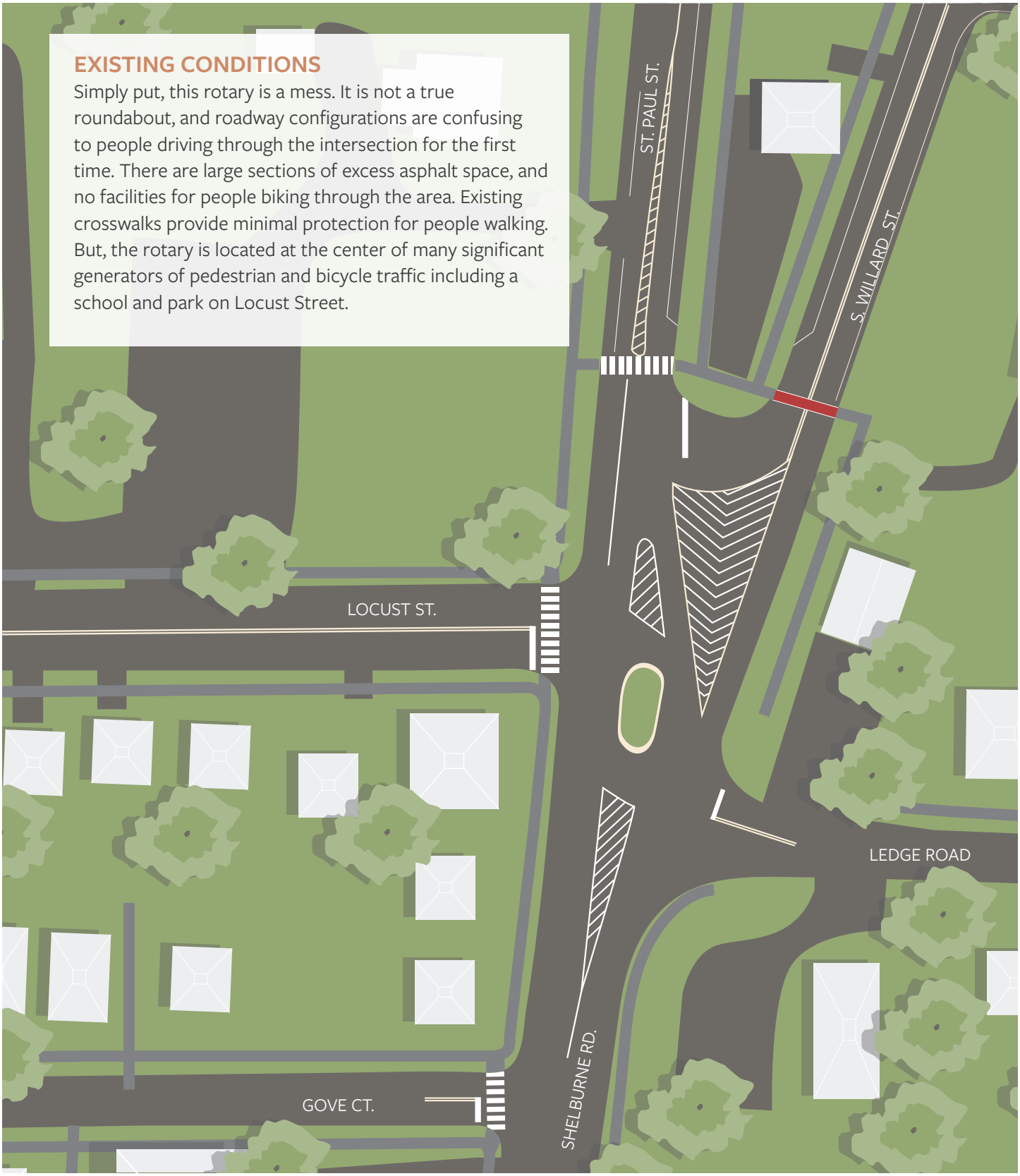


OPTION 2

Option 2 illustrates a more intensive project, in which the existing greenbelts on Shelburne Road are redesigned to feature a planter-protected bike lane in each direction.

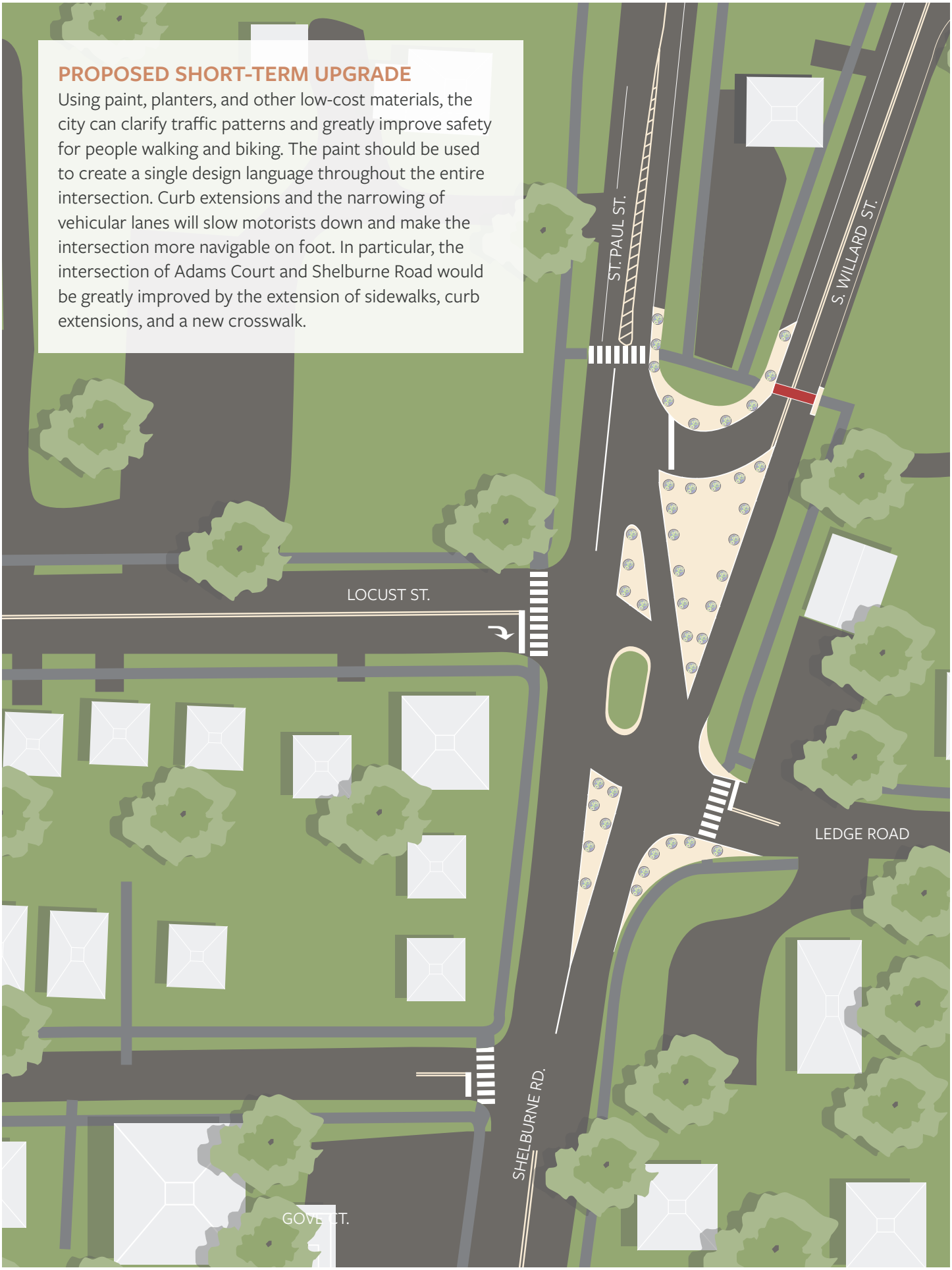
Shelburne Road Rotary

The Shelburne Rd. Rotary was mentioned more often as an area of concern than any other intersection in the City. There is a decades-long project in the works to rethink this space, and everyone is frustrated by the elongated timeline and persistent safety issues. The drawings on the following page illustrate recommends for interim design measures to address safety issues in the near term in response to these concerns.



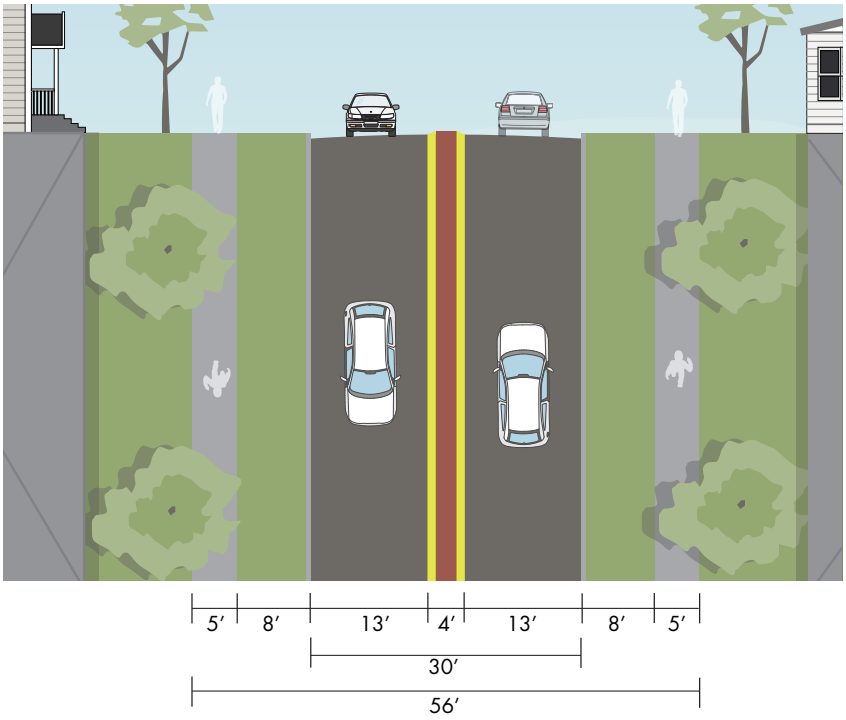
PROPOSED SHORT-TERM UPGRADE

Using paint, planters, and other low-cost materials, the city can clarify traffic patterns and greatly improve safety for people walking and biking. The paint should be used to create a single design language throughout the entire intersection. Curb extensions and the narrowing of vehicular lanes will slow motorists down and make the intersection more navigable on foot. In particular, the intersection of Adams Court and Shelburne Road would be greatly improved by the extension of sidewalks, curb extensions, and a new crosswalk.



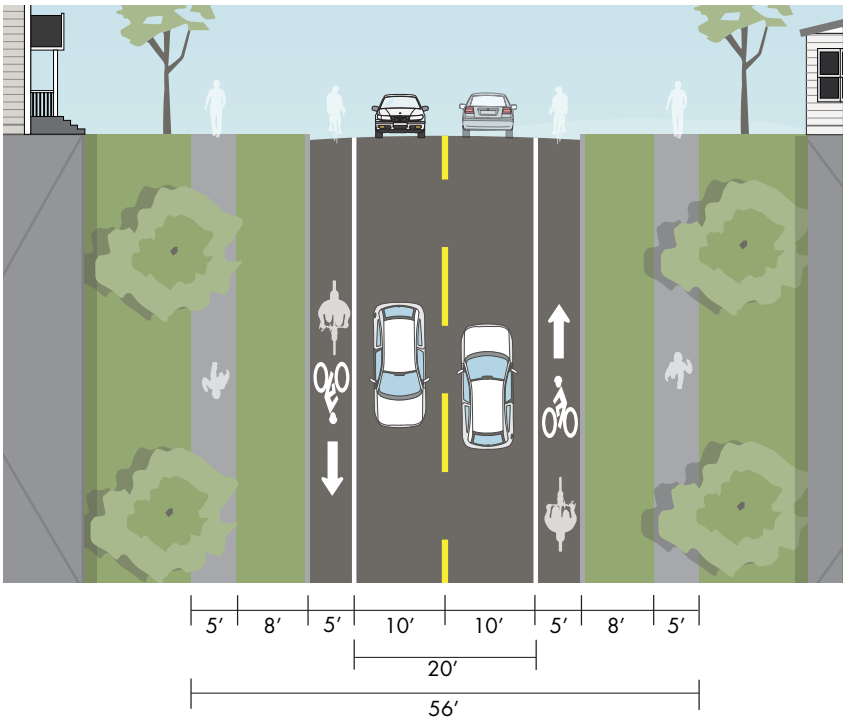
Home Avenue Bikeway

Home Avenue is an important east-west connector in the southern end of Burlington. It provides access between key recreational facilities and trail heads at Oakledge Park to Pine Street and Shelburne Road. The longterm bike network plan proposes a redesign of Home Avenue to create safe conditions for people walking and biking.



EXISTING CONDITIONS

Home Avenue features wide travel lanes in each direction. A narrow median serves to separate cars, but provides no value in terms of pedestrian or cyclist safety. Though sidewalks are narrow, they are protected from vehicle travel lanes by a generous green belt on one side. On-street parking is permitted.

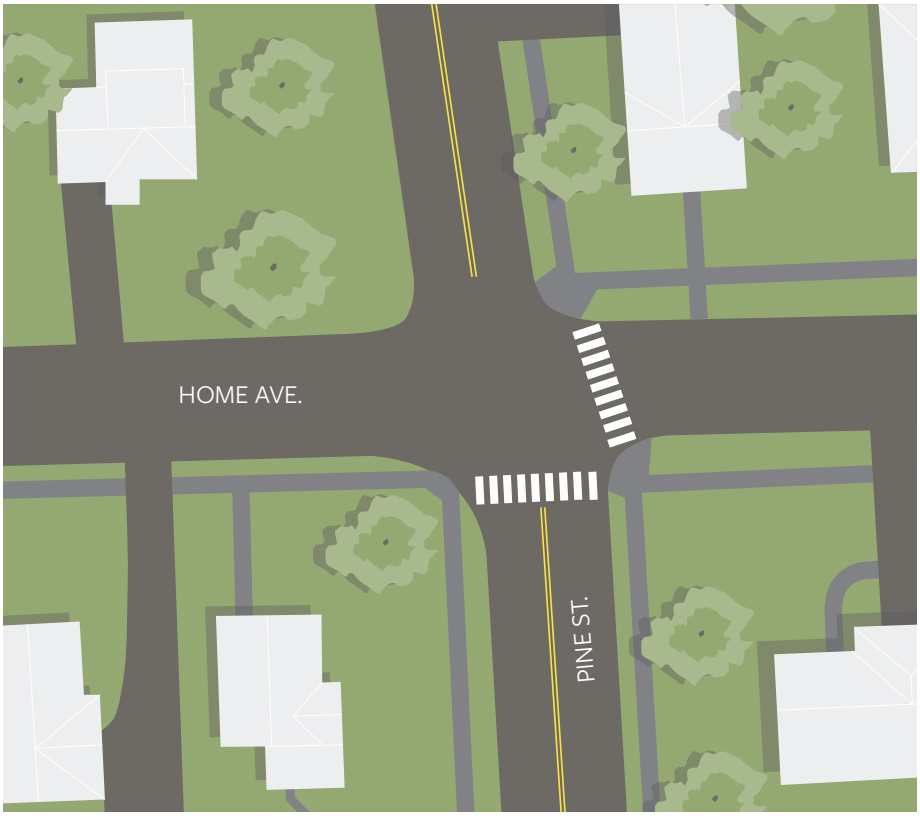


PROPOSED BICYCLE LANE

Calm traffic in both directions by removing parking and narrowing vehicle travel lanes. This adjustment provides space for a narrow bicycle lane in each direction.

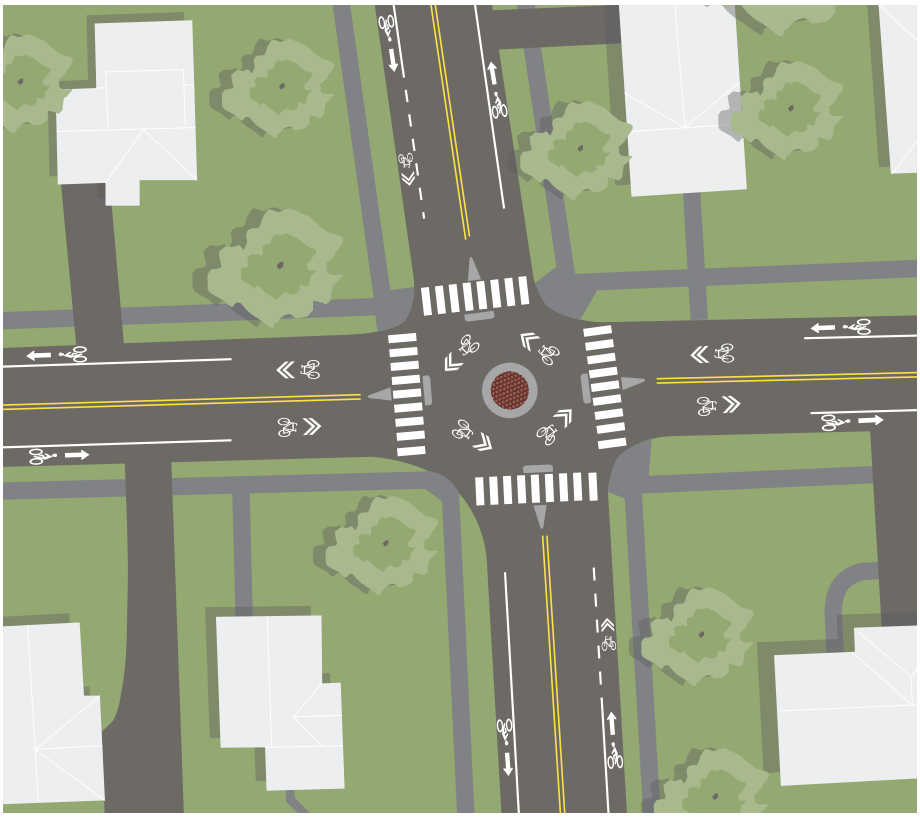
Home Avenue + Pine Street Mini Roundabout

The drawings below illustrate recommended changes to the intersection of Home Avenue and Pine Street, in support of the Home Avenue bike lane recommended on the previous page. This intersection has been identified as one of the top 20 Priority Intersections based on crash data and public input.



EXISTING CONDITIONS

Home Avenue's crosswalk configuration is limited, and it does not provide safe and direct routes to the transit stop on the northwest corner of the intersection. Protection and amenities for people walking are almost non-existent, and there are no bicycle facilities.



PROPOSED ROUNDABOUT

The drawing above illustrates a condition in which the proposed Home Avenue bike lane meets Pine with a mini-roundabout. Upgrades also include median refuge islands for people crossing in all four directions, and shared lane markings throughout the roundabout. Add a sidewalk on the north side of Home Ave.

POLICY + PROTOCOL ACTION PLAN

Not all recommendations in the realm of Engineering can be shown through maps and drawings. This section of the chapter details priority policies and protocols that will support safer streets and more transportation options city-wide.

VISION ZERØ

#1: Adopt a Vision Zero Policy

Adopting a Vision Zero Policy will be an important step in helping Burlington achieve the safety goal of eliminating traffic-related fatalities and serious injuries by 2026.

Vision Zero is an international road traffic safety framework that helps communities work towards the goal of no fatalities or serious injuries in road traffic. Initially developed in Sweden, Vision Zero has been adopted by a growing list of U.S. cities. The U.S. Department of Transportation's Federal Highway Administration has also adopted a Toward Zero Deaths vision statement, setting a framework that even one death in our nation's transportation system is unacceptable. When Sweden first launched Vision Zero, the country recorded seven traffic fatalities per 100,000 people; today, despite a significant increase in traffic volume, that number is fewer than three. (Compare this to the number of road fatalities in the United States, which is 11.6 per 100,000 people).*

Vision Zero Action Plans require a high level of leadership and investment from multiple public agencies. The plans are typically developed collaboratively with a city's transportation or public works department, police force, and Mayor's office at a minimum. Though this document is not Vision Zero Action Plan, it is guided by an ambitious safety goal that falls in line with the Vision Zero framework - creating a pathway to help Burlington eliminate traffic-related fatalities and serious injuries by 2026. In this way, the plan sets Burlington up to formally adopt a Vision Zero policy moving forward. Doing so would require a collaborative effort from the Mayor's Office, Burlington Police Department, Burlington Public Works, and the City Council.

Success Metrics:

- Adopt a Vision Zero policy by 2018.
- Reduce serious crash injuries by 50% and eliminate fatalities by 2026.

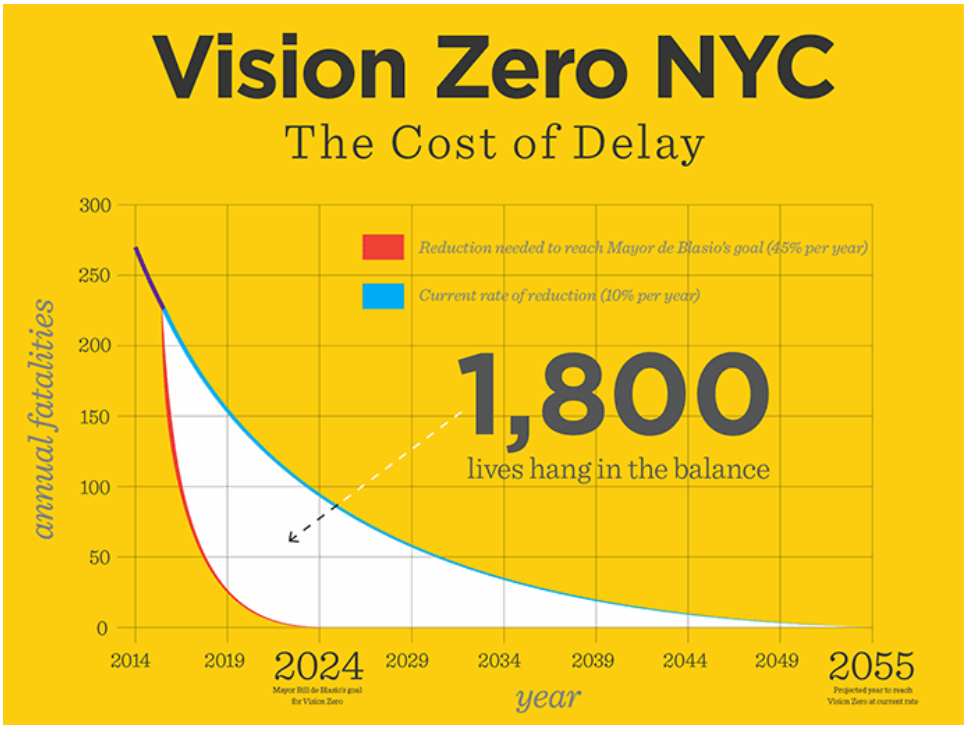
Responsible Parties: City of Burlington Department of Public Works; Burlington City Council, BPD, Mayor

**Source for information about results of Vision Zero in Sweden vs. the United States: CityLab.com "The Swedish Approach to Road Safety", published November 20, 2014.*

THE FOLLOWING U.S. CITIES ARE CURRENTLY UNDERTAKING MAJOR STREET SAFETY INITIATIVES INSPIRED BY THE ORIGINAL VISION ZERO EFFORT:

- ▶ San Francisco, CA
- ▶ New York, NY
- ▶ Chicago, IL
- ▶ Los Angeles, CA
- ▶ Seattle, WA
- ▶ Portland, OR
- ▶ Boston, MA
- ▶ Washington, D.C.
- ▶ San Antonio, TX
- ▶ San Diego, CA
- ▶ Santa Barbara, CA
- ▶ San Mateo, CA
- ▶ Fremont, CA
- ▶ Austin, TX
- ▶ Columbia, MO
- ▶ Tampa, FL
- ▶ Bellevue, WA

In addition to this list, many communities have adopted "Toward Zero Deaths" initiatives, setting a tone that even one death in the transportation systems of our communities is unacceptable. The U.S. Department of Transportation's Federal Highway Administration is one example of an organization that has adopted such a vision statement.



Cost of Delay graphic, from NYC Vision Zero Report Card, by Transportation Alternatives

New York City adopted a Vision Zero Policy in the winter of 2014, setting a 10-yr goal to eliminate all traffic death and serious injuries on the city's streets.

The advocacy organization Transportation Alternatives has produced a report card to track progress towards meeting New York's goal of reaching Vision Zero by 2024. The graph below appeared in the 2015 report card. It illustrates that achieving this goal is not simply about keeping a campaign promise. It is about saving human lives.

#2: Promote the vitality of Neighborhood Activity Centers (NACs) as places that provide essential services.

As noted in the Safe Streets Design Principals, street design is inherently connected to land use. Many Burlington's Neighborhood Activity Centers feature land use that support use of alternative modes, because they provide essential services within walking distances of people's home and/or place of employment. Burlington must continue to promote the vitality of NACs as places that provide essential services. This means creating zoning codes that help keep essential services like drug stores or grocery stores in neighborhoods. It is essential that new development in Burlington uphold a high standard of walkable NACs.

Success Metric/s: [Forthcoming]

Responsible Parties: DPW, Burlington Planning Department, CEDO, Planning Commission, and City Council

#3: Create a placemaking program to incentivize neighborhoods and business owners to create supportive amenities.

Burlington can make walking and biking more pleasant and comfortable by increasing supportive amenities through small-scale placemaking projects including: garden walks, street seats, plazas, parklets, bike corrals, and more. Burlington should create a clear pathway for neighborhoods and businesses to obtain a permission (and even funding) to create such public space amenities on a mid- to long-term basis. Such a policy could build off the Demonstration Project Policy currently in development, but allow for longer term installation of pre-approved project types. Models for such a program exist across the country - from the People St "kit of parts" approach to adding parklets, plazas or bike corrals in Los Angeles to the more loosely defined arts and placemaking Pop-up Providence program in Rhode Island.

Success Metric/s:

- Create and implement a placemaking program by 2018.
- Measure economic gains for business and property owners following installation.

Responsible Parties: DPW, CEDO, Department of Parks, Recreation & Waterfront, and NPAS

Photo by Julie Campoli.

#4: Expand Use of Pilot and Demonstration Projects

City Ordinance allows the Department of Public Works to implement temporary traffic and parking projects on all public streets, making use of short-term or "pilot projects" to evaluate the merits and impacts of proposed street design projects. Currently, pilot projects may be in place for up to 30 days. This time period should be extended to allow for pilots up to 12 months in duration, with the option for the use of more durable (but still removable) interim design measures in the 1-5 year time frame.

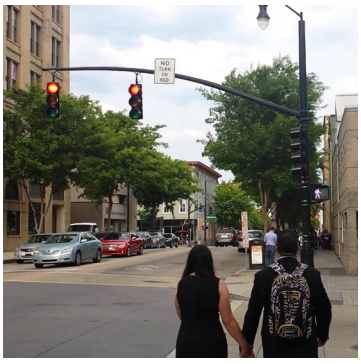
At the shorter end of the time scale, Burlington is working to develop a guide and policy to make it easier for everyday residents, advocacy organizations, and community groups to spearhead 1-7 day "demonstration projects" alongside DPW and other agencies. Burlington should continue the momentum around the use of trial installations once the demonstration project policy is formally approved, and commit to amending the approved project types in the policy every year.

Finally, Burlington should expand opportunities for online citizen input and engagement through existing platforms such as SeeClickFix. The Burlington Police Department is currently planning to expand its use of SeeClickFix for citizen input about abandoned bikes, safety issues, and more. A small group of current users could be engaged in a task force to help identify and structure opportunities for effective use of this platform.

Success Metrics:

- Continue to use pilot projects to inform decisions about walk/bike projects, and expand the pilot project time frame by 2018
- Approve the Demonstration Project guide and policy and update it every year, as needed.
- Create a task force to identify better use of SeeClickFix in collaboration with BPD.

Responsible Parties: City of Burlington Department of Public Works; Burlington City Council, BFD, BPD, residents and community groups



Lead pedestrian interval. (Photo by Leo Suarez.)

#5: Pass and Enforce Bicycle/Walk-Friendly Laws and Ordinances.

Top priorities include:

- Adopt the Idaho Stop Law - a law that allows cyclists to treat a stop sign as a yield sign and a red light as a stop sign. This law would also allow cyclists to proceed cautiously through a red light phase at T-Intersection.
- Absent of dedicated bike signal heads, amend city ordinances to allow people riding bicycles to cross through an intersection with pedestrian signals.
- Establish pedestrian priority at all signalized crosswalks, adjusting signal timing to provide advance pedestrian phasing. Throughout Burlington's downtown core and in high-foot traffic areas (such as UVM, and North Street), pedestrian crossings should be timed to cycle through automatically, without the need for push-button activation.

Success Metric: Police expend precious resources on top-line offenders (dangerous driving, dangerous cycling etc.)

Responsibility: Department of Public Works, City Council, BPD, State of Vermont, Local Motion and other advocates.

Photo by CCTA.

#6: Improve integration of cycling and bus travel.

CCTA has undertaken a number of initiatives to integrate bike travel with public transit. CCTA buses are equipped with easy to use bike racks which hold 2 bikes each. CCTA also provides bike lockers at the Waterfront and has installed bike racks around the region. The following actions would continue this great momentum and create a stronger link between bikes and buses:

- Install additional bicycle parking at the bus stops with highest boarding volumes;
- When opportunities arise, replace current two-bike capacity bicycle racks on buses with three-bike capacity racks.

Success Metric/s: [Forthcoming]

Responsible Parties: CCTA, with funding partners

#7: Improve pavement markings at bus stop conflict points

Where bicycle facilities intersect with bus stops, high-visibility pavement markings can make conditions safer for people biking. Burlington should focus on adding high-visibility bikeway markings to existing bike facilities at the bus stops with highest boarding volumes. And, as new facilities recommended in this chapter are implemented, high visibility pavement markings should be used to make sure people on bikes are expected and respected along the roadway.

Success Metric/s: [Forthcoming]

Responsible Parties: DPW, CCTA

WINTER CYCLING ACTION PLAN

- **COORDINATES:** 44.4758° N, 73.2119° W
- **WINTER SEASON:** November - April
- **AVERAGE SNOWFALL:** 81 inches (7ft. 9 in.)
- **# SIDEWALK SNOW PLOWS:** 12
- **TWITTER HANDLE:** @BTVSnowDragon

Minneapolis. Montreal. Copenhagen. Oulu. (Yes, Oulu.... it's in Finland and they love winter cycling there). Many of North America's -- and indeed the world's -- best cycling cities are located at latitudes that, like Burlington, experience harsh winter weather. These cities and many of their wintry peers have achieved success through investment in thoughtfully designed infrastructure and municipal policies that strive to make winter cycling as comfortable, safe, and enjoyable as skiing down a perfectly groomed run at Stowe. With so many great examples and recent innovation, Burlington's winter climate should not be viewed as a barrier to cycling, but as an opportunity to embrace the season as any skier, snowshoer, or ice skater does when the temperature dips below freezing.

The following 9 policy/protocol recommendations outline how to jump-start a winter cycling action plan. The goal is to ensure that Burlington's emerging bikeway network is maintained to the highest standard possible all year so that the city's past and future investments in cycling return as much benefit as possible. While these recommendations aren't comprehensive, they provide an initial pathway towards the city and its residents embracing winter cycling.

#1: Formalize winter bikeway maintenance into Burlington's existing snow removal/ maintenance hierarchy plan so that a grid of connected winter bikeways is maintained throughout the city, including select shared use paths.

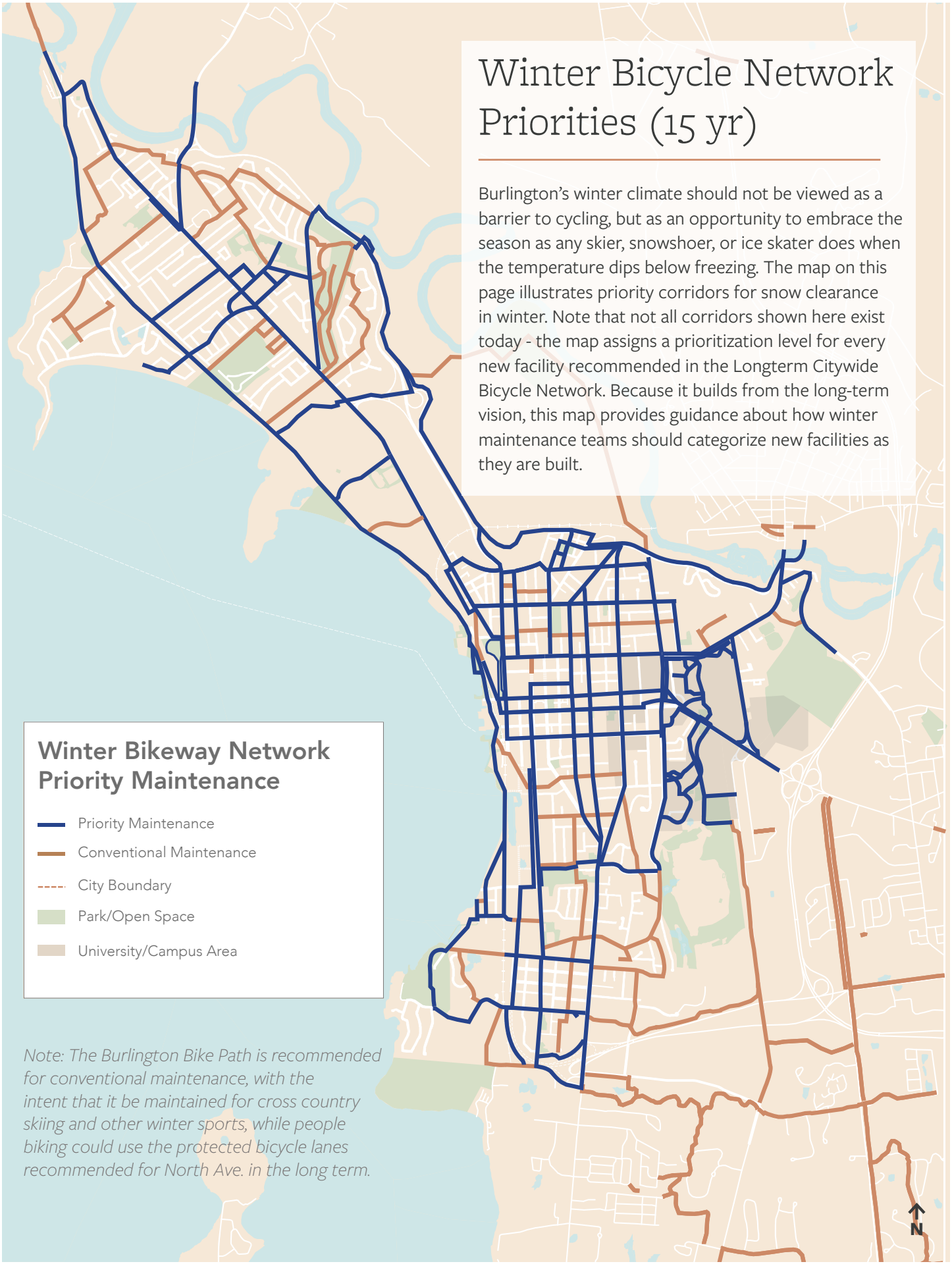
Burlington's snow removal protocols already prioritize regional thoroughfares, downtown streets, school zones and crossing guard locations for sidewalks and crosswalks. At a minimum, it is recommended that the same priority be afforded to all existing and future bikeways located within these priority locations. In addition, select streets and paths that link the city's most densely populated areas with common destinations like schools, UVM, and downtown should be included in a formal priority winter cycling grid maintenance plan. General recommended priorities are listed on the map on the following page.

Success Metric: Formalize Burlington's unofficial winter cycling maintenance plan by 2017.

Responsibility: Burlington Public Works Department

Winter Bicycle Network Priorities (15 yr)

Burlington's winter climate should not be viewed as a barrier to cycling, but as an opportunity to embrace the season as any skier, snowshoer, or ice skater does when the temperature dips below freezing. The map on this page illustrates priority corridors for snow clearance in winter. Note that not all corridors shown here exist today - the map assigns a prioritization level for every new facility recommended in the Longterm Citywide Bicycle Network. Because it builds from the long-term vision, this map provides guidance about how winter maintenance teams should categorize new facilities as they are built.



Note: The Burlington Bike Path is recommended for conventional maintenance, with the intent that it be maintained for cross country skiing and other winter sports, while people biking could use the protected bicycle lanes recommended for North Ave. in the long term.

#2: Experiment with new winter maintenance techniques for heavily used shared use paths.

Rather than attempting to scrape shared use paths down to the asphalt and limiting other winter activities, like snowshoeing, Burlington's Parks Department maintenance crew should consider building up and then maintaining a consistent layer of packed snow that lasts all winter long. Such conditions actually work well for winter cycling (without needing special tires or other equipment). And like surrounding ski resorts, creating an established base will then only require routine maintenance following a snowfall event. If the top layer gets too thick (More than 2 inches maximum) city crews may scrape it down to an acceptable depth and allow not only cycling, but other winter activities like cross-country skiing and snowshoeing to occur. This approach could be experimented with along segments of the Burlington Bike Path.

Success Metric: Develop a refined shared use path winter maintenance plan by 2017.

Responsibility: Burlington Public Works Department and Parks and Recreation Department

#3: Continue to design/retrofit streets to include sufficient space for snow storage.

When building new (rare) or retrofitting existing streets (less rare), provide enough space for snow storage either within a bikeway buffer or within the greenbelt. A 3 foot storage space is an accepted minimum, while 8 feet will accommodate heavier snowfalls, prolonged storage, and minimally impact the bikeway. If adequate space is not available, an alternate snow removal and storage plan should be put into effect.

Success Metric: All new and reconstructed streets incorporate snow storage space in greenbelt or bikeway buffer / barrier.

Responsibility: Burlington Public Works Department

#4: Develop and then educate the city's winter maintenance team about specific bikeway infrastructure plowing techniques

This plan recommends a variety of new bikeway designs not presently used in the City of Burlington. Some, like neighborhood greenways, require little to no additional plowing/storage methods as they simply make better use of existing travel lanes, while others, like physically protected bikeways, will require a modified or new approach. For example, Montreal's Rue Rachel two-way protected bikeway is separated from traffic by a tree lined median, which requires plows to avoid tree damage by plowing snow straight to the nearest intersection where an intersecting plow then moves the snow pile to an alternate storage area on the intersecting street.

Success Metric: Bikeways within the priority winter network are maintained to the same standard as priority streets and sidewalks.

Responsibility: Burlington Public Works Department

#5: Use pilot/interim design treatments for winter street flexibility and plow operator visibility

Certain segments of Burlington's protected bikeway network will be expanded using pilot/interim design treatments. Some types of physical buffers (armadillos, plastic bollards, and vertical delineators may cause challenges for plow operators and should be removed during winter months so that the cleared buffered may be used for snow storage. This storage area may be shaped as a barrier protecting the bikeway barrier. As temporary design transitions to more permanent curb and concrete, new vertical delineators that exceed average snowfall totals to communicate to plow operators where protected bikeway medians, curb extensions, and other elements that cannot be removed for the winter months exist.

Success Metric: Interim design successes/failures inform permanent snow storage design and damage is minimized to permanent safety upgrades.

Responsibility: Burlington Public Works Department

#6: Pilot and evaluate a range of pavement marking methods to decrease maintenance costs.

Snow plows, salt, and gravel can do a lot of damage to pavement markings. In order to preserve those marking bikeways, crosswalks, and general road markings, the City of Burlington should experiment with a range of treatments / marking types to see which decreases maintenance costs the most. In Minneapolis, the use of recessed thermoplastic markings proved to be more expensive on the front end, but also more effective and less costly in the long run as it reduced damage resulting from snowplows. Burlington should test a few different corridors with a range of treatments and evaluate successes and failures to inform an official policy by 2020.

Success Metrics: Various Pilot tests reveal a cost effective approach that reduces long-term maintenance costs by 2021.

Responsibility: Burlington Public Works Department

#7: Apply de-icing materials to bikeways in priority winter network in advance of a predicted snowfall exceeding 3 inches; Experiment with alternative de-icing materials.

At present, Burlington's de-icing process begins before small storms even hit, or during or after sidewalks have been plowed during a larger storm event. For bikeways, a de-icing strategy should have the de-icing material applied to the roadway approximately two hours before the snow event. Following the snow, the street should be cleared and additional de-icing material added as necessary. The advantages of a proactive approach are that less de-icing material and plowing is needed overall. In addition, alternative de-icing materials, like beet juice and cheese brine, help rock salt adhere to the roadway, offers a lower freezing temperature than regular brine, helps with skid control, and is more environmentally friendly than other salt or gravel materials. This approach also offers a cost savings, as it requires lower expenditures than using a conventional rock salt.

Success Metrics: Cost savings, less environmental damage, and better conditions for all modes following a snow event.

Responsibility: Burlington Public Works Department

#8: Evaluate and increase winter cycling retention rates.

Most cities experience peak cycling in the warmer winter months. Burlington should strive to increase winter cycling rates, which is an opportunity to further define the city as an attractive hub of outdoor physical activity, no matter the season.

Success Metrics: Achieve 20% winter cycling mode retention rates by 2021, 40% by 2026.

Responsibility: Burlington Public Works Department, Local Motion

#9: Expand winter cycling resources on City website.

Burlington should develop a winter cycling web page that offers resources such as the winter cycling map, maintenance policies, and education/encouragement resources aimed at inspiring city residents to give winter cycling a chance.

Success Metrics: Growth in web page hits; increased winter cycling retention rates.

Responsibility:

TREK

BICYCLE PARKING ACTION PLAN

Bicycle parking is critically important to supporting cycling as a viable mode of transportation.

Improving bicycle parking options for both short and long-term use is critically important to supporting cycling as a viable mode of transportation in Burlington. In recent years the City has increased bicycle parking supply by adding bicycle lockers to the Marketplace Parking Garage, offered property owners and retailers short-term bicycle racks at a subsidized rate, and provided Bicycle Parking Guidelines to ensure quality facilities are installed as properties are (re)developed. The City has also worked with local artists to provide unique artistic bike racks, and two in-street bicycle corrals, which provide approximately 12 bike parking spaces where a single car used to park. Finally, Burlington's City Green Employee program has set an example for other employers in the community by providing access to a fleet of city owned bikes and indoor bike parking for employees and visitors.

These advancements are a great start, yet a cursory analysis of Burlington's cycling "hot spots" (downtown, South End, UVM/Champlain College, Old North End etc.) reveals that supply is not meeting the current and coming demand that will result from continued investment in cycling infrastructure. And without an increase in supply, quality, and type, it will be difficult for Burlington to obtain the bicycle mode share goals set forth in this plan. Thus, a more robust approach must be taken to accommodate cycling growth, including adding high-capacity indoor bicycle parking facilities, especially in downtown Burlington and on the UVM and Champlain College Campuses.

The goal of the following recommendations is to support cycling through the provision of more high quality, plentiful, and visible bicycle parking options that serve residents and visitors for years to come. These bicycle parking recommendations are intended to address needs citywide but will ultimately be implemented at the block and individual building level. These recommendations must be calibrated and subject to site analysis before each installation is completed so that bicycle parking remains convenient, placed properly in the right-of-way or within the building in which it is located. They should also be revisited regularly as Burlington's bicycle mode share increases.

The Engineering Action Plan at the start of this chapter identifies better bike parking as a priority. This section provides details about specific steps the should be taken to improve and expand bicycle parking citywide.

#1: Add more high-capacity bicycle parking facilities

Update the city's existing bicycle parking guidelines to include on-street bicycle corrals, bicycle shelters, and bicycle rooms/stations. Create an easy pathway for interested property or business owners to co-sponsor (and/or request) bicycle corrals/shelters as an option through Burlington Public Works' parking assistance program in select high demand areas, such as popular bars/restaurants, retail shops, civic sites, and site triangle visibility zones. Work with key downtown property owner(s) and UVM / Champlain College to develop at least two high-capacity indoor parking "stations", with amenities such as showers, lockers, and basic bicycle repair tools / supplies, and locate them with close proximity to transit.

Success Metrics: Bicycle parking guidelines are updated within 12 months of the adoption of this plan; A high-capacity "station" is built within 3 years of plan adoption. See additional metrics related to bike parking on page 58 of this plan.

Responsibility: Department of Parks, Recreation, and Waterfront, and through a Public-Private Partnership framework including Burlington Department of Public Works, NPAs, local non-profits, institutions and business owners.

Classic non-conforming "wheel bender" rack. Photo by VeloBusDriver, Flickr.

#2: Remove non-conforming bike racks

Remove any/all existing non-conforming bike racks (wheelbender rack, wave rack, etc.) within the public-right-of-way or within or adjacent to public buildings (schools, government offices etc.) and replace the recommended bike park parking types included in Burlington's Bicycle Parking Guidelines and this plan (shelters, corrals). The Department of Parks, Recreation & Waterfront is a key parter; the Department is actively working to standardize bike parking within parks and insure that high-quality racks are available in every park.

Success Metric: Non-conforming racks are removed and replaced within 1-3 years from the adoption of this plan.

Responsibility: City of Burlington Department of Public Works; local schools; Department of Parks, Recreation & Waterfront

#3: Add more art racks

Create an easy pathway for interested property or business owners to work with artists and non-profits (Local Motion, SEABA, Burlington City Arts etc.) to sponsor and add artistic bike racks. Focus on schools, parks, civic institutions, and the South End arts district as priority receiving areas.

Success Metric: New racks are rolled out over the course of 1-5 years following the adoption of this plan.

Responsibility: Public-Private Partnership framework including Burlington Department of Public Works, Burlington City Arts, NPAs, local non-profits, institutions, artists, and business owners.

#4: Revise Bicycle Parking Ratios

Section 8.2.1 of Burlington's zoning code and the companion Bicycle Parking Guide currently require short- and long-term bicycle parking to be provided whenever property is (re)developed. While this ensures that new bicycle parking is added, current parking is already inadequate for meeting demand, to say nothing of future bicycle parking demand. So-called "hot spot" locations -- those with frequently oversubscribed bicycle racks -- may be replaced by in-street bicycle corral or shelters, however demand for long-term parking within existing buildings is also needed as more Burlingtonians take more trips by bicycle. The following bicycle parking ratio requirements should be adjusted.

Success Metric: Ratio guidelines are revised within 2 years of the adoption of this plan.

Responsibility: City of Burlington Department of Public Works; Planning and Zoning Department.

GENERAL UPDATES

- Revise Chapter 8, section 8.2.2 of Burlington's zoning code to allow long-term bicycle parking serving multiple uses or buildings to be pooled into a single area, enclosure or facility if located within close proximity of all the buildings it serves.
- Make clear that any bicycle parking space that meets the requirements for both long-term bicycle parking and short-term bicycle parking may contribute to the minimum requirement for one type or the other, but not both.
- If a property owner cannot meet the requirements for bicycle parking on-site, the owner must contribute to a dedicated Public Bicycle Parking Fund (not just capital general fund) for the city to provide additional public spaces where supply/quality is not sufficient.
- Bicycle parking ratios and requirements should be reviewed at least every five years.

SPECIFIC UPDATES

- For more accurate supply/demand residential building, establish long- and short-term bicycle parking provision as function of total bedrooms, not units, and add a baseline minimum number of spaces per building, no matter the unit total.
- Increase short- and long-term residential bicycle parking supply requirements for Fraternity, Sorority, and Dormitory uses, with a minimum number of spaces provided for each category.
- Increase short- and long-term bicycle parking requirements for Office uses, including medical/dental; improve supply/demand accuracy by requiring short-term parking ratios to utilize a square footage calculation while long-term parking ratios should be calculated using the number of current or anticipated employees; explicitly require a minimum number of spaces provided for each short- and long-term parking category.
- Improve short and long-term parking supply/demand requirements for Retail/Restaurant by using 1,000 square foot increments for short-term parking ratios; long-term parking ratios should be calculated using the number of current or anticipated employees; explicitly require a minimum number of spaces provided for each short- and long-term parking category.
- For Industrial, Manufacturing, Production, or Warehousing uses, peg long-term bicycle parking requirements to be the number of employees, not the amount of square footage; explicitly require a minimum number of spaces provided for each short- and long-term parking category.
- Increase the long- and short-term bicycle parking supply for non-residential university buildings
- Increase and improve supply/demand accuracy by requiring short-term Community Services bicycle parking to be a function of square footage ratio, while long-term ratios should be tied to the number of employees; explicitly require a minimum number of spaces provided for each category.
- Increase short- and long-term bicycle parking requirements for Medical uses, including medical/dental; improve supply/demand accuracy by requiring short-term office ratios to use square footage ratios and long-term office ratios to be pegged to the number of employees; explicitly require a minimum number of spaces provided for each category.
- Increase short-term bicycle parking requirements for Places of Worship; explicitly require a minimum number of spaces provided for each parking category.
- Increase the number of long-term bicycle parking spaces required for automobile parking lots/garages; require short-term bicycle parking be provided along the perimeter or within a single parking space of a parking garage or surface parking lot.

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BEYOND INFRASTRUCTURE

Five More Methods for Improving Walking and Bicycling in Burlington

For definitions of the "6 E's" framework guiding this plan, please see page 49.

Thus far, much of this plan is devoted to infrastructure-related recommendations. But, we can't stop there. If Burlington is going become the best small city for walking and biking on the East Coast, we must continue our community's excellent momentum in other key areas such as education, encouragement, enforcement, evaluation and equity. This section of the plan provides recommendations for actions that fall into one of these other important categories.

It is important to note that nearly all recommendations in this section require a collaborative effort between DPW and other city agencies, Neighborhood Planning Assemblies, non-profit organizations, and local businesses and residents. DPW cannot implement these recommendations without support and leadership from a network of strong and willing partners.

EVALUATION + PLANNING ACTION PLAN

As Burlington's first citywide plan devoted to walking and biking, this document alone represents an important milestone in the realm of evaluation and planning. Adoption of the mode share target outlined in the Vision and Goals of this plan will help propel recommendations into reality. Below are a series of additional priority actions recommended in the realm of evaluation and planning.

#1: Increase City Capacity for Walk/Bike Project Planning, Implementation, and Evaluation.

DPW and other agencies are committed to making Burlington a better place to walk and bike, but limited staff resources are an impediment to the fast progress residents want and deserve to see. Burlington should hire at least one person this year to increase city capacity for planning, implementation, and evaluation of walk-bike projects. This staffer should work closely with the Burlington Walk Bike Council and the Safe Streets Collaborative to move projects forward and improve data collection efforts (more on that below). It may be appropriate to create a small, focused Committee with members of these two groups to coordinate strategies and messaging, and create a shared framework for action. The Committee should include at least one representative from each major interested sector including: health organizations, community centers, educational institutions, walk-bike organizations, police, etc. The City should also look to hire a second staff person within a year whose primary focus is getting rapid implementation safety projects on the ground.

Success Metric: Hire at least 1 additional full-time staff person by 2017, and a second person by 2018.

Responsibility: Department of Public Works

#2: Create a "data dashboard" of key metrics and evaluate progress towards alternate mode goals.

Data collection must go beyond the U.S. Census' Journey to Work report and existing crash reporting protocols. Burlington and CCRPC should launch a collaborative effort to improve data collection and create a new "dashboard" of data to evaluate progress towards alternate mode goals. Components of the dashboard could include:

- Detailed mode share data region-wide, including area of residence in the city and demographic information (gender/age, etc.)
- Bicycle volume estimates for the city and region
- Before and after bicycle volumes on streets that undergo improvements
- Sales data for commercial establishments on streets that undergo improvements
- Walk/bike to school numbers
- Infrastructure improvement summaries (miles of bikeways, intersections improved, number of bicycle parking spaces added to public right of way, etc.) by facility type. For example: In 2017, Burlington gained 4.2 miles of new bikeways, 1.3 of which are protected. etc.
- Detailed crash data, with a focus on responding to problem intersections. (See the Enforcement section for more recommendations related to crash data collection.)

A major role of the additional staffers recommended previously could be to manage data collection and evaluation efforts. Key tactics for improving data collection:

- Use automated counters to conduct annual cyclist volume counts on key corridors. Resources for such counts may be available through the National Bicycle and Pedestrian Documentation Project.
- Partner with advocacy organizations and universities to host manual walk/bike counts during Bike Month. On priority corridors use intercept surveys to measure how people arrive at key commercial or employment destinations. Use the results to inform infrastructure design decisions.
- Work with BPD to improve crash data collection (see page 150 for more). Then, expand efforts to evaluate crash data at problem intersections and create site-specific action plans to improve safety quickly with interim design projects.

Success Metrics:

- Use the Engineering Action Plan in Chapter 3 and the recommendations in this plan as well as the County-wide bicycle plan to create a data dashboard, with a regional work plan for collecting, tracking and updating the data each year. The dashboard should be created in a format that can be easily accessed by the public, as well as city staff and local officials.
- Produce a short annual report showing success/failure in identified areas (lower crashes, less injuries, more people biking, including women etc.) Annual report should be made publicly available each year.
- Use the Data Dashboard to evaluate progress advancing the recommendations in this plan, beginning 2 years from final publication of the document.

Responsibility: DPW, CCRPC, VTrans, Local Motion, BWBC, local Universities.

EDUCATION ACTION PLAN

Burlington benefits from a strong base of educational programs focused on active transportation. The "Go for Gold" Blueprint notes that schools and non-profits are already doing great work to help a wide cross section of people gain the skills and confidence to ride a bicycle, or walk to school. The priority actions below provide recommendations for building on existing momentum and taking it to the next level.

www. crashnotaccident.com

#1: Change how Burlington talks about traffic injuries & fatalities.

Safe streets advocates around the nation have begun pushing government agencies, law enforcement officials, and media outlets to change the way they talk about traffic crashes. For decades, we've talked about "accidents" caused by "out of control cars". Though it seems like a small matter, such language and passive voice framing reinforces a culture of inaction around unsafe streets. The reality is that traffic crashes are fixable problems caused by unsafe driving and dangerous streets. Building from existing resources from the Vision Zero Network and other advocates, Burlington should launch an inter-departmental pledge campaign, urging people to commit to using the word "Crash" instead of "Accident" moving forward. (For an example see: www.crashnotaccident.com)

Success Metrics:

- Secure a "Crash not accident" pledge commitment from at least 1 representative of all local media outlets and blogs, 100% of Department Heads in affected departments
- Removal of "accident" from official city documents and replaced with "crash" moving forward - ex. crash report, not accident report.

Responsibility: BPD, Mayor's office, BWBC, Local Motion, CCRPC, VTrans, Major Institutions are all key partners.

#2: Design and launch a broad reaching bike skills training and bike lock/safety gear distribution initiative.

Local Motion is currently working with UVM to offer free bike skills workshops for students, with free helmets, lights, locks, and pizza as an incentive to attend. Bike Recycle Vermont offers similar courses to their customers. The City should support expansion of this type of educational programming, in partnership with other organizations, such as community and youth centers. Such workshops would allow educational programming to reach groups who are currently underrepresented in active transportation circles, such as older adults and low-income residents.

Success Metrics:

- Reach 100 people per year
- Increase in bicycle mode share. (See Vision and Goals section of this plan.)

Responsibility: DPW should continue to support other organizations as leaders in this work (including: AARP, health organizations, community centers, Local Motion and Bike Recycle VT.)

Photo by SF Bicycle Coalition.

#3: Launch a professional driver education program.

Launch a professional driver education program to teach drivers who work in large fleets (such as bus drivers, sanitation workers, or taxi drivers) how to safely share the streets with people walking and biking. San Francisco Bicycle Coalition's Professional Driver Education Program provides an example: the SFBC's training covers key issues including navigating new types of infrastructure being piloted and implemented, how to safely make turns, loading and unloading, and bicycle rights and rules of the road. Groups that participate in the training include taxi drivers, public transit operators, and other companies with large fleets such as ride share programs, delivery vans, and shuttle operators. The City of Burlington should work with local advocacy groups to develop and deploy a similar program.

Success Metrics:

- Target a # (or %) of DPW and commercially licensed drivers that complete the program? Focus area: Training CCTA drivers about bus stops in bike lanes
- Decrease number of crashes involving professional drivers (track through crash data collection reforms suggested on page 150)

Responsibility: DPW, Special Services Transportation Agency, VTrans, CCTA, CCRPC, Local Motion

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Photo from the CP Smith Elementary School Travel Plan, created in April 2013.

#4: Expand Safe Routes to School programs to all schools.

Just over 80% of Elementary Schools and 50% of Middle Schools have a Safe Routes to School program. The "walking school bus" program at C.P. Smith Elementary School has been recognized as a successful case study by the National Center for Safe Routes to School. The Sustainability Academy has undertaken several pilots of a "bike train" program which functions much like a walking school bus – both programs provide important opportunities for education as students walk or bicycle to school together accompanied by one or more adults. Burlington schools should work to increase Safe Routes program offerings, with a focus on reaching low-income and/or New American students.

Success Metrics:

- By 2018, every elementary and middle school in Burlington should launch a Safe Routes to School Committee to lead SRTS program implementation and updating of school transportation plans. Burlington High School should also have an education and encouragement program for students.
- Use data dashboard to track progress towards a 50% increase in number of students walking or bicycling to school by 2025.

Responsibility: Local leadership teams, through Burlington School District

Campaigns like Local Motion's "Rides a Bike" initiative strike the right tone, sending the message that walking and biking can be transportation options for everyone, even if they don't have special skills or equipment. (Images by Doug Goodman, via Local Motion.)

#5: Improve the reach of Burlington's safety outreach campaigns to drivers

Educating drivers about how to safely share the road is a high priority for people who currently walk and bike in Burlington, and reaching drivers should be the focus of future safety campaigns. Distracted driving is one topic where driver education would be valuable - Burlington's advocacy organizations and government agencies could roll out a campaign focused on this topic in April, Distracted Driving Awareness Month. As new outreach campaigns are explored in years to come, it is important that words and images "normalize" walking and biking, and emphasize the positive. Campaigns like Local Motion's "Rides a Bike" initiative strike the right tone, sending the message that walking and biking can be transportation options for everyone, even if they don't have special skills or equipment.

Success Metrics:

- Local Motion's existing all-modes walk-bike-drive safety brochure outlines rules of the road in plain English and includes a coupon for up to $25 off safety gear (helmets, etc.). Translating this brochure into other languages and expanding its distribution is an easy first step.
- In 2017, create and launch an annual Distracted Driving Awareness campaign in April. This campaign should become an annual effort. To understand program impact, track progress towards a decrease number of crashes due to distracted driving (track through crash data collection reforms suggested on page 150).

Responsibility: Burlington Public Works and other funders should continue to support non-profits that have been leaders in this area, such as Local Motion. Other partners include AARP, which currently runs a successful driver safety course program (AARP Smart Driver Course), as well as local refugee/resettlement organizations that can assist with translation and outreach to the New American community.

ENCOURAGEMENT ACTION PLAN

Encouragement is all about creating a culture that welcomes and celebrates walking and biking. This is nothing new to Burlington - the city already has a strong tradition of fun public bike rides, such as the Halloween Ride and Ride 365, and popular Bike Month programming. Building off these traditions, along with a 2nd year of success with Open Streets, and many other initiatives, Burlington has a solid base to work from in the realm of encouragement. To grow in this area, the City will need strong partnerships with non-profits, grassroots groups, educational institutions, local businesses and major employers. These organizations are typically leaders in creating or sponsoring festive walk/bike events, and they are often well positioned to provide incentives and reduce barriers. Launching a public bicycle share program is also a priority, as it is a critical element to support the Encouragement programming referenced here - for more details see item #7 in the Engineering Action Plan.

Photo from Open Streets BTV.

#1: Expand the landscape of encouragement events to offer new, and more frequent programming.

Open Streets BTV events are an effective way to engage a broad base of people in physical activity. DPW should support Burlington Parks and Recreation in increasing the frequency and scale of its open streets programs, with a special focus on engaging including children and older adults. For example, a "snowpen" streets event in mid-winter could allow participants to enjoy winter biking, cross-country skiing, snow shoeing etc. in a street closed to automobile traffic. Other ideas include:

- Help NPAs leverage smaller scale "Play Streets" events to experiment with pedestrian-focused projects such as new plazas and public spaces.
- Create supportive programs to recruit interested but inexperienced cyclists. The "Bike Experience" program in Brussels provides a model: invite people to try out bike commuting for 2 weeks, and kick off their Experience with a free, half-day training on urban biking. For the first few days of the Experience, it is critical to pair new bikers with experienced riders with a similar itinerary. The experienced rider helps the newcomer get over fears and find their way in the first few days. This campaign could be rolled out as part of Bike Month in May, in partnership with CCRPC's 2-week Smart Trip Challenge.
- Host monthly bike-to-work breakfasts in partnership with local businesses.
- Conduct nighttime bike light outreach on a more frequent basis, and work to find times that coincide with other well-attended evening events. (Local Motion can provide lights and train community partners in distribution/outreach.)

Success Metrics:

- Increase Open Streets event frequency to 4 per year by 2018, with the addition of play streets events in interested neighborhoods.
- Increase Play Streets event frequency
- Launch a bike-to-work breakfast initiative by 2017
- Kick-off an annual nighttime bike light outreach initiative in fall of 2016.

Responsibility: Burlington Parks and Recreation, and Department of Public Works, in partnership with City Council members, NPAs, and local non-profit organizations.

Source info needed. Photo by...

#2: Host targeted events and programs to engage underrepresented groups, such as women and seniors.

Census data shows that the recent growth in biking to work in Burlington is very heavily weighted towards men. Data from AARP surveys also indicate that a high percentage of Burlingtonians aged 45 and over would walk or bike more often if conditions were better (see Chapter 1 for more details). As projects in this plan roll out, Burlington should kick-start a program series focused on inspiring underrepresented groups, such as women and seniors, to be leaders in active transportation. Events could include group rides, peer-to-peer encouragement initiatives, workshops, or a Facebook group. To kick of the initiative and identify people who are interested in helping spearhead the effort, the City should work with local advocates to host a small bicycling summit or forum.

Success Metrics:

- Host a summit in 2017. A key outcome of the summit should be identifying an action plan for organizing and empowering people to be leaders in active transportation in Burlington.
- Increase the number of women bicycling each year - to be demonstrated through tracking of census mode share and data dashboard figures.

Responsibility: Department of Public Works in a supporting role, in partnership with local non-profit organizations such as Local Motion and AARP, universities, and major institutions.

#3: Grow awareness of and participation in existing Transportation Demand Management (TDM) Programs

Support CCRPC, the Chittenden Area Transportation Management Association (CATMA), and other partners in their efforts to grow awareness of and participation in existing TDM Programs such as Go! Chittenden County and the Way to Go! Commuter Challenge.

CATMA's work convening advocates through the Employee Transportation Coordinator (ETC) Network has great potential to help large employers run effective TDM programs. At the same time, individual residents are stepping up to the plate: total participation in the Way to Go! Commuter Challenge has grown steadily since 2006, with a significant increase in participation from schools in the past 3 years. The region must continue to experiment with and invest in these and other programs. Use of pilot incentive programs can help regional and local partners understand the best strategies for growing participation in TDM programs. In addition to continuing to support these ongoing TDM efforts, the City can establish itself as an example for other large employers by implementing the short- and long-term recommendations in the City employee commute TDM Action Plan (published October 2015).

Success Metrics:

- Implement the short- and long-term recommendations in the City of Burlington TDM Action Plan (published October 2015).
- Shift in mode share to reflect a reduction in the percentage of people driving alone. (See mode share goals in Vision and Goals section of this plan.)

Responsibility: CCRPC, CATMA, CarShareVT, CCTA, Local Motion, DPW

ENFORCEMENT ACTION PLAN

Laws and regulations are essential to establishing rules of the road. Once laws are established, it is also important that enforcement officials understand the laws, know how to enforce them, and apply them in an equitable manner. Communities that excel in the area of enforcement typically have law enforcement officials that regularly walk and bike as part of their duties. They also have structures in place to create strong relationships between advocacy groups and law enforcement officials.

#1: Revise crash reporting protocol to collect more robust data for crashes involving people walking or biking.

Crash reports are typically entered by a police officer into a crash report template created by the State. The templates include space for written descriptions as well as diagrams and coded information to describe what occurred. As the number of people traveling to work by alternative modes increases nationwide, states and cities are looking more closely at crash reporting protocols. The information requested on most crash report templates across the country focuses on motor vehicle crashes, with very limited opportunities to provide details of crashes involving a person walking or biking. Burlington should work with State and local officials to spearhead amendments to data collection protocols. Additional variables that merit consideration on a crash data template include: type of bicycle environment (presence of and/or type of bike facility on the street), more nuanced detail on potential car and bike impact points (including open doors, side mirrors, etc.), turn/impact patterns, and vehicle type details (sedan, pick-up truck, commercial truck, bus, etc.), and whether or not the driver was using an electronic device/cell phone when the crash occurred.

Success Metric: Revise crash reporting template to augment information required by the state of Vermont by 2020.

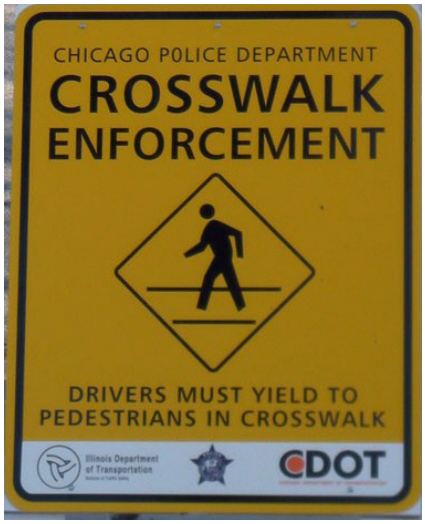
Responsible Parties: Requires state-level collaboration, with DPW, BPD as local leaders.

#2: Increase collaboration between DPW, BPD, the Safe Streets Collaborative, and the Burlington Walk Bike Council.

DPW should support partner organizations in establishing a framework for collaboration between the Safe Streets Collaborative, BWBC and BPD. Work of this group or task force should focus on strategic, collaborative projects that will advance the enforcement recommendations noted here and the safety goals outlined at the start of this plan. Implementation of this recommendation will require close partnership with BPD, to insure that BPD staffing resource and structures create time for this collaboration.

Success Metric: Establish a task force to help the Safe Streets Collaborative, BWBC and BPD work together to advance safety and enforcement recommendations.

Responsibility: Leadership needed from Safe Streets Collaborative and BWBC, with support and partnership from Department of Public Works and BPD



Source info needed. Photo by...

#3: Launch targeted sting enforcement efforts to crack down on dangerous behaviors at top offender locations.

Work with Local Motion and BPD to plan and execute a series of crosswalk stings in proximity to schools and community centers. During these stings, officers would monitor motorist compliance with crosswalks and issue warnings/ tickets to violators, often with television coverage of the sting. Work with BPD to set departmental goals for number of stings to be run each year on this and other issues, such as ticketing parked cars that are obstructing the pedestrian right of way, crosswalks, or parking in bicycle lanes. This recommendation is closely tied to Evaluation category, as it involves leveraging data to identify hot spot intersections for speeding, running red lights, etc. Targeted enforcement efforts could also be timed to coincide with programming around Distracted Driving Awareness Month in April or Bike Month in May (mentioned under Encouragement). The stings would provide an important opportunity for education - officers could be tasked with distribution of educational materials as part of the operation.

Success Metrics:

- Identify problem behaviors and launch the first "sting" effort at one priority intersection in by 2017.
- Decrease in crashes citywide, specifically those involving motorists who don't comply with safety laws at intersections. (Track through crash data collection reforms suggested on page 150).

Responsibility: Local Motion and BPD, with support from Department of Public Works

EQUITY ACTION PLAN

Too often, walk/bike planning fails to engage or solicit meaningful input from people who are not already involved in walk/bike advocacy circles. Though the population of people walking and biking in Burlington is diverse, special care must be taken to expand access, education, and encouragement efforts to be sure all residents benefit. For the purposes of this plan, we've defined equity in terms of:

- Geography – referring to the distribution of walking or biking improvements and facilities and programs within the community
- Social/Demographic factors – referring to the distribution of walking or biking improvements across diverse populations of all ages, genders, and abilities.

Importantly, item #7 in the Engineering Action Plan recommends that the city implement a public bicycle share system. This recommendation is a priority in the realm of equity; a high-density bike share system will help insure that all of Burlington's residents and visitors have access to bicycles.

Photo by Bike Recycle VT. Bike Recycle Vermont & Old Spokes Home create access to bikes and the opportunities they provide for our whole community.

#1: Expand education efforts and equipment access to low-income and minority communities

Start by producing educational/promotional materials in multiple languages. Work to expand reach of and access to existing programs such as Bike Recycle VT's Get A Bike program. As the recommended bicycle share program is rolled out, the city should work with local non-profit partners to develop a program that offers reduced membership rates and participation incentives to minority and low-income communities.

Success Metric: See recommendations related to public bike share on page 60.

Responsibility: See recommendations related to public bike share on page 60.

#2: Consider location equity in distributing walk/bike improvements across Burlington's neighborhoods.

Though implementation should respond to community support for projects, equity of project distribution across neighborhoods is an important consideration in building out a connected network of safe streets for people walking and biking.

Success Metrics:

- When considering implementation of the phasing plan suggested in Chapter 2, measure the distribution of network improvements and projects in each council district.
- Achieve proportional mode share gain in all council districts (to be tracked through data dashboard)

Responsibility: Department of Public Works

#3: Integrate equity safeguards in enforcement plans.

When implementing enforcement recommendations and developing protocols (such as the sting operations suggested previously), it is essential that equity concerns not be overlooked. Enforcement around unsafe behaviors (speeding, failure to yield, etc.) must not involve profiling of offenders.

Success Metric: [Forthcoming]

Responsibility: Department of Public Works, Burlington Police Department

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#4: Deepen understanding of the needs and priorities of populations under-represented in Burlington's walk/bike advocacy

Work with community groups to initiate ongoing, proactive conversations to deepen understanding of the needs and priorities of populations under-represented in Burlington's walk/bike advocacy community (including women, New Americans, young children, and older adults). The focus groups described in Chapter 2 provide a possible precedent for this type of conversation.

Success Metric: Create a work plan for pro-active outreach to under-represented communities, with the target of at least 2 events per year by 2018.

Responsibility: Department of Public Works, local non-profit partners, and NPAs

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FUNDING & IMPLEMENTATION

For this plan to become a reality, commitment to funding and implementation of the plan's priority recommendations is essential.

WHAT ARE WE GOING TO DO?

The sub-area sections in Chapter 3 list recommended projects in the 12-month, and 2-5 year time frames, and illustrate recommended long-term projects through maps. A complete list of projects recommended at all time scales can be found in the Appendix of this document. Also in the Appendix, the illustrated glossary provides definitions for many of the terms used throughout this plan to describe design treatments and infrastructure types.

Over time, it is virtually a certainty that some new projects will be added to the "to do" list, and others recommended in this plan may become unnecessary. Still, having a list of target projects for each time frame allows us to understand the scale and scope of what is needed to take this plan from paper to pavement.

THIS CHAPTER ANSWERS THE FOLLOWING KEY QUESTIONS:

- What are we going to do?
- What do we spend now?
- What will we need to implement the plan?
- How will we pay for it?

WHAT DO WE SPEND NOW?

While budgets change every year, the City has allocated about $1.5 million per year for city-funded walk-bike projects over the past 2 years, and has allocated more in the coming year:

- The sidewalk replacement fund is currently funded at about $400,000 per year. Funding at this level is enough to replace sidewalks on a cycle of over 100 years, which is way too long. The good news is that in the last two years, City capital has boosted this program with more than $700,000 of additional funding. And, the City's 10-year capital plan (currently in development) outlines a strategy to continue increasing available funds for sidewalk repair and replacement, in order to address all of the sidewalks currently categorized as serious or failed within five years, and all of the poor to failed segments in approximately 15 years. For more details, see page 159.
- $100,000 for other walk-bike projects: $50,000 for bike projects (2% of funds received from street capital paving) and $50,000 for the traffic calming program. As with the sidewalk program, the City's 10-year capital plan outlines a strategy to increase available funds for other walk-bike projects, with $250,000 to $450,000 allocated or planned for these improvements.
- The city also puts a substantial amount of funding towards pedestrian and bicycle infrastructure through ongoing projects, some of which include federal funding. It is not possible to determine the exact portion of funds used exclusively for walk-bike infrastructure, but we do know that it is a significant amount compared to the above dedicated funding sources.

$1.5 million

While budgets change every year, the City has allocated about $1.5 million per year for city-funded walk-bike projects over the past 2 years, and has allocated more in the coming years.

Snapshot of funding for current capital projects

Project Name	Funding/Notes
Burlington Bike Path Renovation	Penny for Parks Funding, bonding
Champlain Parkway	Includes shared use path, curb extensions, crossing improvements, bike lanes from Kilburn to Main
Colchester Ave Sidepath	Funded for 2017 Construction
Connectors through Burlington Town Center (Pine and St Paul)	Subject to development agreement, eligible for funding with Downtown TIF
Locust Street/Birchcliff Parkway Walkabilitly Projects	Grant funded
Main Street Streetscape (Battery to Union)	Downtown TIF/Great Streets Project
Maple/Battery Intersection	Crossing improvements
North Ave Crosswalks	Grant funded
Shelburne Rotary	VTrans Safety Project
St. Paul Streetscape (including the Main St. /St. Paul Intersection)	Downtown TIF Project
Traffic Calming Fund Projects	King St Neighborhood, Grant St, Loomis St, Ward St (Traffic Calming Fund)

WHAT WILL WE NEED TO IMPLEMENT THE PLAN?

The total estimated cost for the projects recommended in the 12-month time frame is $295,000. These projects are primarily lower cost actions that can be implemented quickly, and do not require changes to curbs or utilities. Projects included in this estimate are listed in the project tables in the Appendix.

The total estimated cost for the projects recommended in the 2-5 year timeframe is $1,900,000, or $475,000 per year over four years. Projects included in this estimate are listed in the project tables in the Appendix.

Many of the walk-bike projects listed in the 12-month and 2-5 year time frame are small, and perhaps mundane, but in total could have a huge impact. As project prioritization and funding is discussed, keep in mind that putting funding toward a series of smaller projects can have greater city-wide benefit than a small number of high cost projects. The city's capital plan should have a healthy mix of small and big projects.

WALK-BIKE PROJECTS ARE GREAT INVESTMENTS

Walking and biking projects are generally much less expensive to build and maintain than roadway or highway projects, and can yield significant benefits. The City's significant commute mode shares for walking and biking (19% and 6% respectively) and goals for growth in these mode shares (at least 34% of all trips) should be considered in how City transportation funds are allocated. Investments in the City's walk and bike infrastructure will ultimately result in a transportation system that reduces overall costs and increases choices.

HOW WILL WE PAY FOR IT?

Many of the projects recommended in the plan already have funding identified, including the walk-bike components of the Champlain Parkway, bike path projects funded through Penny for Parks, or projects such as complete streets upgrades on Main Street and the connection through the Burlington Town Center, which can be funded through the Downtown or Waterfront TIF. Other major projects, such as the reconstruction of the Colchester/Barret/Riverside intersection, are eligible for state/federal funding through the Chittenden County Regional Planning Commission Transportation Improvement Program (CCRPC TIP). The majority of the projects needed to build out the plan are small, relatively simple changes that can be incorporated into ongoing projects and activities with little additional cost.

Implementing this plan will require a shift in focus and emphasis in the City's ongoing effort to repair and repave its streets. And, there is no way around the fact that the City will need to increase funding allocated for walk and bike projects to make this plan a reality. Luckily, the City's 10-year capital plan (currently in development) is already on track to increase funding in ways that will support implementation of this plan. The next page presents strategies that will help the City achieve the funding levels needed to implement the recommendations in this plan.

The summary graphic on page 158 compares current spending levels and known or planned funding sources against estimates for what we'll need to implement this plan. The good news is...we can do this!

FUNDING SNAPSHOT

The graphic on page 158 compares current spending levels and known or planned funding sources against estimates for what we'll need to implement this plan. The good news is...we can do this!

A snapshot of what we spend in a typical year now

$1.1 million
Funding for sidewalk repair/replacement (replacement cycle is too long!)

+

$350,000
For other walk/bike projects from Bicycle Program, Traffic Calming Fund, and City Capital

+ Additional funding from grants & ongoing project budgets

=

$1.5 million

Additional annual funding needs called for in the 10 Year Capital Plan through 2021

$1 million
Capital Sidewalk Funding

+

$100,000
Capital funding for other walk/bike projects

How we implement recommendations in the next 5 years (through 2021)

$2.1 million
City funding to repair serious sidewalk failures.

+

$450,000+
City funding and grant funding to implement other walk-bike projects recommended in the plan:

- $295,000 - estimated cost for projects in next 12-months
- $475,000/yr - estimated cost for projects recommended in the 2-5 year timeframe, over 4 years.

Estimated annual needs for sustainable funding after 2021

$1.5 million
+ 3% escalator to sustain a 40-year sidewalk replacement cycle

+

$2 million
+ 3% escalator for transportation system expansion, including walk-bike projects

Strategies to pay for plan recommendations

Below is a list of strategies that will help the City achieve the funding levels needed to implement plan recommendations.

- **Increase the sidewalk repair and replacement fund.** The sidewalk replacement fund is currently funded at about $400,000 per year. At this rate, it would take more than 100 years to replace all of the city's sidewalks. A well designed and constructed sidewalk can be expected to last 40 or 50 years, but not 100. The good news is that in the last two years, City capital has boosted this program with more than $700,000 additional funding. The City's 10-year capital plan recognizes the need to continue increasing available funds for sidewalk repair and replacement, with $2.1 million per year recommended through 2021 to correct serious sidewalk failures. With serious failures corrected, a 40-year replacement cycle can be sustained with level funding of $1.6 million with a 3% escalator through 2026.
- **Allocate Capital Funding to Bike-Walk Projects.** Every year, the city allocates millions of dollars to capital street projects. While a large percentage of the city's capital funding for walk-bike projects is already allocated to large projects in the coming years (such as the Railyard Enterprise Project and the Champlain Parkway), capital investments are still planned. The City's 10-year capital plan recommends an additional $350,000 be allocated for transportation expansion projects during 2017 through 2021 and $2 million with a 3% escalator through 2026. As ongoing projects are completed, a growing portion of capital funds can be allocated to walk-bike projects to help implement this plan.
- **Dedicate a larger share of local paving funds to bicycle projects.** Every year, the City of Burlington receives funding from VTrans and a dedicated tax that is allocated for paving of local streets. Bikeway projects are an eligible use of these funds, and currently the City dedicates 2% of street capital paving funds for bikeway projects. This percentage could be increased to be aligned with the existing mode share for bicycles (6%), and over time increased to the mode share goal (12%).
- **Bundle funds from a variety of sources.** Because many of the projects in this plan have benefits that extend beyond walking and biking (such as greening streets and overall safety), there will be opportunities to leverage funding for projects by bundling funding from several sources. Examples include stormwater projects as part of a greenway; or park funding for projects that enhance the bike path connections.
- **Use Federal Funding (judiciously).** Federal funding is available for walk-bike projects through competitive grants from VTrans, as well as directly from the FHWA for very large projects. Because of the lengthy and sometimes laborious process that needs to be followed with federal funding, it is best used for high cost projects, which are listed on the following page.
- **Tax Increment Financing (TIF).** TIF is a long-term tool that uses incremental tax revenue over 20 years to repay debt. Municipalities establish a TIF district within an area requiring public infrastructure to encourage public and private real property development or redevelopment. There is no impact on taxes. TIF is devised to use the incremental future property tax revenue, not additional taxes, to pay for the debt incurred to finance infrastructure improvements within the District. Investment debt is repaid with the incremental tax revenue of the TIF district, not just one particular project. Burlington currently has two TIF districts - the Downtown and Waterfront Districts.
- **Municipal Bonds.** Municipal bonds can be issued by state and local governments to raise funds for large transportation projects.

Projects to consider for federal funding

Note that federal funding comes with many strings attached and requires dedication of staff time to keep the projects advancing through a complex process.

Project	Comments
Battery Street Complete Streets Upgrades	Some of these projects could be initially put on the ground with rapid implementation, and eventually made more permanent and attractive with funding from grants.
Colchester Ave Complete Streets Upgrades (Prospect to Riverside)	
Ethan Allen Parkway Bikeway	
Main Street Complete Streets Upgrades (Winooski to UVM)	
North Ave Complete Streets Upgrades	
Pearl Street Complete Streets Upgrades (Battery to Prospect)	
Pine Street Complete Streets Upgrades (Howard to Flynn)	
Plattsburg Ave Bikeway	
Prospect Street Bikeway	
Rt. 127 Path-Manhattan Connector	
Shelburne Road Complete Streets Upgrades (City Line to St. Paul)	
Main St/University Heights Crossing	Potential for UVM participation in project funding
University Place - Shared Space Street	
Colchester Ave Bike-Ped Bridge	High cost project with regional implications, could be funded through CCRPC TIP or TIGER grant
North Street Slow Zone - North Ave to Union	Potentially funded in part with economic development funds
East/Colchester Intersection	Overall safety project, such as roundabout or mini-roundabout, could be funded through CCRPC TIP
Main Street/S. Winooski Ave Intersection	
Riverside Ave/Colchester Ave Intersection	

STRATEGIES TO BUILD THE PLAN

While raising funds for building out the walk-bike network is important, a change in approach for how projects are designed and constructed is also needed.

Rapid Implementation

To make the plan a reality, we need to move a lot faster to get projects on the ground. Greater reliance on phased or "rapid implementation" solutions using less expensive materials can be effective and efficient, and provide for a more adaptable transportation network. This will not only bring substantial transportation benefits sooner, but allow for reconsideration and adaptation as transportation patterns continue to shift in the coming decade. While funding for new walk bike projects is dedicated to projects already in development over the next five years, rapid implementation using lower cost materials and pavement marking will be the primary type of new walk bike projects

Many of the plan recommendations can be done initially using lower cost approaches such as lane reassignment and establishing protected bike lanes with flex-posts or armadillos. Communities across the country are using rapid implementation techniques to quickly build out their bicycle networks and crossing improvements – sometimes leaving low-cost materials in place for several years until there is an opportunity to upgrade to more robust facilities. The advantage of this approach is that the City can learn from the interim design and engage public input based on the user's experience with the infrastructure, taking this input into consideration as funding is acquired for the more permanent infrastructure.

Rapid Implementation also means getting started now with planning and design for challenging but important projects. The good news is that this approach is already underway: this master planning process includes a scoping of priority projects for implementation. The scoping phase of the project has already begun, setting the City up to implement two priority projects: a Neighborhood Greenway in the Old North End, and a bikeway along Main Street in downtown Burlington.

A Holistic Approach to Street Reconstruction

While many of the projects in this plan can be implemented with lower cost, quicker techniques, some City streets will be reconstructed each year to address a multitude of needs: underground utility repair or replacement, stormwater infrastructure, structural instability, and more. With this plan, it will be easier to coordinate reconstruction projects so that when streets are dug up, they get put back together the right way. This holistic approach to street reconstruction also will allow the leveraging of a variety of funding sources that can be combined to build truly complete street projects. However, we can't always wait for these big projects. Interim design or pilots can be used on streets where full reconstruction is more than 2 years away.

Make sure the people power needed is in place

We need more than just funding to build this infrastructure. We also need people who have the time and resources to coordinate the planning, designing, construction and maintenance of this network. This means hiring at least one person this year, plus a second one within a year whose primary focus is getting rapid implementation safety projects on the ground. Maintaining this enhanced network will require investing in the right fleet of equipment over time to maintain protected bike lanes and other types of infrastructure that the City doesn't currently have.

WE CAN DO THIS!

This plan is ambitious, but with funding at these levels, support at all levels of city government, and staff available to do the work, it can get done and will be well worth the effort. The result will be a modernized, attractive and safe street network that offers city residents and workers real choices in how they get around.

RAPID IMPLEMENTATION: FAST, FLEXIBLE CHANGES TO CITY STREETS

Long known as a natural gas capitol, the City of Calgary in Alberta, Canada might seem an unlikely leader in bike infrastructure implementation. But, after rolling out an entire network of protected bicycle lanes (or "cycle tracks") throughout its downtown all at once, Calgary is now widely recognized as a success story in rapid implementation of low-stress bikeways.

Calgary's innovative "all at once" approach differs from the common practice of implementing bike lanes one street at a time. Building from the City's general transportation plan and citywide bicycle plan, the City Council approved a pilot project to use temporary materials and roll out new protected bike lanes on 4 key downtown streets. This rapid implementation approach allows the city to quickly implement a pilot that can test the impacts not just of a bike lane on a single street, but of a truly connected bicycle network.

For the 18-month pilot, the city used flexible materials such as delineator posts, planter boxes and curb stops. The pilot was completed two months early and $2 million under budget. And, it was literally an overnight success. Daily downtown bike use quadrupled the day after the pilot protected bicycle lanes were implemented. After just three months, the city saw a 95% average increase in daily weekday bike trips. Needless to say, all signs are pointing to a positive outcome for the implementation of a permanent bike network which would not only transform Calgary's downtown but could also be utilized as a blueprint for transforming the rest of the city's transportation infrastructure.

Importantly, rapid implementation is not only used for pilots. Many cities are using low-cost materials (flexible delineators, paint, planters, etc.) to quickly implement planned street redesigns, leaving materials in place for years until funding is available for more permanent capital upgrades. One example is comes from Denver Colorado, where City officials completed two, one-mile protected bike lane projects, (from preliminary planning to completion) in less than 1 year. Another example comes from Palo Alto, where city officials are considering options for rapid implementation of their mobility plan, which calls for 9.3 miles of protected bike lanes and 5.5 miles of pedestrian greenways (streets that function as "linear parks" with wider sidewalks, pedestrian amenities, and landscaping).

The 12-month project lists and 5-year maps in the sub-area sections of this plan provide a blue-print for how Burlington can follow this exciting new approach for project delivery, and get started with implementation NOW!

Calgary's quick-build protected bike lane network doubled bike counts in 3 months! Top image by Bike Calgary; Bottom image by People for Bikes.

Denver used a rapid implementation approach, taking two protected bike lane projects from zero to finished in one year. Image by People for Bikes.

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- FINAL PROJECT BANK (DRAFT INCLUDED HERE)

- FINAL SAFE STREETS ILLUSTRATED GLOSSARY (DRAFT INCLUDED HERE)

- CRASH DATA MAPS

- ALL PLANBTV WALK/BIKE SURVEY DATA

PROJECT LIST FOR "START NOW" 12 MONTH PROJECTS

► The total estimated cost for the projects recommended in the 12-month time frame is $295,000. These projects are primarily lower cost actions that can be implemented quickly, and do not require changes to curbs or utilities. Projects included in this estimate are listed in the table below. See the Funding + Implementation Chapter for more details.

Sub-Area	Project Name	Proposed Action
2	Archibald Street Slow Zone/Bikeway	Add supersharrows, and use rapid implementation materials to create curb extensions (epoxy/sand mix, flexposts, etc.)
3	Austin Drive Bikeway	Re-stripe with 2-way protected bike lanes with flex posts on north side of street
2	Bike Parking	Add bike parking in high-need locations such as Church Street, Pearl Street, and Main Street.
3	Birchcliff Parkway Greenway	Traffic calming with shared lanes or advisory bike lanes
2	College Street Bikeway Markings	Add intersection striping treatments to carry College St. bikeway across the Prospect intersection, to UVM path.
2	Depot Street Pilot Projects	Revisit concept plans in 2009 Waterfront North Access Scoping Study, and use pilot projects to test alternatives.
2	East/Colchester Intersection	Extend eastbound bicycle lane markings through intersection. Pilot test median treatments. Change signal phasing.
1	Gosse Court Greenway and Connections	Add traffic calming treatments and shared lane markings to Gosse Court, and shared use markings/signs to Woodbury Road/ Hunt Middle School driveway
2	Lakeview Terrace Neighborhood Greenway	Add bikeway markings and traffic calming treatments on Lakeview Terrace.
3	Lakeside Ave/Pine St Intersection	Reinforce southbound bicycle lane crossing through intersection
1	Leddy Park Bikeway Connector	Shared lane markings
3	Ledge Rd Bikeway	Shared lane markings and traffic calming
2	Main St. / S. Champlain Curb Extensions	Use rapid-implementation materials to add curb extensions
2	N. Union Bikeway	Install armadillos to protect bike lane as pilot
2	N. Winooski Bikeway (Pearl to Union)	Install flex posts to protect bike lane as pilot
2	Pearl Street Bikes Lanes and Curb Extensions (Battery to Winooski)	Mark and sign bicycle lanes. Add interim curb extensions at Pearl and N. Champlain.
3	Pine St Curb Extensions (Kilburn, Marble, Howard, Locust, Flynn)	Rapid implementation of curb extensions at key crossings with epoxy/sand mix, flexposts or other creative materials
3	Pine Street Bikeway Signage	Place "bikes may use full lane" signs
3	Pine Street Bikeway	Mark and sign bicycle lanes south of Lakeside Avenue to the end of Pine Street
3	Queen City/Industrial Bikeway	Work with South Burlington to mark and sign bicycle lanes
2	Riverside Shared Use Path	Enhance pavement markings at bikeway gaps and across busy driveways
2	S. Winooski/Bank Intersection	Rapid implementation of curb extensions with epoxy/sand mix, flexposts or other creative materials
2	Winooski Corridor Study Pilot Projects	Use pilot projects to test recommendations from the Winooski Corridor Study

Sub-Area 1: The New North End
Sub-Area 2: Downtown, Old North End, Waterfront
Sub-Area 3: South End
See page 74 for Sub-Area Overview Map

PROJECT LIST FOR YEAR 2-5 PROJECTS

- The total estimated cost for the projects recommended in the 2-5 year timeframe is $1,900,000, or $475,000 per year over four years. Projects included in this estimate are listed in the sub-area tables below (and on the following 2 pages). See the Funding + Implementation Chapter for more details.

Sub-Area 1: The New North End (*See page 74 for Sub-Area Overview Map*)

Project Name	Proposed Action
Crescent/Shore Greenway	Shared lane markings and traffic calming
Farrington Parkway Greenway	Shared lane markings and traffic calming
Gosse Court Greenway	Shared lane markings and traffic calming
Marshall Drive Greenway (Gosse to Heineberg)	Shared lane markings, green infrastructure and traffic calming
North Ave Intersection Safety	High visibility crosswalks, curb extensions with epoxy/sand, flexposts or other creative materials (at Shore, Cottage Grove, Poirier, Saratoga, and Institute)
Old North End Multiuse Connector Trail	Shared use path between North Ave and Island Line Trail
Plattsburg Ave. Bikeway	In the short term, mark and sign conventional bike lanes (with more robust treatment coming in the long-term)
Starr Farm Road Sidewalk	Add new sidewalk
Venus Ave Connector	Begin planning for neighborhood connector between Venus Ave. and Sandra Cir.
Western Ave Sidewalk	Add new sidewalk

Sub-Area 2: Downtown, Old North End, Waterfront (*See page 74 for Sub-Area Overview Map*)

Project Name	Proposed Action
Bank Street Bikeway	Mark and sign shared use lanes
Cherry and South Winooski Intersection Improvements	Create rapid implementation curb extensions while 2016 Corridor Study is developed
Colchester Ave Bikeway	Stripe bike lanes on Colchester Ave. east of East Ave., with a more robust treatment to come in the long-term.
Colchester Ave Bridge to Winooski	Implement a lane reassignment with 3 travel lanes and a 2-way shared use path across the bridge, or build a new bridge for people walking/biking
Colchester Ave Hospital Crossing	Install high visibility pedestrian crossing
College/S. Willard Intersection	Consider mini-roundabout or high visibility pedestrian crossings
Main St/University Heights Crossing	Install high visibility pedestrian crossing
Main Street Complete Streets Upgrades (Battery to Winooski)	Design TBD with Great Streets Project; goal is protected bicycle lanes on this segment.
Main Street Complete Streets Upgrades (Winooski to Summit)	Protected bicycle lanes and improvements for pedestrians, per scoping study
Main Street Complete Streets Upgrades (Summit to University Place)	Add a shared use path on UVM property to connect to Main St path
Main Street Path on UVM Campus	Continue UVM Shared Use Path to fill gap from University Heights to the Jughandle
Main Street/S. Winooski Ave Intersection	Consider roundabout or mini-roundabout and lane reassignment

Sub-Area 2 Continued... Downtown, Old North End, Waterfront (*See page 74 for Sub-Area Overview Map*)

Project Name	Proposed Action
Maple Street Bikeway	Mark and sign shared lane treatments
N. Champlain Street/ Bikeway	Protected 2-way bicycle lanes on west side of street, lane reassignment
N. Winooski Bikeway (Union to Riverside)	Mark and sign protected bicycle lanes
North St Bikeway	Traffic calming with epoxy/sand, flexposts or other creative materials; shared lanes or advisory bike lanes
North Street near Murray	Study/pilot projects needed to determine best approach for traffic calming
North/North Ave Intersection	High visibility crosswalks, curb extensions with epoxy/sand, flexposts or other creative materials
ONE Greenway - Loomis Street segment	Shared lane markings, green infrastructure and traffic calming. Intersection improvements at Loomis/Prospect.
ONE Greenway - Sherman, Peru & Grant	Shared lane markings, green infrastructure and traffic calming
Pearl St/South Williams Crossing	Re-establish high visibility crosswalk
Pearl/Prospect/Colchester Intersection	High visibility crosswalks, realignment integrating curb extensions with epoxy/sand, flexposts or other creative materials
Pearl/Winooski Intersection	High visibility crosswalks, curb extensions with epoxy/sand, flexposts or other creative materials
Riverside Ave/Colchester Ave Intersection	High visibility crosswalks, curb extensions with epoxy/sand, flexposts or other creative materials
Riverside Ave/N. Prospect Intersection	High visibility crosswalks, curb extensions with epoxy/sand, flexposts or other creative materials
Shelburne Rotary Upgrade	Implement pilot project to clarify traffic patterns and improve safety by narrowing vehicular lanes and adding curb extensions.
Shelburne and Home Street Intersection Improvements	Pilot recommendations from planned corridor study (not programmed yet) - aim to reduce speeds, reduce crossing distances.
S/N Union Bikeway (Main to N. Winooski)	Complete protected bicycle lanes with preferred rapid implementation treatment (flexposts or armadillos, etc.)
S. Union Bikeway (Shelburne to Main)	Establish protected bicycle lanes with flexposts or armadillos; consider lane reassignment with one-way street for vehicles
S. Union/Main Intersection	Consider mini-roundabout; high visibility crosswalks, curb extensions with creative materials
S. Willard St Bikeway (Cliff to Hyde)	Extend northbound bicycle lane from North Street to Hyde, add shared lane markings southbound
S. Willard/Main Intersection	High visibility crosswalks, curb extensions with creative materials
S. Willard/Pearl Intersection	High visibility crosswalks, curb extensions with creative materials
S. Winooski Ave/College St Intersection	Consider mini-roundabout; high visibility crosswalks, curb extensions with creative materials
S. Winooski Bikeway-Main to Pearl	Mark and sign bicycle lanes in both directions; reassignment of vehicle lanes

Sub-Area 3: South End (*See page 74 for Sub-Area Overview Map*)

Project Name	Proposed Action
Callahan Park Greenway	Shared lane markings and traffic calming
Flynn Ave Bikeway	Mark and sign bicycle lanes
Home Ave/Pine St Intersection	Consider mini-roundabout and shared lane markings
Howard Street Greenway	Shared lane markings and traffic calming
Linden Terrace Greenway	Traffic calming, shared lanes or advisory bike lanes
Pine Street Bikeway (Queen City Park to Flynn)	Mark and sign bicycle lanes
S. Winooski/Howard/St. Paul Intersection	Consider mini-roundabout or signal phasing changes; high visibility crosswalks, curb extensions with creative materials
Shelburne Road Crossings	Install high visibility pedestrian crossings

Long-term Plan Project Bank

LIST OF RECOMMENDED PROJECTS TO BE IMPLEMENTED IN THE NEXT 5-15 YEARS

Sub-Area	Project Name	Proposed Action
2	Battery Street Complete Streets Upgrades (Maple to Park/Sherman)	Lane reassignment and bike lanes (phase 1), protected bike lanes (phase 2)
3	Briggs St Sidewalk (Morse to Flynn)	New sidewalk
2	BTC Connector (Pine and St Paul between Bank and Cherry)	Establish bikeways as part of Burlington Town Center redevelopment
2	Cathedral Square Crossing (Cherry St at 3 Cathedral Sq)	High visibility crossing
2	Cedar-Poplar Greenway (Elmwood Ave to Park St)	Shared lane markings, green infrastructure and traffic calming
3	Champlain School Connection	Connecting path network to Pine Street
2	Chase Street Bikeway	Bike lane up/Shared lane down; shift parking to south side
2	Colchester Ave Complete Streets Upgrades (Prospect to Riverside)	Protected bicycle lanes
2	Colchester Ave Bikeway Winooski River Crossing	Lane reassignment on bridge to provide 2-way protected bike lanes
2	College Street Bikeway (Lake to Union)	Shared lanes with traffic calming
1	CP Smith Connector (Gosse Court to James Ave)	Shared use path
3	Deforest Heights Sidewalk (DeForest Rd to Chittenden Dr)	New sidewalk
3	Deforest Heights/Edgewood Connector (S. Willard to Ledge via path)	Shared use path or trail
2	Depot St-Lake St Bikeway (North Ave to Main St on waterfront)	Shared lanes with traffic calming
2	East Avenue Bikeway (Jughandle to Colchester)	Bicycle lane (phase 1)/Two-way protected lanes (phase 2)
1	Ethan Allen Connector	Shared use path through park
1	Ethan Allen Parkway Bikeway (North Ave to 127 Path)	Bicycle lane northbound/shared lane southbound
3	Fairmount St Greenway (Proctor to Prospect Pkwy)	Shared lane markings, green infrastructure and traffic calming
1	Flynn School Pathway (Plattsburg Ave to School)	Shared use path
3	Foster Street Sidewalk (Lyman to Home)	New sidewalk
1	Franklin Square Pathway (North Ave to Sunset Dr via path)	Shared use path or trail
1	Gazo Ave Greenway (Ethan Allen Pkwy to Sandra Circle)	Shared lane markings, green infrastructure and traffic calming
1	Grey Meadow-West Connector (West Rd & Grey Meadow)	Shared use path or trail
2	Grove Street Bikeway (Chase to South Burl City Line)	Mark and sign bicycle lanes

Sub-Area 1: The New North End
Sub-Area 2: Downtown, Old North End, Waterfront
Sub-Area 3: South End
See page 74 for Sub-Area Overview Map

LIST OF RECOMMENDED PROJECTS TO BE IMPLEMENTED IN THE NEXT 5-15 YEARS (CTD...)

Sub-Area	Project Name	Proposed Action
3	Harrison Ave Greenway (to Island Line Trail)	Shared lane markings, green infrastructure and traffic calming
1	Heineberg Road Greenway (North Ave to Farrington)	Shared lane markings, green infrastructure and traffic calming
3	Hillcrest-Crescent Greenway (Ledge to S. Prospect)	Shared lane markings, green infrastructure and traffic calming
3	Home Ave Bikeway (Oakledge Park to Shelburne)	Mark and sign bicycle lanes
3	Howard Street Greenway (Pine to Union)	Shared lane markings, green infrastructure and traffic calming
2	Intervale Road Bikeway (North of Riverside through Intervale Center)	Mark and sign shared lanes
3	Kilburn Street Sidewalk (Pine to St Paul-north side)	New sidewalk
1	Killarney Drive connector to Island Line Trail	Shared use path or trail
3	Lakeside Ave Sidewalk (Champlain Pkwy to Pine, south side)	New sidewalk
3	Lakeside Ave Sidewalk (Island Line Trail to Champlain Pkwy, north side	New sidewalk
3	Lakeside Neighborhood Greenway (Island Line to Blodgett Oven)	Shared lane markings, green infrastructure and traffic calming
3	Locust Street Bikeway (Caroline to Shelburne)	Protected bicycle lanes
3	Locust Street Bikeway (Pine to Caroline)	Shared use path and marked with shared lanes
2	Main Street Complete Streets Upgrades (University Heights to Jughandle - South Side)	Extend UVM Shared Use Path to South Burlington line
2	Manhattan Bikeway (Elmwood Ave to Park St)	Combination of bike lanes, protected bike lanes, and greenway
2	Manhattan-Washington Greenway (North Ave to Park St)	Shared lane markings, green infrastructure and traffic calming
2	Mansfield Ave Bikeway (Colchester to North)	Shared use path on east side; shared lane markings
1	Moore Drive Greenway (Park to Ethan Allen Parkway)	Shared lane markings, green infrastructure and traffic calming
3	Morse Place Sidewalk (Briggs to Pine)	New sidewalk
1	North Ave. Complete Streets Upgrades	Add permanent protected bikeway treatments along North Avenue. Pending results of the 2016 Pilot Project, add protected/conventional/buffered bike lanes on North Avenue where feasible.
2	N. Prospect Street Bikeway (Pearl to Riverside)	Bicycle lane northbound/shared lane southbound
2	North Street Sidewalk (Prospect to Mansfield Ave, north side)	New sidewalk
2	North Street Slow Zone (North Ave to Union)	Traffic calming, curb extensions, raised intersections, shared lane markings

Sub-Area 1: The New North End
Sub-Area 2: Downtown, Old North End, Waterfront
Sub-Area 3: South End
See page 74 for Sub-Area Overview Map

LIST OF RECOMMENDED PROJECTS TO BE IMPLEMENTED IN THE NEXT 5-15 YEARS (CTD...)

Sub-Area	Project Name	Proposed Action
1	Northview Drive Greenway (Rivers Edge to North Ave)	Shared lane markings, green infrastructure and traffic calming
2	Oak Street Greenway (Intervale to Manhattan)	Shared lane markings, green infrastructure and traffic calming
2	Pearl Street Bikeway (Battery to Prospect)	Bicycle lanes (phase 1)/Protected lanes (phase 2)
3	Pine Place Greenway (Pine to St. Paul)	Shared lane markings, green infrastructure and traffic calming
3	Pine Street Complete Streets Upgrades (Howard to Flynn)	Protected bicycle lane (northbound)/shared lane (southbound)
3	Pine Street Sidewalk (Lyman to Home)	New sidewalk
3	Prospect Pkwy Greenway (Shelburne to S. Prospect)	Shared lane markings, green infrastructure and traffic calming
3	Richardson Street Sidewalk (Home to Morse)	New sidewalk
2	Riverside Path Extension (N. Winooski to Intervale Ave)	Shared use path on north side of street
2	Roosevelt Park Greenway (St Louis St through Roosevelt Park)	Shared lane markings, green infrastructure and traffic calming
2	Route 127 Path-Manhattan Connector (Route 127 Path to Manhattan Drive)	Shared use path in Route 127 right-of-way
3	S. Prospect Street Bikeway (Ledge to Maple)	Shared Use Path on east side
2	S. Prospect Street Bikeway (Maple to Pearl)	Shared lanes/Shared Use Path on UVM Green
3	S. Prospect Street Greenway (Prospect Pkwy to Ledge)	Shared lane markings, green infrastructure and traffic calming
2	S. Willard Sidewalk (Cliff St to Champlain College)	New sidewalk
3	S. Willard St Bikeway (Shelburne to Cliff)	Mark and sign bicycle lanes
3	S. Winooski Bikeway (Shelburne Rd to Main St)	Southbound protected bicycle lane
3	Sears Lane Bikeway (Pine to Harrison)	Mark and sign for shared use lane
3	Sears Lane Sidewalk (Waterfront Path to Pine St)	New sidewalk
3	Shelburne Road Bikeway (City Line to St. Paul)	Lane reassignment and bicycle lanes (phase 1)/ Protected bicycle lanes (phase 2)
3	South Meadow Greenway (Champlain Pkwy/Howard Ctr to Raymond Pl)	Shared lane markings, green infrastructure and traffic calming
2	Spruce Street Greenway (St. Paul to S. Willard)	Shared lane markings, green infrastructure and traffic calming
1	Starr Farm Rd Greenway (North Ave to Island Line)	Shared lane markings, green infrastructure and traffic calming
1	Sunset Drive Greenway (Franklin Sq to Northview via Rivers Edge Dr.)	Shared lane markings, green infrastructure and traffic calming
2	University Place Shared Street (Main to Colchester)	Shared space zone, prohibit through traffic, consider dedicating street to UVM

Sub-Area 1: The New North End
Sub-Area 2: Downtown, Old North End, Waterfront
Sub-Area 3: South End
See page 74 for Sub-Area Overview Map

LIST OF RECOMMENDED PROJECTS TO BE IMPLEMENTED IN THE NEXT 5-15 YEARS (CTD...)

Sub-Area	Project Name	Proposed Action
1	Village Green Greenway (to Van Patten)	Shared lane markings, green infrastructure and traffic calming
2	Walnut-Elmwood Greenway (Archibald to Oak)	Shared lane markings, green infrastructure and traffic calming
2	Walnut-Elmwood Greenway (Pearl to Archibald)	Shared lane markings, green infrastructure and traffic calming
3	Wells Street Greenway (Flynn to Home)	Shared lane markings, green infrastructure and traffic calming
3	Wells Street Sidewalk (Flynn to Home, east side)	New sidewalk
1	Westward Drive-Northshore Drive Greenway	Shared lane markings, green infrastructure and traffic calming

Sub-Area 1: The New North End
Sub-Area 2: Downtown, Old North End, Waterfront
Sub-Area 3: South End
See page 74 for Sub-Area Overview Map

Illustrated Glossary of Safe Streets Treatments

This section of the document is an "illustrated glossary" defining many of the treatments recommended throughout the plan. The Sub-Area sections of the plan and the Project Bank in this Appendix provide details about how some of these treatments could be applied to achieve the recommendations outlined in the plan.

Best practices in walk/bike planning are changing rapidly. Cities around the country are trying new types of infrastructure every year. Technologies to support active transportation are also rapidly evolving - wayfinding using smart phones is increasingly common, and electric assist bicycles are growing in popularity in cities with significant hills. Thus, it is important to note that this illustrated glossary is not an exhaustive or prescriptive list of tools - it is simply intended to provide definitions to help readers understand the recommendations in the plan.

Burlington can and should continue to integrate new design treatments as the dynamics of pedestrian and bicycle planning evolve. As new designs and technologies emerge, Burlington should aim to implement the most robust and appealing facility type possible, to meet the needs of people of all ages and abilities. Where the City's current Street Design Guidelines do not provide enough guidance on use of new tools, the City should consult the most progressive design standards available, like the NACTO and ITE Walkable Thoroughfares manuals.

In this rapidly-changing design landscape, the overarching goals of the plan should continue to guide implementation:

- Creating safer streets for everyone
- And, making walking and biking a viable (and enjoyable) way to get around town.

The illustrated glossary on the pages ahead is intended to provide definitions for many of the treatments recommended in the plan.

It is not an exhaustive or prescriptive list of tools for the City of Burlington to use, nor is it intended to provide detailed guidance about street design.

Best practices in walk/bike planning are changing rapidly. Burlington can and should continue to integrate new design treatments as the dynamics of pedestrian and bicycle planning evolve, consulting the most progressive design standards available, like the NACTO and ITE Walkable Thoroughfares manuals.

Photo: Dan Burden

ADVANCE CROSSING SIGNAL

Definition: The programming of a traffic signal to remain all-red for several seconds for vehicles traveling in all directions while pedestrian crossing signal gives people walking a head start. Increases compliance of turning cars to yield to crossing

Photo: unknown

ADVISORY BICYCLE LANE

Definition: A bicycle lane that creates preferential space for bikes that cars can use as needed to make room for oncoming traffic. Advisory bicycle lanes are typically marked with a dashed (not solid) line, and they are often used in conjunction with centerline removal along low-speed, low-volume streets. Bollards can be placed on the dashed line at intervals to enforce motorist use of the center lane.

BICYCLE BOX

Definition: A section of pavement aimed at preventing bicycle/car collisions at intersections, particularly between drivers turning right and cyclists traveling through an intersection or turning left. To improve its visibility, a Bicycle Box is often colored and includes a standard white bicycle pavement marking.

Overlapping benefits: Increases distance between people walking across the street and idling motorists, and provides people bicycling with a head start across the intersection when the light turns.

BICYCLE CORRAL

Definition: An on-street bicycle parking facility that can accommodate up to 12 bicycles in the same area as a single car.

Overlapping benefits: When placed near street corners, a Corral increases visibility and creates an additional buffer for pedestrians.

Photo: Boston, MA, via Boston.com

BICYCLE PRIORITY LANE ("SUPER SHARROWS")

Definition: As noted on page 176, sharrows are pavement markings that indicate a shared lane for bicycles and automobiles. Sharrow markings can be enhanced to create a "super sharrow" by adding colored pavement and/or doted line markings emphasizing a "bicycle priority lane".

Overlapping benefits: Enhances predictability of road use, providing a strong visual signal that travel lanes will be used by people on bikes.

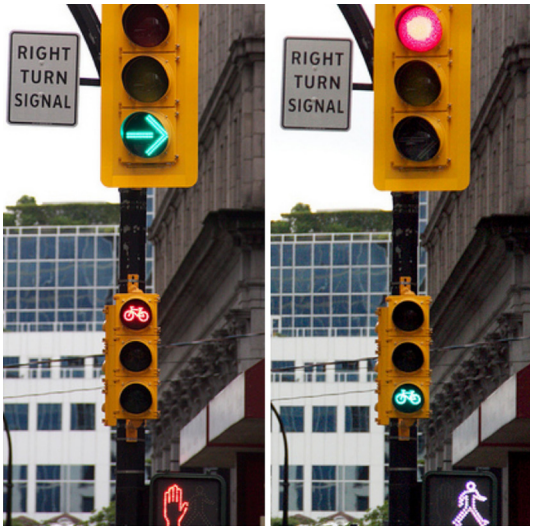

Photo: StreetsblogUSA

BICYCLE SIGNAL

Definition: A traffic control device used in combination with an existing conventional traffic signal or hybrid beacon.

BICYCLE WAYFINDING SIGNS

Definition: Signs of any kind that mark a bikeway route. Wayfinding signs should help people bicycling find the streets most amenable to bicycle travel, and find their way to major bikeway network or community destinations (landmarks, commercial districts, neighborhoods, schools, parks, etc.).

Photo: UrbanABQ

BUFFERED BICYCLE LANE

Definition: Buffered bicycle lanes are conventional lanes paired with a painted buffer between people on bikes and moving and/or parked cars. They are not a substitute for protected bike lanes, but have the added benefit of increased distance between motor vehicles and allowing width for faster cyclists to overtake slower ones.

Overlapping benefits: Can have a traffic calming effect, making a street safer for all users.

Photo: neighborhodonotes.com

CHANNELIZERS

Definition: A constructed barrier that narrows the roadway to slow vehicle speeds.

CHICANE

Definition: A constructed barrier that creates turns to slow the speed of vehicles along a particular roadway.

COLORED PAVEMENT

Definition: The use of colored pavement (typically green) to make bicycle facilities more visible at known and potential conflict areas. For more detailed guidance, refer to the latest VTrans standard, which specifies that solid green paint should be used for all intersections with 40+ VPH crossings.

Burlington Public Works recently applied green paint at a few intersections. The Department of Parks, Recreation & Waterfront has also consistently applied green paint to visually designate the Burlington Bike Path along the waterfront.

Photo: Streetsblog Los Angeles

COMBINED BIKE LANE/TURN LANE ("MIXING ZONE")

Definition: Pavement marking that suggest people bicycling through an intersection and motorists turning must share the space. Treatment is often accompanied by signs advising vehicles to yield to cyclists and/or directing cyclists/vehicles into appropriate positions within the lane.

Photo: NACTO

CONTRA-FLOW BICYCLE LANE

Definition: Bicycle lanes that are designed to allow cyclists to ride in the opposite direction of vehicle traffic.

Overlapping benefits: By providing a legitimate two-way pathway for people on bikes, contra-flow bicycle lanes can reduce the frequency of sidewalk riding.

Photo: Flickr user jcutrufo

CONVENTIONAL BICYCLE LANE

Definition: A lane reserved for bicycle travel within a thoroughfare, marked by simple painted lines. Conventional bicycle lanes are typically located along the curb or adjacent to parallel parked cars, and usually run in the same direction as vehicular traffic.

Photo: NACTO

CURB EXTENSION

Definition: The expansion of the sidewalk / greenbelt to physically narrow the roadway, creating safer and shorter crossings while increasing the available space for placemaking and stormwater management amenities, such as benches, bus shelters, rain gardens, trees, bike parking etc.

Photo: Paul Krueger

DIVERTERS

Definition: A physical barrier designed to control movement of traffic in a particular direction. One example is a diagonal diverters, which can be strategically located to prevent through moves at an intersection and reduce traffic volumes on a street. Diverters can also be designed to prevent drivers from entering or exiting certain legs of an intersection.

GARDEN WALKS

Definition: With involvement from adjacent private landowners, neighborhood organizations can create landscaping along the city's sidewalk that provides a more attractive and enjoyable place to walk, and can have ancillary benefits for stormwater management using rain garden design techniques.

Overlapping benefits: Creates a beautiful street that is more enjoyable for all.

HAWK BEACON

Definition: An acronym for High-Intensity Activated crossWalK beacon, a HAWK beacon is a traffic control device used to stop road traffic and allow pedestrians to cross safely.

INTERSECTION CROSSING MARKINGS

Definition: Pavement markings which indicate the intended path of bicycle traffic through an intersection. They guide bikes on the right path and visibly warn drivers of a potential conflict point. For more detailed guidance, refer to the latest VTrans standard, which specifies that solid green paint should be used for all intersections with 40+ VPH crossings.

Overlapping benefits: Markings reinforce proper directional travel and discourage people from riding their bicycles in the crosswalk itself.

Photo: NACTO

MEDIAN REFUGE ISLAND

Definition: A curb or barrier protected area between travel lanes that provides people crossing the street on foot or on a bike a safe place to rest midway.

Overlapping benefits: Median refuge islands provide a protected space for pedestrians to wait and can have a traffic calming effect.

Photo: NYCDOT

NEIGHBORHOOD + CORRIDOR SLOW ZONES

Definition: Neighborhood and Corridor Slow Zones are areas where the street is designed and engineered for slow travel. That means designing for 85th percentile speeds to achieve 25 mph or less on major corridors, and 15-20mph or less on neighborhood streets and greenways.

Neighborhood Greenways: A Field Guide

Neighborhood Greenways are streets with low vehicle volumes and speeds, designed to prioritize bicycling and enhance conditions for walking. Neighborhood Greenways are streets where people of all ages and abilities feel safe walking, biking, and playing. To create this condition, Neighborhood Greenways use a variety of the traffic calming and placemaking treatments, including:

- Narrow travel lanes, which can be created with cub extensions , channelizers, or chicanes.
- Treatments such as speed bumps and traffic diverters, which discourage vehicles from using the street as a cut-through.
- Greening elements such as planters or rain gardens.
- Clear wayfinding for people walking and biking.
- Pavement markings to reinforce the shared use of the street, typically via a shared roadway marking or sharrow.
- Protected crossings at major intersections.

▲ *Neighborhood Greenways are streets with low vehicle volumes and speeds, designed so that people of all ages and abilities feel safe walking, biking, and playing. (Photo by Seattle DOT.)*

▲ *Neighborhood Greenways feature traffic calming measures, like the diverter above, to keep speeds low. (Photo by Walk Eagle Rock.)*

▲ *In Seattle, a neighborhood traffic circle keeps speeds low along a Neighborhood Greenway (Photo by Seattle DOT.)*

▲ *Large shared lane markings help communicate bike/ped priority. (Photo by Payton Chung.)*

▲ *Neighborhood Greenway signage (Photo by Seattle DOT.)*

PARKLET

Definition: The replacement of 1- 3 on-street parking spaces with usable public space.

Overlapping benefits: Can integrate bicycle parking

PATHWAYS AND SHORTCUTS

Definition: Many neighborhoods have informal paths through public or private spaces that allow more convenient or pleasant access to key destinations, such as schools or parks. Examples include paths through Callahan Park, Integrated Arts Academy at H.O. Wheeler, or Leddy Park.

Overlapping benefits: If shared-use is appropriate, such paths can provide low-stress bikeways.

PEDESTRIAN PLAZA

Definition: Pedestrian Plazas transform underutilized roadway space into a public amenity.

Overlapping benefits: Can benefit locate businesses, integrate bicycle parking, and have a traffic calming effect.

Photo: Jonathan Maus, Bike Portland

PROTECTED BICYCLE LANES

Definition: A one or two-way bicycle lane that is separated from vehicular traffic with physical barriers (such as bollards, medians, raised curbs, etc.).

Overlapping benefits: By providing a low-stress option for riding a bicycle in the roadway itself, protected bicycle lanes typically reduce the frequency of sidewalk riding. They can also have a traffic calming effect, add beauty, introduce stormwater ma making, and improve access to commercial districts.

Photo: Alta Planning + Design

PROTECTED INTERSECTION

Definition: The use of design treatments (corner refuge islands, forward stop bar for bicyclists, a setback for bike and pedestrian crossing, and bicycle/pedestrian friendly signal phasing) to simplify left turns, protect right turns from traffic, and provide through movement that minimize or eliminate conflicts from turning cars.

RAISED CROSSWALKS

Definition: Much like a raised intersection, this treatment benefits people walking by raising crosswalks to the level of the sidewalk so that pedestrians are more visible to drivers and have a seamless experience crossing the street.

RAISED INTERSECTION

Definition: Similar to speed humps and other vertical surface traffic-calming treatments, raised intersections reinforce slow speeds and encourage motorists to yield to pedestrians at the crosswalk/ intersection.

RECTANGULAR RAPID FLASH BEACONS (RRFBS)

Definition: A flashing light activated by people walking who desire to cross the street and seen by people driving who are meant to yield the right-of-way to pedestrians.

Photo: Flickr

RIGHT-TURN-ON-RED BAN

Definition: The use of posted signs that indicate to people driving that they are not permitted to make a right turn on red during the pedestrian crossing phase.

Roundabouts: A Field Guide

Roundabouts offer many benefits, including increasing safety, road capacity, and design, and they are a tool that should be considered for Burlington's intersections. Single lane roundabouts have an excellent safety record for all modes of transportation, and can accommodate car traffic in fewer lanes, potentially leaving more room on the streets for biking and walking. (Note that multi-lane roundabouts lose many of the safety benefits of single-lane roundabouts.) Roundabouts come in many sizes and styles, and each type has a place on Burlington's streets. See the following page for details about potential opportunity sites for each of the roundabout types described below.

Main and High St. roundabout in Plymouth, NH between downtown and Plymouth State campus.

MODERN URBAN ROUNDABOUT

Definition: Typically greater than 90 feet in diameter (measuring the outside edge of the traffic portion), these roundabouts especially good for slowing down traffic, thus increasing safety for everyone.

Cost Range: Typically $3 to $5 million, due to high design and engineering complexity, and need for acquiring property, relocating utilities, etc.

Mini roundabout from Fort Collins, CO.

MINI ROUNDABOUT

Definition: Have many of the same features of a full sized roundabout, but in a pint-sized version. Mini Roundabouts are completely "mountable" by larger trucks.

Cost Range: Much lower than Modern Urban Roundabouts. Depending on design, can range from $100,000 to $300,000. Vermont's first Mini Roundabout is located in Manchester, VT.

Flickr Dylan Passmore

NEIGHBORHOOD TRAFFIC CIRCLE

Definition: Roundabout used for traffic calming and beautification on low volume neighborhood streets. Many examples exist in Burlington through the city's Traffic Calming program. Large vehicles have to make their left turns "left of center" of the island.

Cost Range: Less than $50,000, depending on materials and landscaping.

Roundabout Opportunities in Burlington

Single lane roundabouts, designed with contemporary guidelines (i.e. not a Massachusetts rotary or a New Jersey traffic circle!) have consistently proved to be the safest type of intersection, bar none. They are designed to handle high volumes of traffic in a safe and slow manner. The behavior of drivers navigating a roundabout is very different than traffic signals, where drivers tend to speed up just as the light turns yellow. Roundabouts are a very effective way to reinforce slow zones due to their ability to handle high volumes but maintain low speeds. Any roundabout in an urban setting should have very prominently designed pedestrian crossings. Roundabouts are typically designed to give bicyclists two choices: ride through as a vehicle (less intimidating than you might think due to the low speeds) or circulate outside the roundabout on a shared use path. The list below shows some of the opportunities for roundabouts in the City. For any intersection where a signal or widening is being considered, a roundabout should be considered first!

LOCATION*	URBAN ROUNDABOUT	MINI-ROUNDABOUT	TRAFFIC CIRCLE
Archibald & Intervale		X	X
Colchester & East Ave	X	X	
Colchester & Prospect & Pearl		X	
Colchester & Riverside & Barret	X		
Howard & St Paul & Winooski		X	
Intervale & Oak & Riverside		X	
Lakeside & Pine	X		
Loomis & North Prospect			X
Main & South Prospect	X		
Manhattan & Spring		X	
Maple & Battery	X	X	
Maple & Summit			X
North Ave & Institute	X		
North Ave & Plattsburg		X	
North Ave & Route 127 Ramps	X		
North St & North Prospect		X	
North St & North Willard		X	
North Willard & Loomis		X	

LOCATION (CONTINUED...)	URBAN ROUNDABOUT	MINI-ROUNDABOUT	TRAFFIC CIRCLE
Pearl & Willard		X	
Pearl & Winooski		X	
Pine & Flynn		X	
Pine & Home		X	
Randy & Hope			X
Shelburne & Flynn	X		
Shelburne & Home	X		
Shelburne Road Rotary	X		
Shore & Dale			X
South Winooski & Bank	X	X	
South Winooski & Cherry		X	
South Winooski & College		X	
South Winooski & Main	X	X	
South Winooski & Pearl	X	X	

**Not that the locations in the charts above are intended to be an initial list of suggestions, not a comprehensive analysis. More detailed, further review may identify additional opportunity sites.*

SCRAMBLE CROSSING

Definition: The use of a signal that goes red for people driving on all sides of an intersection, while allowing people walking or biking to cross in all directions, including diagonally, in an exclusive signal phase.

Photo: NACTO

SHARED SPACE

Definition: A public right-of-way, typically curbless, where people using all modes of transportation share the space without traditional safety infrastructure to guide them. May also be called a "woonerf."

Overlapping benefits: Can provide a low-stress bikeway and place-making benefits.

SHARED USE LANE MARKING (OR "SHARROW")

Definition: Pavement marking that indicates a shared lane for bicycles and automobiles. Sharrows reinforce the legitimacy of bicycles on the street, recommend proper positioning, and may be used to offer directional guidance. Sharrows are not a substitute for bike lanes, and more robust treatments should be applied wherever conditions indicate that sharrows are not an appropriate treatment. Sharrows typically do not improve bicyclist safety or comfort unless applied on low-speed streets in conjunction with other traffic calming features.

SHARED USE PATH

Definition: A two-way path that is physically separated from vehicular traffic. Shared-use paths should be designed to accommodate the needs of both people on bikes and people on foot.

Overlapping benefits: Provides safe and protected recreational option for people walking, jogging, skating, wheeling etc.

Photo: Portland, OR by FHWA

THROUGH BICYCLE LANE

Definition: Pavement marking that provides bicyclists with an opportunity to position themselves to avoid conflict with right turning vehicles.

Photo: Bicycle Tucson

TRUCK CORNER APRONS

Definition: Corner design that provides a tighter radius for passenger cars, and more generous curb for trucks of a mountable, durable surface. This treatment reduces speeds for turning passenger cars, but does not impede truck turns.

Overlapping benefits: By creating a tighter turning radius for passenger cars, corner aprons can have a traffic calming effect for all users.

Photo: Matt Johnson

TWO-STAGE TURN QUEUE BOXES

Definition: Pavement marking that allows cyclists a safe way to make left turns from the right side of the road. While two-stage turns may increase comfort in many locations, this design can increase delay for people on bikes, as they must wait for green signals or gaps in traffic.

Overlapping benefits: Provides a high-visibility, designated space for people on bikes to wait, outside of the crosswalk area.

Walk Bike
planBTV

For more information, visit: www.planbtvwalkbike.org

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Chapin Spencer
DIRECTOR OF PUBLIC WORKS
Martha Q. Keenan
Capital Improvement Program Manager

Date: July 15, 2016

To: Public Works Commission

From: Chapin Spencer, Director
Martha Keenan, CPM, Capital Improvement Program Manager

Subject: Draft 10 Year Capital Plan

A cross departmental committee has been working for over a year to assess the City's assets and develop a pragmatic yet ambitious plan to address the extensive capital repairs needed for our critical physical infrastructure. The attached draft document titled "An Infrastructure Plan for a Sustainable City" and the companion 10 Year Capital Plan detail the existing status of each municipal asset class, the proposed plan to remedy the deferred maintenance needs, and ultimately recommend a sustainable approach for the future. On September 12, the City's Board of Finance reviewed the draft 10 Year Capital Plan and voted 4 to 1 to recommend City Council approval. The draft plan is expected to go the City Council at either the September 19 or 26 meeting.

The General Fund Capital Plan shows a total 5 year need of $160 million. Approximately $117 million (or ~73%) of the total need has existing identified sources with a remaining General Fund gap of $42 million. The proposed financing plan has a blended approach that looks to visitors, institutions, businesses and residents to close the $42M General Fund gap.

General Fund	Streets/Sidewalks	Vehicle Fleet	Bike Path	City Hall Park	IT infrastructure	Civic Buildings	Total
Traffic Fund	$250,000						250,000
Gross Receipts			$7,670,425	$1,000,000			$8,670,425
Institutions	$2,085,320	$785,888	$750,000	$500,000			$4,121,208
Philanthropy			$1,000,000	$1,030,000*			$2,030,000
Bond Proceeds	$14,392,032	$3,357,325	$2,698,576	$500,000	$1,675,000	$4,950,575	$27,573,508
Total	$16,727,352	$4,143,213	$12,119,001	$3,030,000	$1,675,000	$4,950,575	42,645,141

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At the September 2016 Commission meeting we are looking for the Commission to support the City's 10 Year Capital Plan and the proposed financing plan.

To ensure we have sufficient funding for coordinating our upgrades to the City's subsurface utilities prior to repaving streets or reconstructing sidewalk, we are also proposing a $8.3 million revenue bond for the City's water distribution system. This will enable us to reline or replace aging water mains in coordination with the enhanced paving program.

In the Capital Plan, DPW's assets are addressed in the following ways:

1) Fleet maintenance (Streets, Recycling, etc.) – Each year a master lease will be created to finance the replacement of vehicles determined at end of life by the Fleet Manager. The Leases will be for five years while the life of the vehicle is estimated at 10 years. Once we have addressed the backlog of need, we will be able to put the funding from the closed leases into reserves and begin purchasing on a cash basis.

2) Streets and Sidewalks – There is a proposed stimulus of funding for five years to address all sidewalks and streets currently in a serious to failed condition, expand our preventive maintenance programs to lengthen their life span, and recommend a sustainable level of funding into the future. In addition:
    a. Curb work and barriers are given funding to maintain these neglected assets
    b. Sidewalk expansion is included
    c. Parks' roads are incorporated into our paving and preventative maintenance work

3) Transportation Planning – There is a new line item that addresses both transportation planning and traffic calming, areas that have not previously had their own budgets. In the outer years, it addresses various transportation initiatives that have been recognized but not yet acted on.

4) Water Resources – A coordinated effort of capital planning and investment through the $8.3M revenue bond to allow subsurface work to happen prior to repaving streets.

In a related effort, the City is advancing a proposed Charter Change regarding the Traffic Fund that would clarify language and make explicit eligible activities under 'controlling and regulating traffic.' As the City moves to advance integrated and innovative approaches to managing parking and traffic, we need clear guidance on what activities can be funded through the Traffic Fund. Such activities include transportation demand management (TDM), bike parking, pedestrian facilities and wayfinding leading to and from our parking garages, coordinating the opening of private parking for public parking, etc.

In sum, we seek DPW Commission support on the following items:

- 10 Year Capital Plan
- $27.5M General Obligation Bond
- $8.3M Water Revenue Bond
- Charter Change for Traffic Fund

Together, these strategies will substantially address deferred maintenance and better enable us to sustainably manage our assets moving forward. If you have any questions, please feel free to contact Martha at mkeenan@burlingtonvt.gov or 802-540-0701.

New/Additional Revenues to Address FY 17-FY 21 Capital Needs 9/1/16

Increase Rooms and Alcohol Gross Receipts Tax by 2% - Council vote – No increase in Meals Tax	
Start date 12/1/16	
FY 17 new revenue anticipated (approximately $800K if started in December 2016)	
Over last ten years yearly average growth of revenue is 7.744%	
12/1/16 through FY 21 total new revenue	$8,670,425
Apply $100K p/y starting in FY 18 for economic development activity – not for capital	-$400,000
Net Gross Receipts tax Revenue for Capital Plan	**$8,270,425**
City Hall Park Donations	
Current commitments of $100,000 p/y for 10 years starting FY 16	$1,000,000*
Additional commitment	$30,000
Total donations committed	**$1,030,000**
State Transportation Grants for New Work	
Conservative estimate based on past history of average yearly grant	$200,000 x5
FY 17 through FY 21 total	**$1,000,000**
City Hall Renovation Grants and Rebates – One-time	
Expected grants and energy efficiency rebates due to City Hall renovations FY 17	**$250,000**
FY 16 Carry-Forward – One-time	
Unspent budgeted FY 16 revenue to pay for FY 16 carry-forward projects	**$307,395**
Traffic Fund Contribution to 10 Year Capital Plan –	
Revenue to be used for streets, traffic calming, curb	
FY 17 contribution budgeted for in FY 17 Traffic Fund budget	**$250,000**
UVM and Champlain College (CC) Contribution to 10 Year Capital Plan	
Significant property owned by UVM and CC are non-taxable	
On-campus students, who live in non-taxable dorms, utilize City facilities	
UVM and CC in good faith negotiations, (methodology to be determined) to contribute	
Starting in FY 18 with combined contribution of $1,000,000 with yearly increases	
Total contribution FY 18 to FY 21	**$4,121,208**
Total new/additional revenue	**$14,829,028***
Needed to borrow FY 17 to FY 21	**$27,573,508**

*$400,000 actually received FY 22 to FY 26 so not available FY 17 to FY 21

Plan for New Borrowing FY 17 to FY 21
Total General Obligation Bonds Borrowing Request $27,573,508,

Goal:

To create a schedule that only borrows when we need the revenue, with term length correlated to life expectancy of capital need, and term payments designed to smooth out costs to taxpayers. For modeling purposes, interest rates used are at assumed high range of charge.

FY 17 Borrowing		
	One bond for $5,971,568 with 5 year IO then remaining 15 years payments and 4% interest rate	
	First five years yearly payments and then next fifteen years the yearly payments	$238,863 then $537,089
Or	One bond for $5,971,568 with 20 years interest/principal payments at 3.5% interest rate	$420,166
FY 18 Borrowings		
	One bond for $1,500,000 with term of 12 years and 3.5% interest rate	
	Yearly payments are	$155,226
	One bond for $7,177,031 with 5 year IO then remaining 15 years payments and 4% interest rate	
	First five years yearly payments and then next fifteen years the yearly payments	$287,081 then $645,510
Or	One bond for $7,177,031 with 20 years interest/principal payments at 3.5% interest rate	$504,984
FY 19 Borrowings		
	One bond for $2,200,000 with term of 12 years and 3.5% interest rate	
	Yearly payments are	$227,665
	One bond for $5,925,663 with 5 year IO then remaining 15 years payments and 4% interest rate	
	First five years yearly payments and then next fifteen years the yearly payments	$237,027 then $532,961
Or	One bond for $5,925,663 with 20 years interest/principal payments at 3.5% interest rate	$416,936
FY 20 Borrowings		
	One bond for $250,000 with term of 12 years and 3.5% interest rate	
	Yearly payments are	$25,871
	One bond for $3,662,412 with term of 20 years and 3.5% interest rate	
	Yearly payments are	$257,692
FY 21 Borrowings		
	One bond for $225,000 with term of 12 years and 3.5% interest rate	
	Yearly payments are	$23,284
	One bond for $661,828 with term of 20 years and 3.5% interest rate	
	Yearly payments are	$46,567

Impact on Taxpayers Owning Medium Value Home

Assumption of Grand List Growth of 1% p/y for FYs 18-19, then .8% FYs 20-21 and then .7% FYs 22-27
In FY 22 current DPW bond retires - yearly bond payment of $278,000 will apply to paying new borrowing*
New Borrowing payment start one year after actual borrowing
Does not include cost of charter-designated yearly borrowing of $2M
Any new borrowing after FY 21 not included in calculations
Medium Residential Home Value of $231,500

	Tax amount in each year With 3 Interest Only Bonds	Tax amount in each year With No Interest Only Bonds
FY 18 tax payment	$14.97	$26.33
FY 19 tax payment	$42.26	$67.02
FY 20 tax payment	$70.52	$106.16
FY 21 tax payment	$87.27	$122.63
FY 22 tax payment	$74.05*	$109.16*
FY 23 tax payment	$91.49*	$108.40*
FY 24 tax payment	$112.28*	$107.65*
FY 25 tax payment	$129.07*	$106.90*
FY 26 tax payment	$128.17*	$106.15*
FY 27 tax payment	$127.28*	$105.42*

After FY 27 stays level and then lessens

Impact on Other Taxpayers - Please note that by City Charter commercial property pay taxes on 120% of assessed value

Property Value of $300,000			
FY 18 tax payment	next year	$19.39	$34.12
FY 27 tax payment	ten years from current fiscal year	$164.95	$136.61
Property Value of $500,000			
FY 18 tax payment	next year	$32.32	$56.86
FY 27 tax payment	ten years from current fiscal year	$274.91	$227.68
Property Value of $1,000,000			
FY 18 tax payment	next year	$64.65	$113.72
FY 27 tax payment	ten years from current fiscal year	$549.82	$455.36
Property Value of $5,000,000			
FY 18 tax payment	next year	$323.24	$568.59
FY 27 tax payment	ten years from current fiscal year	$2,749.11	$2,276.81
Property Value of $30,000,000			
FY 18 tax payment	next year	$1,939.45	$3,411.54
FY 27 tax payment	ten years from current fiscal year	$16,494.66	$13,660.85

FY17 – FY21 General Fund Capital Plan Summary by Source

General Fund	Streets/Sidewalks	Vehicle Fleet	Bike Path	City Hall Park	IT infrastructure	Civic Buildings	Total
Traffic Fund	$250,000						250,000
Gross Receipts			$7,670,425	$1,000,000			$8,670,425
Institutions	$2,085,320	$785,888	$750,000	$500,000			$4,121,208
Philanthropy			$1,000,000	$1,030,000*			$2,030,000
Bond Proceeds	$14,392,032	$3,357,325	$2,698,576	$500,000	$1,675,000	$4,950,575	$27,573,508
Total	$16,727,352	$4,143,213	$12,119,001	$3,030,000	$1,675,000	$4,950,575	42,645,141

*$500,000 actually received FY 22 to FY 26 so not available FY 17 to FY 21

Plan for New Water Borrowing to meet FY 17 to FY 21 Paving Needs
Total Water Revenue Anticipation Bonds Borrowing Request $8,344,000

Goal: To create a schedule that only borrows when we need the revenue (i.e. to fund needed water distribution capital replacements in advance of repaving), with term length correlated to life expectancy of renewed asset (30 years), and term payments designed to smooth out costs to taxpayers as much as possible. For modeling purposes, interest rates used are at assumed high range of charge (4%).

FY 17 Borrowing	$ 2,724,000
FY 18 Borrowing	$ 2,025,000
FY 19 Borrowing	$ 1,704,000
FY 20 Borrowing	$ 1,891,000

Note: Water main replacement and relining work must be completed in advance of street paving, thus proposed borrowing is currently proposed for FY17-FY20. However, depending on the schedule of paving, the remainder of the borrowing (up to the requested $8.344 M authorization) could occur in FY21.

Rate Impact of Water Borrowing on Average Single Family Residence

Average water use = 755 cf or 5648 gallons/month; (9057 cf or 67750 gallons/year)
Average annual cost of water with FY 17 rate = $366.81

	Estimated Yearly Cost to Pay For Borrowing[1] (Average Single Family Home)
FY 18	$9.96
FY 19	$17.21
FY 20	$23.55
FY21	$30.79
FY22 – FY47[2]	$30.79

The debt service payment expense for the full $8.344M in borrowing will result in a total cost increase for an average single family home of approximately $30.79 (8.4%) over FY17 rates.

[1] This rate impact is only for this proposed borrowing and does not include rate impacts due to City cost allocations, operating expense needs or other non-distribution system capital needs.

[2] Debt Service begins to decrease in FY48, with full retirement by FY51 (last payment of FY20 borrowing)

Resolution Relating to

NOVEMBER 8, 2016 – SPECIAL CITY MEETING
ISSUANCE OF GENERAL OBLIGATION BONDS FOR CAPITAL PROJECTS

RESOLUTION_____
Sponsor(s): Bd. of Finance
Introduced: _____
Referred to: _____
_____
Action: _____
Date: _____
Signed by Mayor: _____

CITY OF BURLINGTON

In the year Two Thousand Sixteen .....

Resolved by the City Council of the City of Burlington, as follows:

That WHEREAS, the City established a process to identify and address challenges facing the City with respect to its public infrastructure and identified needs for various capital improvements; and

WHEREAS, through that process, the City developed a 10 year capital plan in order to enhance the ability to maintain and invest in the public infrastructure serving the City and its residents; and

WHEREAS, such capital plan is designed to bring greater rigor to decision-making regarding phys assets, identify areas of under-investment, prioritize and coordinate all types of capital assets and manage th cumulative cost of the infrastructure so that the impact on taxpayers is predictable and stable; and

WHEREAS, the City has determined in order to fund the costs of such capital improvements, it will necessary to finance such capital costs; and

WHEREAS, Section 63 of the City's Charter, provides that, with a two-thirds vote of the City's voters, the City Council shall have the authority to pledge the credit of the City for any purpose by issuing i negotiable orders, warrants, notes or bonds, for which authority has been given by the voters; and

WHEREAS, the Board of Finance, at its September 12, 2016 meeting approved advancing this capi projects bonding for City-wide consideration and a public vote at the City's Special Meeting to be held on November 8, 2016;

NOW, THEREFORE, BE IT RESOLVED that the City Council hereby requests, pursuant to Sec. 2 of the City Charter, that the Mayor call a Special City Meeting to be held on November 8, 2016 and that the following question be placed on the ballot of that Special City Meeting:

Approval of General **Obligation Bonds for City Capital Plan Projects**

"Shall the City Council be authorized to issue general obligation bonds or notes in one or more series in an aggregate principal amount not to exceed Twenty-Seven Million, Five Hundred Seventy-Three Thousand, Five Hundred Eight Dollars and 00/100 ($27,573,508.00) to be borrowed in increments between Fiscal Year 2017 and Fiscal Year 2021 for the purpose of

funding capital improvement infrastructure projects of the City and its departments in furtherance of the City's 10 Year capital plan?"

Resolution Relating to

NOVEMBER 8, 2016 - SPECIAL CITY MEETING
AUTHORITY TO ISSUE REVENUE BONDS
FOR WATER SYSTEM IMPROVEMENTS

RESOLUTION_____
Sponsor(s): Bd. of Finance
Introduced: _____
Referred to: _____
_____
Action: _____
Date: _____
Signed by Mayor: _____

CITY OF BURLINGTON

In the year Two Thousand Sixteen .....

Resolved by the City Council of the City of Burlington, as follows:

That WHEREAS, Whereas, the City has identified needs for various capital improvements to its water system, including capital improvements to its metering and water distribution pipelines, water mains and hydrants; and

WHEREAS, the City has determined in order to fund the costs of such capital improvements, it wil necessary to finance such capital costs; and

WHEREAS, the City Charter provides that, with at least a majority vote of the City's voters, the shall have the authority to issue bonds, from time to time, for the purpose of financing the cost of improvement to the City waterworks system, with such bonds payable solely from the revenues of waterworks system; and

WHEREAS, the Board of Finance, at its September 12, 2016 meeting approved advancing the proposed revenue bonding for water system improvements for City-wide consideration and a public vote at City's Special Meeting to be held on November 8, 2016;

NOW, THEREFORE, BE IT RESOLVED that the City Council hereby requests, pursuant to Sec. 2 of the City Charter, that the Mayor call a Special City Meeting to be held on November 8, 2016 and that the following question be placed on the ballot of that Special City Meeting:

"Shall the City be authorized to issue revenue bonds or notes in one or more series, pursuant to the City Charter, on behalf of the Water Resources Division of the Department of Public Works, in an amount not to exceed $8,344,000, secured by the revenues of the waterworks system, to be borrowed in increments between Fiscal Year 2017 and Fiscal Year 2020 for the financing of capital additions and improvements to the waterworks system, including (i) capital improvements to the City's underground pipe and water distribution system, water mains, services, valves and hydrants, and (ii) to fund debt service reserve funds and pay costs of issuance?"

Estimated total Project Cost: $8,344,000

City Share of Costs: $8,344,000

Resolution Relating to

NOVEMBER 8, 2016 SPECIAL CITY MEETING—
CHARTER CHANGES TO CLARIFY USES OF PARKING GARAGE AND METER REVENUES

RESOLUTION____
Sponsor(s):Charter Change Com
Introduced: _____
Referred to: _____
_____
Action: _____
Date: _____
Signed by Mayor: _____

CITY OF BURLINGTON

In the year Two Thousand Sixteen .....

Resolved by the City Council of the City of Burlington, as follows:

That WHEREAS, subsection 58 of section 48 of the Burlington City Charter currently provides that th revenues of parking lots and garages owned and operated by the City of Burlington are maintained in a separate fund that is known as the "Traffic Fund;" and

WHEREAS, subsection 58 also states that revenues from on-street parking meters are also credite that Traffic Fund, to the extent the city council has not appropriated them to purchase and operate parkin meters or for expenditures controlling or regulating traffic; and

WHEREAS, that and other language in subsection 58 is confusing because, for example, it does n define what "controlling or regulating traffic" means; and

WHEREAS, the revenues in the "Traffic Fund" are intended to only be used by the board of publ works for operating and certain other expenses related to parking lots and garages; and

WHEREAS, at its meeting on August 3, 2016, the Charter Change Committee recommended tha changes be made to subsection 58 of section 48 of the City Charter to address those issues;

NOW, THEREFORE, BE IT RESOLVED that the City Council approves the amendments to the charter recommended by the Charter Change Committee as follows:

ARTICLE 19. POWERS OF CITY COUNCIL

48 Enumerated.

The city council shall have power:

...

(58) (A) To acquire and hold by lease, purchase, gift, condemnation under the provisions of sections 2805 through 2812, inclusive of Title 24 of the Vermont Statutes Annotated, as amend or otherwise, and to maintain and operate within the limits of Chittenden County, a municipal parking lot or lots, ~~and~~ a municipal parking garage or garages, and any other municipal parking structure(s), and to alter, improve, extend, add to, construct, and reconstruct such lots or garage

subject, however, to the provisions hereinafter contained in this subdivision. In exercising the foregoing power, and notwithstanding the preceding sentence, the city council shall not, excep pursuant to subdivision (50) of this section and section 276 of this Charter, have authority to acquire any property outside the limits of the City of Burlington through the use of the power eminent domain or condemnation. The city council shall not be exempt from the responsibilit securing all applicable permits from any community within Chittenden County outside the lim Burlington in which it desires to construct a parking lot or garage. Any parking lot or garage constructed by the city outside the corporate limits of Burlington shall be subject to the ad val property tax of the community in which it is located.

(B) The board of public works commissioners shall have general control, management and supervision of all municipal parking lots and garages. Said board shall have power to make regulations with respect to the use of all such municipal parking lots and garages, including reasonable terms, conditions and charges, and shall also have the power to regulate the parkin operation and speed of vehicles and pedestrian and vehicular traffic on the public highways of city, including such ways, streets, alleys, lanes or other places as may be open to the public, to erect, maintain and operate ~~coin-operated parking meters~~ equipment and systems for the regul of parking of vehicles, to govern and control the erection of guideposts, street signs and street devices on said highways, and to prescribe regulations and penalties for violation of the same respect to all of said matters and to remove and impound as a public nuisance, at the expense o owner, any vehicle found parking on a public highway or in a municipal parking lot or garage violation of any city ordinance or any regulation hereunder, and to prescribe the terms and conditions upon which the owner may redeem such vehicle from the pound, which regulations when published in the manner provided in section 49 for the publication of ordinances, shall ha the force and effect of ordinances of the city, and violations of which shall be subject to the penalties provided in section 50 of this Charter. All ordinances of the city, and all regulations o board of parking commissioners, in effect prior to July 1, 1959, shall remain in full force and e notwithstanding that the subject matter thereof shall be within the jurisdiction of the board of p works commissioners, unless and until such board shall, by regulation duly adopted and publis alter, amend or repeal the same.

(C) Said board shall also from time to time recommend to the city council the acquisition or construction of municipal parking lots or garages, and the city council shall not authorize such acquisition or construction without such recommendation, nor shall the city council dispose of

lease to others for operation any municipal parking lot or garage without the recommendation
said board.

(D) All receipts from the operation or lease of ~~said~~ municipal parking lots and garages shall
kept by the city treasurer in a separate fund, ~~which shall not at the end of any fiscal year becor~~
~~part of the general fund of the city under the provisions of section 65 of this Charter, except as~~
~~hereinafter provided~~ to be known as the Parking Facilities Fund and shall be used ~~. Expenditur~~
~~from said fund may be authorized by said board~~ for the purpose of paying any and all ~~operatin~~
expenses related to operating, maintaining, acquiring, constructing, or expanding ~~of~~ said lots a
garages, including ~~salaries and rentals.~~ any payments on any obligation incurred for constructi
repair of those lots or garages. Any amounts unused at the end of a fiscal year shall be carried
to the next fiscal year. All revenues generated from on-street parking equipment and systems
be used by the city council for traffic regulation and control, including but not limited to acqui
or maintenance of parking facilities; proper repair or construction of streets, sidewalks, and bri
traffic or parking demand management facilities, planning, or services; traffic calming measur
and other transportation-related activities. In addition, the city council may vote to place any s
revenues in the Parking Facilities Fund, at its discretion. ~~There shall also be credited to said fu~~
~~the city treasurer such portion of the receipts of traffic meter installations on the public streets~~
~~city as is not appropriated by the city council for the purpose of purchasing and operating said~~
~~traffic meter installations or controlling or regulating traffic. At the close of each fiscal year th~~
~~treasurer shall credit to the general fund of the city such portion of the balance of said fund, aft~~
~~the payment of operating expenses, as may be required to meet interest payments on any oblig~~
~~issued for the purpose of acquiring, altering, improving, extending, adding to, constructing or~~
~~reconstructing such parking lots or garages, and shall further credit to the sinking fund of the c~~
~~such further portion of said balance as may be required to meet principal payments on any~~
~~obligations issued for said purpose, provided, however, that any pledge, assignment or~~
~~hypothecation of net revenues under paragraph (E) shall be complied with before making such~~
~~credits.~~

(E) If it shall reasonably appear to ~~said~~ the board of public works commissioners at any time
the receipts from ~~said~~ the existing municipal parking lots or garages are in excess of the amour
required for the purposes enumerated in the preceding paragraph, and that the acquisition of fu
lots or garages is not required, they shall cause rates and charges for the use of said lots and
garages, or some of them, to be reduced.

(F) If the board of public works commissioners, ~~Subject~~ pursuant to the provisions of paragr (C) of this subdivision, has recommended the acquisition or construction of a new parking lot garage, the city council may from time to time pledge, assign or otherwise hypothecate the ne revenues from said lots or garages, after the payment of operating expenses, and may mortgag part or all of said lots or garages, including personal property located therein, to secure the pa of the cost of purchasing, acquiring, leasing, altering, improving, extending, adding to, constru or reconstructing said lots or garages, but the city council shall not pledge the credit of the city any of said purposes except in accordance with the provisions of section 62 of this Charter.

AND BE IT FURTHER RESOLVED that the following question be placed on the ballot of the S City Meeting to be held on November 8, 2016:

"Shall the Charter of the City of Burlington, Acts of 1949, No. 298 as amended be further amend amend Article 19 Powers of City Council, Section 48, subsection 58 as follows:

ARTICLE 19. POWERS OF CITY COUNCIL

48 Enumerated.

The city council shall have power:

...

(58) (A) To acquire and hold by lease, purchase, gift, condemnation under the provisions of sections 2805 through 2812, inclusive of Title 24 of the Vermont Statutes Annotated, as amend or otherwise, and to maintain and operate within the limits of Chittenden County, a municipal parking lot or lots, ~~and~~ a municipal parking garage or garages, and any other municipal park structure(s), and to alter, improve, extend, add to, construct, and reconstruct such lots or gara subject, however, to the provisions hereinafter contained in this subdivision. In exercising the foregoing power, and notwithstanding the preceding sentence, the city council shall not, excep pursuant to subdivision (50) of this section and section 276 of this Charter, have authority to acquire any property outside the limits of the City of Burlington through the use of the power o eminent domain or condemnation. The city council shall not be exempt from the responsibility securing all applicable permits from any community within Chittenden County outside the limi Burlington in which it desires to construct a parking lot or garage. Any parking lot or garage

constructed by the city outside the corporate limits of Burlington shall be subject to the ad va
property tax of the community in which it is located.

(B) The board of public works commissioners shall have general control, management and
supervision of all municipal parking lots and garages. Said board shall have power to make
regulations with respect to the use of all such municipal parking lots and garages, including
reasonable terms, conditions and charges, and shall also have the power to regulate the park
operation and speed of vehicles and pedestrian and vehicular traffic on the public highways o
city, including such ways, streets, alleys, lanes or other places as may be open to the public, t
erect, maintain and operate ~~coin-operated parking meters~~ equipment and systems for the
regulation~~s~~ of parking of vehicles, to govern and control the erection of guideposts, street sig
street safety devices on said highways, and to prescribe regulations and penalties for violatio
the same in respect to all of said matters and to remove and impound as a public nuisance, at
expense of the owner, any vehicle found parking on a public highway or in a municipal parkin
or garage in violation of any city ordinance or any regulation hereunder, and to prescribe th
terms and conditions upon which the owner may redeem such vehicle from the pound, which
regulations, when published in the manner provided in section 49 for the publication of ordin
shall have the force and effect of ordinances of the city, and violations of which shall be subje
the penalties provided in section 50 of this Charter. All ordinances of the city, and all regulati
the board of parking commissioners, in effect prior to July 1, 1959, shall remain in full force a
effect notwithstanding that the subject matter thereof shall be within the jurisdiction of the boa
public works commissioners, unless and until such board shall, by regulation duly adopted an
published, alter, amend or repeal the same.

(C) Said board shall also from time to time recommend to the city council the acquisition or
construction of municipal parking lots or garages, and the city council shall not authorize suc
acquisition or construction without such recommendation, nor shall the city council dispose o
lease to others for operation any municipal parking lot or garage without the recommendation
said board.

(D) All receipts from the operation or lease of ~~said~~ municipal parking lots and garages shall
kept by the city treasurer in a separate fund, ~~which shall not at the end of any fiscal year beco~~
~~part of the general fund of the city under the provisions of section 65 of this Charter, except as~~
~~hereinafter provided~~ to be known as the Parking Facilities Fund and shall be used ~~. Expenditu~~

~~from said fund may be authorized by said board~~ for the purpose of paying any and all ~~operati~~ expenses related to operating, maintaining, acquiring, constructing, or expanding ~~of~~ said lots garages, including ~~salaries and rentals.~~ any payments on any obligation incurred for constru or repair of those lots or garages. Any amounts unused at the end of a fiscal year shall be car over to the next fiscal year. All revenues generated from on-street parking equipment and sys shall be used by the city council for traffic regulation and control, including but not limited to acquisition or maintenance of on- or off-street parking facilities; proper repair or constructio streets, sidewalks, and bridges; traffic or parking demand management facilities, planning, or services; traffic calming measures; and other transportation-related activities. In addition, th council may vote to place any such revenues in the Parking Facilities Fund, at its discretion. ~~shall also be credited to said fund by the city treasurer such portion of the receipts of traffic m installations on the public streets of the city as is not appropriated by the city council for the purpose of purchasing and operating said traffic meter installations or controlling or regulati traffic. At the close of each fiscal year the city treasurer shall credit to the general fund of the such portion of the balance of said fund, after the payment of operating expenses, as may be required to meet interest payments on any obligations issued for the purpose of acquiring, alte improving, extending, adding to, constructing or reconstructing such parking lots or garages, shall further credit to the sinking fund of the city such further portion of said balance as may b required to meet principal payments on any obligations issued for said purpose, provided, hov that any pledge, assignment or hypothecation of net revenues under paragraph (E) shall be complied with before making such credits.~~

(E) If it shall reasonably appear to ~~said~~ the board of public works commissioners at any time the receipts from ~~said~~ the existing municipal parking lots or garages are in excess of the amou required for the purposes enumerated in the preceding paragraph, and that the acquisition of further lots or garages is not required, they shall cause rates and charges for the use of said lo and garages, or some of them, to be reduced.

(F) If the board of public works commissioners, ~~Subject~~ pursuant to the provisions of paragr (C) of this subdivision, has recommended the acquisition or construction of a new parking lot garage, the city council may from time to time pledge, assign or otherwise hypothecate the net revenues from said lots or garages, after the payment of operating expenses, and may mortgag part or all of said lots or garages, including personal property located therein, to secure the payment of the cost of purchasing, acquiring, leasing, altering, improving, extending, adding t

constructing or reconstructing said lots or garages, but the city council shall not pledge the cr
of the city for any of said purposes except in accordance with the provisions of section 62 of th
Charter?"

AND, BE IT FURTHER RESOLVED that in accordance with 17 V.S.A. Sec. 2645, public hearin
the above-proposed amendment of the Burlington City Charter shall be held on Monday, September 19, 2
at 5:00 p.m. and on Monday, September 26, 2016 at 7:00 p.m. in Contois Auditorium, City Hall, Burling
Vermont.

* Material underlined added.
**Material stricken out deleted.

lb/EBlackwood/Resolutions 2016/Charter Changes to Clarify Uses of Parking Garage and Meter Revenues (11-8-16 Special City Meeting)
8/11/16

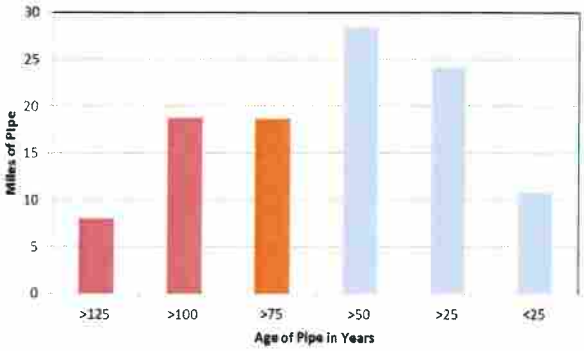
WHY DO WE NEED A WATER BOND NOW?

ENHANCED WATER DISTRIBUTION SYSTEM CAPITAL FUNDING IS NEEDED TO SUPPORT **SUSTAINABLE ROAD SURFACE INVESTMENTS** PROPOSED AS PART OF THE GENERAL OBLIGATION BOND AND **SUSTAINABLE WATER SYSTEM REINVESTMENT**

The system of water mains or pipes (distribution system) that delivers water from our water treatment plant to Burlington properties is very old and our current capital funding is not sufficient to address our near term (next 25 years) infrastructure deficit.

- The useful life of metal water pipes is 75-100 years depending on installation and soil conditions.
- An estimated 42% of our public water pipes are older than 75 years old, with almost 25% over 100
- To get on an average 88 year replacement schedule, we need to be spending ~$2.3 M annually for the next 25 years
- FY 17 proposed distribution capital is $1.262K total (including $362K of Council Authorized Bonding)
- Not having sufficient funding means more instances of discolored water, reductions in fire protection flow and service disruptions due to main breaks which also impact our road surface system.

Water Main Length vs Age



Water main breaks and their resultant patches reduce the longevity of our pavement investment. Water pipes typically break due to a combination of age, corrosion, soil movement and pressure fluctuations—but the vibrations from paving machinery can also exacerbate weaknesses in the system. It is thus important that we renew any subsurface water main infrastructure with a higher consequence and risk of failure (criticality) BEFORE paving occurs to reduce the likelihood of breaks.

Examples of Streets with Water Main Breaks after Paving (since 2009)

- Howard
- Pine
- Scarff
- S. Champlain
- Industrial
- S. Prospect
- St. Louis
- St. Paul
- Henry
- Brookes
- Hayward
- College

The proposed borrowing for the November 2016 Revenue Bond vote provides for sufficient funding to address critical water main infrastructure on the FY18-FY21 paving program streets BEFORE the streets are paved (FY17-FY20) as well as to be able to renew critical water mains on our 30 year capital plan thereby beginning to reduce our infrastructure deficit. This funding will allow for both open trench water line replacement for certain streets and trenchless relining of eligible streets.

DRAFT – FOR DISCUSSION

An Infrastructure Plan for a Sustainable City

Stewarding & Strengthening Burlington's Foundation for Future Generations

Updated September 9, 2016

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I. Executive Summary: An Infrastructure Plan for a Sustainable City

Purpose and Vision

The foundation of a vibrant city life rests on well-maintained capital infrastructure. Quality of life, public safety, commerce, 21st century transportation systems, and tourism depend to a great degree on the proper care and functioning of a city's streets, sidewalks, park network, parking facilities, fire suppression capacity, and water / wastewater / stormwater systems. Water main breaks, deteriorated sidewalks, old fire trucks, and neglected parks are not just inconveniences – they impact businesses' bottom line, erode people's ability to enjoy the city's open space, and hinder economic development.

Stewarding these assets is one of a municipality's core responsibilities and one of its greatest opportunities. This white paper summarizes Burlington's comprehensive capital planning effort and lays out an affordable, multi-pronged plan of action and reinvestment that will address areas of chronic underinvestment and prospects for important modernization in a cost-effective way. The plan will ensure a City where current and future generations can move easily across the City on foot, by stroller, or in a wheelchair along sidewalks or 21st century streets, where businesses can depend on the water system and easy public access to help facilitate commerce, where City parks are well maintained, where our Bike Path is restored and strengthened, where City Hall Park is rebuilt to better accommodate our wonderful Farmers' Market and new community events and increase park usage by the public, and where we have made necessary investments in our fire trucks and other City vehicles to maintain a high level of public safety for our community.

Our Infrastructure Challenge

Over the past two years, the City of Burlington has conducted an evaluation of its infrastructure – including independent professional assessments of our sidewalks, facilities, and garages and detailed projection of our capital needs in every City department. While the City has existing sources for most of the capital investment that it will need to make over the next decade, we have to identify approximately $42M in new revenue for the next five years, and $70.7M in the next ten years in order to address eleven areas of current underinvestment that will cost taxpayers more money the longer they are left unaddressed:

- **Bike Path**: This much-loved recreation and transportation corridor along the lake generates millions of dollars in economic activity for the City every year, yet in many areas is in poor and deteriorating condition and does not meet modern standards.

- **Sidewalks:** 16 percent of our sidewalk system is in serious to failed condition based on an empirical assessment across the City conducted by a specialized firm.

- **Streets:** Burlington should have well-functioning 21st century streets, yet we repair streets on a 40-year cycle despite the fact that streets require road surface redevelopment after 15 to 25 years. As a result, 23 percent of our streets are currently in a poor or failed condition and we are falling further behind every year.

- **Fire Engines:** Five of our six fire vehicles are nearing the end of their service life, and responsibly replacing these necessary vehicles carries a substantial cost.

- **City Hall Park:** This central park, meant to represent our City's park system, is poorly lit and underutilized much of the time. The park needs updating to be welcoming, well-used by people

of all ages, and properly accommodate current uses, such as the popular and successful Farmers' Market.

- **Park System**: While the City has successfully completed over 100 park improvement projects across the community in the last four years, the park system struggles with deferred court replacements, stormwater management issues, and outdated public restroom and playground facilities.

- **Water Mains**: An estimated 42 percent of our water mains are older than 75 years old, and thus at or near the end of their useful life. All aspects of our water system (the distribution system, including our storage reservoirs, and the water plant) need on-going investment to make sure we can continue to produce and supply high quality water and sufficient flow for fire protection throughout the City and avoid costly reactive maintenance and water main breaks.

- **Sewer Mains and Wastewater Plants**: Many of the pipes for sanitary, storm or combined sewer main infrastructure are beyond their useful life and need repair or replacement. The City's three wastewater treatment plants are also in need of addressing deferred and ongoing maintenance.

- **IT infrastructure**: As we modernize the City's existing IT infrastructure to implement measures intended to make City data more transparent and City processes like permit applications more efficient, updates to existing infrastructure and security protocols are necessary to keep our IT system secure and properly functioning.

- **Garages:** An independent assessment of the City's three garages determined over $9 million of capital repairs are needed to keep the aging facilities open and safe in the years to come.

- **Deferred Facility Maintenance**: The City faces substantial deferred maintenance on several facilities, including City Hall, the Miller Center, Leddy Park Arena, and other civic buildings that when addressed should result in increased energy efficiency, better space utilization, and a reduced need for unanticipated (and potentially expensive) reactive repairs.

This paper details a total unmet need over the next decade for the proper stewardship of our City General Fund assets of approximately $70 million and lays out a detailed plan for fully meeting this challenge.

The Way Forward

To address this unmet need, the City will 1) make approximately $42 million of General Fund infrastructure investments in the next five fiscal years along with the proposed water system improvements outlined below, and then 2) increase its baseline annual investment in the following years to ensure the higher quality infrastructure is maintained and the current backlog of deferred investment does not build up again.

To make this needed investment affordable, the City will use a number of simultaneous strategies, including:

- **Long-term planning:** For the first time in many years, the City now has a comprehensive 10-year capital plan. This planning tool enables strategic decision-making with a multi-year perspective that can help avoid dramatic impact on property taxpayers, improve coordination

of related investments (i.e. replacing water lines when streets are dug up for repaving), and identify structural funding deficiencies that can be addressed with appropriate planning over multiple years. Further, a key component of long-term asset stewardship that the City is actively pursuing is developing an asset management program that sets levels of service and provides metrics so that the City can make the best decisions possible when allocating its scarce capital resources.

- **Focus on preventative maintenance:** The City has prioritized a new and logical effort around preventative maintenance, including, a systematic approach to sealing cracks and micro-surfacing on City streets, shaving down cement sidewalks to eliminate displacement, and relining old water mains beneath streets prior to repaving. Those strategies are expected to extend the effective life of our streets and sidewalks substantially, reducing taxpayer costs.

- **Prudent financial management:** As a result of recent credit rating upgrades and refinancing the City is well-positioned to take on new long-term debt. In the last year the City refinanced existing debt to save $130,000 on annual debt payments, and the combination of historically low interest rates and a restored "A" credit rating should allow the City to secure favorable long-term debt terms. Further, energy efficiency measures implemented over the last two years are generating $75,000 a year in savings now and are projected to save taxpayers nearly $1 million over the life of the 10-year capital plan. In future years, the City will retire debt and use some limited interest-only borrowing options to minimize increases in capital-related debt service payments, reducing annual debt service payments by hundreds of thousands of dollars and helping to keep the impact of the plan on property tax payers low.

- **Generate new non-property tax revenue sources for capital financing:** Over the last two years the City has reformed its parking system, positioning the Traffic Fund to contribute $250,000 toward the City's capital needs in FY17. The City also is pursuing new philanthropic fundraising efforts that are projected to contribute approximately $2 million to the infrastructure effort.

- **Secure commitments from the University of Vermont and Champlain College:** The City has been in discussions with the institutions about a contribution to the City's capital needs that starting in FY18 would provide approximately $1 million a year of new revenues for infrastructure.

- **Coordinate with the School District to identify new saving opportunities:** The City and School District both have capital needs and are seeking to work collaboratively to limit the impact of those costs on the community. Working together, the City and School District are seeking to identify up to $2 million of savings that could be realized through better coordination of existing assets. This includes, for example, a collaborative approach to managing and using School and City park space or the more efficient use of City and School facilities to accommodate existing needs while reducing costs.

- **Secure new revenue from visitors to Burlington:** The plan will be funded in part by an additional two percent of gross receipts tax on alcohol and rooms starting during FY17 More than two-thirds of the gross receipts tax is expected to be paid by visitors to Burlington and will produce approximately $2 million a year for infrastructure projects that generate economic development – such as the revitalization and enhancement of the Bike Path and City Hall Park.

- **In sum, approximately $15 million in new, non-property tax revenue will be generated for the needed capital infusion over the next five years. The balance will be paid by an infrastructure bond of approximately $27.5 million.** The bond would be structured and drawn down in such a way that the total added cost to the average residential taxpayer of the new bonding would not exceed $10/month over the next five years, and would be limited to approximately $10/month in the peak cost years of 2025 and later. For that amount, City taxpayers would see a rebuilt City Hall Park, enhanced Bike Path, new fire engines, a dramatically improved and sustainable street and sidewalk system, important facility renovations, necessary investments in City IT systems, and more. Completing this work now – with low interest rates, the City in a financially strong position, and before the infrastructure deteriorates further – will save taxpayers money as well.

Conclusion:

The balance of this white paper describes in detail the status of every major element of the City's infrastructure and provides greater discussion of each funding strategy.

Over the months ahead we have an opportunity to take a number of key actions to see this plan implemented, setting us on a course to dramatically improve our core infrastructure within five years, and then sustainably maintain it at a high level thereafter. Unlike decades past, no windfall of help is likely to come from the state or federal government. It is incumbent on us to act at the local level to properly steward the City's infrastructure and leave our children a City worthy of Burlington's proud history.

II. Background: Continuation of Effort to Responsibly Steward the City's Resources

The infrastructure plan outlined in this white paper is a continuation of the multi-year focus on responsible stewardship of the City's resources and the product of two years of sustained due diligence across City government. It also marks a transition of sorts: Having addressed the urgent financial challenge the City faced in 2012, the Administration is seeking to proactively address our growing infrastructure needs and in a way that will ultimately reduce the total burden asked of the City's taxpayers.

Focus on Responsible Stewardship of the City Resources

In 2012, the City's credit rating was downgraded three steps from A3 to Baa3, the edge of junk bond status. The Administration, City Council, and voters responded to this adversity and have successfully addressed our most acute financial issues. Improved management of our enterprises, voter approval of the Fiscal Stability Bond, and the creation and resourcing of a new fund balance policy has addressed the City's dangerous liquidity challenge. The City settled an uncertain $33.5-plus million Citibank lawsuit on terms favorable to the City and taxpayers, eliminating a cloud of financial uncertainty that had hung over Burlington for five years. Improved financial controls have steadily improved our annual audits, reducing the number of management letter deficiencies from 27 in 2012 to four in 2015. As a result of this work on many fronts, the City, the Burlington International Airport, and Burlington Electric Department have all been upgraded over the last two years, and the City's A credit rating has been restored. In fact, the success of this effort has led to modest decreases in the municipal tax rate each of the last two years – a trend that stands in stark contrast to the trajectory of many Vermont municipalities.

With the most acute financial issues addressed, the Administration has turned our focus increasingly to addressing long-term financial challenges that continue to pose a risk to taxpayers and detract from residents' quality of life and the economic vibrancy of the City. The infrastructure challenge is the last major element of this effort to restore responsible stewardship to the City's financial resources to affordably modernize and maintain our community's physical infrastructure in the years to come to benefit all of our residents. Stewardship is a coordinated effort of the Capital Plan with an asset management plan to ensure there is a clear strategy to maintaining our infrastructure in a sustainable manner.

Two Years of Due Diligence

This infrastructure effort began with Mayor Weinberger's 2014 State of the City declaration:

> *"Overall, our infrastructure continues to degrade at a faster rate than we reinvest, and there is no comprehensive, coordinated plan for properly caring for the community assets we have inherited. I have directed the Chief Administrative Officer to lead an effort to craft an affordable and comprehensive 10-year capital plan for presentation to the City Council for approval no later than Town Meeting Day 2015. This plan will include responsible investments in our roads, sidewalks, municipal buildings and parking garages, our water, sewer, and stormwater system, the bike path, parks, and our schools. The plan also will include better management of our fleet of over 250 vehicles to reduce maintenance and fuel costs, as well as capital costs. I see this plan as a key document for ensuring that we make good on our responsibility to leave the City in better shape than it was when we started."*

In the two years since Mayor Weinberger's remarks, the City has commissioned engineering studies of our garages, buildings, streets, sidewalks, and bike path. A draft 10-year capital plan has been reviewed by the City Council and the relevant City Boards and Commissions with a stake in the City's capital planning. The Burlington School District is now also fully engaged in an evaluation of

their capital assets and projections of future needs that mirrors the effort the City has undertaken, and initial indications of the results of that planning are expected in the months ahead. Further, the City Administration and the School District have begun coordinating their efforts to take advantage of creative opportunities to save money on shared infrastructure needs. Additional planning documents that form the basis of this initiative include the 2011 Burlington Bike Path Task Force Report, 2011 Transportation Plan, 2014 PlanBTV Downtown & Waterfront, 2015 Burlington Parks, Recreation & Waterfront Master Plan, and the ongoing development of the City's Walk-Bike Master Plan and Great Streets request for proposals.

The Administration's work on this effort has been led by the Mayor, with day-to-day responsibility for management of the effort delegated to the Chief Administrative Officer overseeing a working group that has included the Public Works Director, Parks, Recreation & Waterfront Director, City Engineer, Assistant Director – Water Resources and the Capital Improvement Program Manager. In addition the Community & Economic Development Office (CEDO) Director, Planning & Zoning Director, Burlington City Arts Director, City Attorney's Office, additional City Staff, and numerous consultants have contributed significantly to this plan.

The Neighborhood Planning Assemblies (NPAs) have been briefed and provided input on elements of the emerging infrastructure plan over the past two years. The Administration plans to re-engage the City Council, relevant City Boards and Commissions, and NPAs, and reach out to many other community groups during the finalization and implementation of this plan over the course of 2016.

This effort has already produced results, without any impact on City taxpayers. With a heightened organizational focus on infrastructure investment and the benefit of the planning tool that is the 10-year capital plan, existing resources have been deployed in a focused and strategic manner that has already dramatically increased our investments in parks, City buildings, and sidewalks in the last two fiscal years without impacting taxpayers (and, in fact, supported two consecutive budgets with modest reductions in the municipal tax rate). After greatly improving their financial positions over the last four years, the City's water and sewer enterprise funds have also increased their capital reinvestment, and major renovations of our three downtown garages are underway that will improve the lifespan, safety, and quality of experience for users parking in the downtown.

These two years of careful planning and analytical work have provided a strong empirical basis for moving forward and making additional strategic investments now to implement the next and critical phase of this effort in a way that will address an unavoidable challenge proactively, save taxpayers money over time, and improve the quality of life in the City for generations to come.

III. Guiding Principles of Infrastructure Plan

This action plan has been shaped by the following principles:

- Stewardship of public infrastructure is a core responsibility of municipal government that drives quality of life, equity, economic development, public safety, and highest value of public investment.

- Strategic investments reflecting a comprehensive plan should be able to save taxpayers money over time, rather than investments made reactively in the face of an immediate need.

- Residents, businesses, visitors, and institutions all benefit from high quality public infrastructure, and all should contribute to its construction, maintenance, and improvement.

- Preventative maintenance and coordinated investments between different asset classes are critical for efficient use of public dollars and for improving infrastructure quality (i.e., it is generally most efficient to replace subsurface water and sewer pipes when a street is being repaved – not a year after a street has been paved).

- Municipal and school district capital investments should be coordinated both to promote efficiencies and shared-use facilities and to moderate and minimize the impact on Burlington property taxpayers of needed capital investments.

- Use the opportunity provided by the ten-year capital plan horizon to thoughtfully and methodically address the structural underfunding of core assets in a way that reduces projected taxpayer costs.

- Given the significant ongoing capital investments required to maintain City assets individually, and more significantly the collective asset list, the City will relook at the current capital asset portfolio to evaluate if all truly meet the requirement of qualifying as essential public infrastructure. For any assets that don't meet that criteria, the City will develop plans that could include selling these assets, or leasing them out to private sector operators who would be responsible for daily operations and capital maintenance. This would allow the City to invest available staff resources into the projects which are most essential

- After exhausting efforts to maximize existing resources and seek other revenue sources, it is reasonable to consider bonding for some of the necessary investment for several reasons:
    - It is fair and equitable to pay for long-term assets over the course of their functional life;
    - Like the use of long-term mortgages to finance household acquisitions and improvements, bonding has traditionally been employed by municipalities to financing long-term assets;
    - Burlington has considerable untapped debt capacity by objective standards and the plan proposed here will keep the City well within its debt capacity limits; and
    - Long-term debt interest rates remain at historic lows.

- Any consideration of new bonding should be as limited as possible to respect the substantial property taxes paid by City residents and to minimize the cost of future interest payments.

- Any new bonding should be explained alongside sustained efforts to offset or even reduce City taxpayers' burden.

IV. Summary of Plan by Major Asset Type

This section articulates the status and proposed future actions for General Fund, Water Resources and Traffic asset category that the City is responsible for maintaining.

In addition, the review of different City asset classes led the City Administration to the conclusion that Memorial Auditorium was an asset the City could no longer afford to maintain – with substantial deferred maintenance of that facility since the early 1990s, the City is looking instead to partner with the University of Vermont and produce a joint RFP that would allow for a private operator to update Memorial to accommodate UVM hockey and basketball games, other civic events, and concerts, conferences, and community gatherings. The decision not to reinvest in Memorial Auditorium as part of the capital plan will save the City about $14 million.

City Fleet

Current Status:

- Numerous vehicles within the fleet are at or near their end of life. Fire trucks and some Public Works vehicles take six months to a year from ordering to delivery.
- Public Works fleet has 11 plow trucks with the oldest purchased in 1998. Four are more than 10 years old (the average life for a plow truck).
- Having an older fleet adds operational costs through higher levels of maintenance, labor, and parts.

Proposed Action Under 10-Year Capital Plan:

- The goal of all vehicle purchases in the future is to minimize operational maintenance costs and increase the trade-in value of the vehicles.
- Five of the City's six fire vehicles will be replaced through capital infusion between 2017 – 2021.
- The last purchase of fire trucks occurred in 2008, and the majority were purchased in 2003 or earlier. The capital plan includes replacement of fire trucks on a 12-year life cycle and ambulances on a 6 year life cycle.
- This will allow for lower costs in operational maintenance and higher trade-in values to offset the cost of the new vehicles.
- Police have their vehicles on a five-year rotation due to the high level of use and are budgeted to pay cash out of their operating budgets.
- Public Works vehicles are scheduled on a 10-year life cycle, although with good maintenance the life may be extended to 15 years. The strategy will be to utilize master leases of 4-5 years in the short term to catch up on deferred purchases allowing for outright purchases when replacement is scheduled in 10 years.

Facilities

Current Status:

- From the assessments completed in 2014, there is a large volume of deferred maintenance causing a larger capital need. Addressing the need in the near future will allow for lower operational costs.
- There is significant labor spent on reactive work rather than being able to schedule maintenance and be more efficient with our labor force.

Proposed Action Under 10-Year Capital Plan:

- All major deferred maintenance identified in the 2014 building needs assessments – approximately $10 million in projects – is budgeted to be completed by 2021 without expanding the City's customary annual facilities bonding of $2 million a year.
- Facilities with the greatest need will be renovated as completely as possible to create a more predictable building need. Fletcher Free Library and Fire Station #1 are examples of buildings already renovated as part of the City's increased focus on capital needs that have immediately saved operational dollars and maintenance labor.
- As noted above, the City is also seeking to divest itself from the continued operation and maintenance of Memorial Auditorium, given the $3 to $4 million in known needs to keep the building open in its current underutilized state.
- The City will continue to implement energy efficiency projects in collaboration with BED to utilize on-line billing and minimize capital outlay while saving dollars on utilities. We are currently saving over $75,000 a year as a result of projects in recent years, and this figure is expected to continue to grow modestly and reach six-figure annual savings by approximately 2023.
- Adding continuous preventive maintenance on the buildings will extend the life of the equipment, lowering our capital need in the longer term.
    - The City added an electrician this past year who is attending to many deferred electrical projects, saving more than the cost of the position in the first year. Additional maintenance capacity has been approved in the FY17 budget.
    - Where in house staff cannot address the preventive maintenance needs, RFPs and contracts are being developed to ensure the assets of the City are maintained.
    - An Asset Management Plan is in process to make sure there is a method long-term to capture the needs of the City's assets.

Sidewalks

Current Status:

- A 2014 inventory of the City's 130 miles of sidewalks conducted by Sally Swanson Architects, Inc. found that 16 percent of the City's sidewalks were in serious to failed condition. The sidewalks are graded on a scale of seven criteria with serious and failed the lowest two on the scale.
- The City has an existing sidewalk property tax that generates approximately $515,000 a year in revenues, enough to replace less than 1 percent of the sidewalk network per year. Given that the average sidewalk lifespan is 40 years or less, continuing to invest on this 100-year replacement cycle will result in further degradation of the existing system.
- In FY'15, FY'16 and FY'17, the Capital Plan has supplemented the $515,000 of base funding with an additional $700,000 per year.
- The City has identified approximately seven miles of streets without any sidewalks that would be improved by adding a sidewalk on at least one side of all accepted streets.

Proposed Action Under 10-Year Capital Plan:

- For the years 2017 through 2021 the plan contemplates investing approximately $2 million per year in the sidewalk system with the goal of correcting the 16 percent of the system (21 miles) that is currently in a serious to failed condition.
- During the years 2021 through 2026 the plan proposes a base of $1.5 million a year with a 3 percent escalator, the amount necessary to achieve a 40-year replacement cycle.
- This investment will address all of the sidewalks currently categorized as serious or failed within five years, and have addressed all of the poor to failed segments in approximately 15 years.

- The City will continue to budget $100,000 a year of local funds for sidewalk expansion projects and vigorously pursue state and federal funding (over the last decade Burlington has successfully implemented six sidewalk enhancement projects funded largely by state and federal funds).
- The City in FY16 successfully piloted a new preventive maintenance process utilizing diamond cutting of vertically displaced sidewalk panels to maintain the functional lifespan of sidewalk segments. It is anticipated that this technique will help the City achieve a higher level of service in our sidewalk network over the projected 40-year lifespan by minimizing the costs to address the safety and short run repairs that tend to be related to the vertical displacement of sidewalk slabs.

Streets

Current Status:

- Mayor Kiss and his Administration identified the need to increase investment in the City streets, supporting an effort approved by voters in November 2008 to bond $5.5 million for additional street work.
- As part of the evaluation of City streets following that infusion, the City has implemented a Pavement Maintenance Management System entitled MicroPaver, which uses inspection data and a pavement condition index (PCI) rating from zero (failed) to 100 (excellent) to consistently describe a pavement's condition and predict its maintenance and repair needs many years into the future.
    - The City inspected and inventoried the 95 centerline miles of roads in the last two years to ensure our inspection records are accurate and up to date with their assessment.
    - The computer model provides City staff information as to which streets will likely require repair a number of years into the future. As you look further into the future, the model becomes less accurate, however, it has been proven to be a useful tool to inform and coordinate subterranean utility capital reinvestment.
- The City has an existing street property tax that generates approximately $1,500,000 a year in revenues, enough to replace approximately 2.5 percent of the road network per year. Given that the average road lifespan is between 15-25 years depending on usage, the current replacement cycle is about 40 years. It is anticipated to result in further degradation of the existing system.
- The City initiated a pavement preservation program in 2016 with crack sealing on several of the major arterial roads. This measure will protect the pavement against deterioration and thereby extend its service life, ultimately reducing annual maintenance costs by using more cost-effective preservation techniques.

Proposed Action Under 10-Year Capital Plan:

- The plan proposes an annual investment in the program of approximately $2.3 million dollars from 2017 to 2021 into street paving related work.
- The program goal is to focus on 23 percent of the poor to failed streets within the City that require full depth rehabilitation to restore the street subbase and pavement.
    - Streets that currently fall within the poor to failed categories are not candidates for any alternative maintenance or preservation treatments that could extend the life of the pavement. Therefore it is important to redevelop these streets to a new condition to allow for these maintenance techniques to be used in the future.
- In years 2022 and beyond the paving program will be adjusted to an annual adjusted base of $1.55 million with additional funding for preventative maintenance and curbs. The goal is to maintain an average pavement condition of "good" (PCI above 72) for the entire network.

- The City is working closely with all of its Departments to plan and coordinate work. It is vital to address failing underground infrastructure prior to redeveloping the street surface under both the near-term additional funding as well as the long-term program investment.
    - Coordinating work with subsurface utilities maximizes the cost efficiencies of combining work, shortens total construction of all work types, and results in higher quality street and infrastructure investment.
    - Coordinating work also reduces the risk to the new street investment of future utility work that will result in cuts, excavations, and repairs that reduce the service life of a street.
- An enhanced pavement preservation investment of $200,000 annually towards pavement life extending practices will complement the enhanced investment into the pavement replacement program.
    - The program will focus on streets where the condition of the street is still in excellent-good condition and maintaining that status through preservation treatments.
    - Pavement preservation techniques such as crack sealing, fog sealing, and microsurfacing are low cost treatments that add four to eight years or more of service life to pavement depending on the treatment used for a single application.
    - This allocation towards pavement preservation paired with the reinvestment will help to ensure the long-term success of a sustainable 40 year pavement management program.
- The Capital Plan will introduce a dedicated allocation toward curb construction and replacement. The initial investment in the first five years will total $2.5 million from 2017 through 2021.
    - Curbing will have multiple benefits to the City with added pedestrian safety, greenbelt preservation, and better stormwater management.
    - The allocation towards curb work will then be adjusted to a base of $1 million starting in 2022 with a 3 percent annual escalator.
    - The goal of the program is to initially address some of the serious deficiencies that exist throughout the City with our curb infrastructure within the first four years. Subsequent years curb work will focus on leading ahead of the paving program to curb streets scheduled for paving. The target replacement cycle for curbs under this program is 50 years.
- The 10-Year Capital Plan has allocated approximately $3.5 million to address the long-term deferred maintenance of the City owned/shared bridges and culverts. These funds paired with grant opportunities from State programs and adjacent municipalities will allow for necessary repairs to the structures to ensure the remaining service life is achieved.

IT Infrastructure

Current Status:

The City's spending on IT needs for Departments funded from the General Fund has not kept pace with our operational demands or the changing technology landscape. Over the last five years, investments in our network infrastructure (e.g. servers, backup appliances) have totaled approximately $150,000. We currently find ourselves with gaps in our infrastructure and capabilities that will prevent us from maintaining, improving, and expanding the services and capabilities we provide to residents.

- The pace of the creation and use of data continues to increase, and the tools we use to capture and store that data are at capacity, no longer adequately support our current work, and do not allow for growth.

- There are increasing threats to the security of networks and data, and there are many steps we could take to better protect our assets.
- There are limited disaster recovery capabilities in place that would enable us to quickly be operational in the event of a disaster.
- Employee computers have not always been replaced on a standard schedule, resulting in inefficient work as well as security vulnerabilities.
- There are many untapped opportunities to automate existing work; the lack of using technology leads to relying on manual processes and significant inefficiencies.
- The City does not provide many capabilities to allow the community to obtain services or engage online.

Proposed Action Under 10-Year Capital Plan:
The plan proposes investing an average amount of $363,000 per year to be allocated for technology capital expenses for FY 2017-2021 for a total investment of about $1.4 million. If approved, the funds will help address the challenges identified above and enable the City to take advantage of future opportunities. Investments will be made toward the following activities:

- Invest approximately $45,000 in tools and services that will help to protect the security and integrity of our network and data, and an additional $50,000 to develop and maintain disaster recovery capabilities.
- Invest $150,000 in infrastructure over the next four years (local hardware and cloud-based) beyond our traditional investment to replace existing hardware past its useful life that is necessary to expand the capacity of services we provide to staff and the public.
- Purchase and implement tools that will allow City Departments to work more efficiently and collaboratively, and to deliver improved services. This includes:
    - $225,000 for software, which includes purchase and implementation of a computerized maintenance management system (CMMS) in FY17 to support renewed efforts across Departments to more proactively and efficiently maintain City assets and upgrades to permitting software.
    - $100,000 to advance the capabilities of the Burlington Fire Department over the next four years.
    - Approximately $75,000 in new hardware over the next four years to enable employees to work more efficiently and effectively by performing their work from the field.
- Continue recently implemented efforts to replace employee computers every four years to enable efficient work and to protect network security, and to purchase computers for new employees, estimated at $130,000 per year.

Bike Path
Current Status:

- In 2012 the Bike Task Force, commissioned by the City Council, completed the Burlington Bike Path Improvement Feasibility Study. Its purpose was to identify significant issues so that the path remains a safe corridor, attracts visitors to the City, and enhances quality of life.
- An intersection scoping study finalized in 2014 evaluated at grade crossings across the City to identify short-term safety improvements and long-term design changes.
- The City conducted preliminary engineering and conceptual design work beginning in 2013 to begin the path's rehabilitation and to address issues raised by the Feasibility and Scoping Study.
- In 2014 rehabilitation of the path began in Waterfront Park as part of the Tax Increment Financing (TIF) investment. The first phase of construction from Perkins Pier to the Urban Reserve was completed in the winter of 2015.

- In 2016, path rehabilitation and realignment is taking place from the Urban Reserve through to North Beach.
- The current path generates over $4 million in economic activity annually.

Proposed Action Under 10-Year Capital Plan:

- After spending $3.5M in FY15 and FY16, the entire eight mile path from Queen City Parkway to the Winooski River Bridge will be fully rehabilitated in the next five years.
    - 2017 – North Beach Bridge to Staniford - $3.5M
    - 2018 – Staniford to Winooski River Bridge - $3M
    - 2019 – Queen City Parkway to Oakledge Park - $3M
    - 2020 – Oakledge to Perkins Pier - $3M
    - 2021 – Oakledge to Perkins Pier Finish - $500K
    - 2022 – final touches to bike path - $500K
- Estimated project budget is $17 million.
- To date over $3.5 million has been secured through City resources (TIF, BPRW Capital and CIP) with an additional nearly $1 million raised through private philanthropy by the Parks Foundation of Burlington.
- Approximately $12.5 million is needed to complete the project as envisioned.

City Hall Park

Current Status:

- A 2011 study commissioned by Burlington City Arts and the Burlington Business Association found that the park was negatively impacted by its current design. Problems identified included stormwater, fountain functionality, age and location of trees and pathways.
- In the years since the report, the Parks, Recreation & Waterfront Department has mitigated these issues through intense efforts at erosion control and planting of new grass, and BCA and the Police Department have made numerous attempts at improving conditions in the park through programming and different policing strategies. While these efforts have provided temporary relief, they have not fundamentally altered the conditions found in the study.
- In 2014 after an extended public planning process, the City Council unanimously approved a resolution endorsing a conceptual plan for a rebuilt City Hall Park.
- In early 2015 the City, through the Parks Foundation of Burlington, received a $1,000,000 philanthropic contribution towards the rebuilding of the park from Antonio and Rita Pomerleau.
- In early 2016 a contribution of $30,000 was received through a grant from Northfield Savings Bank.
- The City is currently underway with a consultant to complete the design and engineering of a renovated park.

Proposed Action Under 10-Year Capital Plan:

- Beyond investing approximately $1,000,000 in anticipated total private contributions, the plan includes $2 million for completing the renovation during the summer of 2017.

Street Trees

Current Status:

- The City has over 8,500 individual street trees.
- Trees in the downtown core of the City suffer from quantity and quality of soils. Expected lifespan of a downtown tree is approximately 10-15 years, while trees in other parts of the City can last over 30-50 years.

- Biggest barrier to improving tree infrastructure is cost of improving streets and sidewalks.
- Through greenbelt capital funding, trees are planted and maintained across the City on a regular basis, with over 200 trees planted in 2015.
    - The City's Climate Action Plan calls for planting over 500 trees annually between public and private property.

Proposed Action Under 10-Year Capital Plan:

- With increased funding for sidewalks and streets, integrated planning can accomplish improvements to soil quality, quantity and structures to support future growth.
    - Approximately 200 trees need to be replaced in the downtown over the next 10 years.
        - Increased capital funding allows current resources to be focused on planting in greenbelts, parks, and riparian areas to achieve increased canopy coverage.
        - Downtown trees play a specific green infrastructure role in managing stormwater, a much less costly solution than improvements to grey infrastructure improvements.
        - Additional tree replacements and new tree planting opportunities (50-75) can be created through new coordinated development in the plan (i.e. Burlington Town Center, Imagine City Hall Park)
    - Trees with suspended pavement and proper soil volume can live up to 50 years, making the initial investment pay off.
      http://www.deeproot.com/silvapdfs/resources/articles/LifecycleCostAnalysis.pdf
        - Current trees need to be replaced three times over the same 50 year period.
        - If the trees reach maturity, an ROI can be over $25,000 per tree over this period.
        - Benefits include stormwater retention, air quality, energy conservation, increased property values and business performance. These all factor into the ROI and have real quantitative value, as well as qualitative benefit.

- The Great Streets initiative will significantly improve standards for future improvements to tree infrastructure.
    - Approximately 1,000 - 1500 cubic yards of soil is needed per tree for proper growth for large trees like elm and maple. 500-600 cubic yards are needed for smaller mature trees.
    - All downtown trees should have tree grates for protection and accessibility.
    - Vertical tree protection is needed for young trees to limit vandalism and damage from sidewalk plowing and other impacts.

Water Infrastructure

Current Status:

- Water initially developed a prioritized 30 Year Capital Reinvestment Plan in 2008 outlining the highest priority needs in all areas from the Treatment Plant, two Reservoirs, two Elevated Tanks, the 100-mile Distribution System and Metering. The greatest need at that time, and for the future, is the distribution system with needs in excess of $35 million. While the 2008 plan did list streets in need of capacity upgrades or streets with a known history of breaks, the plan was not comprehensive in its evaluation of the entire distribution system and did not specifically outline a plan for replacement/rehabilitation based on the expected life cycle of our metal water pipes.
- Given that 42 percent of our pipes are older than 75 years, the water distribution system in particular is in need of additional investment – while at the same time investments in our Water

Treatment and Storage system must also be maintained at sufficient levels to ensure the City's ability to produce high quality drinking water.

- To complement the above analysis, a building envelope/facility conditions assessment was completed in late 2014.
- After many years of underfunding capital investments, FY16 was the first year of a more robust annual capital budget to date totaling $1.5 million for efforts related to water distribution, building envelope, plant internal infrastructure and reservoirs. The FY16 rate increase (an increase of $0.50/100 cu. ft. of use) along with retired debt added $1 million to the Water Capital budget.
- The proposed budget for FY17 continues to improve the City's water system capital reinvestment ability through a small rate increase ($0.05/100 cu. ft.) and $382,000 in Council authorized borrowing to meet the minimum level of investment required to coordinate subsurface utility work with Champlain Parkway efforts. However, this infusion does not provide sufficient funding for replacement of water lines on streets on the regular paving program list, nor the proposed enhanced paving program documented above under the *Streets* section above.
- Replacement of water mains in the recent years has focused on coordinated investments that follow the Capital Street Plan.
- Efforts to develop a formal asset management plan and implement a computerized maintenance management system (CMMS) are underway to support decision making regarding maintenance activities and capital replacement.

Proposed Action Under 10-Year Capital Plan:

- Update the 30 Year Capital Reinvestment Plan to reflect the comprehensive needs of the drinking water system, including all needs at the drinking water plant (building envelope and production infrastructure), storage facilities, metering and distribution system. This enhanced plan will focus on estimating the condition of our pipes older than 75 years old and plan to mitigate this infrastructure deficit as quickly as financially feasible, while beginning to plan for the concurrent timely replacement of younger pipes as they reach their useful life. Where possible, this work will be coordinated with the street paving program, but it is possible that some pipes may need to be rehabilitated outside of the paving program work. Additionally it will integrate our building envelope/facility to ensure integrated financial planning.
- Develop a long term financial planning model for the Water utility for improved long term budget and rate planning. This model will be integrated with financial models for Wastewater and Stormwater to ensure that rate increases across the three utilities are coordinated in such a way to minimize impact to rate payers.
- Pursue additional potential sources of capital funding such as the State Drinking Water Revolving Loan Fund to maintain the necessary level of investments in the Water Capital Reinvestment Plan.
- Leverage new technologies like CIPP (cured-in-place-pipe) relining of water mains to increase their useful life, increase fire flow capabilities, improve water quality, decrease overall project costs and prevent traffic/pedestrian disruption resulting from open digging of City streets.
- Implement the necessary asset management strategies identified in the asset management plan and acquire and implement CMMS tools to support the long term stewardship of our water resource assets. The total estimated distribution (water main) capital need for Water to integrate water main rehabilitation with proposed street paving projects over the next five years (FY17-FY21) is approximately $12.3 million. This need will be addressed through a combination of new revenues (including possible rate increases and use of cash reserve) and Council or voter-authorized borrowing of up to an additional $8.4 million. Depending on the

results of the updated water capital plan and paving plans for FY22 and beyond, additional borrowing may be required in advance of FY22 to continue our paving related infrastructure renewal efforts and bring our average pipe age back to a more acceptable range.

- The total additional water process related capital unrelated to the paving program (e.g. water treatment plant and metering; does not include all building capital) for FY17- FY21 is currently estimated at $2.6 million. At this time, no borrowing is proposed, but this estimated need will likely change with our updated capital plan, particularly regarding needs at the water treatment plant.
- As part of this capital implementation enhancement, Water Resources will need to evaluate staff resource needs in order to ensure successful implementation of these capital projects.

Wastewater/Stormwater Infrastructure

Current Status:

- Through an intensive inventory effort in 2011, the City has an up to date GIS inventory (location, type, size) of all sanitary, combined, and storm-sewer pipes.
- Whereas the City's CCTV based (pipe filming) condition assessment had been suspended for a number of years due to staff constraints and other demands, the City acquired in-house equipment for filming on an as-needed basis. Since 2015, pipe condition assessment has been prioritized for sewers on streets that are part of the paving program. At this point, there is not enough data to know the full picture of the condition of our sewer assets; however the City is launching a comprehensive Pipe Assessment Project in FY17 (see below under proposed action).
- Rehabilitation (trenchless pipe lining) of a select number of high priority sewer pipes sections has been occurring since 2012 in both the wastewater and stormwater systems. This activity has been coordinated to the maximum extent practicable with streets identified for paving in order to ensure our paving investment is protected. Average annual reinvestment in recent years for sewers has been approximately $150,000 and $75,000 for Wastewater and Stormwater respectively. Additional condition assessments are needed to understand the full scope of the sewer infrastructure need and the level of annual investment likely needs to increase to adequately address aging and structurally failing pipe (see Pipe Assessment Project).
- Inspections and initial conditions assessments have been completed for the City's stormwater outfalls. Of our 102 outfalls, approximately 10 percent are in a failed/near failure condition, with many more in poor condition.
- A draft report of the 20-year engineering evaluation and 10 year capital plan for Main, East and North Wastewater Treatment Plants, all 25 pump stations, and portions of the collection system has recently been completed and is under review (as of June 2016). Additionally, assessments of the building envelopes/facilities of the WWTPs were completed late 2014.
- Significant investment in combined sewer stormwater reductions ($1.16 million) were made in 2010-2012 to reduce the frequency of combined sewer overflows (CSOs) at three combined sewer overflow outfalls. Additional work is necessary to abate CSOs at Pine Street, and possibly at other CSOs pending an update of the Vermont CSO policy.
- Localized separated stormwater management planning activities have either been completed or are underway (College Street Green Stormwater Infrastructure Plan, Centennial Brook Flow Restoration Plan, Englesby Brook Flow Restoration Plan). Additional City wide stormwater management planning is necessary to address our regulatory (Lake Champlain TMDL) as well as our local water resources issues (flooding etc.).
- The recent release of the Lake Champlain TMDL (Total Maximum Daily Load) will result in additional new (vs. reinvestment in existing capital) capital costs. Efforts are underway to

pursue Integrated Water Quality Management Planning to examine the most cost effective solutions to meeting the TMDL as well as other Clean Water Act obligations and local clean water priorities.

- Efforts to develop a formal asset management plan and implement a computerized maintenance management system (CMMS) are underway to support decision making regarding maintenance activities and capital replacement.

Proposed Action Under 10-Year Capital Plan:

- A prioritized 10 Year Capital Plan for the three treatment plants and 25 pump stations is in process through a 20 Year Engineering Evaluation for Wastewater. This will also include a recommended methodology for assessing the collection system.
- Borrow Clean Water State Revolving Fund (CWSRF) loan money to complete a Pipe Assessment and Rehabilitation project totaling approximately $5.02 million. This effort will involve an expanded pipe filming and assessment effort to obtain a more comprehensive look at the condition of our wastewater and stormwater pipes and to develop a capital replacement plan for this asset class. Funds will then be used to rehabilitate (through trenchless lining) or replace as many pipes as possible based on that capital plan. The capital plan will also identify long term funding strategies to ensure that remaining pipe replacement needs are addressed in the years to come.
- Borrow CWSRF loan money ($4.65 million) and Ecosystem Restoration Program grant funds ($100K) to complete Integrated City-wide stormwater/wet-weather master planning, design and capital project implementation. This effort will involve a substantial detailed capital and programmatic planning effort to identify the specific stormwater management capital investments and other strategies that will be needed to ensure compliance with the Lake Champlain Total Maximum Daily Load (TMDL), as well as other water quality issues such as combined sewer overflows and basement back up issues, stormwater impaired watersheds etc. Later stages will involve the design and implementation of the highest priority water quality management capital projects. State policy on this topic is in flux, and it is possible that additional stormwater treatment, combined sewer mitigation, and possibly wastewater treatment plant upgrade funds will be necessary in the long term to fully comply with the requirements of the TMDL. Leverage CWSRF loan money for any equipment replacement/upgrades identified as part of the 20 year engineering evaluation and 10 year WWTP capital plan or process upgrades if required to meet the Lake Champlain TMDL.
- Develop a long term financial planning model for the Stormwater utility for improved long term budget and rate planning, and continue to advance the financial planning model developed in 2016 for Wastewater as more cost estimate data becomes available. These models will be integrated with financial models for Water to ensure that rate increases across the three utilities are coordinated in such a way to minimize impact to rate payers.
- Implement the necessary asset management strategies identified in the asset management plan and acquire and implement CMMS tools to support the long term stewardship of our water resource assets.
- The total estimated wastewater capital need in order to integrate sewer main rehabilitation with proposed street paving projects over the next 5 years (FY17-FY21) is approximately $3.1 million. This need will be addressed through rate derived revenues (including possible rate increases and use of cash reserve) and approximately $2.5 million of borrowing from the CWSRF. No additional bonding is proposed at this time for paving related wastewater infrastructure improvements. However, the pipe assessment project will inform the need for additional sewer main expenditures beyond FY19/FY20 and additional borrowing may be necessary at that point.

- The total additional wastewater capital unrelated to the street paving program (e.g. wastewater treatment plant including some building facility repair and pump stations) for FY17- FY21 is currently roughly estimated at $4.3 million, without any upgrades that may be required as part of the Lake Champlain TMDL. Additional capital planning and Integrated Planning over FY17-FY19 will assist in determining what additional needs must be met due to existing infrastructure, TMDL and other Clean Water Act obligations. This planning effort will be coupled with a financial capacity analysis and strategy development for funding these improvements, including, but not limited to, rate increases, grants, smaller amounts of annual borrowing authorized by the Council (per the Charter), leveraging of additional CWSRF funding or future (larger scale) revenue bonds.
- The total estimated stormwater capital need in order to integrate storm sewer main rehabilitation and stormwater treatment with proposed street paving projects over the next five years (FY17-FY21) is approximately $4.1 million. This need will be addressed through rate derived revenues (including possible rate increases and use of cash reserve) and approximately $2.5 million of borrowing from the CWSRF. No additional bonding is proposed at this time for paving related stormwater infrastructure improvements. However, the pipe assessment project will inform the need for additional sewer main expenditures beyond FY19/FY20 and additional borrowing may be necessary at that point.
- Additional stormwater capital costs unrelated to the paving program (FY17-FY21) include an additional approximate $1.1 million for stormwater outfall repair (currently proposed to be funded by rate revenue) and approximately $2.1 million on Integrated Planning and initial phases of implementation of enhanced stormwater management retrofits (funded by CWSRF borrowing) related to our highest priority clean water obligations. Additional capital planning and Integrated Planning over FY17-FY19 will assist in determining what additional capital needs must be met due to existing infrastructure, the TMDL and other Clean Water Act obligations. This planning effort will be coupled with a financial capacity analysis and strategy development for funding these improvements, including, but not limited to, rate increases, grants, smaller amounts of annual borrowing authorized by the Council (per the Charter), leveraging of additional CWSRF funding or future larger scale revenue bonds.
- As part of this capital implementation enhancement, Water Resources will need to evaluate staff resource needs in order to ensure successful implementation of these capital projects.

Water Resources FY17-21 Capital Needs	Water	Wastewater	Stormwater	Total
Related to Street Paving	$12,300,000	$3,100,000	$4,100,000	**$15,700,000**
Unrelated to Street Paving	$2,600,000	$4,300,000	$3,200,000	**$10,100,000**
Total Needs	$14,100,000	$7,400,000	$7,300,000	**$25,800,000**
2016 Water Revenue Bond Request*	$8,350,000			**$8,350,000**

*Note: See wastewater and stormwater narrative above for discussion of funding plan for identified wastewater and stormwater need. Future budget planning and Council authorizations will affect FY17-FY21 funding portfolios for all Water Resources. Ongoing capital planning in FY17 and FY18 will inform possible additional needs and borrowing particularly for FY20 and beyond.

Memorial Auditorium

Current Status:

- There is significant capital work needed to continue use of the building.
  - The fire alarm system and the heating system need to be rehabilitated.
  - There are structural questions that require the upper portion of the building be opened up, beams tested, and repaired.
  - No events are scheduled within the building after April 1, 2016.
- There is no budget in the Capital Plan to address any capital needs, which are estimated to cost about $4 million to maintain the building as is and approximately $14 million to redevelop the facility.

Proposed Action Under 10-Year Capital Plan:

- An RFP is in process to look at potential reuses of the building. The RFP process is expected to result in a plan for the building, potentially in collaboration with the University of Vermont.

Parking Garages

Current Status:

- A 2014 engineering assessment identified $9 million of major capital repairs needed in the City's three major downtown parking structures to enable them to reach their full service life:
  - Marketplace Garage (built in 1976 with 378 spaces) requires an estimated $3.8 million in repairs to extend its life an additional 15-20 years;
  - College Street Garage (built in 1986 with 456 spaces) requires an estimated $3.9 million in repairs to extend its life an additional 20-30 years; and
  - Lakeview Garage (built in 1998 with 667 spaces) requires an estimated $647,000 in repairs to extend its life an additional 30-40 years.
- If the structural, drainage, electrical, and mechanical repairs are not completed in a timely fashion, the parking structures will suffer from increased operating costs, poor customer experience, and a shortened lifespan.
- In 2015, the City Council accepted a Downtown Parking & Transportation Plan that provides a roadmap to upgrading the parking system so it achieves three main goals into the future:
  - Delivering excellent customer service;
  - Achieving a financially sustainable system; and
  - Contributing to the ongoing vitality of downtown.

Proposed Action Under 10-Year Capital Plan:

- Thanks to the continued patronage of the public and rate increases that were enacted in November 2014, the Traffic Fund has transitioned from deficit budgets and deferred capital expenditures to positive budgets that include increased capital investments.
- Phase I of the capital repair effort is currently underway. This $1.6 million investment is repairing the decks and improving drainage in the College Street Garage while repairing the decks and refurbishing the elevators in Marketplace Garage.
- Design for Phase II is underway, and construction is expected to start in FY17. The estimated cost for this phase is $7 million. Work in the College Street Garage will include all new high-efficiency LED lighting, repairs to the structural beams, new ventilation fans, etc. Work in the Marketplace Garage will include upgraded stair towers, new cable guard rail, and overhauled exit lanes. The Lakeview Garage will see painting of steel, reconfiguration of

the stair tower enclosure, and joint sealant. The Downtown Parking & Transportation Plan recommended additional rate adjustments to fund this and future capital repair work.
- The parking plan also recommended further upgrades to the garage payment equipment on-street meter system to expand payment options and to allow for dynamic pricing depending on demand.
- The parking plan's recommendations also provided a road map for expanding the Traffic Fund's focus on maintaining our current system – to also be a dynamic engine of innovation as the City looks to reinvest in downtown infrastructure and transportation options.

Parks

Current Status:

- Burlington Parks, Recreation & Waterfront (BPRW) currently manages 40 parks, 38 miles of public trails, and 500+ acres of parkland.
- The Penny for Parks program has been successfully re-established over the last four years, reaching beyond the level of functionality originally intended with the program's inception.
- BPRW's capital planning and implementation resources also include the Bike Path Maintenance Improvement Program (BPMIF), Park Impact Fees, and private donations from the Parks Foundation.
- Over the last four years, BPRW has successfully completed over 100 projects, leveraging an additional $3 million in enhancements above current funding levels from alternate sources.
- Despite these efforts, BPRW still has significant deferred court replacements, crumbling roadways, stormwater management issues, and outdated public restroom and playground facilities, not to mention climate adaptation needs.

Proposed Action Under 10-Year Capital Plan:

- The comprehensive 2015 BPRW Master Plan illustrated that the Department actually requires twice the current annual funding to maintain capital investments in current parkland, facilities, and amenities.
- Much of the current, identified parks capital need comes from projects that were originally installed decades ago and now require substantial investment and renovation rather than light improvement or repair.
- Additional funding will support:
    - Evaluation of existing court placements and subsequent improvement, replacement, or removal;
    - Playground enhancements to increase universal accessibility and innovative play design;
    - Coordinated planning efforts with DPW and stormwater team for improvements to park infrastructure and better community management of stormwater issues;
    - Increased funding for connectivity and accessibility upgrades to existing park facilities (trails, paths, bathrooms);
    - Phased installation of parks and Bike Path-specific wayfinding throughout the parks system;
    - Management updates to Urban Wild Conservation areas to better protect our sensitive natural areas; and
        - Monument restoration and public art maintenance to preserve and protect the heritage, history, and beauty of our parks system.
- Staffing/consultant capacity to support expeditious project completion.

Burlington School District

Current Status:

- As noted above, the City and School District both have capital needs and are seeking to work collaboratively to limit the impact of those costs on the community.
- Adopting the practice of a long-range comprehensive capital planning effort in consultation with the City, the School District has conducted facility assessments and identified needs across the community.
- In addition to diagnosing its capital needs, the School District is collaborating with the City to attempt to find $2 million of recurring annual operational savings.
- Unlike the City, the District is reliant on property taxes supporting the State Education Fund for its infrastructure needs.
- Total School District need will be a function in large part of the District's vision for the future of Burlington High School – the School Board is weighing options that range from necessary repairs to the facility to a complete rebuild (the latter option is substantially more expensive).

Proposed Action Under 10-Year Capital Plan:

- The School District is by law outside of the City's capital planning effort.
- The City and School District understand they draw on the same property tax base and are working together to reduce operational costs where possible and to accommodate each other's capital needs.
- Part of the reason the City has pursued the RFP process for Memorial Auditorium was a recognition of the needs in the School District: a complete re-build and repurposing of the auditorium could have cost upward of $14 million, which would have taken place in competition with the needs of the School District.

V. Financing Plan

The challenge posed by our deteriorating infrastructure impacts all our residents, businesses, and institutions. Proper stewardship will require contributions from all stakeholders across the City to stabilize and efficiently maintain our infrastructure if we are going to keep our City affordable, accessible, economically vibrant, and reduce long-term potential costs. By sharing the cost among all stakeholders, we will be able to address the challenge while avoiding an undue burden on any group – and by taking action proactively now, while the City is in a strong financial position and before the system detiorates further, we are reducing the total cost to taxpayers.

This section outlines cost-saving measures and a proposed cost-sharing strategy among different stakeholders, including institutions, visitors, and the business community.

Overview

This white paper outlines a period of focused infrastructure investment of about $42 million in general fund assets and about $26 million in water resource related assets over the next five years. The strategy for funding this needed investment includes:

- $8.6 million in investment in the Bike Path and renovated City Hall Park from increasing the City's Gross Receipts Tax by two percent on alcohol and rooms starting in FY17. Visitors to Burlington are expected to pay for the majority of these revenues, approximately 60 percent of meals costs and close to 100 percent of hotel room costs.
- Approximately $4 million in new contributions from the University of Vermont (UVM) and Champlain College.
- $250,000 in new transportation investment from the Traffic Fund in FY17.
- Approximately $2 million in private contributions.
- Approximately $27.5 million in a new general obligation bond that will be drawn down incrementally over five years to pay for the balance of the investments planned over the next five years (detailed in the chart below).
- An additional $8.4 million in a revenue bond for Water and Wastewater improvements, with an additional almost $7 million in initial Clean Water State Revolving Fund loans for Wastewater and Stormwater capital planning, design and implementation.

Following the five-year investment period, the 10-year capital plan projects a substantially higher ongoing annual investment in the maintenance of the City's streets and sidewalks to ensure the higher quality infrastructure is maintained and the current backlog of deferred investment does not build up again.

FY17 – FY21 General Fund Capital Plan Summary by Source

General Fund	Streets/Sidewalks	Vehicle Fleet	Bike Path	City Hall Park	IT infrastructure	Civic Buildings	Total
Traffic Fund	$250,000						250,000
Gross Receipts			$7,670,425	$1,000,000			$8,670,425
Institutions	$2,085,320	$785,888	$750,000	$500,000			$4,121,208
Philanthropy			$1,000,000	$1,030,000			$2,030,000
Bond Proceeds	$14,392,032	$3,357,325	$2,698,576	$500,000	$1,675,000	$4,950,575	$27,573,508
Total	$16,727,352	$4,143,213	$12,119,001	$3,030,000	$1,675,000	$4,950,575	$42,645,141

Financing Details by Source

Traffic Fund

Summary of role in 10 Year Capital Plan: Over the past three years, through expense reductions and new pricing strategies, the Traffic Fund has been transformed from negative operating revenues to a revenue generator for the City's traffic-related needs. The plan assumes that the Traffic Fund will generate $250,000 from the approved FY17 budget.

Institutions

Summary of role in 10 Year Capital Plan: UVM and Champlain College are tremendous assets for the City of Burlington, which benefits from the students, faculty, research, and cultural springs both institutions provide. In turn, UVM and Champlain share a common interest in maintaining an attractive and inviting community that is diverse, vibrant, welcoming to students, maintains a high quality of life, and possesses amenities that attract students and take advantage of Burlington's remarkable natural setting.

Students living off campus generally live in taxable properties that participate in the funding of the City's capital infrastructure. However, approximately 8,000 students – about 20 percent of the City's population – live in tax-exempt dormitories. The City is involved in negotiations with UVM and Champlain College an annual contribution that would generate about $10 million over a 10-year period for capital investments, approximately 14 percent of the total funding need for the Capital Plan. The plan assumes that these payments begin with the 2017-2018 academic year.

Implementation required: Completion of agreements regarding this plan with both UVM and Champlain College.

Gross Receipts Revenues

Summary of role in 10 Year Capital Plan: Burlington's business community has time and again stepped forward to help make this City the incredible destination and accessible community that is has become. And, there is reason to believe that re-investment in City assets will help support the prosperity Burlington has enjoyed in recent years. To facilitate necessary investment in new, enhanced City assets like the Bike Path and City Hall Park that spur economic growth, this white paper proposes an increase from two to three percent of the gross receipts tax for five years.

- The City's gross receipts tax (which includes rooms and meals purchases) is paid primarily by the many visitors who come annually to Burlington (about 60 percent of meals costs and close to 100 percent of hotel room costs). Over a five year period, that increase would generate approximately $2 million annually and about $8.67 million total.

Implementation required:

- The City Council must approve a two percent increase in the gross receipts tax for alcohol and rooms for FY17.

Bonding

Summary of role in 10 Year Capital Plan: To make the balance of the necessary investments between FY17 and FY21, the City will seek authority to bond over time for a total General Obligation Bond of approximately $27.5 million. The City will pursue a number of strategies to minimize the impact of this new bonding on taxpayers, including:

- Phasing: If authorized, the new bonding will be done in annual phases to keep pace with the construction of new infrastructure. This will spread out over that time period the new financial impact of this bonding.
- Debt retirement: In 2022 the City will retire $4.3 million of debt, freeing up approximately $300,000 a year to service the new bond.
- Deferral of principal payments: To minimize the impact of the new bonding on taxpayers in the early years (until other debt is retired and the City's Waterfront TIF district expires in 2026, freeing up considerable new revenues that will take pressure off property taxpayers), the City will pursue a strategy common in the municipal bond market of deferring principal payments on some of the new bonding for five years.

The cumulative impacts of these strategies mean that the average residential property taxpayer will face higher tax bills as a result of the new bond authorization of less than $10/month in the early years of the new bonding and no more than $10/month when the bonds are fully drawn and amortizing (around $120 a year). The model contains some uncertainty beyond 2021, as the higher base spending required to maintain improved infrastructure is not fully projected. This approach is well within the City's bonding capacity. As noted above, the City relies on different sources for its underground water infrastructure, and would seek additional authority to supply the $8.4 million necessary to complete water infrastructure repairs concurrent with street repaving.

Regarding its overall bond debt, Burlington has taken a conservative approach. The City could issue an additional $200 million of general obligation debt and not jeopardize its newly restored "A" rating or otherwise impact the scoring it receives related to the City's debt. The City currently has approximately $76 million of net direct General Obligation debt.

Implementation required: The General Obligation bond will require a two-thirds vote in support from City taxpayers in November 2016. The Revenue Anticipation bond will require a 50 percent vote in support from City residents in November 2016.

VI. 2016 Timeline

Key steps in the implementation of this plan will take place over the course of the 2016 calendar year. Current projected actions include:

- September – October 2016:
  - City Council review, amendment, and approval of the 10-year capital plan.
  - Commission review of the 10-year capital plan.
  - Completion of discussions with UVM and Champlain College regarding contributions to 10-year capital plan.

- November 2016:
  - Voter consideration of $27.5 million General Fund infrastructure bond
  - Voter consideration of $8.4 million Water infrastructure bond
  - City Council consideration and approval of increase of gross receipts tax.

	A	B	C	F	G	H	I	J	K	L	M	N	O	P	R
1	**City of Burlington 10 Year Capital Plan (Fiscal Year 2017 - 2026)**														
2	**General Fund Capital Plan by Asset Class**														
3	**GO BOND OBLIGATION**	**Item**	**NOTES**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**FY 2021**	**FY 17 - 21**	**FY 2022**	**FY 2023**	**FY 2024**	**FY 2025**	**FY 2026**	**TOTAL FY17 - 26**
4	***Expenditures***	GO Bond Obligations Debt Service		$ 2,982,948	$ 3,037,153	$ 3,045,114	$ 2,664,689	$ 2,665,650	$ 14,395,554	$ 2,635,467	$ 2,639,595	$ 2,635,938	$ 2,735,070	$ 2,731,420	$ 30,438,694
5		GO Bond Debt Service Public Works		$ 275,235	$ 275,330	$ 278,582	$ 276,835	$ 278,210	$ 1,384,193	$ -	$ -	$ -	$ -	$ -	$ 1,662,403
6		GO Bond New Debt Service ($2M)		$ -	$ -	$ 175,000	$ 175,000	$ 175,000	$ 525,000	$ 175,000	$ 175,000	$ 175,000	$ 175,000	$ 175,000	$ 1,575,000
7		**Total Debt Service Expense**		**$ 3,258,183**	**$ 3,312,483**	**$ 3,498,696**	**$ 3,116,525**	**$ 3,118,860**	**$ 16,304,747**	**$ 2,810,467**	**$ 2,814,595**	**$ 2,810,938**	**$ 2,910,070**	**$ 2,906,420**	**$ 33,676,097**
8	***Revenue***	GO Bond Revenue for New Debt		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -		$ -
9		DPW Central Facility 7200_115		$ (277,123)	$ (277,123)	$ (277,123)	$ (277,123)	$ (277,123)	$ (1,385,615)	$ -	$ -	$ -	$ -	$ -	$ (1,662,738)
10		Property Tax Debt Service 4000_220		$ (2,982,948)	$ (3,037,153)	$ (3,221,000)	$ (2,876,000)	$ (2,876,000)	$ (14,993,101)	$ (2,876,000)	$ (2,876,000)	$ (2,876,000)	$ (2,876,000)	$ (2,876,000)	$ (32,249,101)
11		CIP Bond		$ (2,000,000)	$ (2,000,000)	$ (2,000,000)	$ (2,000,000)	$ (2,000,000)	$ (10,000,000)	$ (2,000,000)	$ (2,000,000)	$ (2,000,000)	$ (2,000,000)	$ (2,000,000)	$ (22,000,000)
12		**Total Debt Service Revenues**		**$ (5,260,071)**	**$ (5,314,276)**	**$ (5,498,123)**	**$ (5,153,123)**	**$ (5,153,123)**	$ (26,378,716)	**$ (4,876,000)**	**$ (4,876,000)**	**$ (4,876,000)**	**$ (4,876,000)**	**$ (4,876,000)**	**$ (55,911,839)**
13	**Net Debt Service Obligation**			**$ (2,001,888)**	**$ (2,001,793)**	**$ (1,999,427)**	**$ (2,036,598)**	**$ (2,034,263)**	**$ (10,073,969)**	**$ (2,065,533)**	**$ (2,061,405)**	**$ (2,065,062)**	**$ (1,965,930)**	**$ (1,969,580)**	**$ (22,235,742)**
14															
15	**CITYWIDE FLEET REINVESTMENT**	**Item**	**NOTES**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**FY 2021**	**FY 17 - 21**	**FY 2022**	**FY 2023**	**FY 2024**	**FY 2025**	**FY 2026**	**TOTAL FY17 - 26**
16	***Expenditures***	Equipment Maintenance Vehicle		$ -	$ -	$ -	$ -		$ -	$ -	$ -	$ -	$ 65,000	$ -	$ 65,000
17		Recycling Vehicles	will be leases		$ -				$ -	$ 260,000	$ 260,000	$ -	$ 260,000	$ -	$ 780,000
18		Right of Way Streets Vehicles leases FY15		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
19		Streets Equipment leases							$ -						$ -
21		Right of Way Streets Leases FY15		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
22		Right of Way Interest on Leases FY15		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
23		ROW old lease		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
24		Fleet Lease	5%	$ 100,000	$ 105,000	$ 110,250	$ 181,000	$ 200,000	$ 696,250	$ 210,000	$ 220,500	$ 231,525	$ 243,101	$ 255,256	$ 2,056,633
35		Fire engines and ladder		$ -	$ 1,362,000	$ 1,450,000			$ 2,812,000			$ 1,100,000			$ 3,912,000
36	FY 20/21 ambulance in lease	Fire Vehicles				$ 630,000			$ 630,000	$ -	$ 640,000	$ 25,000	$ -	$ 292,000	$ 1,587,000
37		Library Van		$ 25,000	$ -	$ -	$ -	$ -	$ 25,000	$ -	$ -	$ -	$ -	$ -	$ 25,000
38		Police Vehicles		$ 224,000	$ 349,000	$ 315,000	$ 255,000	$ 207,000	$ 1,350,000	$ 225,000	$ 274,000	$ 315,000	$ 255,000	$ 207,000	$ 2,833,000
39		Police DEA leases		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
40		Police Chase lease 2011 final payment		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
41		Parks Ford Motor Credit van		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
42		Chase Parks Zamboni		$ -					$ -						$ -
43		Chase Parks 2011		$ -					$ -						$ -
44		Parks FY167Lease	5%	$ 50,000	$ 52,500	$ 55,125	$ 57,881	$ 60,775	$ 276,282	$ 63,814	$ 67,005	$ 70,355	$ 73,873	$ 77,566	$ 689,670
45		Parks Fleet							$ -					$ -	$ -
46		New Parks leases		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
47		**Total Fleet Replacement Cost**		**$ 399,000**	**$ 1,868,500**	**$ 2,560,375**	**$ 493,881**	**$ 467,775**	**$ 5,789,532**	**$ 758,814**	**$ 1,461,505**	**$ 1,741,880**	**$ 896,974**	**$ 831,823**	**$ 11,948,303**
48	***Revenue***	Police Impact Fees ($49,058/year)			$ (82,837)	$ (147,174)	$ -	$ -	$ (230,011)	$ (147,174)	$ -	$ -	$ (147,174)	$ (147,174)	$ (671,533)
49		Police Revenue from GL		$ (224,000)	$ (224,077)	$ (224,077)	$ (224,077)	$ (224,077)	$ (1,120,308)	$ (223,629)	$ (223,629)	$ (223,629)	$ (223,629)	$ (223,629)	$ (2,462,530)
50		Police Revenue from GL DPW maintenance			$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
51		Airport Reimbursement Police		$ -	$ -	$ -	$ (6,000)	$ (6,000)	$ (12,000)	$ (6,000)	$ (6,000)	$ (6,000)	$ (6,000)	$ (6,000)	$ (48,000)
52		Fire Dept New Lease GL							$ -						$ -
53		Fire Dept. Impact Fees ($39,599/year)		$ -		$ -	$ -	$ -	$ -	$ -	$ (158,396)	$ -	$ -	$ -	$ (158,396)
54		Library van (impact fees??)		$ (25,000)	$ -	$ -	$ -	$ -	$ (25,000)	$ -	$ -	$ -	$ -	$ -	$ (25,000)
55		Parks GL			$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
56		Parks GL for FY17 lease	$ -	$ (50,000)	$ -	$ -	$ -	$ -	$ (50,000)		$ -	$ -	$ -	$ -	$ (50,000)
57		DPW GL	48K	$ (86,500)	$ -	$ -	$ -	$ -	$ (86,500)		$ -	$ -	$ -	$ -	$ (86,500)
58		Streets maintenance		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
59		Recycling GL lease $147,500/year		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
60		Police Trade-in		$ (13,500)	$ (13,500)	$ (13,500)	$ (13,500)	$ (13,500)	$ (67,500)	$ (13,500)	$ (13,500)	$ (13,500)	$ (13,500)	$ (13,500)	$ (148,500)
61		fleet lease purchase							$ -						$ -
62		Trade-in Fire engines		$ -	$ (55,000)	$ -	$ -	$ -	$ (55,000)	$ -	$ -	$ -	$ -	$ -	$ (55,000)
63		**Total Revenues**		**$ (399,000)**	**$ (375,414)**	**$ (384,751)**	**$ (243,577)**	**$ (243,577)**	**$ (1,646,319)**	**$ (390,303)**	**$ (401,525)**	**$ (243,129)**	**$ (390,303)**	**$ (390,303)**	**$ (3,705,459)**
64	**Fleet Reinvestment Total Deficit (Surplus)**			**$ -**	**$ 1,493,086**	**$ 2,175,624**	**$ 250,304**	**$ 224,198**	**$ 4,143,213**	**$ 368,511**	**$ 1,059,980**	**$ 1,498,751**	**$ 506,671**	**$ 441,520**	**$ 8,242,844**
65															

	A	B	C	F	G	H	I	J	K	L	M	N	O	P	R
66	**CITY WIDE FACLITIES**	**Item**	**NOTES**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**FY 2021**	**FY 17 - 21**	**FY 2022**	**FY 2023**	**FY 2024**	**FY 2025**	**FY 2026**	**TOTAL FY17 - 26**
67	***Expenditures***	FFL		$ 88,519	$ 121,089	$ 301,676	$ 108,016	$ 1,337	$ 620,637	$ 1,565	$ 334,748	$ 137,558	$ 50,582	$ 24,297	$ 1,170,724
68		City Hall Repairs		$ 600,000	$ 90,476	$ 100,000	$ 100,000	$ 100,000	$ 990,476	$ 205,225	$ 49,870	$ 305,157	$ 99,020	$ 42,646	$ 1,792,394
69		Miller Center		$ 11,190	$ 15,570	$ 41,673	$ -	$ 1,476	$ 69,909	$ -	$ 26,095	$ 249,896	$ 27,411	$ -	$ 374,787
70		Leddy Arena		$ 480,000	$ 121,413	$99,345	$18,029	$50,279	$ 769,066	$184,685	$0	$322,212	$197,605	$8,917	$ 1,532,764
71		North Beach		$ 18,781	$ 225,726	$ 170,941	$ -	$ 874	$ 416,322	$ 21,600	$ 16,724	$ 418,988	$ 984	$ 43,030	$ 918,522
72		Oakledge		$ 45,020	$ -	$ 13,682	$ 1,061	$ 2,697	$ 62,460	$ 52,191	$ -	$ 1,194	$ 1,871	$ 8,917	$ 129,330
73		Boathouse		$ -	$ -	$ 425,000	$ 400,000	$ 36,989	$ 861,989	$ -	$ 12,336	$ 12,330	$ 656	$ 25,423	$ 949,723
74		Lake View Cemetery Building		$ 15,000	$ 24,057	$ 53,205	$ 1,143	$ 23,714	$ 117,119	$ 2,987	$ 3,082	$ 1,287	$ 15,286	$ 27,611	$ 191,086
75		Miscellaneous Parks Buildings		$ 146,443	$ 110,000	$ 110,000	$ 6,274	$ 63,183	$ 435,900	$ 19,486	$ 72,335	$ 62,238	$ 27,174	$ 111,936	$ 792,252
76		Stonehouse - North Avenue		$ 250,000	$ -	$ -	$ -	$ -	$ 250,000	$ -	$ -	$ -	$ -	$ -	$ 250,000
77		Police Department		$ 50,000	$ 3,124	$ 84,567	$ 6,817	$ 55,995	$ 200,503	$ 144,480	$ 3,622	$ 188,684	$ 69,884	$ 36,383	$ 699,551
78		Fire Station #1		$ 3,085	$ -	$ 25,295	$ 8,667	$ 15,687	$ 52,734	$ -	$ 28,803	$ 21,097	$ 2,049	$ -	$ 120,370
79		Fire Station #2		$ -	$ 410	$ 40,000	$ 15,256	$ 9,851	$ 65,517	$ 10,752	$ 72,652	$ 59,968	$ -	$ -	$ 218,740
80		Fire Station #3		$ -	$ -	$ 7,328	$ -	$ -	$ 7,328	$ -	$ 9,790	$ 112,911	$ 139,765	$ -	$ 269,794
81		Fire Station #4		$ 24,917	$ 1,568	$ 15,064	$ 521	$ 17,020	$ 59,090	$ 17,081	$ 1,817	$ 18,234	$ 6,541	$ 14,460	$ 134,243
82		Fire Station #5		$ 24,597	$ 1,661	$ 27,782	$ 521	$ 21,689	$ 76,250	$ 19,584	$ 1,926	$ 27,400	$ 6,135	$ 13,067	$ 166,051
83		645 Pine Street		$ 176,000	$ 1,393	$ 62,477	$ 177,602	$ 83,315	$ 500,787	$ 1,568	$ 1,615	$ 90,239	$ 142,137	$ 112,207	$ 931,868
84		Firehouse Gallery		$ 40,388	$ 46,545	$ 4,107	$ -	$ 31,320	$ 122,360	$ 40,000	$ 17,269	$ 17,614	$ 19,465	$ 30,758	$ 278,786
85		Memorial		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
86		**Total Expenditure**		**$ 1,973,940**	**$ 763,032**	**$ 1,582,142**	**$ 843,907**	**$ 515,426**	**$ 5,678,447**	**$ 721,204**	**$ 652,684**	**$ 2,047,007**	**$ 806,565**	**$ 499,652**	**$ 10,920,985**
87	***Revenue***	Interest Perpetual Care Fund Lake View Cemetery		$ (15,000)	$ (24,057)	$ -	$ -	$ -	$ (39,057)	$ -	$ -	$ -	$ -	$ -	$ (39,057)
88		Donation for Stonehouse		$ (250,000)	$ -	$ -	$ -	$ -	$ (250,000)	$ -	$ -	$ -	$ -	$ -	$ (250,000)
89		Utility savings from EE projects	5% increase/yr	$ (75,000)	$ (78,750)	$ (82,688)	$ (86,822)	$ (91,163)	$ (414,422)	$ (95,721)	$ (100,507)	$ (105,533)	$ (110,809)	$ (116,350)	$ (1,034,505)
90		**Total Revenues**		**$ (340,000)**	**$ (102,807)**	**$ (82,688)**	**$ (86,822)**	**$ (91,163)**	**$ (703,479)**	**$ (95,721)**	**$ (100,507)**	**$ (105,533)**	**$ (110,809)**	**$ (116,350)**	**$ (1,323,562)**
91	**City Wide Facilities Total Deficit (Surplus)**			**$ 1,633,940**	**$ 660,225**	**$ 1,499,455**	**$ 757,085**	**$ 424,263**	**$ 4,974,968**	**$ 625,483**	**$ 552,177**	**$ 1,941,474**	**$ 695,756**	**$ 383,302**	**$ 9,597,423**
92															
93	**RD & SIDEWALK REINVESTMENT**	**Item**	**NOTES**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**FY 2021**	**FY 17 - 21**	**FY 2022**	**FY 2023**	**FY 2024**	**FY 2025**	**FY 2026**	**TOTAL FY17 - 26**
94	***Expenditures***	Street Reinvestment	2%esc FY22	$ 2,482,391	$ 2,299,321	$ 2,299,321	$ 2,299,321	$ 2,299,321	$ 11,679,675	$ 1,500,000	$ 1,530,000	$ 1,560,600	$ 1,591,812	$ 1,623,648	$ 21,785,056
95		Curb Reinvestment	was $75)k	$ 500,000	$ 500,000	$ 500,000	$ 500,000	$ 500,000	$ 2,500,000	$ 1,000,000	$ 1,000,000	$ 1,030,000	$ 1,060,900	$ 1,092,727	$ 8,183,627
96		Preventive Maint. Streets		$ 200,000	$ 200,000	$ 200,000	$ 200,000	$ 200,000	$ 1,000,000	$ 200,000	$ 200,000	$ 200,000	$ 200,000	$ 200,000	$ 2,200,000
97		Median protection		$ 150,000	$ 150,000	$ 150,000	$ 150,000	$ 150,000	$ 750,000	$ 150,000	$ 150,000	$ 150,000	$ 150,000	$ 150,000	$ 1,650,000
98		Park Road Paving		$ 200,000	$ 200,000	$ 200,000	$ 200,000	$ -	$ 800,000	$ -	$ -	$ -	$ -	$ -	$ 800,000
99		Sidewalk Reinvestment	2%esc FY22	$ 2,100,000	$ 1,967,500	$ 1,967,500	$ 1,967,500	$ 1,967,500	$ 9,970,000	$ 1,570,000	$ 1,601,400	$ 1,633,428	$ 1,666,097	$ 1,699,418	$ 20,107,843
100		Projects		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
101		Bridge Replacement	Queen City Bridge	$ -		$ 1,875,000	$ -	$ -	$ 1,875,000	$ -	$ -	$ -	$ -	$ -	$ 1,875,000
102		Bridge Repairs		$ -	$ 150,000.00	$ -	$ -	$ 175,000	$ 325,000	$ 1,475,000	$ -	$ -	$ -	$ -	$ 1,975,000
103		**Total Expenditures**		**$ 5,632,391**	**$ 5,466,821**	**$ 7,191,821**	**$ 5,316,821**	**$ 5,291,821**	**$ 28,899,675**	**$ 5,895,000**	**$ 4,481,400**	**$ 4,574,028**	**$ 4,668,809**	**$ 4,765,794**	**$ 58,576,526**
104	***Revenue***	Fees & Permits		$ (100)	$ (100)	$ (100)	$ (100)	$ (100)	$ (500)	$ (100)	$ (100)	$ (100)	$ (100)	$ (100)	$ (1,100)
105		Lakeview Perpetual Fund		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
106		Vtrans Bridge replacement dollars	80% of QC bridge	$ -	$ -	$ (1,500,000)	$ -	$ -	$ (1,500,000)	$ -	$ -	$ -	$ -	$ -	$ (1,500,000)
107		Excavation Fees		$ (300,000)	$ (309,000)	$ (318,270)	$ (327,818)	$ (337,653)	$ (1,592,741)	$ (347,782)	$ (358,216)	$ (368,962)	$ (380,031)	$ (391,432)	$ (3,776,816)
108		Dedicated Tax 1%		$ (2,067,251)	$ (2,087,923)	$ (2,108,803)	$ (2,129,891)	$ (2,151,190)	$ (10,545,057)	$ (2,172,701)	$ (2,194,428)	$ (2,216,373)	$ (2,238,536)	$ (2,260,922)	$ (23,779,207)
109		**Total Revenues**		**$ (2,367,351)**	**$ (2,397,023)**	**$ (3,927,173)**	**$ (2,457,809)**	**$ (2,488,942)**	**$ (13,638,298)**	**$ (2,520,584)**	**$ (2,552,744)**	**$ (2,585,435)**	**$ (2,618,667)**	**$ (2,652,454)**	**$ (29,057,123)**
110	**Rd & Sidewalk Reinvestment Total Deficit (Surplus)**			**$ 3,265,040**	**$ 3,069,798**	**$ 3,264,648**	**$ 2,859,012**	**$ 2,802,879**	**$ 15,261,377**	**$ 3,374,416**	**$ 1,928,656**	**$ 1,988,593**	**$ 2,050,141**	**$ 2,113,340**	**$ 29,519,403**
111															

	A	B	C	F	G	H	I	J	K	L	M	N	O	P	R
112	**ROAD & SIDEWALK ENHANCEMENTS**	**Item**	**NOTES**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**FY 2021**	**FY 17 - 21**	**FY 2022**	**FY 2023**	**FY 2024**	**FY 2025**	**FY 2026**	**TOTAL FY17 - 26**
113	***Expenditures***	Champlain Parkway Budget	$20K match	$ 1,560,000	$ 15,500,000	$ 14,500,000	$ -	$ -	$ 31,560,000	$ -	$ -	$ -	$ -	$ -	$ 31,560,000
114		DPW Projects		$ 93,100	$ -	$ -	$ -	$ -	$ 93,100	$ -	$ -	$ -	$ -	$ -	$ 93,100
115		Transportation Planning		$ 250,000	$ 250,000	$ 250,000	$ 250,000	$ 250,000	$ 1,250,000	$ 257,500	$ 265,225	$ 273,182	$ 281,377	$ 289,819	$ 2,867,102
116		Traffic calming		$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 500,000	$ 103,000	$ 106,090	$ 109,273	$ 112,551	$ 115,927	$ 1,146,841
117		Railyard Enterprise		$ 500,000	$ 500,000	$ 1,000,000	$ 2,000,000	$ 3,000,000	$ 7,000,000	$ 3,000,000					$ 13,000,000
118		TIF Enhancement projects -infrastructure		$ 887,000	$ 5,787,500	$ 2,528,500	$ 7,666,430	$ -	$ 16,869,430	$ -	$ -	$ -	$ -	$ -	$ 16,869,430
119		Bike path slope failure							$ -						$ -
120		Lavallewy lane repaving		$ 63,000					$ 63,000						$ 63,000
121		TIF Waterfront - Cherry St. Imp.				$ 2,700,000			$ 2,700,000						$ 2,700,000
122		Transportation Projects		$ -	$ -	$ -	$ -	$ 947,500	$ 947,500	$ 2,947,500	$ 2,947,500	$ 2,947,500	$ 2,947,500	$ 2,947,500	$ 16,632,500
123		**Total Expenditures**		**$ 3,453,100**	**$ 22,137,500**	**$ 21,078,500**	**$ 10,016,430**	**$ 4,297,500**	**$ 60,983,030**	**$ 6,308,000**	**$ 3,318,815**	**$ 3,329,954**	**$ 3,341,428**	**$ 3,353,246**	**$ 84,931,973**
124	***Revenue***	Federal or State Funding Projects	est. 80%	$ -	$ -	$ -	$ -	$ (758,000)	$ (758,000)	$ (2,358,000)	$ (2,358,000)	$ (2,358,000)	$ (2,358,000)	$ (2,358,000)	$ (13,306,000)
125		WAN BEDI		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
126		Railyard Enterprise		$ (400,000)	$ (400,000)	$ (800,000)	$ (1,600,000)	$ (2,400,000)	$ (5,600,000)	$ (2,400,000)					$ (10,400,000)
127		parks reimburse for bike path slope							$ -						$ -
128		Lavalley lane water resources		$ (63,000)				$ -	$ (63,000)						$ (63,000)
129		TIF Enhancement projects -infrastructure		$ (887,000)	$ (5,787,500)	$ (2,528,500)	$ (7,666,430)	$ -	$ (16,869,430)	$ -	$ -	$ -	$ -	$ -	$ (16,869,430)
130		TIF Waterfront - Cherry St. Imp.				$ (2,700,000)			$ (2,700,000)						$ (2,700,000)
131		Street Capital funding for CP		$ (31,200)					$ (31,200)						$ (31,200)
132		Champlain Parkway Funded Portion		$ (1,528,800)	$ (14,700,000)	$ (13,720,000)	$ -	$ -	$ (29,948,800)	$ -	$ -	$ -	$ -	$ -	$ (29,948,800)
133		CIP carryforward							$ -						$ -
134		Bike/Ped Grant		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
135		**Total Revenues**		**$ (2,910,000)**	**$ (20,887,500)**	**$ (19,748,500)**	**$ (9,266,430)**	**$ (3,158,000)**	$ (55,970,430)	**$ (4,758,000)**	**$ (2,358,000)**	**$ (2,358,000)**	**$ (2,358,000)**	**$ (2,358,000)**	**$ (73,318,430)**
136	**Road & Sidewalk Enhancements Total Deficit (Surplus)**			**$ 543,100**	**$ 1,250,000**	**$ 1,330,000**	**$ 750,000**	**$ 1,139,500**	**$ 5,012,600**	**$ 1,550,000**	**$ 960,815**	**$ 971,954**	**$ 983,428**	**$ 995,246**	**$ 11,613,543**
137															
138	**FLETCHER FREE LIBARARY**	**Item**	**NOTES**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**FY 2021**	**FY 17 - 21**	**FY 2022**	**FY 2023**	**FY 2024**	**FY 2025**	**FY 2026**	**TOTAL FY17 - 26**
139	***Expenditures***	Impact Fee Improvements		$ -	$ -	$ 130,396	$ -	$ -	$ 130,396	$ -	$ 130,396	$ -	$ -	$ 130,396	$ 391,188
140		**Total Expenditures**		**$ -**	**$ -**	**$ 130,396**	**$ -**	**$ -**	**$ 130,396**	**$ -**	**$ 130,396**	**$ -**	**$ -**	**$ 130,396**	**$ 391,188**
141	***Revenue***	Impact Fees ($32,599/year)		$ -	$ -	$ (130,396)	$ -	$ -	$ (130,396)	$ -	$ (130,396)	$ -	$ -	$ (130,396)	$ (391,188)
142		**Total Revenues**		**$ -**	**$ -**	**$ (130,396)**	**$ -**	**$ -**	**$ (130,396)**	**$ -**	**$ (130,396)**	**$ -**	**$ -**	**$ (130,396)**	**$ (391,188)**
143	**Fletcher Free Library Total Deficit (Surplus)**			$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
144															
145	**INNOVATIONS DEPARTMENT**	**Item**	**NOTES**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**FY 2021**	**FY 17 - 21**	**FY 2022**	**FY 2023**	**FY 2024**	**FY 2025**	**FY 2026**	**TOTAL FY17 - 26**
146	***Expenditures***	IT Capital		$ 467,000	$ 358,000	$ 300,000	$ 300,000	$ 250,000	$ 1,675,000	$ 250,000	$ 250,000	$ 250,000	$ 250,000	$ 250,000	$ 3,175,000
147		**Total Expenditures**		**$ 467,000**	**$ 358,000**	**$ 300,000**	**$ 300,000**	**$ 250,000**	**$ 1,675,000**	**$ 250,000**	**$ 250,000**	**$ 250,000**	**$ 250,000**	**$ 250,000**	**$ 3,175,000**
148	***Revenue***	GF Revenue Capital Outlay		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
149		**Total Revenues**		**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
150	**Innovation Dept. Total Deficit (Surplus)**			**$ 467,000**	**$ 358,000**	**$ 300,000**	**$ 300,000**	**$ 250,000**	**$ 1,675,000**	**$ 250,000**	**$ 250,000**	**$ 250,000**	**$ 250,000**	**$ 250,000**	**$ 3,175,000**
151															
152	**FIRE DEPARTMENT**	**Item**	**NOTES**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**FY 2021**	**FY 17 - 21**	**FY 2022**	**FY 2023**	**FY 2024**	**FY 2025**	**FY 2026**	**TOTAL FY17 - 26**
153	***Expenditures***	Specialized equipment - air packs		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
154		**Total Expenditures**		**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
155	***Revenue***	Match for air packs from City Contingency		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
156		Grant		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
157		**Total Revenues**		**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
158	**Fire Department Total Deficit (Surplus)**			$ -	$ -	$ -	$ -	$ -		$ -	$ -	$ -	$ -	$ -	$ -
159															
160	**POLICE DEPARTMENT**	**Item**	**NOTES**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**FY 2021**	**FY 17 - 21**	**FY 2022**	**FY 2023**	**FY 2024**	**FY 2025**	**FY 2026**	**TOTAL FY17 - 26**
161	***Expenditures***	To Reserves		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
162		Tasers operational		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
163		Door access		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
164		Copiers, radios, electronics - operational		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
165		**Total Expenditures**		**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
166	***Revenue***	Police Capital Outlay GL		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
167		**Total Revenues**		**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
168	**Police Department Total Deficit (Surplus)**			$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
169															

	A	B	C	F	G	H	I	J	K	L	M	N	O	P	R
170	**PARKS, RECREATION & W'FRONT**	**Item**	**NOTES**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**FY 2021**	**FY 17 - 21**	**FY 2022**	**FY 2023**	**FY 2024**	**FY 2025**	**FY 2026**	**TOTAL FY17 - 26**
171	***Expenditures***	PP							$ -						$ -
172		PIAP		$ -					$ -						$ -
173		PP underway							$ -						$ -
174		Parks Projects		$ 439,000	$ 910,000	$ 830,000	$ 794,000	$ 770,000	$ 3,743,000	$ 944,000	$ 867,000	$ 857,000	$ 604,000	$ 249,000	$ 8,034,000
175		Overpass Design		$ 100,000	$ -	$ -	$ -	$ -	$ 100,000	$ -	$ -	$ -	$ -	$ -	$ 100,000
176		Bike Path Rehabilitation (Non-TIF)		$ 3,500,000	$ 3,000,000	$ 3,000,000	$ 3,000,000	$ 500,000	$ 13,000,000	$ 500,000	$ -	$ -			$ 14,000,000
177		Bike Path Maintenance		$ 177,760	$ 177,760	$ 177,760	$ 177,760	$ 177,760	$ 888,800	$ 177,760	$ 177,760	$ 177,760	$ 177,760	$ 177,760	$ 1,955,360
178		Trees & Equipment		$ 50,000	$ 150,000	$ 150,000	$ 150,000	$ 150,000	$ 650,000	$ 150,000	$ 150,000	$ 150,000	$ 150,000	$ 150,000	$ 1,550,000
179		TIF Southern Harbour			$ 1,000,000				$ 1,000,000						$ 1,000,000
180		To next FY		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
181		**Total Expenditures**		**$ 4,266,760**	**$ 5,237,760**	**$ 4,157,760**	**$ 4,121,760**	**$ 1,597,760**	**$ 19,381,800**	**$ 1,771,760**	**$ 1,194,760**	**$ 1,184,760**	**$ 931,760**	**$ 576,760**	**$ 26,639,360**
182	***Revenue***	Greenbelt Capital		$ (50,000)	$ (50,000)	$ (50,000)	$ (50,000)	$ (50,000)	$ (250,000)	$ (50,000)	$ (50,000)	$ (50,000)	$ (50,000)	$ (50,000)	$ (550,000)
183		TIF for PIAP projects		$ -	$ (1,000,000)	$ -	$ -	$ -	$ (1,000,000)	$ -	$ -	$ -	$ -	$ -	$ (1,000,000)
184		carry forward CIP New Projects		$ (100,000)	$ -	$ -	$ -	$ -	$ (100,000)	$ -	$ -	$ -	$ -	$ -	$ (100,000)
185		grant-donations		$ (100,000)	$ -	$ -	$ -	$ -	$ (100,000)	$ -	$ -	$ -	$ -	$ -	$ (100,000)
186		Parks Foundation (Bike Path Rehabilitation)		$ (350,000)	$ (350,000)	$ (300,000)	$ -	$ -	$ (1,000,000)	$ -	$ -	$ -	$ -	$ -	$ (1,000,000)
187		Bike Path Maintenance and Improvement	1% escalator	$ (177,760)	$ (177,760)	$ (177,760)	$ (177,760)	$ (177,760)	$ (888,800)	$ (177,760)	$ (177,760)	$ (177,760)	$ (177,760)	$ (177,760)	$ (1,955,360)
188		Impact Fees		$ (102,729)	$ (102,729)	$ (102,729)	$ (102,729)	$ (102,729)	$ (513,646)	$ (102,729)	$ (102,729)	$ (102,729)	$ (102,729)	$ (102,728)	$ (1,130,020)
189		Penny for Parks	1% escalator	$ (353,500)	$ (357,035)	$ (360,605)	$ (364,211)	$ (367,854)	$ (1,803,205)	$ (371,532)	$ (375,247)	$ (379,000)	$ (382,790)	$ (386,618)	$ (4,066,246)
190		**Total Revenues**		**$ (1,233,989)**	**$ (2,037,524)**	**$ (991,094)**	**$ (694,701)**	**$ (698,343)**	$ (5,655,651)	**$ (702,021)**	**$ (705,737)**	**$ (709,489)**	**$ (713,279)**	**$ (717,106)**	**$ (9,901,625)**
191	**Parks, Recreation & W'front Total Deficit (Surplus)**			**$ 3,032,771**	**$ 3,200,236**	**$ 3,166,666**	**$ 3,427,059**	**$ 899,417**	**$ 13,726,149**	**$ 1,069,739**	**$ 489,023**	**$ 475,271**	**$ 218,481**	**$ (140,346)**	**$ 16,737,735**
192															
193	**ADMINISTRATION**	**Item**	**NOTES**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**FY 2021**	**FY 17 - 21**	**FY 2022**	**FY 2023**	**FY 2024**	**FY 2025**	**FY 2026**	**TOTAL FY17 - 26**
194	***Expenditures***			$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
195		New Projects		$ -	$ -	$ -	$ -		$ -						$ -
196		Contingency Fund	$100K	$ 150,000	$ -	$ -	$ -	$ -	$ 150,000	$ 300,000	$ 300,000	$ 300,000	$ 300,000	$ 300,000	$ 1,650,000
197		Project Management CIP	w/3% escalator	$ 94,000	$ 96,820	$ 99,725	$ 102,716	$ 105,798	$ 499,059	$ 108,972	$ 112,241	$ 115,608	$ 119,076	$ 122,649	$ 1,183,402
198		architect		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
199	**801050**	CEDO GO debt service		$ 4,200	$ 4,200		$ -	$ -	$ 8,400	$ -	$ -	$ -	$ -	$ -	$ 8,400
200		**Total Expenditures**		**$ 248,200**	**$ 101,020**	**$ 99,725**	**$ 102,716**	**$ 105,798**	**$ 657,459**	**$ 408,972**	**$ 412,241**	**$ 415,608**	**$ 419,076**	**$ 422,649**	**$ 2,841,802**
201	***Revenue***	GF Revenues for Leases		$ (4,200)	$ (4,200)		$ -	$ -	$ (8,400)	$ -	$ -	$ -	$ -	$ 1	$ (8,399)
202		CIP		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
203		**Total Revenues**		**$ (4,200)**	**$ (4,200)**	**$ -**	**$ -**	**$ -**	$ (8,400)	**$ -**	**$ -**	**$ -**	**$ -**	**$ 1**	**$ (8,399)**
204	**Administration Total Deficit (Surplus)**			**$ 244,000**	**$ 96,820**	**$ 99,725**	**$ 102,716**	**$ 105,798**	**$ 649,059**	**$ 408,972**	**$ 412,241**	**$ 415,608**	**$ 419,076**	**$ 422,650**	**$ 2,833,403**
205															
206	**NEW OPERATIONAL EXPENSES**	**Item**	**NOTES**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**FY 2021**	**FY 17 - 21**	**FY 2022**	**FY 2023**	**FY 2024**	**FY 2025**	**FY 2026**	**TOTAL FY17 - 26**
207	***Expenditures***	Additional Parks Labor 3% esc.		$ 75,000	$ 77,250	$ 79,568	$ 81,955	$ 84,413	$ 398,185	$ 86,946	$ 89,554	$ 92,241	$ 95,008	$ 97,858	$ 944,204
208		Additional DPW 1 Eng, 1 Planner 3% esc		$ 90,000	$ 92,700	$ 95,481	$ 98,345	$ 101,296	$ 477,822	$ 104,335	$ 107,465	$ 110,689	$ 114,009	$ 117,430	$ 1,133,045
209		Add Eng Tech - Streets & Sidewalks		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
210		Additional Maintenance Labor (HVAC)		$ 100,000	$ 150,000	$ 154,500	$ 159,135	$ 163,909	$ 727,544	$ 168,826	$ 173,891	$ 179,108	$ 184,481	$ 190,016	$ 1,787,775
211		City wide security systems		$ -	$ -			$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
212		Architect		$ 35,000	$ 36,050	$ 37,132	$ 38,245	$ 39,393	$ 185,820	$ 40,575	$ 41,792	$ 43,046	$ 44,337		$ 394,962
213		Memorial operating loss		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
214		**Total New Operational Expenditures**		**$ 300,000**	**$ 356,000**	**$ 366,680**	**$ 377,680**	**$ 389,011**	**$ 1,789,371**	**$ 400,681**	**$ 412,702**	**$ 425,083**	**$ 437,835**	**$ 405,303**	**$ 4,259,986**
215	***Revenue***	Downtown TIF $90K	covers 2 employees		$ (92,700)	$ (95,481)	$ (98,345)	$ (101,296)	$ (387,822)	$ (104,335)	$ (107,465)	$ (110,689)	$ (114,009)	$ (117,430)	$ (1,043,045)
216		From Parks Revenues for Memorial		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
217		Street & Sidewalk Projects	covers 1 new employee		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
218		**Total Revenues**		**$ -**	**$ (92,700)**	**$ (95,481)**	**$ (98,345)**	**$ (101,296)**	$ (387,822)	**$ (104,335)**	**$ (107,465)**	**$ (110,689)**	**$ (114,009)**	**$ (117,430)**	**$ (1,043,045)**
219	**New Operational Expenses Total Expenditures**			**$ 300,000**	**$ 263,300**	**$ 271,199**	**$ 279,335**	**$ 287,715**	**$ 1,401,549**	**$ 296,346**	**$ 305,237**	**$ 314,394**	**$ 323,826**	**$ 287,874**	**$ 3,216,941**
220															
221	**GF GRAND TOTALS (w/o Expansion Needs)**		**NOTES**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**FY 2021**	**FY 17 - 21**	**FY 2022**	**FY 2023**	**FY 2024**	**FY 2025**	**FY 2026**	**TOTAL FY17 - 26**
222	**Total General Fund Capital Expenditures**			**$ 19,998,574**	**$ 39,601,116**	**$ 40,966,095**	**$ 24,689,721**	**$ 16,033,951**	**$ 141,289,457**	**$ 19,324,898**	**$ 15,129,097**	**$ 16,779,258**	**$ 14,662,517**	**$ 14,142,043**	**$ 237,361,220**
223	**Total General Fund Revenues**			**$ (12,514,611)**	**$ (31,211,444)**	**$ (30,858,206)**	**$ (18,000,807)**	**$ (11,934,444)**	**$ (104,519,511)**	**$ (13,446,964)**	**$ (11,232,373)**	**$ (10,988,274)**	**$ (11,181,068)**	**$ (11,358,037)**	**$ (174,660,671)**
224	**Total Capital Reinvestment Deficit (Surplus) - General Fund**			**$ 7,483,963**	**$ 8,389,672**	**$ 10,107,889**	**$ 6,688,914**	**$ 4,099,508**	**$ 36,769,946**	**$ 5,877,934**	**$ 3,896,724**	**$ 5,790,984**	**$ 3,481,449**	**$ 2,784,006**	**$ 62,700,550**
225				**$ 7,483,963**	**$ 8,389,672**	**$ 10,107,889**	**$ 6,688,914**	**$ 4,099,508**		**$ 5,877,934**	**$ 3,896,724**	**$ 5,790,984**	**$ 3,481,449**	**$ 2,784,006**	**$ 62,700,550**

	A	B	C	F	G	H	I	J	K	L	M	N	O	P	R
241	**GF EXPANSION (City Wide Growth)**	**Item**	**NOTES**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**FY 2021**	**FY 17 - 21**	**FY 2022**	**FY 2023**	**FY 2024**	**FY 2025**	**FY 2026**	**TOTAL FY17 - 26**
242	***Expenditures***	Imagine City Hall Park	what years	$ -	$ 3,000,000		$ -	$ -	$ 3,000,000	$ -	$ -	$ -	$ -	$ -	$ 3,000,000
243		SW CHP			$ 500,000				$ 500,000						$ 500,000
244	**$540 and $177**	Parks Improvements		$ 240,000	$ 585,000	$ 759,500	$ 365,000	$ 89,000	$ 2,038,500	$ 532,000	$ 607,000	$ 370,000	$ 465,000	$ 320,000	$ 4,421,500
245		Marina		$ -	$ -	$ -	$ 5,000,000	$ 5,000,000	$ 10,000,000	$ -	$ -	$ -	$ -	$ -	$ 15,000,000
246		Fire Dept growth		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
247		Security upgrade		$ 150,000	$ 150,000	$ -	$ -	$ -	$ 300,000	$ -	$ -	$ -	$ -	$ -	$ 300,000
248		Transportation Expansion	$2M	$ -	$ -	$ -	$ -		$ -	$ 2,000,000	$ 2,000,000	$ 2,000,000	$ 2,000,000	$ 2,000,000	$ 10,000,000
249		Facilities Growth		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
250		Parks Facility Relocation		$ -	$ -	$ 500,000	$ -	$ -	$ 500,000	$ -	$ -	$ -	$ -	$ -	$ 500,000
251		Fire Dept. Firetower - training center		$ -	$ -	$ -			$ -		$ 750,000	$ 750,000	$ -	$ -	$ 1,500,000
252		New sidewalks 4.5 miles new	3% escalator	$ 300,000	$ 500,000	$ 500,000	$ 515,000	$ 530,450	$ 2,345,450	$ 546,364	$ 562,754	$ 579,637	$ 597,026	$ 614,937	$ 5,776,618
253		Flynn Avenue parcel purchase	10 yrs no int.	$ 25,000	$ 25,000	$ 25,000	$ 25,000	$ 25,000	$ 125,000	$ 25,000	$ 25,000	$ 25,000	$ 25,000	$ -	$ 250,000
254	**Possible new buildings to expend and/or improve City services to customers**								$ -						$ -
255		BCA Capital Reinvestment		$ 50,000	$ -		$ -	$ -	$ 50,000	$ -	$ -	$ -	$ -	$ -	$ 50,000
256		**Total Expenditures**		**$ 765,000**	**$ 4,760,000**	**$ 1,784,500**	**$ 5,905,000**	**$ 5,644,450**	**$ 18,858,950**	**$ 3,103,364**	**$ 3,944,754**	**$ 3,724,637**	**$ 3,087,026**	**$ 2,934,937**	**$ 41,298,118**
257	***Potential Revenue***	Parks Foundation (Accessible Playground)		$ -	$ (350,000)	$ -	$ -	$ -	$ (350,000)	$ -	$ -	$ -	$ -	$ -	$ (350,000)
258		PIAP/grant funding							$ -						$ -
259		SW TIF			$ (500,000)				$ (500,000)						$ (500,000)
260		New sidewalk grants		$ (240,000)	$ (400,000)	$ (400,000)	$ (412,000)	$ (424,360)	$ (1,876,360)	$ (437,091)	$ (450,204)	$ (463,710)	$ (477,621)	$ (491,950)	$ (4,621,294)
261		Marina funding	new	$ -			$ (5,000,000)	$ (5,000,000)	$ (10,000,000)	$ -	$ -	$ -	$ -	$ -	$ (15,000,000)
262		TIF money Parks new	new		$ (250,000)	$ (250,000)			$ (500,000)						
263		Transportation Expansion	$1.6M	$ -			$ -	$ -	$ -	$ (1,600,000)	$ (1,600,000)	$ (1,600,000)	$ (1,600,000)	$ (1,600,000)	$ (8,000,000)
264		**Total Revenues**		**$ (240,000)**	**$ (1,500,000)**	**$ (650,000)**	**$ (5,412,000)**	**$ (5,424,360)**	$ (13,226,360)	**$ (2,037,091)**	**$ (2,050,204)**	**$ (2,063,710)**	**$ (2,077,621)**	**$ (2,091,950)**	**$ (28,471,294)**
265	**GF Expansion New Investment**			**$ 525,000**	**$ 3,260,000**	**$ 1,134,500**	**$ 493,000**	**$ 220,090**	**$ 5,632,590**	**$ 1,066,273**	**$ 1,894,551**	**$ 1,660,927**	**$ 1,009,405**	**$ 842,987**	$ 12,106,734
266	**Total Net Reinvestment**			**$ 7,483,963**	**$ 8,389,672**	**$ 10,107,889**	**$ 6,688,914**	**$ 4,099,508**	**$ 36,769,946**	**$ 5,877,934**	**$ 3,896,724**	**$ 5,790,984**	**$ 3,481,449**	**$ 2,784,006**	**$ 62,700,550**
267															
268	**Total GF Expenditures with Expansion**			**$ 20,763,574**	**$ 44,361,116**	**$ 42,750,595**	**$ 30,594,721**	**$ 21,678,401**	**$ 160,148,407**	**$ 22,428,261**	**$ 19,073,851**	**$ 20,503,895**	**$ 17,749,543**	**$ 17,076,980**	**$ 256,980,937**
269	**Total Revenues with Expansion**			**$ (12,754,611)**	**$ (32,711,444)**	**$ (31,508,206)**	**$ (23,412,807)**	**$ (17,358,804)**	**$ (117,745,871)**	**$ (15,484,054)**	**$ (13,282,577)**	**$ (13,051,984)**	**$ (13,258,689)**	**$ (13,449,986)**	**$ (186,273,161)**
270	**Total Deficit (Surplus) with Expansion**			**$ 8,008,963**	**$ 11,649,672**	**$ 11,242,389**	**$ 7,181,914**	**$ 4,319,598**	**$ 42,402,536**	**$ 6,944,207**	**$ 5,791,274**	**$ 7,451,911**	**$ 4,490,854**	**$ 3,626,993**	**$ 70,707,776**
271	**Total Net GF & GF Expansion**			**$ 8,008,963**	**$ 11,649,672**	**$ 11,242,389**	**$ 7,181,914**	**$ 4,319,598**	**$ 42,402,536**	**$ 6,944,207**	**$ 5,791,274**	**$ 7,451,911**	**$ 4,490,854**	**$ 3,626,993**	**$ 70,707,776**
272	**Total Capital Fund Expenditures**	**FY17- FY20**		**$ 160,148,407**	**FY 17 - 21**										
273	**Total General Fund Revenues**			**$ (117,745,871)**	**FY 17 - 21**										
274	**Total Deficit FY17-20**	**$ 38,082,938**		**$ 42,402,536**	**FY 17 - 21**										
275															
276	**Potential Revenues**			**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**FY 2021**	**FY 17 - 21**	**FY 2022**	**FY 2023**	**FY 2024**	**FY 2025**	**FY 2026**	**TOTAL FY17 - 26**
277	Gross Receipts - FY17	ten year average over 7% p/y - was 5%	$ 1,600,000	$ (800,000)	$ (1,772,641)	$ (1,896,726)	$ (2,029,497)	$ (2,171,561)	$ (8,670,425)						**$ (8,670,425)**
278	City hall park donations			$ (30,000)					$ (30,000)						**$ (30,000)**
279	Increase Annual Borrowing	go from $2M to up to $4M							$ -						$ -
280	Browns Court Sale				$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
281	Morton Parcel Sale	300,000			$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
282	Transportation Grants			$ (200,000)	$ (200,000)	$ (200,000)	$ (200,000)	$ (200,000)	$ (1,000,000)	$ (200,000)	$ (200,000)	$ (200,000)	$ (200,000)	$ (200,000)	**$ (2,000,000)**
283	City Hall (Grants/Rebates/Savings)			$ (250,000)	$ -	$ -	$ -	$ -	$ (250,000)	$ -	$ -	$ -	$ -	$ -	**$ (250,000)**
284	GF surplus/land sale/BED Pilot			$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
285	Traffic Funding begin FY17	$500K		$ (250,000)					$ (250,000)						**$ (250,000)**
286	City Hall Park Donations	was $500K							$ -						$ -
287	Pomerleau donation $100K 10 years started in FY 16			$ (200,000)	$ (100,000)	$ (100,000)	$ (100,000)	$ (100,000)	$ (600,000)	$ (100,000)	$ (100,000)	$ (100,000)	$ (100,000)		**$ (1,000,000)**
288	REFI Savings	was $130K		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
289	Bond proceeds								$ -						$ -
290		FY 16 carry forward unassigned		$ (307,395)					$ (307,395)						**$ (307,395)**
291	Image Park revenues	6%			$ -				$ -						$ -
292	Transfer To CEDO for Economic Development				$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 400,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 1,000,000
293	Increased Institutional Investment				$ (1,000,000)	$ (1,020,000)	$ (1,040,000)	$ (1,061,208)	$ (4,121,208)	$ (1,082,432)	$ (1,104,081)	$ (1,126,162)	$ (1,148,686)	$ (1,171,659)	**$ (9,754,228)**
294	Increase street Franchise								$ -						$ -
295	**Total Potential Revenue**			**$ (2,037,395)**	**$ (2,972,641)**	**$ (3,116,726)**	**$ (3,269,497)**	**$ (3,432,769)**	**$ (14,829,028)**	**$ (1,282,432)**	**$ (1,304,081)**	**$ (1,326,162)**	**$ (1,348,686)**	**$ (1,271,659)**	**$ (21,362,048)**
296	**Total Capital Needs Deficit (Surplus) with Expansion Needs**			**$ 5,971,568**	**$ 8,677,031**	**$ 8,125,663**	**$ 3,912,417**	**$ 886,828**	**$ 27,573,508**	**$ 5,661,775**	**$ 4,487,193**	**$ 6,125,749**	**$ 3,142,168**	**$ 2,355,334**	**$ 49,345,728**

	A	B	C	F	G	H	I	J	K	L	M	N	O	P	R
392		reduce curb in FY 21	$ 250,000				$24,712,254		$ 27,573,508						
393		reduce GR tax	$ (2,342,254)												
394		Add Transfer to CEDO	$ (400,000)												
395		Eliminate contingency FY 18-21	$ 600,000				net need to borrow		$ 27,573,508						
396		split last year of bike path	$ 500,000												
397		kept in $250,000 FY 17 traffic	$ (2,500,000)												
398															
399		parks projects shifted to after FY 21	$ 531,000												
400		cut transportation expansion FY 21	$ 400,000												
401		Pomerleau's FY 16 $100K donation	$ 100,000												
402			$ (2,861,254)	$ (24,712,254)	$ (27,573,508)										

Burlington Department of Public Works Commission Meeting
Draft Minutes, 21 September 2016
645 Pine Street

Commissioners Present: Tiki Archambeau, Jim Barr, Chris Gillman, Solveig Overby, Justine Sears, Jeff Padgett

Commissioner Absent: Robert Alberry

Item 1 – Call to Order – Welcome – Chair Comments

Chair Padgett calls meeting to order at 6:32 p.m. and makes opening comments.

Item 2 – Agenda

Commissioner Barr made motion to accept the agenda.
Commissioner Archambeau seconded
Motion approved - unanimous

Item 3 – Public Forum

A resident of Mansfield Avenue concerned about Department's recommendation to remove parking along Mansfield to ensure sight distances at mid-block crosswalk. He feels there is no need to change the status quo. Parking on west side is limited.

A Ward 1 resident agrees with the above resident. He attended the Great Street presentation last week and was concerned that it was more for the downtown area and less of an investment in the neighborhood areas.

A resident complained about the sewer odor that was coming out of the catch basins at the intersection of Pearl Street and Union Street. She also stated that she did not understand how ten thousand gallons of combined sewage and storm water can go into our lake with the facilities that we have for wastewater.

A resident from Ward 4 came in with her petition all done and copies made for the blocked road to be open at the condo development where she lives. City Engineer Norm Baldwin stated that there was now an opposing petition in process as well and he would follow up with both parties.

Item 4 – Consent Agenda

A. Traffic Request Program Status Report
B. Parking Restriction on South Crest Drive
C. Additional Parking on High Grove Court
D. But Stop Removal at Pine St and Bank St
E. Parking Restriction @ midblock crosswalk on Mansfield Ave
F. Installing Metered Parking on Pearl Street
G. Request to Add Loading Zone on Marble Ave

Commissioner Archambeau made a motion to pull off Marble Avenue and Mansfield Avenue items (Items E & G).

Commissioner Barr seconded
Unanimous Approval

Commissioner Padgett changed Item E to 4.1 and Item G to 4.2

Commissioner Barr motioned to accept
Commissioner Archambeau seconded
Passed unanimously

Item 4.1 Parking restriction @ midblock crosswalk on Mansfield Avenue – Damian Roy

There is a three way stop sign installed at Mansfield Avenue and Loomis Street which reduces parking around the mid-block crossing area. The changes in sightline around the mid-block are an improvement in which most people are in favor of this with the exception of the ones who live near the area.

Another resident stated she felt this was not about the crosswalk but parking for drop off at school at 8:00 a.m. put parking restriction for school.

Commissioner Archambeau made a motion to accept staff's recommendation to restrict parking 20 feet north and south of the crosswalk to increase sight lines between pedestrians and motorists increasing safety for those using the crosswalk.
Commissioner Barr supports as it is used for more than Mater Christi School.
Unanimous approval.

Item 4.2 Request to add loading zone on Marble Avenue – Damian Roy

Damien Roy stated there was a request for a loading zone by Battery Street Jeans on the Marble Avenue size. He went and looked at the location and made contact with the residents in the area as well as the other businesses which all vie for parking on Marble Avenue. They felt there was no use for a loading zone there as there is a vacant lot for parking for all the businesses in the area, including Battery Street Jeans. Residents are not in support of this loading zone.

Stu, owner of Battery Street Jeans stated there is a private parking area but as his business opens latter by the time they arrive the lot is usually full.

Various Commissioners asked if staff could further review the recommendation and explore a modified recommendation with some type of time-limited parking restriction.

Commissioner Barr made a motion to table the item and have staff do additional review.
Commissioner Archambeau seconded.
Unanimous approval

Item 5 Driveway Encroachment Ordinance – Damien Roy

DPW has received a number of complaints of cars parking too close to private driveways in high parking demand areas. Residents want signage or lines on the street for people to be aware of driveways in the area. DPW staff has brought forward a proposed driveway encroachment

ordinance to prohibit parking within two feet of a driveway. The results of the pilot study is in the packet. Staff is seeking final approval with the ordinance change.

Burlington Police will respond to blocked driveway complaints and will remove the car if driveway is completely blocked.

Commissioner Gulland motioned to approve staff's recommendation to No person shall park any vehicle at any time in front of another person's driveway and within two feet of another person's driveway as measured from the straight-lined edge of the driveway.
Commissioner Sears seconded
Unanimous approval

Item 6 – Parking Removal Starr Farm Road – Damien Roy

There is an issue of cars parking on the north side of Starr Farm Road – Flynn School greenbelt area which is eroded and against city ordinance to park there. The roadway is too narrow for parking. The city ordinance states that lawn parking is prohibited for the city except for Ward 4. Staff has recommended restricting parking north and south from North Avenue to Grey Meadow Drive and keep it open and let parking resume after Grey Meadow Drive.

There are 17 parking spaces that can be used by parents to bring kids into school but there is an empty parking lot on the north side which no cars park in. Warning tickets are being issued by the police

Commissioner Archambeau moves to accept staff's recommendation to restrict parking on the north and south sides of Starr Farm Road from North Avenue extending west to Grey Meadow Drive.
Commissioner Barr seconded
Unanimous approval

Item 7 – Request to Modify Resident Only Parking on South Prospect Street – Damien Roy

A Resident at 308 South Prospect asked for the residential parking restriction be modified. A petition was received by the Department indicating 85% want full time residential only parking.

Another resident noted that people are up in the area early and the parking in the streets is filled fairly quickly . Delivery vehicles have a hard time making deliveries due to the parking being taken up. She supports three 4 hour parking limit.

Staff recommends adopting installing full time resident parking and 4-hour parking for non-residents on South Prospect Street from Henderson Terrace to Cliff Street from 8am - 5p.m as shown on the attached drawing.

Commissioner Overby stated she cannot support narrowed resident parking all day without allowing the public to use these spaces up to four hours / day.

Commissioner Archambeau moves to accept staff's recommendation
Commissioner Barr seconds.
Commissioner Overby opposes and all others are in favor.

Item 8 – Introduction to Plan BTV Walk Bike – Nicole Losch

Staff provided a presentation on Plan BTV Walk/Bike. Staff responded to questions and said they would return to the October meeting looking for Commission approval.

Item 9 – 10 Year Capital Plan – Director Spencer

Asked for this items to be considered for next month as the hour was getting late. It was mentioned that this was already passed by City Council.

Commissioner Barr motioned to table until next month.
Commissioner Archambeau seconded.
Unanimous approval

Item 10 – Draft minutes of 7/20/16

Commissioner Archambeau wants the minutes to explicitly describe what action was taken by Commission. It is hard to follow if the minutes just say that the Commission voted for or against staff's recommendation. Approval of the July minutes was tabled until Clerk Gillman works with staff to revise the minutes accordingly.

Item 11 – Director's Report

There is a memo on the Commission's webpage on the water main relining.
The Commission needs to select a Diversity and Equity point person to attend a training.
City Council approval on Monday Chittenden Solid Waste District 3 year MOU with a three year option to purchase 195-201 Flynn Avenue for a CSWD drop off center.
An update on the TIF-funded Great Streets effort was provided.
The North Ave Pilot continues with an online survey. 1400 responses have been received to date. People have until October 2nd to take the survey.
Staff has worked extensively with City Market, Planning & Zoning and South End neighbors to ensure the proposed South End City Market project addresses City concerns.

Item 12 – Commissioner's Communication

Commissioner Archambeau stated he had lots of complaints about Grant Street and the number of vehicles idling on the street.

Director Spencer stated it is being repaved and provided an update on timing. We are also coordinating work with IAA school drop off area on Archibald Street.

Commissioner Archambeau also stated that sign on corner of Crombie and North Winooski at Barrio Bakery may be too close to the corner.

Commissioner Gillman stated Compliment on the North Avenue pilot, glad to see it being treated as a pilot. Director Spencer stated the department removed a number of bollards between BHS and Route 127 to better accommodate emergency vehicles.

Commissioner Barr stated the Colchester Avenue intersection there are a significant number of bumps in the road and large trucks go over them and shake adjacent houses.

Item 13 – Adjournment

Commissioner Barr made a motion to adjourn.
Commissioner Gillman seconded.
Unanimous approval.

Meeting adjourned at 9:55 p.m.

COMMISSION MEETING SIGN IN SHEET

Date: 21 September 2016

PLEASE PRINT NAME	ITEM #	EMAIL	PHONE	W
Joyce Walsleben		jwalsleben@aol.com	917.355.6261	
Richard Hillyard		pompeyhccc@hotmail.com	651-0725	
Caryn Long		Caryn Long@burlingtontelecom.net		
Andy Raubvogel		araubvogel@gmail.com	802-238 4312	
Stuart Sparko	Marble Ave.	stuart.sparko@gmail.com	203-560-0375	
Nancy Kaplan	Mansfield	nckaplan@gmail.com	802 238-0227	
Sharon Bushor	Driveway Encroachment Mansfield		802-~~8~~734-7000 ~~847~~	
Livia DeMarchis	5a Prospect Parking + Valley walk plan.	livia@gmail.com	802-238-9675	
Barbara Headrick	5 Prospect St	barbara.headrick@gmail.com		

existing street with a bar gate
single access point
Flynn Elementary School

- There are approximately **770 housing units** which exist off the North Ave extension, north of Plattsburgh Ave turnoff. (Please see map) The bulk of those are north of Forest St.

- Additionally there are an elementary school (Flynn), two nursing home facilities, one water treatment plant, year round beach dwellers who make fires and a city bus route. **We all use ONE entrance (North Ave) and share ONE Exit on that same road.**

At present we are all forced to pass the school, nursing home entrances and up to a mile of the North Ave extension to enter or exit our neighborhood. This exceeds, by far, any recommendation of the Institute of Traffic Engineers (ITE) and makes for a very sick street. We are one gas explosion, one major crash, one large fire away from disaster! (see ITE text)

History

The roadway surrounding property was deeded to and accepted by the City of Burlington by the Rivers Edge Condo Association in two parcels in March and September 1999. Roadway has remained blocked off by a privately owned locked gate.

Possible Concerns:

- Size of road:
    - Northview Dr. is 24'7" at its entry off North Ave
        - At the gate it is 27'.
        - The curve is 24" 1"
        - The road widens significantly when it becomes Rivers Edge.

That compares favorably to the well-traveled, blind curved roadway of Archibald as it enters Prospect Ave. That road is 22'3" by the cemetery entrance and 24'6" on the curve.

    - Forest St. is 29'1"; Woods is 28'9" at the intersection of Northview
        - Both Forest and Woods connect from North Ave to Northview

Affected neighbors – have had a private roadway for 17 years at the tax payers expense.

Institute of Traffic Engineers Recommendations 2010 edition, section 4.6.2

- "It is recommended that dead end streets (only one outlet) be no longer than 1000 feet and serve no more than 30 dwelling units. Within an otherwise connected street network, the length of dead end streets should be restricted to no longer than 200 feet".
- The guiding principal is to minimize the number of units with only one direction of access for BOTH efficiency of traffic circulation and emergency vehicle access.
-

Preparer: Joyce Walsleben; 917-355-6261; jwalsleben@aol.com

Joyce A. Walsleben
61 Northshore Dr
Burlington, VT 05408
917.355.6261

September 17, 2016

Mayor Miro Weinberger
City Hall - 149 Church St
Burlington, VT 05401

Dear Mayor Weinberger,

The attached petition and information is in response to your letter of April 26, 2016, (attached) regarding my request to open the interconnecting streets of Northview Dr. (connected also with Forest and Woods Streets) and Rivers Edge Drive in Burlington. I have included a copy of my letter of 3/2/16 which more fully outlines my request and activity from 12/3/16 until that time.

Methods: Residents were contacted at their homes or at public places such as the Marathon and the local food trucks. If they lived north of Barley Rd, the petition was explained using a map of the area as needed. Questions were answered. Efforts were made to assure that the residents saw the opening as important for safety not convenience. At least one adult living in the unit was asked to sign. Only units were counted, although in some cases, more than one resident asked to sign. Therefore, more signatures than units will be noted.

Results: At this point in time, residents of 238 units (north of Simms St) have been successfully contacted and those of 224 units have agreed to sign the petition. The overwhelming rate of acceptance is 94% for units on the west side of North Ave and 30% for those on the east. *The caveat being that only seven units were approached on the east and only residents of two units signed.* Those two residents had been approached prior to an effort by Rivers Edge Association to defeat any chance of success for the petition there.

Discussion: Unfortunately, someone roiled the residents on the east side of North Ave with information I had shared. Flyers against the petition were distributed. Residents of Rivers Edge were prepared in advance: Each repeated verbatim the same arguments against opening the gate. As a group they believe 'no emergency incidents have ever occurred and therefore none will occur in the future' which demand the gate to be opened. They evidently allow the children to play in the streets and are concerned about traffic. We sincerely sympathize with that. However, there was a complete refusal to discuss compromise. When we suggested an emergency situation such as a person with a heart attack at 4 AM needing an ambulance when North Ave is blocked by a fallen tree or wire, the answer was, "Well, I guess you would die!" Another suggested if we 'don't feel safe, we should move'. They do not believe the roads are fully connected and owned by the city.

Two of their older residents are sure the gate was meant to be permanent. On the other hand, information from older residents on the west side of North Ave disputes the permanency of the gate, relaying their expectation of removal when the building was done. Despite an informative discussion with a Rivers Edge board member, the level of animosity and the lack of any interest in compromise precluded my feeling safe enough to continue attempting a petition there.

Overall there appears to be a real need to address the definition of 'emergencies'. There have been five emergencies/incidents raised by residents during which no attempt to open the gate or divert traffic occurred.

1) A large fire at North Gate occurred during its construction and residents north of the fire were shunted up North Ave to the lake until it was brought under control. Those south of the fire couldn't move because of emergency traffic.

2) There had been a deadly crash where a car was split in half having hit a tree by North Gate. North Ave was closed. Residents were forced to walk their children past the scene on their way to Flynn school. Opening the gate would have allowed them to avoid the area.

3) More recently, there was a major car crash around Starr Farm road which shut down the intersection of North Ave and Plattsburgh Ave. Cars were backed up all around the intersection, down North Ave and up Plattsburgh Ave for almost two hours before being guided towards the lake and around the Flynn school yard. Two of my neighbors, each of whom had run to the drug store for a very ill spouse left at home, were caught in that. One was able to get to Turf and drive against the flow on the one way street, the other was told to sit in her car and wait.

4) There was a recent lockdown at the Flynn school which locked up the road for over an hour. Cars were not able to reach Barley Rd to leave the area.

5) Each year, during the marathon, when we have added thousands of people and are essentially locked in place for hours, the ambulances and emergency vehicles repeatedly make their way loudly up and down our section of North Ave, causing concern for runners and watchers while no attempt to at least temporarily open the gate and allow shorter, safer access is made.

Conclusion: How does the city justify locking an interconnecting roadway and effectively trapping residents of 770 housing units to use a one mile long roadway for ingress and egress? I am hopeful that you will take the petition into consideration to rectify this issue as promised.

Sincerely,

Joyce Walsleben

Re: Walsleben letter to mayor Weinberger 9.18.16

ATTACHMENTS:

1) Map
2) Information sheet on roadway history and concerns
3) Letter to me from Mayor dated 4.26.2016
4) Petition - 15 pages
5) Letter to mayor dated 3.2.2016

Office of Mayor Miro Weinberger

April 26, 2016

Joyce Walsleben
61 Northshore Drive
Burlington, VT 05408

Dear Joyce,

Thank you for your commitment and dedication, and for bringing the Rivers Edge Drive gate issue to our attention. For the past number of months, my office has reviewed the permit and deed documents with the City Attorney's Office and the Department of Public Works to understand the history and permitting issues involved with the project. Rivers Edge Drive was developed as a private road, and the gate was originally permitted for that reason. When the street was accepted by the City ten years later, the gate was left in place, apparently at least in part because the road did not fully meet City standards.

Generally, before considering a major traffic change and related costs in a specific neighborhood, the City would like to have a sense of the public support for the action. Therefore, as we have done in similar situations, we would suggest that if you wish to have the gate removed, you collect signatures on a petition from the affected neighbors asking the City to consider opening the gate. Generally, the City would want to see signatures from at least 30% of the properties directly impacted and an equal share of those not directly impacted that want the street examined to be opened. The directly impacted streets include: Rivers Edge Drive, Borestone Lane, Forest Street, and Northview Drive.

If such a petition is submitted to the Department of Public Works, the Department will then consider whether or not to conduct a traffic or other study and whether other improvements or alterations would be required to carry out the requested change. Any recommendations would then be submitted to the Public Works Commission (if they involve traffic matters) and/or the City Council (if they involve other streets issues), and public input would be taken at that time.

If you have questions about the process, please do not hesitate to contact my office or Norm Baldwin at the Department of Public Works. Thank you.

Sincerely,

Miro Weinberger
Mayor

City Hall | 149 Church Street | Burlington, VT 05401
802.865.7272 | www.burlingtonvt.gov

PETITION: to eliminate the locked gate on Northview Dr and Rivers Edge Dr.

- **To address the health, safety and welfare of the residents of the 770+ residential lots serviced by North Avenue north of Barley Road.**
- **To augment the ingress and egress capacity to said residents, by eliminating the locked gate on the public roadway designated as Northview Drive where it joins Rivers Edge Drive.**
- **To honor the original intent of the agreement with the City of Burlington to remove said gate when the roadway was accepted by the city.**
- **To bring the area closer to compliance with nationally accepted norms for interconnectivity for emergency services and evacuation.**

We the undersigned request the City of Burlington to take the necessary steps to eliminate the locked gate at Northview Drive where it joins Rivers Edge Drive, and open the roadway to two-way neighborhood vehicle passage.

DATE	PRINT NAME	PRINT ADDRESS	Signature
4/27/16	JOHN SWANSON	128 NORTH SHORE DR	
4/27/16	Elizabeth Watson	132 North Shore Dr	
4/27/16	ROY WATSON	132 NORTH SHORE DR	
4/27/16	TOM SWANSON	118 Northshore Dr	
5/13/16	Betsy Catenaro	10 Northshore Dr.	Betsy Catenaro
5/14/16	Linnea TAYLOR	7 Northshore Dr	
5/14/16	Gretchen Carlson	54 Northshore Dr.	Burlington VT
5/14/16	Gary Conner	54 Northshore Dr.	Burlington, VT
5/15/16	Jackie HAWKS	59 Northshore Dr	
5/15/16	Peter HAWKS	59 Northshore Dr.	
5/15/16	Debra Dodge	57 Northshore Dr.	Debra Dodge
5/15/16	Catherine Conner	55 Northshore Dr	
5/15/16	Suzanne Althuff	42 Northshore Dr.	
5/15/16	Otto Althoff	42 Northshore Dr	
5/15/16	PATTY LEVI	32 NORTHSHORE DR	
5/15/16	JACK LEVI	32 NORTHSHORE DR	
5/15/16	[illegible]	23 Northshore	
5/15/16	[illegible]	15 Northshore Dr	
5/15/16	Pauline Gervais	15 Northshore Dr.	
5/15/16	JOANN CARSON	11 NORTHSHORE DR.	
5/15/16	Janice Hughes	9 Northshore Dr	
5/15/16	David Gilbert	8 Northshore Dr	
5/15/16	MARY ANN DION	8 NORTHSHORE DR	
5/15	Jean Jordan	3 Northshore	
5/17/16	Faye Lawes	14 Hardy Ave	
5/17/16	Wanda Davis	20 Hardy Ave	
5/17/16	Elizabeth Dusablon	76 Hardy Ave.	
5/17/16	[illegible]	28 Hardy Ave	
5/17/16	Brianna Wallick	84 Hardy Avenue	

Units: 23
Signatures: 29

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DATE	PRINT NAME	PRINT ADDRESS	Signature
5/17/16	Shirley Willingantz	123 Northshore Dr.	[signature]
5/17/16	Elsbeth Mode	120 "	Elsbeth Mode
5/17/16	GABRIELLA KARSCH	124 Northshore Dr	Gabriella Karsch
5/17/16	Margaret Gelinas	121 Northshore Dr.	Margaret Gelinas
5/18/16	GILDA BIGGS	103 NORTHSHORE	[signature]
5/18/16	Daniel Biggs	103 North Shore Dr.	[signature]
5/18/16	Alexander C Zebriskie	119 North Shore Dr.	[signature]
5/18/16	Margy Zebriskie	" " "	Margy Zebriskie
5/18/16	Jesse Raymond	84 Northshore Dr	[signature]
5/21/16	Matt Bain	127 Claire Pointe Rd	[signature]
5/21/16	Lucas Mullally	115 Claire Pointe RD	[signature]
5/21/16	Liza Smith-Vedder	111 Claire Pointe Rd	[signature]
5/21/16	Nicole Gagnon	123 Claire Pointe RD	[signature]
5/21/16	Joe Gagnon	123 CLAIRE POINTE RD.	[signature]
5/21/16	LM Paul	87 Claire Pte Rd.	[signature]
5/23/16	Michael McBee	6 Hardy Ave	[signature]
5/23/16	[illegible]	34 Hardy	[signature]
5/23/16	Helen F Bennett	42 Hardy Ave	[signature]
5/23/16	Dyana Blow	43 Hardy Ave	[signature]
5/23/16	Dyanice Little	43 Hardy Ave	[signature]
5/23/16	Francis Gawitt	102 Hardy Ave	[signature]
5/23/16	Jana Lafayette	98 Hardy Ave	[signature]
5/23/16	Libby Branch	93 Hardy Ave	[signature]
5/23/16	Janice H. Young	101 Hardy Ave	Janice H. Young
5/23/16	Thomas Pinkette	119 Hardy Ave	[signature]
5/23/16	Judie Blanchard	112 Hardy Ave	Judie Blanchard
5-23 16	Larry Blanchard	112 HARDY AVE	Larry Blanchard
5/24/16	Joanna Cole	108 Rivers Edge Dr.	Joanna Cole
5/29/16	Robert LaPointe	2048 North Ave.	[signature]

U. is 7 sign 9

U-15 5-18

*

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Pls sign only once!

PETITION: to eliminate the locked gate on Northview Dr and Rivers Edge Dr.

- **To address the health, safety and welfare of the residents of the 770+ residential lots serviced by North Avenue north of Barley Road.**
- **To augment the ingress and egress capacity to said residents, by eliminating the locked gate on the public roadway designated as Northview Drive where it joins Rivers Edge Drive.**
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We the undersigned request the City of Burlington to take the necessary steps to eliminate the locked gate at Northview Drive where it joins Rivers Edge Drive, and open the roadway to two-way neighborhood vehicle passage.

	DATE	PRINT NAME	PRINT ADDRESS	Signature
	5/18/16	Linda Greer	79 Northshore Dr.	[signature]
	5/18/16	Lloyd LaCasse	74 Northshore DR	[signature]
	"	JANICE CLEMENTS	63 NORTHSHORE DR.	[signature]
	"	FRANK WILLIS	86 NORTHSHORE DR	[signature]
	"	Claire Willis	86 NORTHSHORE DR	[signature]
	"	Sally Grossnickle	29 Northshore Dr.	[signature]
	5/11	Ron Redfield	135 Northshore Dr.	[signature]
	5.18.16	Glenn Fay, Jr	27 Northshore	[signature]
#96	5/18/16	Jack Bremer	96 Northshore	[signature]
	5/18/16	Lilly Li	96 Northshore	[signature]
	5-18-16	Jean Rook	56 Northshore	[signature]
	5/18/16	Howard Smith	101 Northshore	[signature]
	5.18.16	PAT QUINLAN	130 NORTHSHORE DR.	[signature]
	5.18.16	VIRGINIA HOOD	25 Northshore Drive	[signature]
	5/18/16	ELIZABETH MILES	127 Northshore Drive	[signature]
	5/18/16	LARISA DEVOST	62 NORTHSHORE DRIVE	[signature]
	5/18/16	W. Stephen Yaw	23 Northshore Dr.	[signature]
	5/18/16	Natalie Duany	13 Northshore Dr.	[signature]
	~~5/18/16~~	~~Joanne Muehlberger~~	~~75 NORTHSHORE DR~~	[signature]
		~~JOANNE MUEHLBERGER~~		
Unit 18 Sign 20	5/18/16	LISA PAIGE	87 Northshore Drive	[signature]
	5/18/16	Helen Weltman	109 Northshore Dr	[signature]
	5/29/16	Chelsea Oclatis	25 Westward DR.	[signature]
	5/29/16	Kijuan Fryar	2044 North Ave	[signature]
	5/29/16	Carrie McCabe	2044 N. Ave	[signature]
	5/29/16	Keegan Reed	2056 North Ave	[signature]
	5/29/16	Nicole Driscoll	2056 North Ave.	[signature]
	5/29/16	Heather Wick	2069 North Ave.	[signature]
	5/29/16	John Yackovetsky	2069 North Ave	[signature]
W 5-8	5-29-16	Margaret Gundersen	2089 North Ave	[signature]

PETITION: to eliminate the locked gate on Northview Dr and Rivers Edge Dr.

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DATE	PRINT NAME	PRINT ADDRESS	Signature
5/12/16	ELIZABETH KNUDSEN	116 Northshore Dr	[illegible]
5/17/16	JENNIFER MARTIN	90 HARDY AVE	[illegible]
5/17/16	Tim Rouille	90 HARDY AVE	[illegible]
5/17/16	JOE Baylon	106 Hardy Ave	[illegible]
5/17/16	George Gaulet Jr.	35 Derwing Dr	[illegible]
5/17/16	Faith Dion	71 HARDY AV	[illegible]
5/17/16	John Dary	35 Hardy Ave	[illegible]
5/17/16	Sarah Osten	35 Hardy Ave	[illegible]
5/17/16	Lisa Tulkop	21 Hardy Ave	[illegible]
5/17/16	Cassandra Montminy	5 Hardy Ave	[illegible]
5/17/16	Keith Cunningham	5 Hardy Ave	[illegible]
5/17/16	Christopher Liddle	39 Westward Dr	[illegible]
5/17/16	Hillary Liddle	39 Westward Dr	[illegible]
5-18-16	Phyllis Whitcomb	26 North Shore Dr	[illegible]
5.29.16	Lucy B. Masters	35 North Shore Dr	[illegible]
5.29.16	Ashley Taylor	15 Northgate Rd	[illegible]
5.29.16	Anita Bosby	66 North Shore Dr	[illegible]
5.29	OONDA - ECHA	36 NORTHgate Rd	OONDA
5/29	Jackie Dodge	18 Northgate	Jackie Dodge
5/29	Almina Kadric	6 Northgate Rd	[illegible]
5.29	ALMIRA BASIC	73 NORTHGATE RD.	Almira
5/29	Shawn Hathaway	74 Northgate	[illegible]
5/29	Michelle Benedict	72 Northgate Rd	[illegible]
5.29	Linda Romeo	51 Northgate Rd	[illegible]
5.29	Theresa Smart	217 North Gate Rd	[illegible]
5/29	Amanda Moore	91 Northgate Rd	[illegible]
5/29	Laurie E. Roberge	82 Northgate Rd	[illegible]
5/29	Daniel Toand	113 Northgate Rd	[illegible]
5/29	Samantha Olio	302 Northgate Rd	[illegible]

Sign 14
units 10

u-15
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13W9

PETITION: to eliminate the locked gate on Northview Dr and Rivers Edge Dr.

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DATE	PRINT NAME	PRINT ADDRESS	Signature
5-21-16	G Potter	[illegible]	37 Claire Pointe
	Louise Neman	643 Claire Pointe	[illegible]
5/21/16	JOYCE W. ORR	47 Claire Pointe	[illegible]
5/21/16	Elizabeth Webb	45 Claire Pointe	[illegible]
	Bill Davison	55 Claire Point Dr	[illegible]
5/21/16	RAY STEADMAN	59 CLAIREPOINTE ROAD	[illegible]
5/21/16	BROOKE LOCKWOOD-Cole	33 CLAIRE Pointe Rd, Burl	[illegible]
5/21/16	Jonathan Paul	87 Claire Pointe Rd	[illegible]
5/29/16	Isaiah Keepin	19 Woods St	[illegible]
5.29.16	Sara Goldstein	1936 North ave.	SARA Goldstein
5.29.16	Bobby Hackney	1936 N. AVE	[illegible]
5/29/16	Melinda K-[illegible]	33 Northgate	[illegible]
5/29/16	Suvada Sarajlic	301 Northgate R.D	[illegible]
5/29/16	Suad Sarajlic	301 Northgate RD.	[illegible]
5/29/16	Almin Sarajlic	301 Northgate RD.	[illegible]
5/29/16	ADNAN KABLAR	33 NORTHGATE	[illegible]
5/29/16	MARIA IOANA	113 NORTHGATE RD	[illegible]
5/29/16	Sandra Griffin	402 Northgate Rd	[illegible]
5/29/16	Ken [illegible]	1928 North Ave	[illegible]
5/29/16	Ellen Lascelle	88 Northshore	[illegible]
5-29-16	Bob LASCELLE	88 North Shore Drive	[illegible]
5-30-16	Jon ANDRUS	94 Northshore	[illegible]
5-30-16	Susan B Leavitt	94 Northshore	[illegible]
5-30-16	Darlene Dehne	104 NorthShore	[illegible]
5-30-16	Roland Dehne	104 NorthShore	[illegible]
6/1/16	JENNETTE	446 North [illegible]	[illegible]
6/1/16	Dana Corey	319 Northgate Rd.	[illegible]
6/1/16	Leean Lund	3768 Spear St Charlotte	[illegible]
6/1/16	Devon Mullen	351 Northgate Rd	[illegible]

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NORKS-*
VG

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PETITION: to eliminate the locked gate on Northview Dr and Rivers Edge Dr.

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DATE	PRINT NAME	PRINT ADDRESS	Signature
6/1/16	Jessica Bean	211 Northgate Rd	[illegible]
6/1/16	Melissa Sweetser	240 Northgate Rd	[illegible]
6/1/16	Nikki Erno	250 Northgate Rd	[illegible]
6/1/16	Jaime L Savage	244 Northgate Rd	[illegible]
6/1/16	Brittany Robertson	129 Northgate Rd	[illegible]
6/1/16	Crystal Sandlin	129 Northgate Rd	[illegible]
6-1-16	Anthony Sourdiff	244 Northgate Rd	[illegible]
6/1/2016	Rodrego Corey	42 Westhaven Dr	[illegible]
6/1/2016	Ksenia Ursu	241 NORTHGATE	[illegible]
6/1/2016	Malinga Mukundu	341 NORTHGATE	[illegible]
6-1-16	Asnat Bounsana	255 NORTHGATE	[illegible]
6-1-16	Sarah Buhl	247 Northgate Rd.	[illegible]
6-1-16	Dawa Tamang	241 Northgate Rd	[illegible]
6-1-16	svetlana ursu	222 Northgate Rd	[illegible]
6-1-16	Shannon Monniere	358 Northgate Rd	[illegible]
6-1-16	Jadwiga Osmancevic	71 Northgate rd	Jadwiga Osmanc
6-1-16	Denuma OSMANCEVIC	210 Northgate Rd.	[illegible]
6-1-16	Rebekah Tucker	215 Northgate Rd.	[illegible]
6-1-16	Claire Brunell	214 Northgate Rd	Claire Brunell
6-1-16	LENEE PIERRE	42 " "	[illegible]
6-1-16	Robert Bernard	342 " "	[illegible]
6-1-16	Heather Newcomb	242 Northgate Rd.	Heather Newcomb
6/1/16	Michael Lot [illegible]	104 Northgate Rd	[illegible]
6/1/16	Papillon Brisvic	329 Northgate Rd.	[illegible]
6/1/16	Diane Ballou	225 FAIRPOINT	DIANE BALLOU
6/3/16	Trace Barrett	30 Northshore	[illegible]
6.3.16	Steve DiCarolis	2 NORTHSHORE DR	[illegible]
6.3.16	Casey Lyon	23 Derway Dr	[illegible]
6.4.16	Kim Ward.	3065 North Ave	K Ward

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PETITION: to eliminate the locked gate on Northview Dr and Rivers Edge Dr.

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DATE	PRINT NAME	PRINT ADDRESS	Signature
5/15/16	SUZANNE GRENIER	70 NORTHSHORE DR.	
5/15/16	Georgia Cummins	73 Northshore Dr	
5/15/16	JOANNE MUEHLBERGER	75 NORTHSHORE DR	
5/15/16	HOWARD MUEHLBERGER	75 NORTHSHORE DR.	
5/15/16	CURTIS PETTIT	73 Northshore	
5/21/16	June Heins	78 Northshore Dr	
5/21/16	Mary LaCasse	74 Northshore Dr.	
5/26/16	Carol Marens	71 North Shore	
5/26/16	John HANRAN	92 North Shore	
5/26/16	Eleanor McCole	95 Northshore Dr	
	Morella DeWost	64 Northshore Dr Burlington	
6/3/16	Donald McIntyre	131 Northshore Dr. BTV	
8/29/16	SEAN McDONOUGH	14 DEWEY DRIVE, BURL	
8/29/16	Mary Putnam	25 Wing St	
8.29.16	TONY READE	10 WING ST	
8-29-16	Matthew Perry	19 Simms St	
8/29/16	WAYNE PAQUETTE	45 Simms St	
8/29/16	Lawrence Clark	5 Edson St	
8/29/16	Jordan Taylor	26 Edson St	
8/29/16	R Putter	23 Edson St	R. Putter rebecca
8/29/16	ROIN MELINER	23 EDSON ST.	
8/29/16	VIRGINIA RINGEY	36 EDSON ST	
8/29/16	Kristopher Dandelin	36 Dewey Dr.	
"	Patti Racine	1877 North Ave.	Patti Racine
9.07.16	Kain Fugleberg	1885 North Ave	
9/15/16	Joyce Wollsleben	61 Northshore Dr	

PETITION: to eliminate the locked gate on Northview Dr and Rivers Edge Dr.

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DATE	PRINT NAME	PRINT ADDRESS	Signature
4/28/16	Kaye Alexander	112 Northshore Dr	Kaye Alexander
4/28/16	Edward Lalonde	112 NORTHSHORE	Edward Lalonde
4/28/16	Eric Curbman	67 Northshore	Eric Curbman
4/28/16	Bruce Nelson	12 Northshore	
4/28/16	Karen Corbman	67 Northshore	Karen Corbman
4/28/16	Wendell Anderson	6 Northshore Dr.	
4/28/16	Donna Sutton FNP	27 Northshore Dr	
4/28/16	PATRICIA MAC CUBBIN	38 NORTHSHORE, DR	
4/28/16	Michael Dupont	13 Northshore	
5/13/16	Kevin Spaulding	60 Northshore	
5/13/16	Benjamin Watts	60 Northshore	
5/13/16	Cecily Dexter	4 Northshore	
5/13/16	Michael Cooper	4 North Shore	
5/14/16	Mary Romanes	53 Northshore Dr.	
5/14/16	Frank E. Romany	53 Northshore Dr.	
5/14/16	Michael Gilman	48 Northshore Dr.	
5/14/16	Kevin Gallagher	41 Northshore Dr.	
5/14/16	FREDERICK G BERGERON	44 NORTHSHORE DR	
5/14/16	STEVE JAUBERT	47 NORTHSHORE DR	
5/14/16	MIGUEL A. Bernard-Rivera	37 Northshore Dr.	
5/14/16		33 NORTHSHORE DR	
5/14/16	Diana Aymes	31 Northshore	
5/14/16	Gosta N. Johnson	28 Northshore Dr.	
5/14/16	George Bradbee	22 Northshore Dr.	
5/14/16	Joyce Kelly-Bradbee	22 Northshore Dr	
5/14/16		20 Northshore Dr.	Cathy Neff
5/14/16		1222 North Ave	Leslie Tuttle
5/14/16	Thomas Done	16 Northshore	
5/13/16		10 North Shore	

Units: 22

PETITION: to eliminate the locked gate on Northview Dr and Rivers Edge Dr.

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DATE	PRINT NAME	PRINT ADDRESS	Signature
5/21/16	Kyle Reardon	91 Claire Point Rd	
5/21/16	KATY KENT	89 " " "	
5-25-16	Donna Trombaccia	74 FAIRFIELD DR	
5-25-16	Joan Coccetti	75 Northgate Rd	Joan Coccetti
5-25-16	Angela Goms	77 Northgate Rd	Angela Goms
5/2/16	DONALD Curtis	116 Northgate Rd	Donald
5/25/16	Donna Curtis	116 Northgate Rd	Donna
5/25/16	Andrew Farnsworth	69 Northgate Rd	Andrew
5/25/16	Myron Farnsworth	69 Northgate Rd	
6/4/16	Alina Mills	1841 North Ave	
6-14-16	LANN TAYLOR	1847 NORTH AVE	
6/4/16	Neil Darling	1844 North Avenue	
6/4/2016	Barbara Dric	1800 North Avenue	Barbara Dric

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DATE	PRINT NAME	PRINT ADDRESS	Signature
5/30/16	Morella Devost	64 Northshore Dr., Burlington	[signature]
6/5/16	Deborah Farley	65 Northshore Dr, Burlington	[signature]
6/5/16	Gardner Ortel	C/O 65 Northshore Dr Burlington	[signature]

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DATE	PRINT NAME	PRINT ADDRESS	Signature
6/7/16	Linda Ritchie	400 Appletree Pt Rd	LRitchie
		9/15/16	

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2016

DATE	PRINT NAME	PRINT ADDRESS	Signature
5/20	JEFF WINKLER	414 NORTHGATE ROAD	
5.20	steve daramillo	128 northgate Road	
5/25	Ryan Senna	405 northgate Rd	
5/31	Stephanie Barrows	333 Northgate Rd	
5/31	Jaydon Lafountain	438 Northgate Rd	
6/2	Mindy Stewart	440 Northgate RD	
6/2	John Dagosta	210 Northgate Rd.	
6/15	Hope Smith	457 Northgate Rd	
6/15	David Lavoix	226 Northgate Rd	
	Kevin Bean	111 N Gate	
	Shannon Whitehouse	363 N. Gate Rd	
	Kristina Francis	260 northgate rd	
	Starr Lafountaine	213 Northgate Rd.	
6/15	Jordan Guerin	232 Northgate Rd	
6/15	Ashlie Tricou	232 Northgate Rd	

9/15/16

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DATE	PRINT NAME	PRINT ADDRESS	Signature
5-12-16	Susan E Rittenhouse	76/77 Northshore Dr.	[signature]
	Clarence J Nutter	9 Claire Pt Rd	[signature]
5/21/16	Kellie C. Smith	15 Claire Pt. Rd	[signature]
5/21/16	Mary Campbell	17 Claire Pt. Rd.	Mary Camp

JW 9/15/16

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Last Stop 1
2

DATE	PRINT NAME	PRINT ADDRESS	Signature
6/4/16	GARY DION	2061 NORTH AVE	
6/4/16	Jane Gundersen	37 Fairmont Pl	

PETITION: to eliminate the locked gate on Northview Dr and Rivers Edge Dr.

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DATE	PRINT NAME	PRINT ADDRESS	Signature
5-25-16	Arline Bessette	2007 North Ave	
5-25-16	Michael Bessette	2007 North Ave	Michael Bes
5-25-16	Lavenia Medeiros	43 Algird ST	Lavenia Medei

copy

61 Northshore Drive
Burlington VT 05408
3/2/2016

Mayor Miro Weinberger
149 Church St
Burlington VT 05401

Dear Mayor Weinberger,

I would like to thank you and your staff for meeting with me on the following occasions regarding the opening of the locked gate on Northview Drive preventing interconnectivity into Rivers Edge Drive in the New North End.

12.3.2015	Meeting with Mayor Weinberger and Jordan Redell at the Bagel café
12.7.2015	Meeting with Jay Appleton for census
	Various meetings/conversations with councilor Tom Ayres
1.6.2016	Meeting with Mayor Weinberger and Jordan Redell
1.15.2016	Meeting with Norm Baldwin – DPW
1.20.2016	DPW presentation
2.11.2016	Meeting with Councilor Dave Hartnett
	Meeting with the Fire marshal
2.17.2016	DPW meeting – spoke with Norm Baldwin
2.24.2016	Meeting with Mayor Weinberger, Jordan Redell, Dave Hartnett, Tom Ayers (café)
	NPA meeting later than evening
3.1.2016	Meeting with North Gate condo management
3.2.2016	Meeting with Mayor Weinberger, Jordan Redell, and others at café

Let me reiterate that per ITE Neighborhood Street Design Guidelines, current 2010 edition, section 4.6.2:

It is recommended that dead end streets (only one outlet) be no longer than 1000' and serve no more than 30 dwelling units. Within an otherwise connected street network, the length of dead end streets should be restricted to no longer than 200'.

The referenced guideline is, in part, to ensure adequate emergency response; to avoid conditions where events in the roadway restrict first responders from reaching residential units. Interconnectivity of roadways ensures that multiple avenues of ingress and egress exist for first responders getting in and residents evacuating out. The existing condition has North Avenue above Barley Road as one large 'no outlet' condition.

Northview Drive can provide the necessary interconnectivity and therefore provide relief for the area. However, the roadway is gated and locked, eliminating it as an interconnection, thus jeopardizing the health, safety and welfare of the citizens residing in the affected area, not to mention any business or visitors in the area during a crisis.

It is unconscionable that a single incident at or above Barley Rd and North Avenue could result in North Avenue being blocked, which would eliminate any and all passage of motor vehicles, be they neighborhood cars, or emergency vehicles. That single incident may be a car crash, downed tree or electrical wire, gas or water line failure, school lock down or fire. Whatever the blocking event is, the result will be the same. No emergency vehicle could get into the affected area and no residents would be able to get out on that route.

I can only hope that the current alternative plan for emergency responders, which is to cut the bolt on the locked road, if necessary for their entry into the area, is effective and timely. The response time lost in: 1) making that decision; 2) finding the cutter; 3) and acting on it could be critical to life and death, and further jeopardizes the health, safety and welfare of the residents. This still does not help those who may need to evacuate or more simply get to work or long awaited doctor appointments in a timely fashion.

Importantly, a partial relief to this issue has been identified and brought to the city's attention. It is in the form of an existing interconnecting public street (Northview into Rivers Edge) that could provide an alternative point of ingress/egress to the affected area, but for the fact it is essentially willfully blocked by the city for no known reason. It is important to reiterate this point as no one has identified why this public roadway is gated.

As noted in the beginning of this letter, it has been three months since I first brought this to your attention. The fact that a resolution has not occurred is troubling to me. I think it is fair to say from this day forward that the City should be held responsible for any failure of timely emergency service or self-evacuation due to the limited ingress/egress to this area resulting from a locked gate on a city road.

In a time where terrorism and the issues such terrorist acts are exposing in our emergency response systems and tactics, the public is being constantly told "if you see something, say something". Well, this does not just apply to seeing potentially active threats, but also applies to the ability of first responders to answer a threat. I have pointed out a significant problem which has the potential to trap residents of over 770 housing units in our city and offered a reasonable partial correction.

This is no different from why we have a smoke alarm in every bedroom even though we have not had a fire; why we insist every building with a public area have more than one escape route. We need to be prepared.

I do sincerely thank you for your attention and direction with this problem and ask that it be resolved quickly for the health, safety and welfare of a large portion of the city.

Respectfully,

Joyce Walsleben
917.355.6261

planBTV Walk Bike

Walk Bike Master Plan

Public Involvement

- Online Surveys
- Active Surveys
- Work-shops
- Focus Groups
- Website
- Social Media
- Demo Projects

HOW?

The 6 E's

- Engineering
- Evaluation/Planning
- Education
- Encouragement
- Enforcement
- Equity

- Design safer streets
- Measure success
- Help people
- Celebrate
- Public safety
- Geography and demographics

Rapid Implementation

VISION

IMAGINE A FUTURE WHERE...

CONTENTS

PART 2: HOW?

PART 1: WHY?

Why?

The Other E's, with others' support

- Increase staff capacity in 2017 and 2018
- Create a Data Dashboard of metrics
- "Crash not Accident" pledge
- Bike skills and lock/safety gear initiatives
- Professional drivers' training program
- Expand Safe Routes to Schools
- Expand safety outreach to drivers
- Expand events: play streets, breakfasts, more!
- Host a summit and events for women and seniors
- Revise crash reporting protocols
- Increase Safe Streets Collaborative's reach
- Launch enforcement stings
- Expand efforts across minority communities
- Consider location equity in programming
- Integrate equity safeguards in enforcement
- Deepen understanding of needs and priorities of under-represented Burlingtontians

How Much?

Next Steps

- October Public Works Commission approval
- October (tentative) Planning Commission review
- November TEUC review/approval
- December City Council review/approval

Prezi

planBTV Walk Bike

Walk Bike Master Plan

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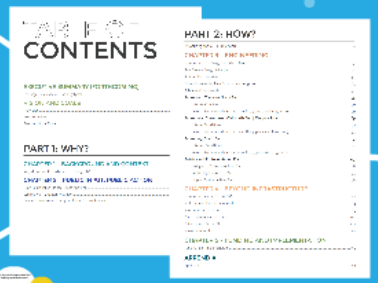
- Integrate equity safeguards in enforcement
- Deepen understanding of needs and

VISION

CONTENTS



Why?

Prezi

Walk Bike planBTV

planBTV Walk Bike

Walk Bike Master Plan

Prezi

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Five-page Summary of Plan Highlights

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Goal for Mode Share

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- Existing Conditions
- Project Recommendations (12-months, 5 years, and long term)

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- Existing Conditions
- Project Recommendations (12-months, 5 years, and long term)

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- Existing Conditions
- Project Recommendations (12-months, 5 years, and long term)

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- Policy and Protocol Action Plan
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Education Action Plan

Encouragement Action Plan

Enforcement Action Plan

Equity Action Plan

CHAPTER 5 - FUNDING AND IMPLEMENTATI

Funding and Implementation

Prezi

VISION

IMAGINE A FUTURE WHERE...

- ...Burlington's Streets were safe enough that parents could let their kids walk or bike to school, to the park, or to a friend's house without worry; and that older adults could comfortably walk or bike from their house to community destinations such as the grocery store, or the pharmacy.

- ...walking, biking, and taking the bus were the preferred choice for students and adults living or working in Burlington, all year round.

- ...Burlington's transportation network improved our local economy and quality of life, leading people to stay in Burlington and invest in our community.

Prezi

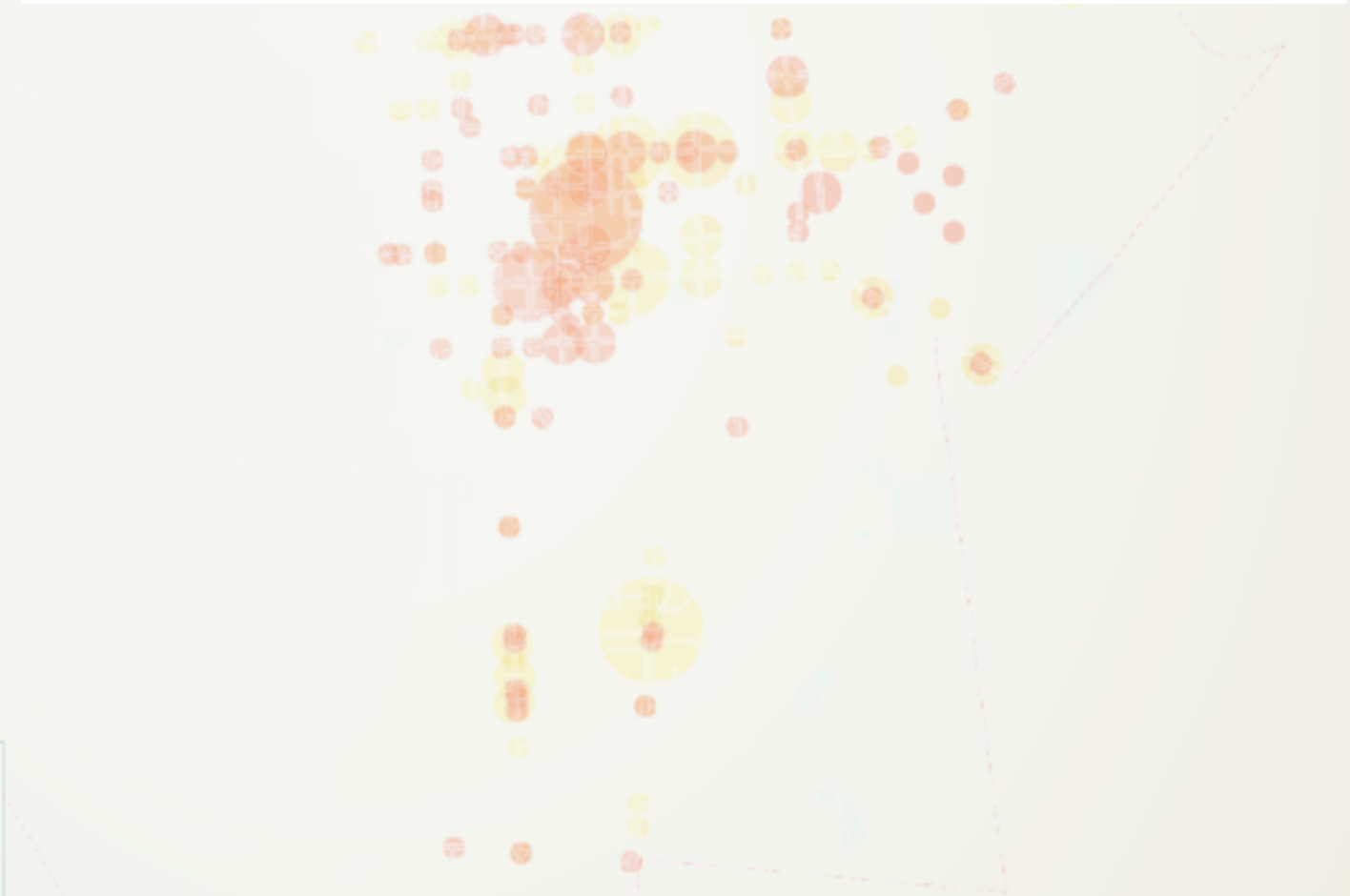
GOALS

THIS PLAN IS ABOUT 2 THINGS:

- CREATING SAFER STREETS FOR EVERYONE
- AND, MAKING WALKING AND BIKING A VIABLE (AND ENJOYABLE) WAY TO GET AROUND TOWN.

Prezi

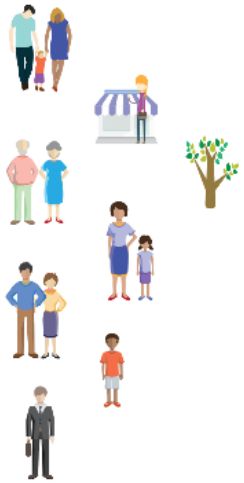
We will eliminate traffic-related fatalities and serious injuries by 2026.

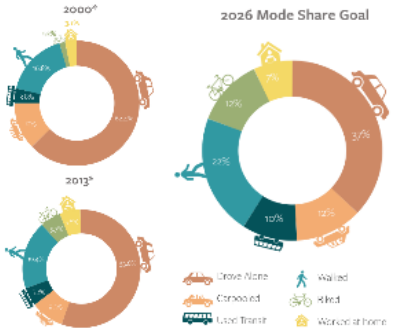


By 2026, reliance on drive-alone trips will be low, and alternative modes will make up the majority of commute trips in Burlington.

Prezi

Why?





51%

Burlington residents would walk or bike more often if conditions were better.

Bur

0
12%
3%

Prezi

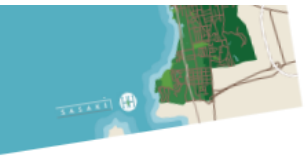
MOVING FORWARD TOGETHER
Transportation Plan for the City of Burlington
Department of Public Works
Department of Planning and Zoning
Community and Economic Development Office (CEDO)
Adopted: 28 March 2011
...the Transportation element of the Burlington Municipal Development Plan pursuant to 24 V.S.A Ch 117.

BURLINGTON PARKS, RECREATION & WATERFRONT MASTER PLAN
OCTOBER 2015
BURLINGTON PARKS RECREATION WATERFRONT VERMONT
SASAKI

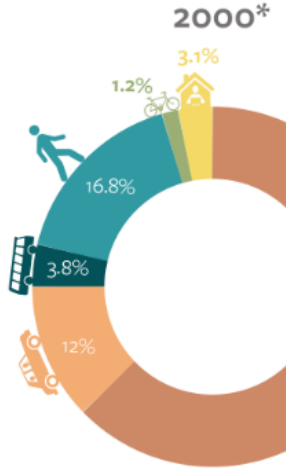
DRAFT
JUNE 2015
plan BTV South End
#OurSouthEnd
City of Burlington
Dubois & King

plan BTV
Downtown & Waterfront
THE GREEN MACHINE
Burlington's New Groundbreaking Waterfront Stormwater Treatment Concept
PARK IT BURLINGTON!
TIMELESS PRINCIPLES
CREATING "MUNICIPAL ADVANTAGE"
TAPPING BURLINGTON'S CREATIVE ECONOMY
PLUS CHICKENS
LIMITED EDITION
Adopted June 10, 2013

Prezi



JUNE 2015
planBTV
South End
OurSouthEnd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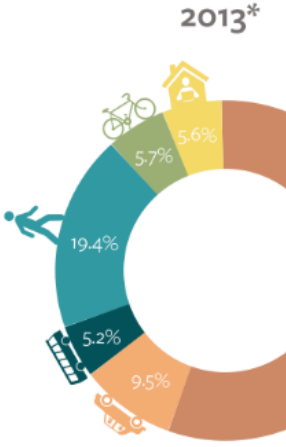
1.2%
16.8%
3.8%
12%


2013*
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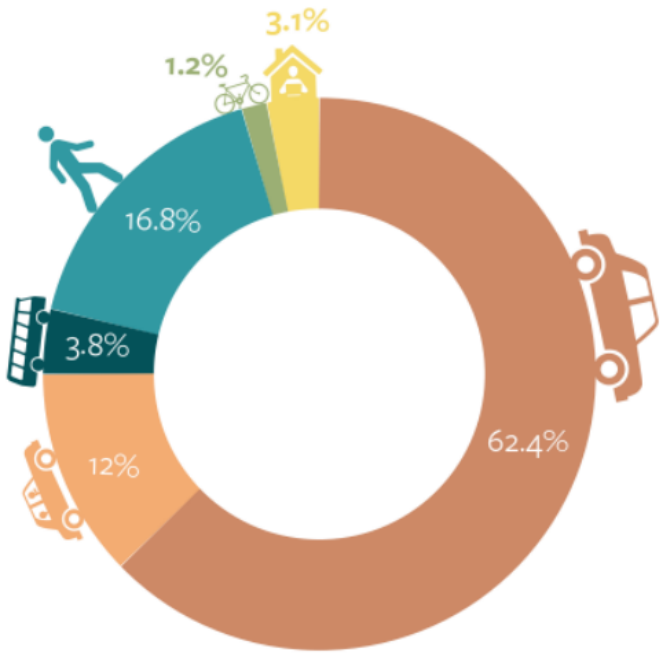
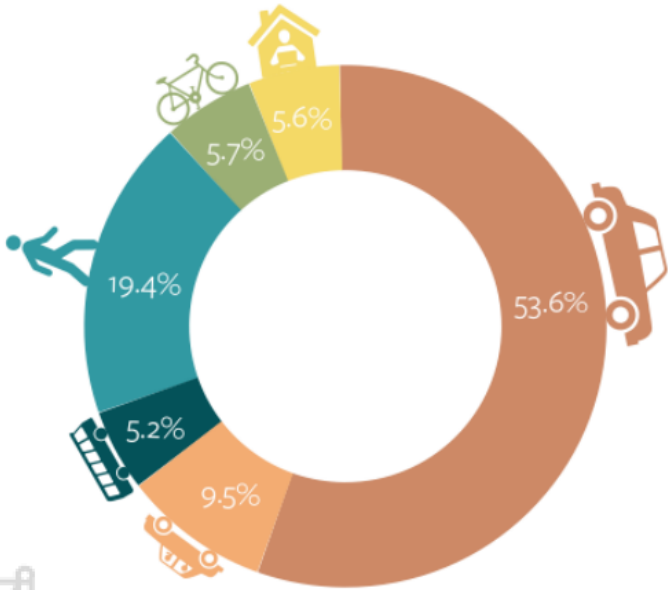
19.4%
5.2%
9.5%

Prezi

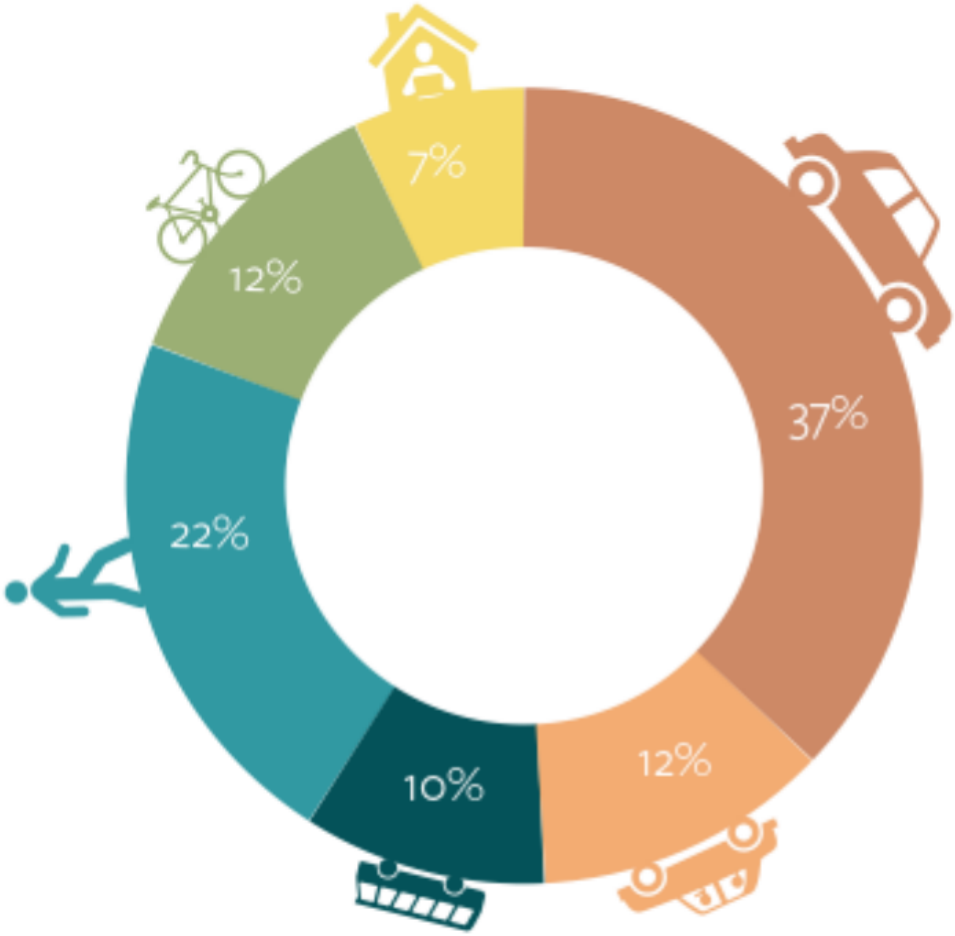
2000*



2013*



2026 Mode Share Goal



Drove Alone

Carpooled

Used Transit

Walked

Biked

Worked at home

Prezi

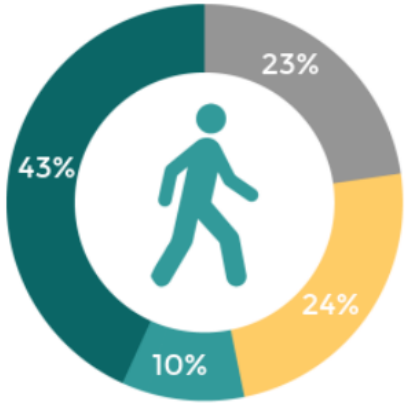
51%

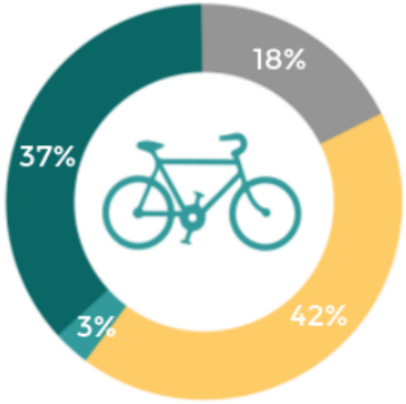
of Burlington residents over the age of 45 feel that the City's streets are unsafe for cyclists.*

Burlington residents would walk or bike more often if conditions were better.

Percentage of Burlingtonians aged 45 and over who would walk or bike more often if conditions were better:*

- Extremely / very likely
- Somewhat likely
- Not very likely/ not at all likely
- Not sure/ no answer





Based on a 2015 AARP VT "Livable Burlington" Survey.

Prezi

Burlington's infrastructure isn't keeping up with demand

0 miles of protected bike lanes

12% of streets have bike lanes (11.9 miles total)

3% of streets have shared lane markings (2.9 miles total)

"Gold Level" Bike-Friendly cities are doing much better

Prezi

Active Surveys

Work-shops

Public Involvement

Focus Groups

Demo Projects

DPW - Do Stuff Now!

An Action Plan

Street design = self-enforced speeds = fewer crashes, more mobility

100 public bike racks / yr + reduce bike theft + high capacity station in 3 yrs

Improve safety at top 20 intersections (2/yr)

Connect the sidewalk network = more mobility

Bike share outreach in 2017

Create a dense, connected bike network = more mobility

Placemaking

Alley Walk

Reduce urban runoff by 80% on green streets

Engineering Policies

Adopt a Vision Zero policy by 2018

Support zoning that enhances Neighborhood Activity Centers

Create a Placemaking Program

Expand Pilots and Demonstrations

Pass and enforce walk/bike friendly ordinances

Improve bus/bike travel and markings

HOW?

The 6 E's

Engineering

Evaluation/Planning

Education

Encouragement

Enforcement

Equity

Design safer streets

Measure success

Help people

Celebrate

Public safety

Geography and demographics

Wide, open streets = High speeds

High speeds = Dangerous streets

Lower speeds x Lower capacity

Rapid Implementation

Prezi

HOW?

The 6 E's

Engineering

Evaluation/Planning

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Encouragement

Enforcement

Equity

Design safer streets

Measure success

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Public safety

Geography and demographics

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High speeds = Dange

Lower speeds ≠ Lowe

Rapid Implementation

Prezi

W - Do
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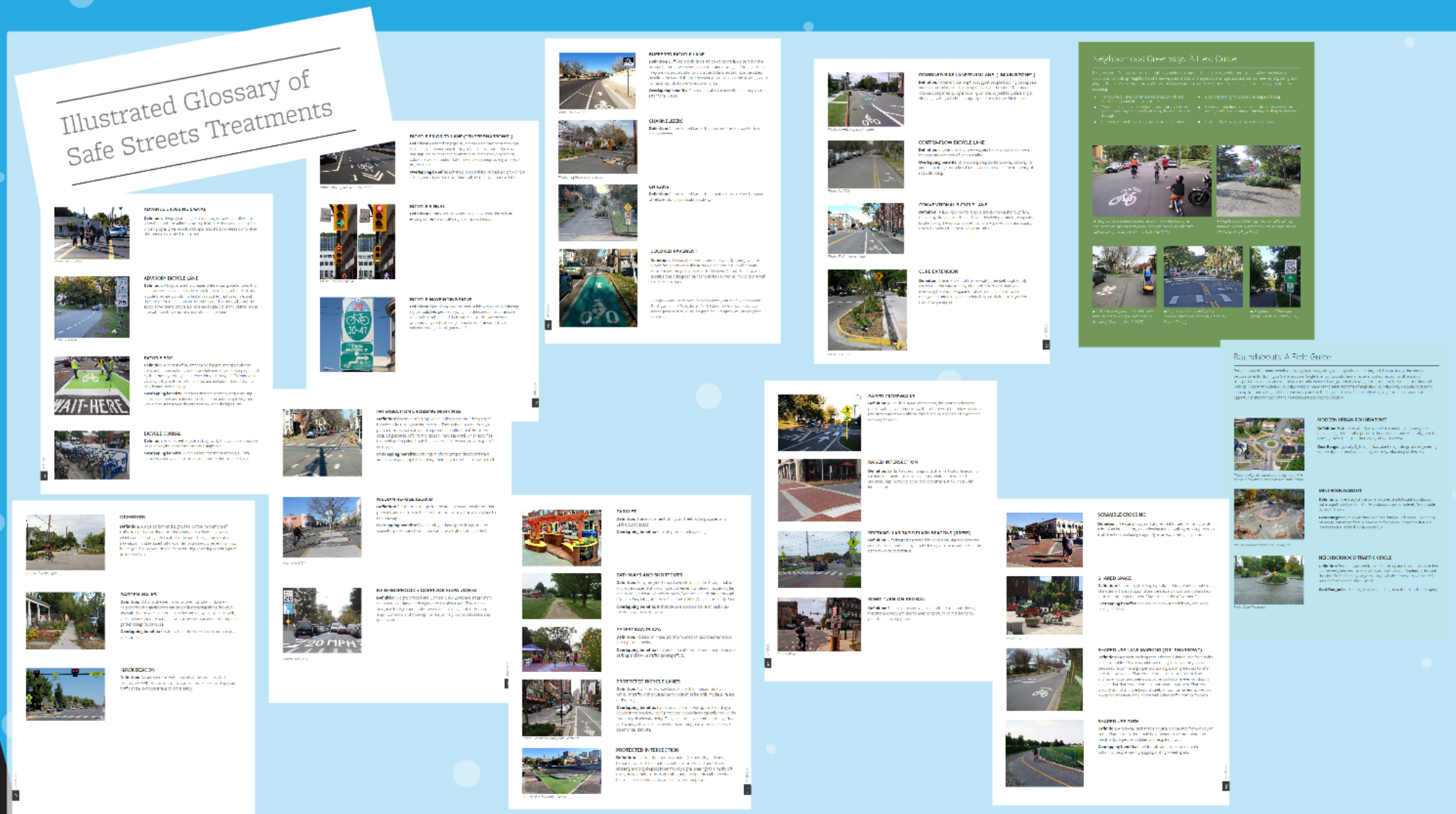
Prezi


Illustrated Glossary of Safe Streets Treatments
Neighborhood Greenways: A Field Guide
Roundabouts: A Field Guide

Prezi

Photo: Dan Burden

crossing signal gives people walking a head start. Increases compliance of turning cars to yield to crossing

Photo: unknown

ADVISORY BICYCLE LANE

Definition: A bicycle lane that creates preferential space for bikes that cars can use as needed to make room for oncoming traffic. Advisory bicycle lanes are typically marked with a dashed (not solid) line, and they are often used in conjunction with centerline removal along low-speed, low-volume streets. Bollards can be placed on the dashed line at intervals to enforce motorist use of the center lane.

BICYCLE BOX

Definition: A section of pavement aimed at preventing bicycle/car collisions at intersections, particularly between drivers turning right and cyclists traveling through an intersection or turning left. To improve its visibility, a Bicycle Box is often colored and includes a standard white bicycle pavement marking.

Photo: Jonathan Maus, Bike Portland

Definition: A one or two-way bicycle lane that is separated from vehicular traffic with physical barriers (such as bollards, medians, raised curbs, etc.).

Overlapping benefits: By providing a low-stress option for riding a bicycle in the roadway itself, protected bicycle lanes typically reduce the frequency of sidewalk riding. They can also have a traffic calming effect, add beauty, introduce stormwater ma making, and improve access to commercial districts.

Photo: Alta Planning + Design

PROTECTED INTERSECTION

Definition: The use of design treatments (corner refuge islands, forward stop bar for bicyclists, a setback for bike and pedestrian crossing, and bicycle/pedestrian friendly signal phasing) to simplify left turns, protect right turns from traffic, and provide through movement that minimize or eliminate conflicts from turning cars.

Prezi

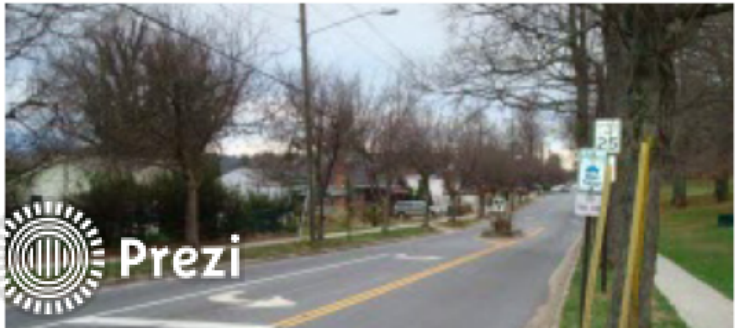
Definition: The use of a signal that goes red for people driving on all sides of an intersection, while allowing people walking or biking to cross in all directions, including diagonally, in an exclusive signal phase.

Photo: NACTO

SHARED SPACE

Definition: A public right-of-way, typically curbless, where people using all modes of transportation share the space without traditional safety infrastructure to guide them. May also be called a "woonerf."

Overlapping benefits: Can provide a low-stress bikeway and place-making benefits.



SHARED USE LANE MARKING (OR "SHARROW")

Definition: Pavement marking that indicates a shared lane for bicycles and automobiles. Sharrows reinforce the legitimacy of bicycles on the street, recommend proper positioning, and may be used to offer directional guidance. Sharrows are not a substitute for bike lanes, and more robust treatments should be applied wherever conditions

Neighborhood Greenways: A Field Guide

Neighborhood Greenways are streets with low vehicle volumes and speeds, designed to prioritize bicycling and enhance conditions for walking. Neighborhood Greenways are streets where people of all ages and abilities feel safe walking, biking, and playing. To create this condition, Neighborhood Greenways use a variety of the traffic calming and placemaking treatments, including:

- Narrow travel lanes, which can be created with cub extensions , channelizers, or chicanes.
- Treatments such as speed bumps and traffic diverters, which discourage vehicles from using the street as a cut-through.
- Greening elements such as planters or rain gardens.
- Clear wayfinding for people walking and biking.
- Pavement markings to reinforce the shared use of the street, typically via a shared roadway marking or sharrow.
- Protected crossings at major intersections.

Prezi

Roundabouts: A Field Guide

Roundabouts offer many benefits, including increasing safety, road capacity, and design, and they are a tool that should be considered for Burlington's intersections. Single lane roundabouts have an excellent safety record for all modes of transportation, and can accommodate car traffic in fewer lanes, potentially leaving more room on the streets for biking and walking. (Note that multi-lane roundabouts lose many of the safety benefits of single-lane roundabouts.) Roundabouts come in many sizes and styles, and each type has a place on Burlington's streets. See the following page for details about potential opportunity sites for each of the roundabout types described below.

Main and High St. roundabout in Plymouth, NH between downtown and Plymouth State campus.

MODERN URBAN ROUNDABOUT

Definition: Typically greater than 90 feet in diameter (measuring the outside edge of the traffic portion), these roundabouts especially good for slowing down traffic, thus increasing safety for everyone.

Cost Range: Typically $3 to $5 million, due to high design and engineering complexity, and need for acquiring property, relocating utilities, etc.

Mini roundabout from Fort Collins, CO.

MINI ROUNDABOUT

Definition: Have many of the same features of a full sized roundabout, but in a pint-sized version. Mini Roundabouts are completely "mountable" by larger trucks.

Cost Range: Much lower than Modern Urban Roundabouts. Depending on design, can range from $100,000 to $300,000. Vermont's first Mini Roundabout is located in Manchester, VT.

Flickr Dylan Passmore

NEIGHBORHOOD TRAFFIC CIRCLE

Definition: Roundabout used for traffic calming and beautification on low volume neighborhood streets. Many examples exist in Burlington through the city's Traffic Calming program. Large vehicles have to make their left turns "left of center" of the island.

Cost Range: Less than $50,000, depending on materials and landscaping.

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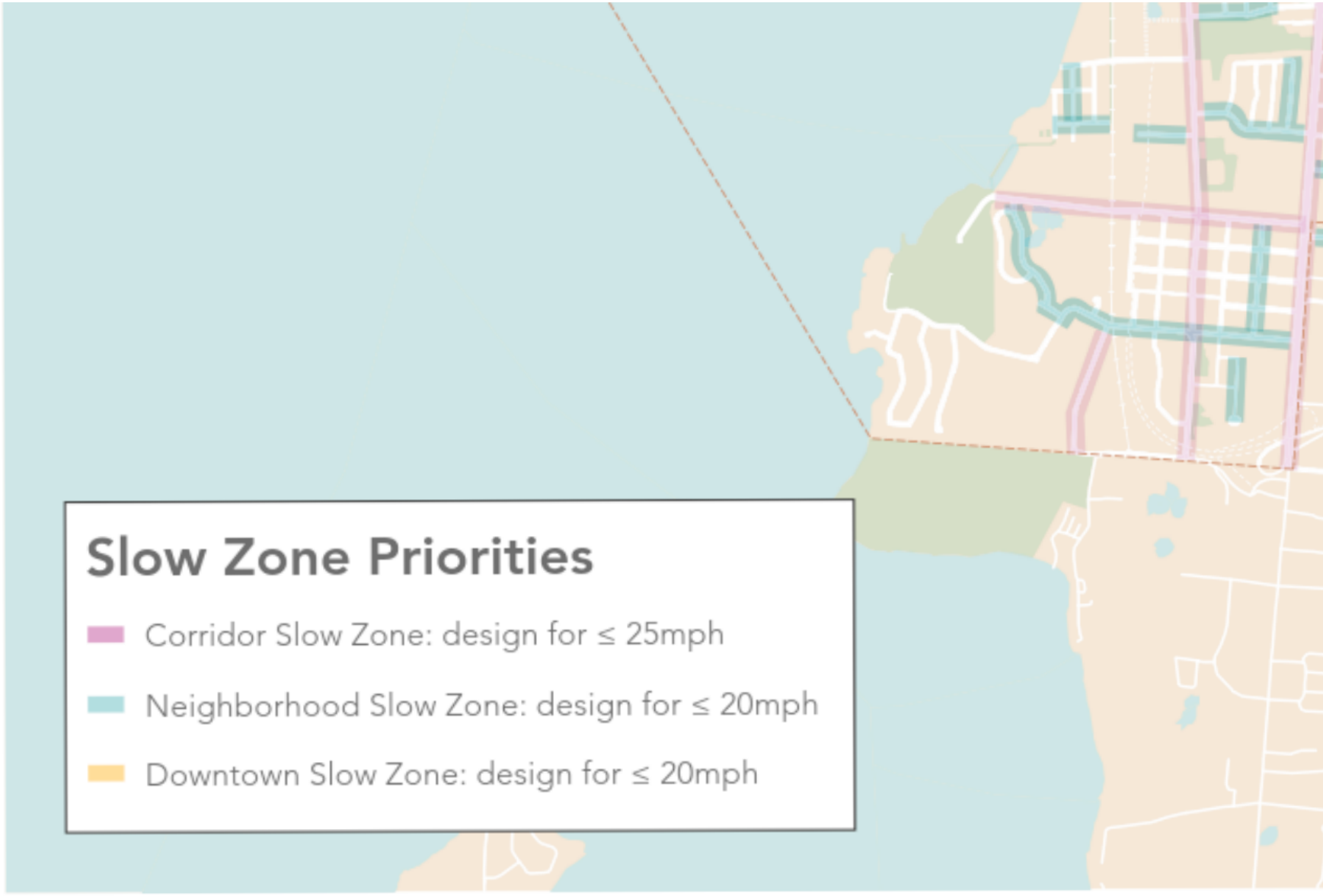
Slow Zone Priorities
Corridor Slow Zone: design for ≤ 25mph
Neighborhood Slow Zone: design for ≤ 20mph
Downtown Slow Zone: design for ≤ 20mph

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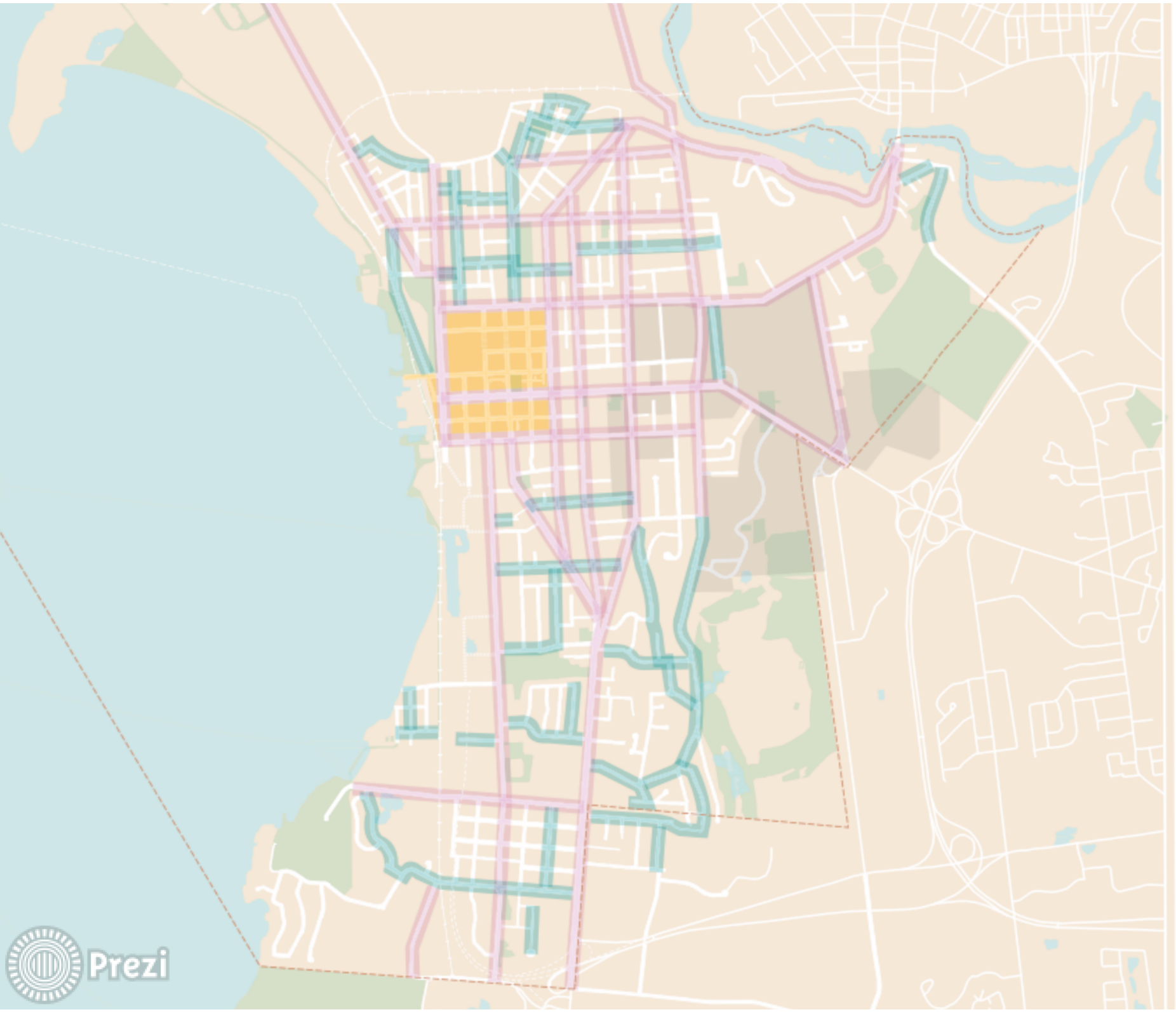

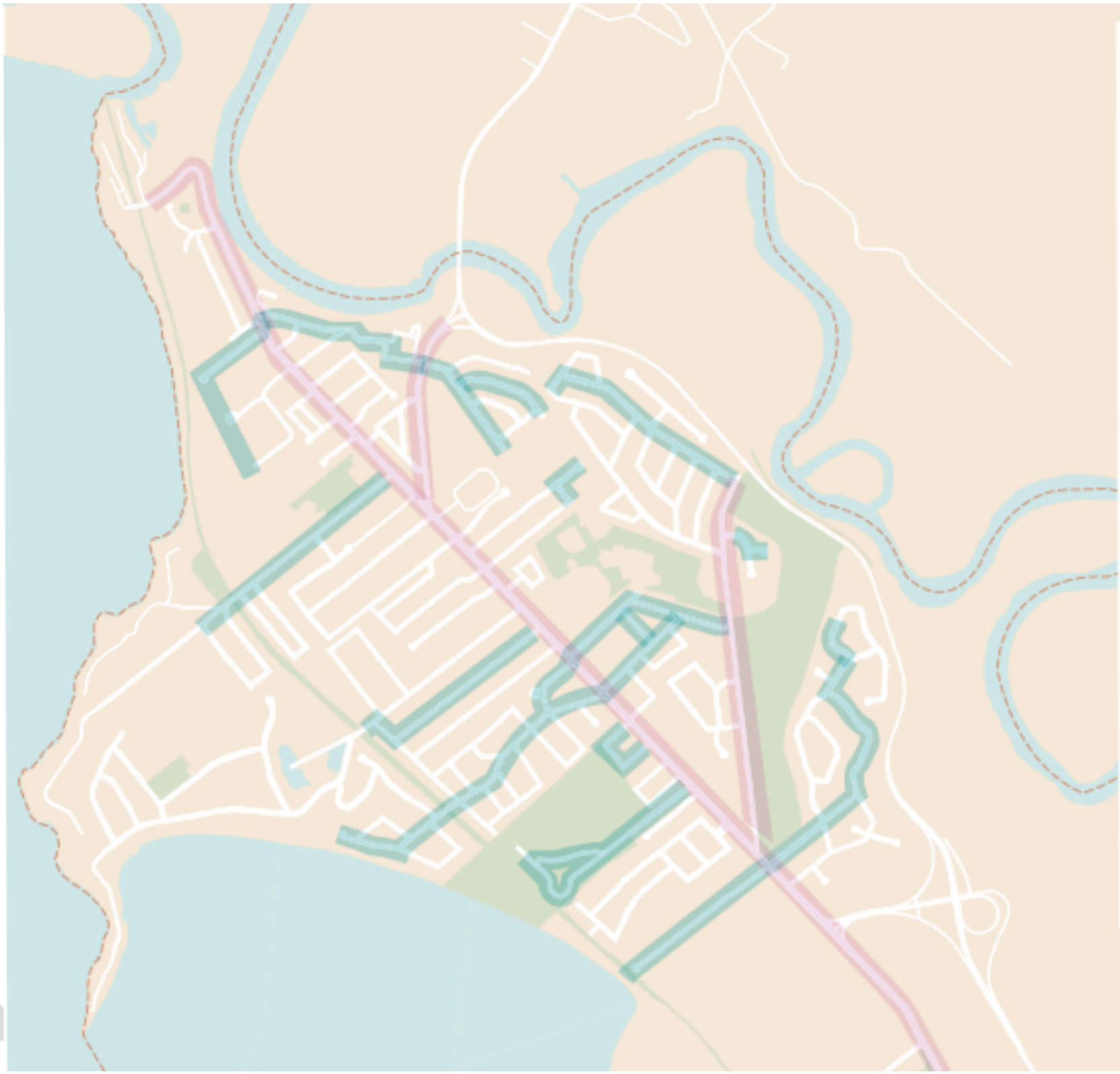

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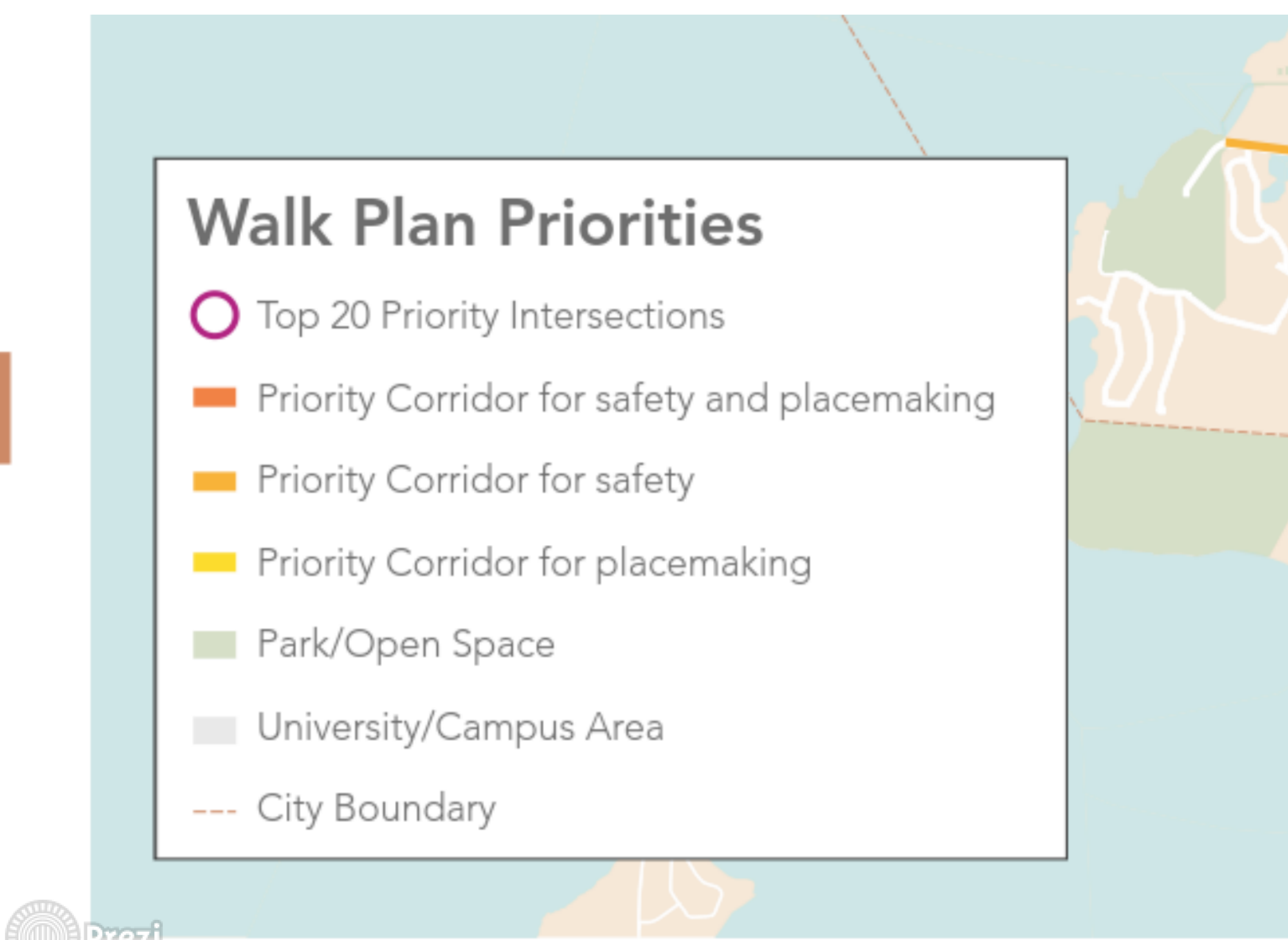

Walk Plan Priorities
Top 20 Priority Intersections
Priority Corridor for safety and placemaking
Priority Corridor for safety
Priority Corridor for placemaking
Park/Open Space
University/Campus Area
City Boundary

1 Bank/Winooski
2 Archibald/Intervale
3 College/Winooski
4 Main/Winooski
5 Main/St. Paul
6 Riverside: Intervale to Hillside

Prezi

Building the Long-term (15 yr) Bicycle Network

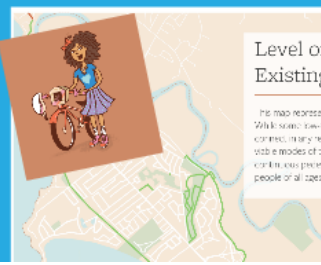
The following page outlines the long-term vision for a fully connected bicycle network that appeals to people of all ages and abilities.

Of course, this network will not be built overnight. The diagrams on this page show how infrastructure can be improved incrementally, building on Burlington's existing base of bikeways and paths over the next 15 years to achieve the network illustrated in the long-term map. Starting on page 74, the plan will zoom in on 3 sub-areas of the City and describe recommended projects for each area.

EXISTING
BICYCLE NETWORK

PROPOSED 5-YR
BICYCLE NETWORK

PROPOSED LONG TERM
BICYCLE NETWORK



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EXISTING
BICYCLE NETWORK

Prezi

PROPOSED 5-YR BICYCLE NETWORK

PROPOSED LONG TERM BICYCLE NETWORK

Level of Stress Analysis: Existing Bicycle Facilities

This map represents existing low-stress bicycle connections. While some low-stress facilities do exist, they do not connect in any reliable way. For walking and biking to be viable modes of transportation, Burlington must create continuous pedestrian and bicycle networks that work for people of all ages and abilities.

Legend

- Low-Stress Network - Shared Use Paths
- Conventional Network
- City Boundary
- Park/Open Space
- University/Campus Area

N

Level of Stress Analysis: Long-Term Bicycle Network

This map represents the intent of the 15-year bike network, whereby a rich network of low-stress routes would appeal to people of all ages and abilities. Achieving this outcome will require a substantial investment in street infrastructure, but also policies and programs that support cycling.

Legend

- Low-Stress Network - Shared Use Paths
- Low-Stress Network Protected Bike Lane
- Low-Stress Network Neighborhood Greenways/ Robust Traffic Calming
- Conventional Network
- City Boundary
- Park/Open Space
- University/Campus Area

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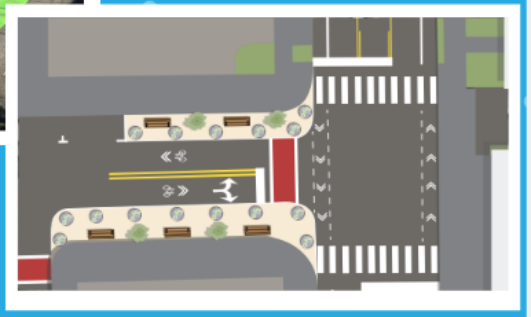
START NOW!
12-month priority action list

- Neighborhood Greenways
- Protected bike lanes
- Curb extensions
- Bike lanes through intersections
- Bike parking
- Bikeway-connectors - paint & signs
- Conflict markings



Pilots

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Hunt MS path markings

Leddy Park bikeway

Lakeview Tr. Greenway

Colchester / East Ave

Protected lanes: Union, Winooski

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East Ave

es: Union,

Pearl St: bike lane, curb extensions

College/Prospect bike crossing

Winooski Corridor pilot

Depot St

Main / Champlain curb extensions

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Austin Dr protected lanes

Birchcliff Pkwy Greenway

Ledge Rd bikeway

Pine St curb extensions

Pine St signs + bike lanes

Queen City Park Rd

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Engineering Policies

Adopt a Vision Zero policy by 2018

Support zoning that enhances Neighborhood Activity Centers

Create a Placemaking Program

Expand Pilots and Demonstrations

Pass and enforce walk/bike friendly ordinances

Improve bus/bike travel and markings

Winter Actio

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Experiment with mainter
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Design/retrofit str

Develop plowing te

Develop flexible treatm

Test pavement

D-ice bikeways be

Evaluate win

Expand winter cyc

Bike Parking Action Plan

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Winter Cycling Action Plan

Formalize the winter cycling maintenance plan for connectivity

Experiment with maintenance techniques on heavily used paths

Design/retrofit streets for snow storage

Develop plowing techniques and train staff

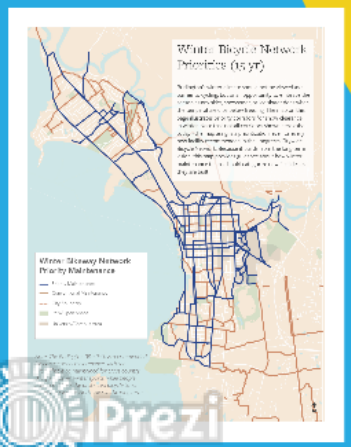
Develop flexible treatments for protected bikeways

Test pavement marking methods

D-ice bikeways before heavy snowfalls

Evaluate winter cycling rates

Expand winter cycling resources online



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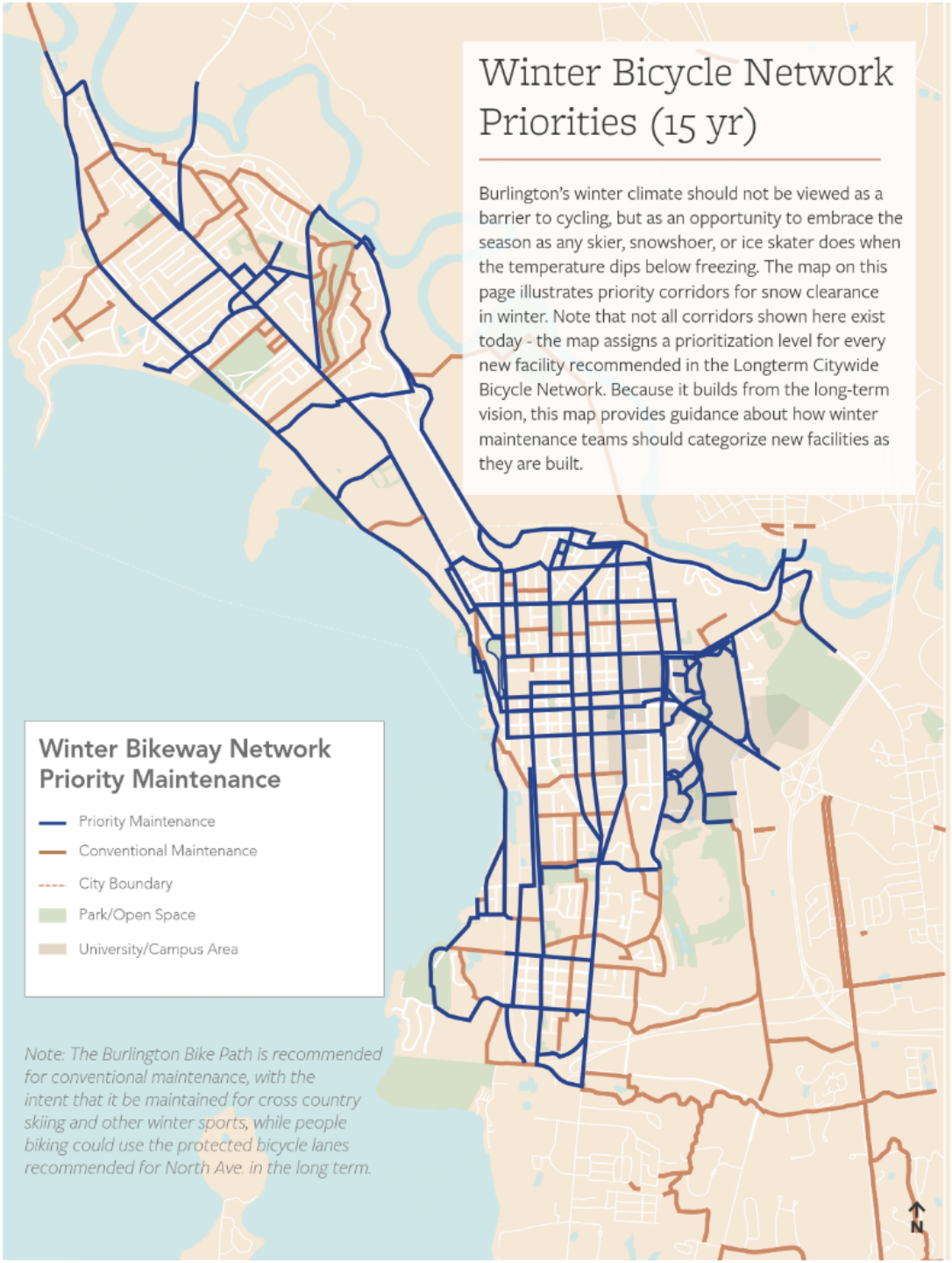
Plan

Winter Bicycle Network Priorities (15 yr)

Burlington's winter climate should not be viewed as a barrier to cycling, but as an opportunity to embrace the season as any skier, snowshoer, or ice skater does when the temperature dips below freezing. The map on this page illustrates priority corridors for snow clearance in winter. Note that not all corridors shown here exist today - the map assigns a prioritization level for every new facility recommended in the Longterm Citywide Bicycle Network. Because it builds from the long-term vision, this map provides guidance about how winter maintenance teams should categorize new facilities as they are built.



Note: The Burlington Bike Path is recommended for conventional maintenance, with the intent that it be maintained for cross country skiing and other winter sports, while people biking could use the protected bicycle lanes recommended for North Ave. in the long term.

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The Other E's, with others' support

Increase staff capacity in 2017 and 2018

Create a Data Dashboard of metrics

"Crash not Accident" pledge

Bike skills and lock/safety gear initiatives

Professional drivers' training program

Expand Safe Routes to Schools

Expand safety outreach to drivers

Expand events: play streets, breakfasts, more!

Host a summit and events for women and seniors

Revise crash reporting protocols

Increase Safe Streets Collaborative's reach

Launch enforcement stings

Expand efforts across minority communities

Consider location equity in programming

Integrate equity safeguards in enforcement

Deepen understanding of needs and priorities of under-represented Burlingtontians

Prezi

How Much?

A snapshot of what we spend in a typical year now

$1.1 million
Funding for sidewalk repair/replacement (replacement cycle is too long!)

+

$350,000
For other walk/bike projects from Bicycle Program, Traffic Calming Fund, and City Capital

+ Additional funding from grants & ongoing project budgets = **$1.5 million**

Additional annual funding needs called for in the 10 Year Capital Plan through 2021

$1 million
Capital Sidewalk Funding

+

$100,000
Capital funding for other walk/bike projects

How we implement recommendations in the next 5 years (through 2021)

$2.1 million
City funding to repair serious sidewalk failures.

+

$450,000+
City funding and grant funding to implement other walk-bike projects recommended in the plan:

- $295,000 - estimated cost for projects in next 12-months
- $475,000/yr - estimated cost for projects recommended in the 2-5 year timeframe, over 4 years.

Estimated annual needs for sustainable funding after 2021

$1.5 million
+ 3% escalator to sustain a 40-year sidewalk replacement cycle

+

$2 million
+ 3% escalator for transportation system expansion, including walk-bike projects

?

Municipal bonds
TIF
Federal funding
Bundle funding sources
Increase sidewalk funding
Allocate Capital Funding to Walk/Bike
Dedicate additional street capital

Prezi

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Prezi

Next Steps

October Public Works Commission approval

October (tentative) Planning Commission review

November TEUC review/approval

December City Council review/approval

www.planbtvwalkbike.org

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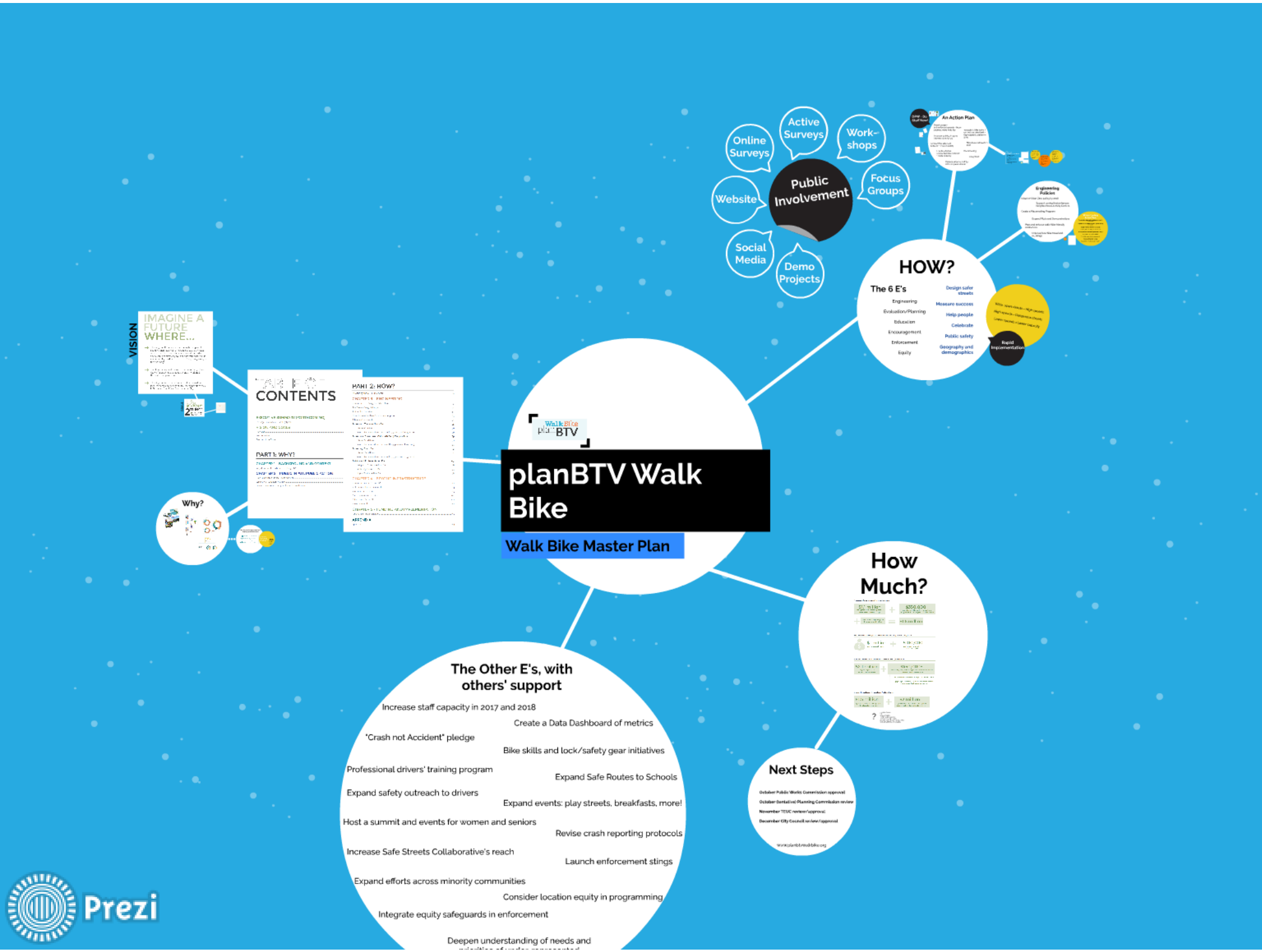

planBTV Walk Bike
Walk Bike Master Plan
Public Involvement
Online Surveys
Active Surveys
Work-shops
Focus Groups
Website
Social Media
Demo Projects
HOW?
The 6 E's
Engineering
Evaluation/Planning
Education
Encouragement
Enforcement
Equity
Design safer streets
Measure success
Help people
Celebrate
Public safety
Geography and demographics
Rapid Implementation
An Action Plan
Engineering Policies
VISION
IMAGINE A FUTURE WHERE...
CONTENTS
PART 1: WHY?
PART 2: HOW?
Why?
How Much?
Next Steps
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Consider location equity in programming
Integrate equity safeguards in enforcement
Deepen understanding of needs and
Prezi

Burlington Department of Public Works Commission Meeting
Final Minutes, 21 September 2016
645 Pine Street

Commissioners Present: Tiki Archambeau, Jim Barr, Chris Gillman, Solveig Overby, Justine Sears, Jeff Padgett

Commissioner Absent: Robert Alberry

Item 1 – Call to Order – Welcome – Chair Comments

Chair Padgett calls meeting to order at 6:32 p.m. and makes opening comments.

Item 2 – Agenda

Commissioner Barr made motion to accept the agenda
Commissioner Archambeau seconded
Motion approved - unanimous

Item 3 – Public Forum

A resident of Mansfield Avenue is concerned about Department's recommendation to remove parking along Mansfield to ensure sight distances at mid-block crosswalk. He feels there is no need to change the status quo. Parking on west side is limited.

A Ward 1 resident agrees with the above resident. He attended the Great Street presentation last week and was concerned that it was more for the downtown area and less of an investment in the neighborhood areas.

A resident complained about the sewer odor that was coming out of the catch basins at the intersection of Pearl Street and Union Street. She also stated that she did not understand how ten thousand gallons of combined sewage and storm water can go into our lake with the facilities that we have for wastewater.

A resident from Ward 4 came in with her petition all done and copies made for the blocked road to be open at the condo development where she lives. City Engineer Norm Baldwin stated that there was now an opposing petition in process as well and he would follow up with both parties.

Item 4 – Consent Agenda

A. Traffic Request Program Status Report
B. Parking Restriction on South Crest Drive
C. Additional Parking on High Grove Court
D. But Stop Removal at Pine St and Bank St
E. Parking Restriction @ midblock crosswalk on Mansfield Ave
F. Installing Metered Parking on Pearl Street
G. Request to Add Loading Zone on Marble Ave

Commissioner Archambeau made a motion to pull off Marble Avenue and Mansfield Avenue items (Items E & G).

Commissioner Barr seconded
Unanimous Approval

Commissioner Padgett changed Item E to 4.1 and Item G to 4.2

Commissioner Barr motioned to accept
Commissioner Archambeau seconded
Passed unanimously

Item 4.1 Parking restriction @ midblock crosswalk on Mansfield Avenue – Damian Roy

There is a three way stop sign installed at Mansfield Avenue and Loomis Street which reduces parking around the mid-block crossing area. The changes in sightline around the mid-block are an improvement in which most people are in favor of this with the exception of the ones who live near the area.

Another resident stated she felt this was not about the crosswalk but parking for drop off at school at 8:00 a.m. She suggested to put in a parking restriction for school.

Staff recommends that the Commission adopt no parking on the west side of Mansfield Avenue for 20 feet north and south of the midblock crosswalk at Mater Christi School.

Commissioner Archambeau made a motion to accept staff's recommendation to restrict parking 20 feet north and south of the crosswalk to increase sight lines between pedestrians and motorists increasing safety for those using the crosswalk
Commissioner Barr supports as it is used for more than Mater Christi School.
Unanimous approval

Item 4.2 Request to add loading zone on Marble Avenue – Damian Roy

Damien Roy stated there was a request for a loading zone by Battery Street Jeans on the Marble Avenue side. He went and looked at the location and made contact with the residents in the area as well as the other businesses which all vie for parking on Marble Avenue. They felt there was no use for a loading zone there as there is a vacant lot for parking for all the businesses in the area, including Battery Street Jeans. Residents are not in support of this loading zone.

Stu, owner of Battery Street Jeans stated there is a private parking area but as his business opens latter by the time they arrive the lot is usually full.

Various Commissioners asked if staff could further review the recommendation and explore a modified recommendation with some type of time-limited parking restriction.

Staff's recommendation is to maintain the current conditions of unrestricted parking on the south side of Marble Avenue from Pine Street to Hayward Street.

Commissioner Barr made a motion to table the item and have staff do additional review.
Commissioner Archambeau seconded
Unanimous approval

Item 5 Driveway Encroachment Ordinance – Damian Roy

DPW has received a number of complaints of cars parking too close to private driveways in high parking demand areas. Residents want signage or lines on the street for people to be aware of driveways in the area. DPW staff has brought forward a proposed driveway encroachment ordinance to prohibit parking within two feet of a driveway. The results of the pilot study are in the packet. Staff is seeking final approval with the ordinance change.

Burlington Police will respond to blocked driveway complaints and will remove the car if driveway is completely blocked.

Staff recommends the Commission adopt the following amendment to the Burlington Code of Ordinances Appendix C, 7 and Chapter 20-5 5 General Prohibitions:

7 No parking areas

a. No person shall park any vehicle at any time in the following locations:–

(1) (538) As Written

(2) No person shall park any vehicle at any time in front of another person's driveway and within two feet of another person's driveway as measured from the straight lined edge of the driveway

20-55 General Prohibitions

(a) No operator or driver of any vehicle shall stop, stand or park the same in any of the following places except when necessary to avoid conflict with other traffic or in compliance with the direction of a police officer or official traffic sign or except momentarily to pick up or discharge a passenger:

(1)-(3) As written

(3) In front of another person's driveway and within two feet of another person's driveway as measured from straight-lined edge of the driveway.

Commissioner Gillman motioned to approve staff's recommendation to adopt the ordinance amendment above.
Commissioner Sears seconded
Unanimous approval

Item 6 – Parking Removal Starr Farm Road – Damian Roy

There is an issue of cars parking on the north side of Starr Farm Road and the Flynn School greenbelt which is eroded and against the city ordinance to park there. The roadway is too narrow for parking. The city ordinance states that lawn parking is prohibited in the city except for Ward 4. Staff has recommended restricting parking on the north and south sides from North Avenue to Grey Meadow Drive and let parking resume after Grey Meadow Drive.

There are 17 parking spaces that can be used by parents to bring kids into school but there is an empty parking lot on the north side which no cars park in. Warning tickets are being issued by the police.

Staff recommends that the Commission restrict parking on the north and south sides of Starr Farm Road from North Avenue extending west to Grey Meadow Drive.

Commissioner Archambeau moves to accept staff's recommendation to restrict parking on the north and south sides of Starr Farm Road from North Avenue extending west to Grey Meadow Drive.
Commissioner Barr seconded
Unanimous approval

Item 7 – Request to Modify Resident Only Parking on South Prospect Street – Damian Roy

A Resident at 308 South Prospect asked for the residential parking restriction to be modified. A petition was received by the Department indicating 85% want full time residential only parking.

Another resident noted that people are up in the area early and the parking in the streets is filled fairly quickly. Delivery vehicles have a hard time making deliveries due to lack of parking. She supports the 4 hour parking limit.

Staff recommends adopting installing full time resident parking and 4-hour parking for non-residents on South Prospect Street from Henderson Terrace to Cliff Street from 8am - 5p.m as shown on the attached drawing.

Commissioner Overby stated she cannot support expanding resident only parking to 24 hours a day, 7 days a week, on South Prospect Street between Henderson Terrace and Cliff Street unless 4-hour parking for non-residents is also permitted, once per day, between 8a.m. and 5p.m.

Staff recommends that the Commission adopt installing full time resident parking and 4 hour parking for non-residents on South Prospect from Henderson Terrace to Cliff Street from 8a.m. to 5 p.m. as shown on the attached drawing.

Commissioner Archambeau moves to accept staff's recommendation
Commissioner Barr seconds
Commissioner Overby opposes and all others are in favor

Item 8 – Introduction to Plan BTV Walk Bike – Nicole Losch

Staff provided a presentation on Plan BTV Walk/Bike. Staff responded to questions and said they would return to the October meeting looking for Commission approval.

Item 9 – 10 Year Capital Plan – Director Spencer

Asked for this items to be considered for next month as the hour was getting late. It was mentioned that this was already passed by City Council.

Commissioner Barr motioned to table until next month.
Commissioner Archambeau seconded
Unanimous approval

Item 10 – Draft minutes of 7/20/16

Commissioner Archambeau wants the minutes to explicitly describe what action was taken by Commission. It is hard to follow if the minutes just say that the Commission voted for or against staff's recommendation. Approval of the July minutes was tabled until Clerk Gillman works with staff to revise the minutes accordingly.

Item 11 – Director's Report

There is a memo on the Commission's webpage on the water main relining.
The Commission needs to select a Diversity and Equity point person to attend training.
City Council approved on Monday Chittenden Solid Waste District 3 year MOU with a three year option to purchase 195-201 Flynn Avenue for a CSWD drop off center.
An update on the TIF-funded Great Streets effort was provided.
The North Ave Pilot continues with an online survey. 1400 responses have been received to date. People have until October 2nd to take the survey.
Staff has worked extensively with City Market, Planning & Zoning and South End neighbors to ensure the proposed South End City Market project addresses City concerns.

Item 12 – Commissioner's Communication

Commissioner Archambeau stated that there have been complaints about Grant Street and the number of vehicles idling on the street

Director Spencer stated it is being repaved and provided an update on timing. We are also coordinating work with IAA school drop off area on Archibald Street.

Commissioner Archambeau also stated that parking sign on corner of Crombie and North Winooski at Barrio Bakery may be too close to the corner.

Commissioner Gillman stated a compliment on the North Avenue pilot, glad to see it being treated as a pilot. Director Spencer stated the department removed a number of bollards between BHS and Route 127 to better accommodate emergency vehicles.

Commissioner Barr stated on Colchester Avenue between Nash Place and Mill Street there are a significant number of bumps in the road and large trucks go over them and shake adjacent houses, especially on the steeper sections between Green Mountain Cemetery and Colchester Court/Chase Street area.

Item 13 – Adjournment

Commissioner Barr made a motion to adjourn.
Commissioner Gillman seconded
Unanimous approval

Meeting adjourned at 9:55 p.m.