



**CITY OF BURLINGTON  
DEPARTMENT OF PUBLIC WORKS**

645 Pine Street, Suite A  
Burlington, VT 05401  
802.863.9094 x 3 VOICE  
[www.burlingtonvt.gov/dpw](http://www.burlingtonvt.gov/dpw)

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**Chapin Spencer**  
*DIRECTOR OF PUBLIC WORKS*

**DPW COMMISSION MEETING AGENDA  
December 21, 2022  
6:30 p.m.**

**To Join via Zoom:** <https://us02web.zoom.us/j/83495330508>

**To call into the meeting:** 301-715-8592 Webinar ID: 834 9533 0508

*Channel 17 also often livestreams this on their YouTube channel and airs it over the air at a later date.*

*Note that comments on YouTube are not monitored.*

- 1 Call to Order – Welcome – Chair Comments
- 2 5 Min Agenda
- 3 10 Min Public Forum (3 minute per person time limit)
- 4 5 Min Consent Agenda
  - A Approval of Draft Minutes 11-16-22
  - B 197 North Willard Street ADA Spot Removal
  - C Hyde Street ADA Spot Removal
- 5 30 Min Great Streets Main Street Intersection Control Discussion and General Project Updates
  - A Communication, O. Darisse & L. Wheelock
  - B Commissioner Discussion
  - C Public Comment
  - D Action Requested – None
- 6 10 Min Director's Report
- 7 10 Min Commissioner Communications
- 8 **Adjournment & Next Meeting Date – January 18, 2023**



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- 8 **Adjournment & Next Meeting Date – January 18, 2023**

**DEPARTMENT OF PUBLIC WORKS  
645 PINE STREET  
BURLINGTON, VERMONT 05401  
COMMISSION MEETING NOVEMBER 16, 2022  
DRAFT MINUTES**

Commissioners Present: Commissioner Barr, Commissioner Damiani, Commissioner Fox, Commissioner Hogan (Chair), Commissioner Munteanu, Commissioner Overby

Commissioner Absent: Commissioner O'Neill-Vivanco

**ITEM 1 – CALL TO ORDER**

Commissioner Hogan called the meeting to order at 6:32 p.m.

Director Spencer introduced Dora Bean as a new Engineer for DPW and also stated that Philip Peterson and Julia Ursala both passed their tests and are now Engineers

**ITEM 2 – AGENDA**

Commissioner Barr made a motion to accept the agenda

Commissioner Munteanu seconded

Commissioner Overby wanted to pull off Item C DT BHS Parking as she had a question.

Commissioner Barr was friendly to the amendment

Commissioner Munteanu was friendly with it as well

Unanimous approval

**ITEM 3 – PUBLIC FORUM**

Jason Stifle was on the phone and stated that he was in favor of the Plattsburg Avenue bike lanes.

**ITEM 4 – CONSENT AGENDA**

A Approval of Draft Minutes 10-19-22

B Strong Street Motorcycle Parking

D Correction to Parking Ban Ordinance

Commissioner Barr made a motion to pass Consent Agenda with Item C removed

Commissioner Fox seconded

Unanimous approval

**ITEM 4.1 – ITEM C – DT BHS PARKING**

Madeline Suender stated that some adjustment to the timing of the parking for BHS drop offs and pick-ups needed to be adjusted as parents who were picking up their children found that this was not running smoothly. The courthouse had concerns about these spots used for pick up and drop off at certain times during the day as this was parking for people going into the courthouse.

Commissioner Overby's concerns was this as well and asked if this had been addressed and what the options were.

Madeline Suender stated that there was accessible space in front of courthouse and the parking garage across the street has a number of spots available for parking. There is one space left for the use by the courthouse. Commissioner Overby's concern was for the courthouse in people coming and going from the courthouse.

Commissioner Barr made a motion to approve staff's recommendations

Commissioner Fox seconded

Unanimous Approval

#### ITEM 5 – PLATTSBURG AVE BIKE LANES

City Engineer Julia Ursaki stated Plattsburg Avenue was paved this past summer as well as painted for a priority short term bicycle connection. She stated a parking lane has been removed as parking counts were done on Plattsburg Avenue and the parking numbers were low. There was ample parking on the side streets just off from Plattsburg Avenue.

City Engineer Julia Ursaki also stated that the design for the North Avenue and Plattsburg Avenue is not final yet and we are still working on it. A future phase is how to connect where the bike lanes end.

The commissioners all showed support of the bike lanes on Plattsburg Avenue

Jeff Comstock, who is a resident on Plattsburg Avenue, stated that the two bike lanes on Plattsburg Avenue were unsafe. The plan does not reflect the neighborhood traffic. The neighborhood presented a proposal that would work for the neighborhood and not disrupt removing parking from Plattsburg Avenue.

Commissioner Barr made a motion to accept staff's recommendation

Commissioner Damiani seconded

Unanimous approval

#### ITEM 6 – NORTH WINOOSKI AVE – PROJECT UPDATE

Director Spencer stated that this was an update that we told you we would do for the changes to North Winooski Avenue. In January 2021 we will be meeting and looking for traffic changes. We were asked to delay paving and work with businesses for parking – we want 40 spaces removed.

City Engineer Philip Peterson stated that money was provided to the businesses for bike racks and to do a survey through CATMA and curb extensions for parking. A mailer will be sent in December along the North Winooski Avenue to engage with people and provide resources for the people along the corridor.

Director Spencer stated that we have worked with businesses and some progress has been made – BHA has added six spaces to CHBC for parking.

Commissioner Damiani asked about public outreach and if there was any discussion to infrastructure for parking.

Director Spencer stated he was not aware of changes to side street. Any lighting issues would go up to BED for evaluation and lighting levels.

Commissioner Munteanu asked if we can develop some off street parking and if so where the lots might be.

Director Spencer stated Community Health Center with adjacent neighbors could explore off street parking in their facilities. If the city is desirous of running city run parking, they are aware they need to lead the effort to find.

Commissioner Overby was impressed with the process being taken with the department. Parking structures off Interval Road people who need to park on street, maybe long term parking. GMT has challenges people not riding the bus so we need to have the routes marked.

Commissioner Hogan asked if paving in '23 aiming for protected bike lane.

City Engineer Philip Peterson stated no.

#### ITEM 7 – DIRECTOR'S REPORT

Director Spenser stated that GMT is looking to reinstate the fare in Fiscal Year 2024. We have asked GMT to join us at the next TEUC meeting for expanding funding in fiscal year 2024.

There will be a ribbon cutting ceremony for the roundabout at 10:00 a.m. tomorrow morning.

University Place is coming along and will have an opening ceremony in a few weeks.

Assistant Director Normal Baldwin stated that we have been down two position on the Transportation side of the Engineering Department we have offered and filled two positions.

## ITEM 8 – COMMISSIONER COMMUNICATIONS

Commissioner Overby asked if we were going back to the white crosswalk striping from the red brick.

Director Spencer stated yes we are transitioning away from the red brick crosswalk to traditional crosswalks.

Commissioner Damiani stated the temporary sidewalk in the south part of the city by City Market needs to be ADA accessible, difficult to cross around the area.

Assistant Director Norman Baldwin stated that we are pressing the contractor to be more mindful of these issues and make them accessible and safe.

Commissioner Munteanu stated he was excited to see the progress on the Marketplace Garage.

Commissioner Hogan stated leave pick up was well times this year. He is glad to hear the hiring updates. He also asked about the digging in the right of way is this emergency stuff?

Information Officer Robert Goulding stated that if they were long-term projects they can go on the city website for traffic control and can subscribe to Vermont Alert Systems. Private projects signage is request.

## ITEM 9 – ADJOURNMENT AND NEXT MEETING DATE – DECEMBER 21, 2022

Commissioner Barr made a motion to adjourn

Commissioner Munteanu seconded

Unanimous approval

Meeting ended 7:56 p.m.



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# Memo

*Date:* December 21, 2022

*To:* Public Works Commission

*From:* Dora Bean, Associate Public Works Engineer

*CC:* Phillip Peterson P.E., Public Works Engineer

*Subject:* 197 N Willard Accessibility (ADA) Parking Change

---

**Staff recommends the DPW Commission remove, see Attachment-1:  
7A Accessible spaces designated.**

*No person shall park any vehicle at any time in the following locations, except automobiles displaying special handicapped license plates issued pursuant to 18 V.S.A. § 1325, or any amendment or renumbering thereof:*

- On the west side of North Willard Street in front of number 197.

**Purpose & Need:**

The purpose of this request is to reallocate an accessible (ADA) space as public parking because it is no longer in use. This change will provide parking need for residents of N Willard St.

**Project Checklist:**

|                                                             | N/A | Yes | No | Reference                                                                                               |
|-------------------------------------------------------------|-----|-----|----|---------------------------------------------------------------------------------------------------------|
| Aligns with MUTCD standards and/or established City Policy? | X   |     |    |                                                                                                         |
| Aligns with City plans?                                     | X   |     |    |                                                                                                         |
| Followed Public Engagement Plan?                            |     | X   |    | These Traffic Regulation changes are defined as an INVOLVE project in the Public Engagement Plan (PEP). |

**Summary and Conclusion:**

Staff received a request to reallocate an ADA space in front of 197 N Willard, which is no longer being utilized. Reallocating the space to public parking will allow more parking for local residents. Consequently, Staff recommend the commission approve reallocation of the ADA space in front of 197 N Willard St.

**Public Engagement:**

In preparation for the 12/09/2022 DPW Commission Meeting, Staff distributed flyers to residents in the vicinity of 197 N Willard. Staff received X# of emails and x# of phone calls; describe whether the phone calls and/or emails support, do not support, or were seeking clarification, see Attachment-2.

**Site Map:****Attachments:**

1. Traffic regulation.
2. Public Input Correspondence.

# CITY OF BURLINGTON

In the Year Two Thousand Twenty-two

## A Regulation in Relation to

Rules and Regulations of the Traffic  
Commission—

Section 7A. Accessible spaces designated.

Sponsor(s): Department of Public Works

Action: Approved

Date: 12/21/2022

Attestation of Adoption:

Phillip Peterson, PE

*Public Works Engineer, Technical Services*

Published: \_\_\_\_\_

Effective: \_\_\_\_\_

**It is hereby Ordained** by the

Public Works Commission of the City of Burlington as follows:

- 1 That Appendix C, Rule and Regulations of the Traffic Commission, Section 7A, Accessible  
2 spaces designated, of the Code of Ordinances of the City of Burlington is hereby amended as  
3 follows:

4 **Section 7A Accessible spaces designated.**

- 5 No person shall park any vehicle at any time in the following locations, except automobiles displaying  
6 special handicapped license plates issued pursuant to 18 V.S.A. § 1325, or any amendment or  
7 renumbering thereof:

- 8 (1)-(27) As written.

- 9 (28) ~~On the west side of Hyde Street beginning one hundred ninety five (195) feet south of~~  
10 ~~Riverside Avenue and extending south for a distance of twenty (20) feet. Reserved.~~

- 11 (29)-(89) As written.

- 12 (139) ~~On the west side of North Willard Street in front of number 197. Reserved.~~

- 13 (140)-(173) As written.

14

15 \*\* Material stricken out deleted.

16 \*\*\* Material underlined added.

17

18 TD: BCO Appx.C, Section 7A  
19 12/21/22

# Attachment 2

## Public input correspondence emails

November 8, 2022

Subject: parking on N Willard

Message: To whom it may concern,

There were multiple parking spaces in front of our house removed by the recent construction on North Willard street, a handicapped parking spot replaces one of them, but nobody in the surrounding houses is handicapped. This takes parking away from us residents of north Willard street, where it is already hard to find parking. Not to mention in the time it has been reserved for handicapped people, no one has been able to occupy the parking spot. The other spot was removed entirely from the corner of Charles Street and North Willard and replaced by some angled lines that serve no purpose. Charles Street is a one way so there is no one who needs to come out of that street and take a left turn. This would make sense for visibility for cars to take a left turn, however as I previously stated, it is a one-way. I have spoken to a few of our neighbors and this change is all around unwelcome in our neighborhood. Please reconsider this choice.

If this is not the right department to contact about this issue I would like to be directed to the proper department to consult about this. I also tried to attach a photo of the area in question, but was not able to attach it in this browser, If you would like a clarifying picture I can send it to the appropriate email.

Thanks,

-Leo Nerbak

November 14, 2022

Hi Leo,

Thanks so much for reaching out with your concerns. Regarding the ADA parking space, at this stage the Burlington Public Works Department had decided to open the removal of the ADA space to public commentary. You, and your neighbors, received a flyer explaining these changes at your residence. If the spot is no longer being utilized, the Public Works Commission will vote on its removal at their upcoming meeting in December. With regards to your concerns about Charles Street, it would be great if you

could directly send me some photos of the angled lines so we can further review this issue. Please feel free to call or email me with any remaining questions.

Kindly,

Dora Bean

November 14, 2022

Hi Dora,

I have not seen the flyer yet but I have been away for the weekend I will look when I get home. I appreciate your openness to changing it, as it has still not been occupied. As for the corner of Charles Street, I have attached a picture of the spot in question. In the picture you can see where the lines used to be which my neighbors and I believe it should be restored to.

Thank you and have a great day,

-Leo

November 18, 2022

Hello,

I am just following up again on the status of this issue. We still have not seen a flyer in the mail, and no one has used the handicapped spot still. Do you have any information on the corner of Charles Street as well? There have been people parking in that spot regardless of the lines, they should be removed.

-Leo

November 18, 2022

Hi Leo,

Thanks for reaching out again. Attached is a copy of the flyer we placed in your neighborhood informing folks of our intention to reallocate the ADA spot if it is no longer being utilized. As long as we don't hear back from anyone using the spot, the DPW Commission will vote on removing the spot at their monthly meeting on December 21st. If it is approved, the city will begin the process of removing the spot.

We are in the process of evaluating the lines on Charles St. I'll be sure to update you after we are done.

Thanks for your patience,

Dora Bean

November 18, 2022

Thank you for sending the flyer,

In the picture included with the flyer, you can see a car parked in the spot removed by the lines with plenty of room for the corner of Charles St.

Thanks for your consideration.

-Leo

November 28, 2022

Hi Leo,

I wanted to let you know that we have reviewed the lines you expressed concerns about on Charles Street. We went out and measured the lines. As it turns out, the lines are in compliance with the City of Burlington's Code Enforcement Ordinances, even though Charles Street is a one-way.

The DPW commission will still vote on removing the ADA spot at their monthly meeting on the 21st. If it is approved, the city will begin the process of removing the spot.

Thanks kindly,

Dora Bean



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# Memo

*Date:* December 21, 2022

*To:* Public Works Commission

*From:* Dora Bean, Associate Public Works Engineer

*CC:* Phillip Peterson P.E., Public Works Engineer

*Subject:* Hyde Street and N Winooski Accessibility (ADA) Parking Change

**Staff recommends the DPW Commission remove, see Attachment-1:**

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- On the west side of Hyde Street beginning one hundred ninety-five (195) feet south of Riverside Avenue and extending south for a distance of twenty (20) feet.

**Purpose & Need:**

The purpose of this request is to reallocate an accessible (ADA) space as public parking because it is no longer in use. This change will provide parking need for residents of Hyde St.

**Project Checklist:**

|                                                             | N/A | Yes | No | Reference                                                                                               |
|-------------------------------------------------------------|-----|-----|----|---------------------------------------------------------------------------------------------------------|
| Aligns with MUTCD standards and/or established City Policy? | X   |     |    |                                                                                                         |
| Aligns with City plans?                                     | X   |     |    |                                                                                                         |
| Followed Public Engagement Plan?                            |     | X   |    | These Traffic Regulation changes are defined as an INVOLVE project in the Public Engagement Plan (PEP). |

**Summary and Conclusion:**

Staff received a request to reallocate an ADA space on the west side of Hyde Street beginning one hundred ninety-five (195) feet south of Riverside Avenue and extending south for a distance of twenty (20) feet, which is no longer being utilized. Reallocating the space to public parking will

allow more parking for local residents. Consequently, Staff recommend the commission approve reallocation of the ADA space in front of 197 N Willard St.

**Public Engagement:**

In preparation for the 12/21/2022 DPW Commission Meeting, Staff distributed flyers to residents in the vicinity of on the west side of Hyde Street beginning one hundred ninety-five (195) feet south of Riverside Avenue and extending south for a distance of twenty (20) feet. Staff received X# of emails and x# of phone calls; describe whether the phone calls and/or emails support, do not support, or were seeking clarification, see Attachment-2.

**Site Map:**



ADA space to be removed for  
public parking

**Attachments:**

1. Traffic regulation.
2. Public Input Correspondence.

# CITY OF BURLINGTON

In the Year Two Thousand Twenty-two

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Rules and Regulations of the Traffic  
Commission—

Section 7A. Accessible spaces designated.

Sponsor(s): Department of Public Works

Action: Approved

Date: 12/21/2022

Attestation of Adoption:

Phillip Peterson, PE

*Public Works Engineer, Technical Services*

Published: \_\_\_\_\_

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15 \*\* Material stricken out deleted.

- 16 \*\*\* Material underlined added.

- 17  
18 TD: BCO Appx.C, Section 7A  
19 12/21/22

# Attachment 2

## Public input correspondence

One phone call received from Heather Machia in support of the ADA spot removal. Ms. Machia says the spot is no longer in use.



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# Memo

*Date:* December 21, 2022

*To:* DPW Commission

*From:* Laura Wheelock, P.E., Senior Public Works Engineer  
Olivia Darisse, P.E., Public Works Engineer

*CC:* Chapin Spencer, Director of Public Works  
Norm Baldwin, P.E., City Engineer/Asst. Director – Technical Services  
Robert Goulding, Public Information Manager

*Subject:* Great Streets Main Street Intersection Control Discussion and General Project Updates

---

The Great Streets Main Street team is pleased to provide this project update to the DPW Commission. This item is being provided for information only tonight; we are not requesting an action. In May 2022, the project team was able to move forward with developing the preliminary design for Main Street. These plans will be made available to the public after City review is complete in January on the project website, [www.greatstreetsbtv.com](http://www.greatstreetsbtv.com).

## Intersection Control:

At the April 2022 DPW Commission meeting, the project team received requests from the DPW Commission to prepare an intersection evaluation matrix to compare safety, functionality, environmental impacts, property impacts, and long-term cost effectiveness of signalized intersections and roundabouts. In response to these requests, the design consultant evaluated each of these interests. We will review the findings of this evaluation at tonight's meeting. The intersection evaluation memo is included as Attachment A to this communication.

## General Project Updates:

- As part of the Main Street project, the design team has progressed plans to relocate the ravine sewer, which will involve microtunneling a new sewer main from the Fire Station to Main Street, then continue the new main down Main Street to Church Street and connect to the existing main on King Street. This work will allow for future redevelopment of the parcel on the northeast corner of South Winooski Avenue and Main Street.
- In response to concerns that the project team received from the business community regarding parking reductions along Main Street, the project team is administering a Downtown Parking Study concurrent with the redesign of Main Street. To accompany

these efforts, the project team assembled a Parking Advisory Committee to oversee and advise the project team throughout the study. The Parking Advisory Committee includes members of City leadership and the Burlington business community. A full list of the Parking Advisory Committee members is included as Attachment B to this memo. The design team recently completed the first phase of the study, which was a data collection effort that surveyed the occupancy and turnover rates of all on-street parking spaces and off-street private and public lots within two blocks of the Main Street corridor. A copy of the study findings will be available for viewing on the project website in January.

- The preliminary plans are currently under review and will be made available to the public upon completion of the review in January. The project team will then move to have final plans and final permitting completed in early summer 2023, with plans to advertise for construction bids in July.
- The City received a \$500,000 stormwater grant from the State of Vermont, which will be used toward the construction portion of this project. In order to utilize the funding, the project needs to meet the requirements of the National Environmental Policy Act (NEPA) permitting process. The consultant has completed an environmental analysis under this process and submitted the draft materials to the State, which are currently under review. The permitting process will need to be complete before construction can commence.
- According to the current schedule, construction will begin as early as September 2023.

The project team will continue to provide project updates on the project website, [www.greatstreetsbtv.com](http://www.greatstreetsbtv.com), where the preliminary plans will be available for viewing in January. Close engagement and coordination with advisory groups, businesses and stakeholders will continue through final plan development and into construction. The project team continues to accept questions and comments on the project, which may be submitted through the contact information listed on the website. Please do not hesitate to contact us with any questions or comments (Laura Wheelock, [lwheelock@burlingtonvt.gov](mailto:lwheelock@burlingtonvt.gov) or Olivia Darisse, [odarisse@burlingtonvt.gov](mailto:odarisse@burlingtonvt.gov)). Thank you.

**Attachments:**

- A. Intersection Evaluation Memo
  - B. Parking Advisory Committee Members
-

## **Attachment A:** **Intersection Evaluation Memo**



To: Burlington DPW  
Attn: Chapin Spencer  
645 Pine St  
Burlington, VT

Date: November 7, 2022

Memorandum

Project #: 58691.00

From: Jenn Conley, PE, PTOE  
Karen Sentoff  
Evan Haugh

Re: Main Street Intersection Alternatives

As a part of the Main Street Great Streets project, an evaluation of two types of traffic control, signalized intersections and roundabouts, was conducted for each of the study area intersections. This memorandum presents the results of that evaluation.

Traffic volumes for future year conditions (2037) were developed consistent with previous City-accepted traffic impact studies, based on available traffic count data and anticipated traffic growth within this time horizon. Traffic volumes were increased by seven percent to represent background traffic growth until 2037. Additionally, the traffic associated with permitted developments, including residential and hotel space as well as the redevelopment of Burlington City Place and the impact of the Champlain Parkway, were added. This conservative approach resulted in volumes approximately 40% higher than the traffic volumes originally modeled for the Champlain Parkway project and 90% higher than the CCRPC 2040 regional model.

In each case, a goal of reducing traffic speeds to 20 miles per hour was a consideration in the design criteria during development of alternatives. In either case, throughout the corridor, bicyclists and pedestrians are provided separate accommodation along Main Street.

### **Roundabouts**

The feasibility of constructing roundabouts was considered at each of the seven project intersections. The effects of each traffic control type on right of way, building structure impacts, safety for all users, bike and pedestrian operations, and vehicular traffic operations, was evaluated.

### **Design Criteria**

The industry standard design criteria for roundabouts is outlined in National Cooperative Highway Research Program (NCHRP) Report 672. The design criteria for roundabouts in the Main Street corridor was developed using that report.

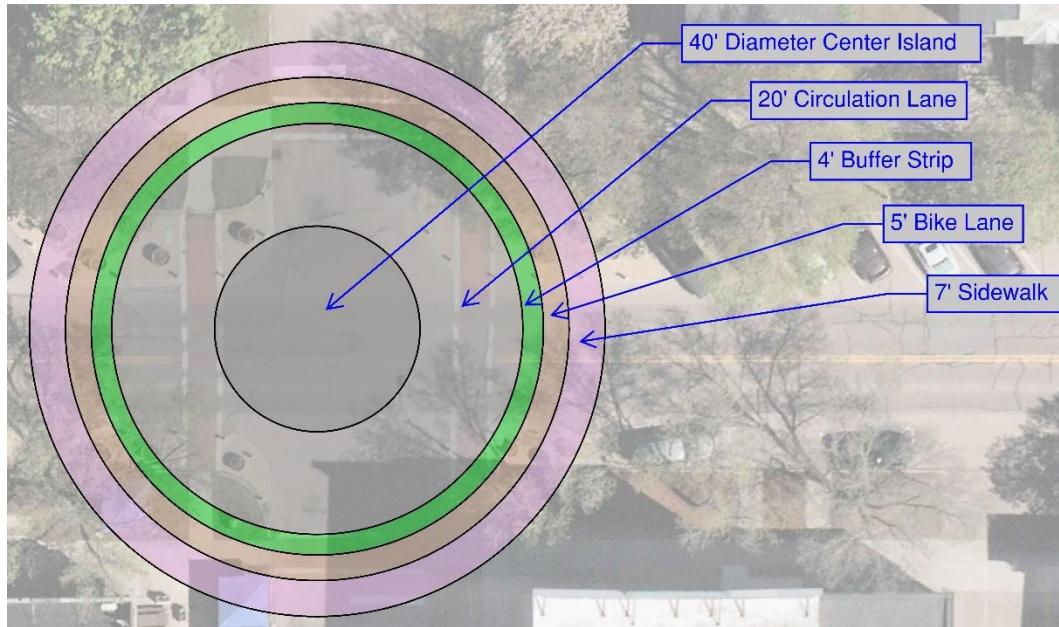
One of the City's key goals for this project is to reduce speeds along Main Street. As such, a design speed of 20 miles per hour was chosen.

Two basic designs were developed for this corridor. Space-saving mini roundabouts were considered at any location that is not intended to accommodate a heavy volume of large truck traffic. The intersections of Main with South Champlain, Church, and South Union Streets were designed including one travel lane (20 feet), bike lanes (5 feet), sidewalks (7 feet), a buffer between vehicles and cyclists (4 feet), and a center paved island (40-foot diameter), the total impact footprint's diameter would be 112 feet. On these mini roundabouts, center islands must be fully mountable for trucks to be able to travel through the intersection. This results in a roundabout with little green space – the center island must be fully paved.

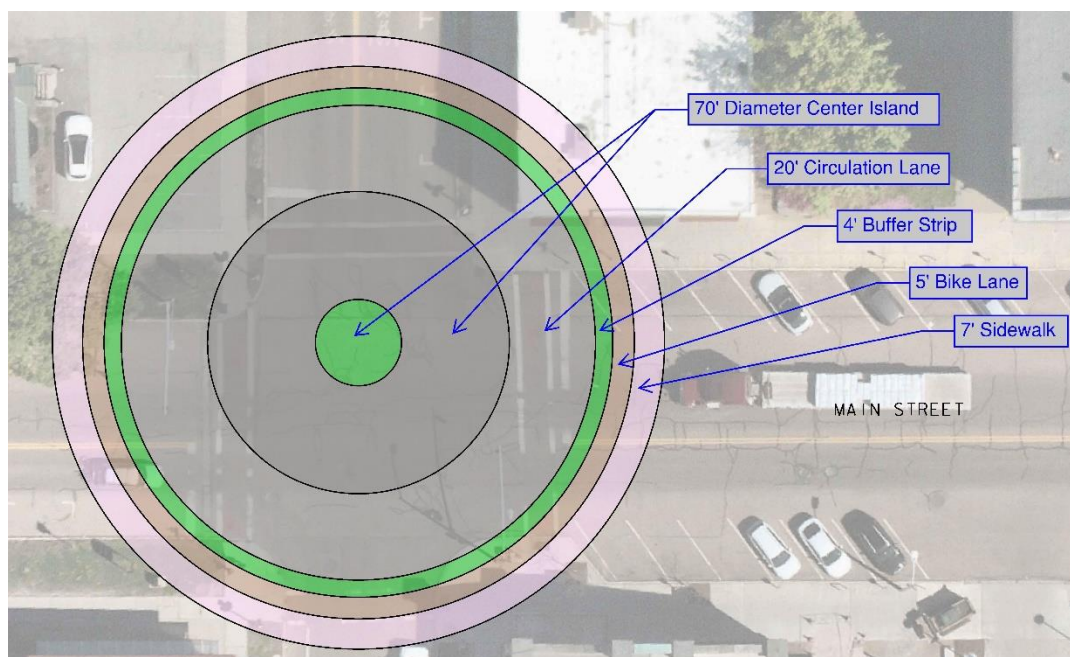
At the other four intersections (Battery St, Pine St, St Paul St, and South Winooski Ave) larger roundabouts with a 142' diameter footprint (includes 20' travel lane, 5' bicycle lane, 7' sidewalks, 4' buffer between cyclists and vehicles, and

70-foot diameter center island) would be needed to accommodate the heavier volume of large trucks. On the larger roundabouts, a 20' diameter raised interior center island would be included that could include some vegetation. Figures 1 and 2 illustrates the two roundabout designs. At each location, the roundabout footprint was located to reduce impacts to property, and in particular, structures as much as possible.

*Figure 1: Mini Roundabout (80-foot diameter circulation area)*



*Figure 2: Standard Roundabout (110-foot diameter circulation area)*



NCHRP 672 also dictates grades across and entering and exiting a roundabout. The entry grades should not exceed three percent, exit grade should not exceed four percent and the roundabout itself should not exceed four percent. Due to the existing grades on Main Street, meeting these criteria would be impossible at many locations. At Battery, Pine and S. Union Streets, the roundabout grades would be well over four percent (ranging from 4.3 to 4.6 percent) and at S. Champlain Street, the entry and roundabout grades would be over three percent.

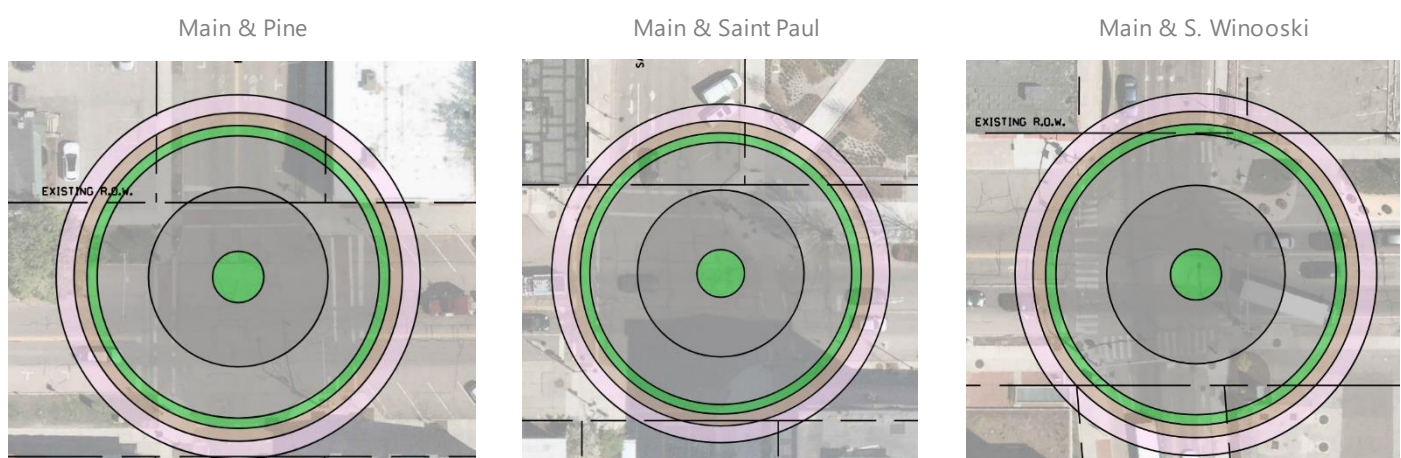
### Right of Way and Building Impacts

Roundabouts have large footprints. Ultimately, most intersections along the corridor would require at least some additional right of way. When estimating these impacts, roundabouts were located to minimize overlap with buildings and private property. It should be noted that these placements reduce the potential safety benefit by having some approaches enter the roundabout straight on instead of at an angle.

The intersections of Main with S. Champlain and Church could accommodate mini roundabouts within existing right of way. The intersections of Main at Battery and S. Union would require relatively modest amounts of right of way (under 100 square feet each). This would come from currently paved or landscaped areas. However, even a small acquisition adds cost and complexity to the project. The tight fit also leaves minimal design flexibility.

The other three intersections all require more substantial right of way acquisitions with building impacts. The intersections of Main with Pine, Saint Paul, and S. Winooski would each require 900-1300 square feet of new right of way. These impacts occur even when the roundabouts are best placed to reduce impacts to structures and other property.

*Figure 3: Roundabout Footprints Shown with Right of Way Boundaries*



### Bike and Pedestrian Operations

This corridor sees high pedestrian and cyclist volumes. At roundabouts, pedestrians use a crosswalk to cross approach legs. They do not encounter the delay of waiting for a signal, but their travel path is longer to continue along the same roadway. Pedestrians cross one travel direction at a time.

There is a school crossing location at S. Union Street. The introduction of a roundabout may require additional assistance as the crossings of each side of the street are separated.

Cyclists can travel through the roundabout as a vehicle but are also provided a separated facility along Main Street and will cross the roundabout legs at unsignalized crossings next to pedestrians. The more experienced cyclists may choose to travel through the roundabout and would typically have to use the entire lane to establish their space and avoid conflicts with merging and diverging vehicles.

### Heat Island Impacts

The heat island effect in Burlington is exacerbated when natural ground surfaces are replaced by pavement. The net change in impervious area indicates whether the design will improve or worsen the heat island effect.

Due to the footprint of the roundabout being larger than the existing conditions, as well as the addition of the separated bicycle facilities and activation spaces, these concepts result in increased impervious area relative to existing conditions, an overall average of nearly 800 sf per intersection.

### Safety Impacts

Roundabouts are often considered a safety improvement over signalized intersections. Roundabouts effectively prevent head-on and broadside crashes because conflicting vehicles do not meet at those angles. Roundabouts are also designed to slow traffic through intersections, which reduces severe outcomes. Roundabouts have however been observed to increase bicycle-vehicle crashes<sup>1</sup>, which would be a downside on this corridor.

### Traffic Operations

To reach efficient operating conditions in a roundabout, the circulation lane is always free-flowing. If queues from adjacent intersections stretch into a roundabout exit, it freezes the entire intersection. This means that queues must be under one block long for a roundabout to operate properly. Signalized intersections can tolerate longer queues because other movements still operate when one is blocked. This corridor has high vehicle, bicycle, and pedestrian volumes. In traffic simulations of the roundabout alternatives, queues spilling back to other intersections were unavoidable.

In the traffic simulations, roundabouts eventually reached gridlock. Pedestrian volumes are one cause. Traffic entering or exiting roundabouts yields to pedestrians, so high pedestrian volumes (such as 192 hourly crossings of Main at Church) significantly interrupt traffic flow. Travel delays would be severe under a roundabout design. The operating levels of service and queuing for roundabouts is displayed in **Table 1**.

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<sup>1</sup> In 46 studies reported to the CMF Clearinghouse ([cmfclearinghouse.org](http://cmfclearinghouse.org)), roundabout conversions increased vehicle-bicycle crashes by an average of 38%.

Table 1: Roundabout Performance

| Intersection          | AM Peak Hour |     |            | PM Peak Hour |     |            |
|-----------------------|--------------|-----|------------|--------------|-----|------------|
|                       | Delay (s)    | LOS | Queue (ft) | Delay (s)    | LOS | Queue (ft) |
| <b>Battery St</b>     |              |     |            |              |     |            |
| Overall               | 31.4         | D   |            | 265.3        | F   |            |
| EB                    | 3.8          | A   | 54         | 271.7        | F   | 136        |
| WB                    | 4.0          | A   | 78         | 10.8         | B   | 60         |
| NB                    | 4.7          | A   | 87         | 409.3        | F   | 682        |
| SB                    | 56.7         | F   | 432        | 255.8        | F   | 502        |
| <b>S Champlain St</b> |              |     |            |              |     |            |
| Overall               | 3.9          | A   |            | 583.5        | F   |            |
| EB                    | 4.6          | A   | 72         | 516.3        | F   | 477        |
| WB                    | 3.3          | A   | 55         | 116.3        | F   | 252        |
| NB                    | 2.9          | A   | 38         | 1412.2       | F   | 1085       |
| SB                    | 2.6          | A   | 23         | 781.3        | F   | 466        |
| <b>Pine St</b>        |              |     |            |              |     |            |
| Overall               | 5.8          | A   |            | 643.3        | F   |            |
| EB                    | 6.4          | A   | 160        | 538.6        | F   | 422        |
| WB                    | 6.4          | A   | 169        | 251.3        | F   | 301        |
| NB                    | 5.4          | A   | 111        | 1286.5       | F   | 1128       |
| SB                    | 3.8          | A   | 89         | 569.5        | F   | 485        |
| <b>St Paul St</b>     |              |     |            |              |     |            |
| Overall               | 3.8          | A   |            | 755.5        | F   |            |
| EB                    | 2.8          | A   | 77         | 521.5        | F   | 405        |
| WB                    | 4.9          | A   | 153        | 488.0        | F   | 431        |
| NB                    | 3.8          | A   | 88         | 1285.9       | F   | 1176       |
| SB                    | 3.1          | A   | 62         | 788.8        | F   | 594        |
| <b>Church St</b>      |              |     |            |              |     |            |
| Overall               | 2.5          | A   |            | 475.5        | F   |            |
| EB                    | 2.2          | A   | 54         | 386.5        | F   | 428        |
| WB                    | 2.6          | A   | 59         | 520.1        | F   | 455        |
| NB                    | 1.7          | A   | 15         | 666.7        | F   | 402        |
| <b>S Winooski Ave</b> |              |     |            |              |     |            |
| Overall               | 7.7          | A   |            | 547.3        | F   |            |
| EB                    | 4.8          | A   | 115        | 301.2        | F   | 452        |
| WB                    | 4.0          | A   | 92         | 507.7        | F   | 468        |
| NB                    | 2.8          | A   | 56         | 876.8        | F   | 1240       |
| SB                    | 16.4         | C   | 278        | 638.3        | F   | 465        |
| <b>S Union St</b>     |              |     |            |              |     |            |
| Overall               | 96.9         | F   |            | 564.0        | F   |            |
| EB                    | 3.1          | A   | 74         | 149.8        | F   | 399        |
| WB                    | 141.5        | F   | 917        | 704.5        | F   | 1151       |
| NB                    | 119.5        | F   | 1115       | 894.9        | F   | 1225       |

## Signalized Intersections

A design that included signalized intersections was created for each of the study area intersections. Similar to the roundabout evaluation, the effects of each traffic control type on right of way, building structure impacts, safety for all users, bike and pedestrian operations, and vehicular traffic operations, was evaluated.

### Design Criteria

The appropriate design for each signalized intersection was determined based on the projected 2037 volumes. Even with the increased volumes, Main Street will be a two-lane cross section throughout with turn lanes only at select intersections.

Based on heavy turn volumes, a westbound right turn lane will be maintained at Battery Street. A westbound left turn lane will remain at Pine Street to accommodate the increased traffic associated with the Champlain Parkway as well as a desire to be consistent with previous permitting conditions in place at this location. Eastbound and westbound left turn lanes will be retained at S. Winooski Avenue due to heavier turning volumes.

On side streets, only minor changes occurred. On Pine Street, a southbound left turn lane will be formalized and the northbound approach restriped to a northbound thru/right-turn lane with a separate left-turn lane. In the analysis, Battery Street northbound was even modeled as one single lane. Elsewhere, the same number of lanes as current conditions will remain on side streets.

Champlain Street sees very low volumes of vehicles and pedestrians. A signal is not warranted, so it will remain stop-controlled.

### Signal Operation

With the exception of Battery Street, each intersection is anticipated to be controlled by a two-phase signal, that is, all Main Street traffic receives a green indication in one phase and all side street traffic receives a green indication in a second phase. The presence of turning vehicles in the thru lanes results in friction for that thru traffic and a slower speed network. Pedestrians will receive the walk signal and be processed at the same time as vehicles (i.e. pedestrians will cross side streets at the same time as Main Street receives the green ball) but will be provided the walk signal in an advance lead interval for better visibility and operations.

Battery Street will operate as the only three phase signal in order to better accommodate pedestrians. The additional phase will simultaneously serve southbound lefts and westbound rights. The westbound right will be controlled by arrows and will display a red arrow when the walk signal is indicated. This movement is too heavy to be served concurrently with pedestrians.

The corridor will be timed to optimize westbound progression in the morning and eastbound progression in the evening. One of the City's key goals is reducing speeds along Main Street. As such, a design speed of 20 miles per hour was chosen for the progression speed throughout the network.

### Right of Way and Building Impacts

The signalized designs, including turn lanes, fit comfortably within existing right of way and in fact, at most locations, narrow the width required for vehicular traffic and provide opportunities for wider sidewalks and activations spaces. These designs will not require additional right of way or have impacts on buildings.

### Bike and Pedestrian Circulation

By bumping curbs out, the signalized design significantly shortens crossing distances for pedestrians. Pedestrians will receive the walk to cross side streets when vehicles on Main Street receive the green indication. Pedestrians crossing Main Street will receive the walk when vehicles on side streets receive the green indication. In addition, crossing pedestrians have 7 seconds of walk time in advance of vehicles receiving the green signal, establishing the pedestrian in the space and increasing sight lines from turning drivers to pedestrians. There is a school crossing across Main Street at S. Union Street and this crossing is reduced by 18 feet versus the existing condition.

Similar to in the roundabout alternative, cyclists have two options for travel. Commuter cyclists, who wish to travel as a vehicle in the travel lane, will be processed via signalized control and be provided two stage turn boxes at intersections. To use these, cyclists cross to the far side of the intersection, stop and wait in the painted bike box, and then cross the second leg of the intersection when that direction is served. In addition, a separated facility will be provided along each side of Main Street that protects the cyclist and allows for crossing of side streets at the same time as pedestrians receive the walk signal. These cyclists will be provided the same advanced time as pedestrians to cross the side streets before Main Street vehicular traffic receives the green indication.

### Heat Island Effect

The signalized design will slightly increase impervious area, adding about 140 sf per location for the addition of the separated bicycle facility and new activation spaces. The traveled portion of the roadway's footprint, and its heat island effect actually decreases.

### Safety

The design and timings proposed for Main Street will result in traffic speeds at or below 20 mph. The traffic signals will be designed to progress traffic at 20 miles per hour. The low speeds are further reinforced by the presence of turning traffic in the shared thru lanes acting to slow traffic as it turns onto side streets.

These low speeds will minimize crash severity, even at higher-risk collision angles associated with signalized intersections. Signalized intersections also have fewer bicycle-vehicle crashes than roundabouts, an important consideration on this corridor. In either case, the pedestrian crossing distance, or the distance that a pedestrian is exposed to traffic is significantly reduced.

### Traffic Operations

All intersections report acceptable performance in the signalized plan. Signals are coordinated, with offsets set to optimize westbound progression in the morning and eastbound progression in the afternoon. At the high volumes (relative to capacity) anticipated, this is needed to keep an acceptable level of delay even with the added advance pedestrian time.

Progression works well, with queues on Main Street generally clearing each cycle. Side streets have longer delays and can take several cycles to clear queues during peak periods (similar to how they perform today). Traffic simulations included realistic numbers of pedestrians and bus blockages for a more accurate evaluation.

Delays and queues associated with the signalized alternatives are illustrated in Table 2.

Table 2: Signalized Performance

| Intersection          | AM Peak Hour |     |            | PM Peak Hour |     |            |
|-----------------------|--------------|-----|------------|--------------|-----|------------|
|                       | Delay (s)    | LOS | Queue (ft) | Delay (s)    | LOS | Queue (ft) |
| <b>Battery St</b>     |              |     |            |              |     |            |
| Overall               | 64.4         | E   |            | 72.8         | E   |            |
| EB                    | 32.5         | C   | 95         | 67.7         | E   | 156        |
| WB                    | 151.8        | F   | 435        | 126.1        | F   | 613        |
| NB                    | 125.8        | F   | 645        | 108.1        | F   | 692        |
| SB                    | 36.0         | D   | 375        | 102.7        | F   | 545        |
| <b>S Champlain St</b> |              |     |            |              |     |            |
| Overall               | 40.6         | E   |            | 145.8        | F   |            |
| EB                    | 20.4         | C   | 328        | 83.3         | F   | 482        |
| WB                    | 64.3         | F   | 409        | 42.2         | E   | 482        |
| NB                    | 240.4        | F   | 194        | 1389.8       | F   | 1090       |
| SB                    | 250.1        | F   | 143        | 315.0        | F   | 121        |
| <b>Pine St</b>        |              |     |            |              |     |            |
| Overall               | 56.4         | E   |            | 115.0        | F   |            |
| EB                    | 63.9         | E   | 418        | 151.8        | F   | 417        |
| WB                    | 146.8        | F   | 387        | 87.9         | F   | 377        |
| NB                    | 44.8         | D   | 337        | 279.5        | F   | 1121       |
| SB                    | 108.7        | F   | 199        | 145.2        | F   | 562        |
| <b>St Paul St</b>     |              |     |            |              |     |            |
| Overall               | 48.6         | D   |            | 106.2        | F   |            |
| EB                    | 37.1         | D   | 205        | 63.2         | E   | 410        |
| WB                    | 56.2         | E   | 450        | 23.8         | C   | 356        |
| NB                    | 140.1        | F   | 726        | 243.5        | F   | 1082       |
| SB                    | 56.4         | E   | 108        | 267.3        | F   | 555        |
| <b>Church St</b>      |              |     |            |              |     |            |
| Overall               | 28.1         | C   |            | 24.9         | C   |            |
| EB                    | 17.6         | B   | 188        | 98.8         | F   | 402        |
| WB                    | 163.0        | F   | 452        | 16.2         | B   | 312        |
| NB                    | 248.7        | F   | 62         | 57.8         | E   | 83         |
| <b>S Winooski Ave</b> |              |     |            |              |     |            |
| Overall               | 56.9         | E   |            | 80.6         | F   |            |
| EB                    | 49.0         | D   | 275        | 193.0        | F   | 348        |
| WB                    | 46.6         | D   | 545        | 93.9         | F   | 458        |
| NB                    | 178.9        | F   | 317        | 49.1         | D   | 103        |
| SB                    | 94.7         | F   | 576        | 180.8        | F   | 481        |
| <b>S Union St</b>     |              |     |            |              |     |            |
| Overall               | 130.7        | F   |            | 126.6        | F   |            |
| EB                    | 58.5         | E   | 465        | 37.7         | D   | 583        |
| WB                    | 150.0        | F   | 908        | 137.8        | F   | 966        |
| NB                    | 196.4        | F   | 1057       | 295.4        | F   | 1169       |

## Intersection Control Evaluation

In this space-constrained corridor, roundabouts would be challenging to design and construct. They would require impractical or impossible large land acquisitions, including building demolitions at some intersections.

At Pine Street, a roundabout would require acquiring the North Star Sports (100 Main Street) building. At St. Paul Street, the roundabout would impact 131 Main Street (a seven-story building) and 122 Main Street. A roundabout at S. Winooski Ave would not require demolitions, but would involve relocating underground fuel storage tanks at the Shell gas station and relocating air vents for the Courthouse Plaza building. Demolishing buildings for the Great Streets project is not desirable, especially since a signalized design can achieve equivalent safety and mobility.

Table 3: ROW and Building Impacts<sup>1</sup>

| Intersection   | Roundabout                                               |                                                                        | Signalized Intersection |                  |
|----------------|----------------------------------------------------------|------------------------------------------------------------------------|-------------------------|------------------|
|                | ROW Impacts                                              | Building Impacts                                                       | ROW Impacts             | Building Impacts |
| Battery St     | 80 sf                                                    | None                                                                   | None                    | None             |
| S Champlain St | None                                                     | None                                                                   | None                    | None             |
| Pine St        | Major – 1324 sf of buildings and parking                 | Unavoidable impact to North Star Sports                                | None                    | None             |
| St Paul St     | 43 sf (includes buildings) and 1090 sf of City Hall Park | Unavoidable impact to The Gryphon and Mad River Distillery             | None                    | None             |
| Church St      | None                                                     | None                                                                   | None                    | None             |
| S Winooski Ave | 974 sf, mostly Champlain Farms Lot                       | Underground Storage at Champlain Farms; Air Vents on Courthouse parcel | None                    | None             |
| S Union St     | 15 sf                                                    | None                                                                   | None                    | None             |

<sup>1</sup> Colors indicate the changes from existing with red being a negative change and green a positive change

The signalized designs dedicate more activation space for pedestrians. These are the spaces where people gather and enjoy the Main Street corridor. These spaces provide a benefit to those users and activation on the street. Although this amenity does increase the heat island effect, it is not as significant as the increased heat island effect caused by roundabout alternatives. Table 4 provides the impacts to the activation space as well as resulting heat island effects along the corridor.

Table 4: Activation Space and Heat Island Impacts as compared to Existing Conditions

| Intersection   | Roundabout                                    |                                                      | Signalized Intersection                       |                                                      |
|----------------|-----------------------------------------------|------------------------------------------------------|-----------------------------------------------|------------------------------------------------------|
|                | Activation Space Impacts (Gain or Loss in sf) | Heat Island Impacts (Gain or Loss of Pervious in sf) | Activation Space Impacts (Gain or Loss in sf) | Heat Island Impacts (Gain or Loss of Pervious in sf) |
| Battery St     | -76                                           | -3122                                                | 3000                                          | -1987                                                |
| S Champlain St | -15                                           | -4696                                                | 2600                                          | -3746                                                |
| Pine St        | None                                          | -1161                                                | 3800                                          | -746                                                 |
| St Paul St     | None                                          | 1669                                                 | None                                          | 1737                                                 |
| Church St      | -207                                          | 2578                                                 | 3000                                          | 2784                                                 |
| S Winooski Ave | -190                                          | 884                                                  | 840                                           | 1594                                                 |
| S Union St     | -368                                          | -1769                                                | None                                          | -644                                                 |

\*Changes in area are relative to the existing geometry with red showing negative changes and green illustrating positive changes.

Pedestrian paths along Main Street become longer at roundabouts than at signalized intersections, as they must traverse the outer perimeter of a larger intersection. Both designs shorten pedestrian crossings of travel lanes relative to current conditions. Roundabouts reduce the crossings to conflicts with single traffic directions, while the signalized designs fully stop vehicles during an advance crossing period each cycle. Both designs significantly calm traffic speeds, the critical piece in mitigating potential for severe crashes.

Cyclists are accommodated in both alternatives in separate facilities, but for the advanced cyclists who prefers traveling as a vehicle, the roundabout does present challenges as the cyclist visibility to motorists is not as clear during merging and diverging movements in a roundabout as a thru movement along a corridor or stopped at a signalized intersection.

Operationally, signalized intersections offer the most flexibility. Capacity of each approach, progression, and speeds can be manipulated by swapping timing and coordination plans during different times of day. Roundabouts do not offer the same control and become gridlocked when queues spill back more than one block.

Table 5 compares operations for the existing road design, a roundabout corridor, and the proposed signalized design. Each scenario is compared under the 2037 PM peak hour volumes.

Table 5: Performance Comparison (2037 PM Peak Hour)

| Intersection          | Existing Conditions |     |            | Roundabout |     |            | Signalized |     |            |
|-----------------------|---------------------|-----|------------|------------|-----|------------|------------|-----|------------|
|                       | Delay (s)           | LOS | Queue (ft) | Delay (s)  | LOS | Queue (ft) | Delay (s)  | LOS | Queue (ft) |
| <b>Battery St</b>     |                     |     |            |            |     |            |            |     |            |
| Overall               | 28.6                | C   |            | 265.3      | F   |            | 72.8       | E   |            |
| EB                    | 41.6                | D   | 154        | 271.7      | F   | 136        | 67.7       | E   | 156        |
| WB                    | 14.4                | B   | 241        | 10.8       | B   | 60         | 126.1      | F   | 613        |
| NB                    | 20.1                | C   | 235        | 409.3      | F   | 682        | 108.1      | F   | 692        |
| SB                    | 44.1                | D   | 461        | 255.8      | F   | 502        | 102.7      | F   | 545        |
| <b>S Champlain St</b> |                     |     |            |            |     |            |            |     |            |
| Overall               | 90.9                | F   |            | 583.5      | F   |            | 145.8      | F   |            |
| EB                    | 69.3                | E   | 465        | 516.3      | F   | 477        | 83.3       | F   | 482        |
| WB                    | 3.1                 | A   | 117        | 116.3      | F   | 252        | 42.2       | E   | 482        |
| NB                    | 696.1               | F   | 971        | 1412.2     | F   | 1085       | 1389.8     | F   | 1090       |
| SB                    | 424.9               | F   | 299        | 781.3      | F   | 466        | 315.0      | F   | 121        |
| <b>Pine St</b>        |                     |     |            |            |     |            |            |     |            |
| Overall               | 81.4                | F   |            | 643.3      | F   |            | 115.0      | F   |            |
| EB                    | 102.8               | F   | 438        | 538.6      | F   | 422        | 151.8      | F   | 417        |
| WB                    | 29.2                | C   | 363        | 251.3      | F   | 301        | 87.9       | F   | 377        |
| NB                    | 66.0                | E   | 562        | 1286.5     | F   | 1128       | 279.5      | F   | 1121       |
| SB                    | 193.3               | F   | 477        | 569.5      | F   | 485        | 145.2      | F   | 562        |
| <b>St Paul St</b>     |                     |     |            |            |     |            |            |     |            |
| Overall               | 110.6               | F   |            | 755.5      | F   |            | 106.2      | F   |            |
| EB                    | 69.7                | E   | 407        | 521.5      | F   | 405        | 63.2       | E   | 410        |
| WB                    | 17.9                | B   | 307        | 488.0      | F   | 431        | 23.8       | C   | 356        |
| NB                    | 205.5               | F   | 982        | 1285.9     | F   | 1176       | 243.5      | F   | 1082       |
| SB                    | 344.2               | F   | 562        | 788.8      | F   | 594        | 267.3      | F   | 555        |
| <b>Church St</b>      |                     |     |            |            |     |            |            |     |            |
| Overall               | 34.5                | C   |            | 475.5      | F   |            | 24.9       | C   |            |
| EB                    | 65.1                | E   | 408        | 386.5      | F   | 428        | 98.8       | F   | 402        |
| WB                    | 6.7                 | A   | 247        | 520.1      | F   | 455        | 16.2       | B   | 312        |
| NB                    | 115.4               | F   | 125        | 666.7      | F   | 402        | 57.8       | E   | 83         |
| <b>S Winooski Ave</b> |                     |     |            |            |     |            |            |     |            |
| Overall               | 65.4                | E   |            | 547.3      | F   |            | 80.6       | F   |            |
| EB                    | 91.4                | F   | 395        | 301.2      | F   | 452        | 193.0      | F   | 348        |
| WB                    | 62.2                | E   | 487        | 507.7      | F   | 468        | 93.9       | F   | 458        |
| NB                    | 44.0                | D   | 226        | 876.8      | F   | 1240       | 49.1       | D   | 103        |
| SB                    | 56.2                | E   | 587        | 638.3      | F   | 465        | 180.8      | F   | 481        |
| <b>S Union St</b>     |                     |     |            |            |     |            |            |     |            |
| Overall               | 75.6                | E   |            | 564.0      | F   |            | 126.6      | F   |            |
| EB                    | 13.7                | B   | 399        | 149.8      | F   | 399        | 37.7       | D   | 583        |
| WB                    | 156.6               | F   | 1266       | 704.5      | F   | 1151       | 137.8      | F   | 966        |
| NB                    | 48.4                | D   | 454        | 894.9      | F   | 1225       | 295.4      | F   | 1169       |

A mixed corridor with both signals and roundabouts would give up the timing and progression advantages. A roundabout anywhere in the corridor breaks the progression because you cannot control the pattern of arrivals to adjacent intersections.

Overall safety is significantly improved in both alternatives thru the reduction of travel speeds improving crash outcomes. The roundabout benefits of single direction vehicular conflicts are likely similar to the benefit of providing the advanced, protected walk time.

Given these findings, signalized intersections are the preferred alternative for Main Street. Signalized intersections offer more safety and operations benefits with lower impacts to adjacent business structures and properties than roundabouts. We recommend proceeding with the signalized design.

## **Attachment B**

### **Downtown Parking Study - Parking Advisory Committee Members**

Olivia Darisse, Public Works Engineer, Department of Public Works

Laura Wheelock, Senior Public Works Engineer, Department of Public Works

Charles Dillard, Principal Planner, Office of City Planning

Samantha Dunn, Assistant Director for Community Works, Community & Economic Development Office

Jeff Padgett, Division Director for Parking & Traffic, Department of Public Works

Kara Alnaswari, Director of Business & Workforce Development, Church Street Marketplace

Will Clavelle, Assistant Director of Business Development, Church Street Marketplace

Kelly Devine, Director, Burlington Business Association

Meg McGovern, Senior Associate, Donahue & Associates

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To: DPW Commissioners  
Fr: Chapin Spencer, Director  
Re: **DPW Director's Report**  
Date: December 21, 2022

**CSWD DROP-OFF CENTER COORDINATION**

Good work continues behind the scenes to advance a long term solution to establishing a full service drop off center in Burlington – and to provide the City a unified, enhanced soil management area. The City Council on December 12 approved a motion to take the following two actions:

1. Approve a six-month term extension of the 2019 Chittenden Solid Waste District (CSWD) – City of Burlington Memorandum of Understanding (through 6-30-23) to provide the City time to negotiate a Purchase and Sale Agreement for 195-201 Flynn Avenue; and,
2. Approve a term extension of the 339 Pine Street Lease Agreement with CSWD (through December 31, 2024) including an enlarged footprint for the purposes of continuing the operation of a public drop off center at that location - with expanded services once the City purchases 195-201 Flynn Avenue and relocates soil management activities

Together, the two actions above will:

- Enable the current 339 Pine Street drop off center to continue and to expand services through at least 2024
- Provide the two parties additional time to select a preferred location to locate a more permanent, modern, full-service CSWD drop of center at either 339 Pine Street or 195-201 Flynn Avenue
- Give the City a near term option to unite and better manage its current soil management operations from multiple sites

The CSWD Board will be reviewing, and hopefully approving, these proposed actions at their December Board meeting. More information is in the Council memo on Board Docs:  
<http://go.boarddocs.com/vt/burlingtonvt/Board.nsf/goto?open&id=CLXQ4P6687CC>

**GMT FY'24 Budget**

I serve on the GMT Board and the Finance Committee. At the December GMT Finance Committee meeting, the Committee recommended the Board approve the FY'24 budget with the following:

1. The Agency will bring an updated ADA funding policy that minimizes annual swings to the Board of Commissioners in FY'24
2. The Agency will prioritize regional/statewide funding campaign to strengthen GMT's long term funding
3. The Agency will redouble public/private partnerships to improve collaboration for enhanced services and funding

The budget implements approximately a 3% reduction in service over pre-COVID operations that is necessitated due to transitioning away from one-time pandemic funding counterbalanced with inflationary cost increases. The budget also assumes the resumption of fares. The FY'24 budget will be voted on at GMT's December board meeting on December 20. For info: Chapin Spencer, [cs Spencer@burlingtonvt.gov](mailto:cs Spencer@burlingtonvt.gov).

## Key Project Updates

- Construction work for the **Champlain Parkway** project will continue into the winter. Stakeholders seeking updates can sign up for email updates on the project website: [www.champlainparkway.com](http://www.champlainparkway.com).
- The City is working with **Railyard Enterprise Project** partners to finalize an Environmental Assessment (EA) document that will be formally submitted to FHWA next month.
- Our **water/wastewater/stormwater relining** work will continue into 2023.

It's been a good construction season. For more info, contact Rob Goulding, [rgoulding@burlingtonvt.gov](mailto:rgoulding@burlingtonvt.gov) or click on our Construction Portal: <https://www.burlingtonvt.gov/construction>.

Please don't hesitate to reach out with any questions. See everyone next Wednesday.

# Memo

*Date:* November 30, 2022

*To:* Public Works Commission

*From:* Dora Bean, Associate Public Works Engineer

*CC:* Phillip Peterson P.E., Public Works Engineer

*Subject:* Hyde Street and N Winooski Accessibility (ADA) Parking Change

---

**Staff recommends the DPW Commission remove, see Attachment-1:  
7A Accessible spaces designated.**

*No person shall park any vehicle at any time in the following locations, except automobiles displaying special handicapped license plates issued pursuant to 18 V.S.A. § 1325, or any amendment or renumbering thereof:*

- a) (28) On the west side of Hyde Street beginning one hundred ninety-five (195) feet south of Riverside Avenue and extending south for a distance of twenty (20) feet.

**Purpose & Need:**

The purpose of this request is to reallocate an accessible (ADA) space as public parking because it is no longer in use. This change will provide parking need for residents of Hyde St.

**Project Checklist:**

|                                                             | N/A | Yes | No | Reference                                                                                               |
|-------------------------------------------------------------|-----|-----|----|---------------------------------------------------------------------------------------------------------|
| Aligns with MUTCD standards and/or established City Policy? | X   |     |    |                                                                                                         |
| Aligns with City plans?                                     | X   |     |    |                                                                                                         |
| Followed Public Engagement Plan?                            |     | X   |    | These Traffic Regulation changes are defined as an INVOLVE project in the Public Engagement Plan (PEP). |

**Summary and Conclusion:**

Staff received a request to remove an ADA space on the west side of Hyde Street beginning one hundred ninety-five (195) feet south of Riverside Avenue and extending south for a distance of twenty (20) feet, which is no longer being utilized. Reallocating the space to public parking will allow more parking for local residents. The spots surrounding the ADA space are unrestricted.

**Public Engagement:**

In preparation for the 12/21/2022 DPW Commission Meeting, Staff distributed flyers to residents in the vicinity of on the west side of Hyde Street beginning one hundred ninety-five (195) feet south of Riverside Avenue and extending south for a distance of twenty (20) feet

**Site Map:**



ADA space to be removed for  
public parking

**Attachments:**

1. Traffic regulation.
2. Public Input Correspondence.

# CITY OF BURLINGTON

In the Year Two Thousand Twenty-two

## A Regulation in Relation to

Rules and Regulations of the Traffic  
Commission—  
Section 7A. Accessible spaces designated.

Sponsor(s): Department of Public Works

Action: Approved

Date: 12/21/2022

Attestation of Adoption:

*Phillip Peterson, PE*  
*Public Works Engineer, Technical Services*

Published: \_\_\_\_\_

Effective: \_\_\_\_\_

**It is hereby Ordained** by the  
Public Works Commission of the City of Burlington as follows:

1 That Appendix C, Rule and Regulations of the Traffic Commission, Section 7A, Accessible  
2 spaces designated, of the Code of Ordinances of the City of Burlington is hereby amended as  
3 follows:

### 4 **Section 7A Accessible spaces designated.**

5 No person shall park any vehicle at any time in the following locations, except automobiles displaying  
6 special handicapped license plates issued pursuant to 18 V.S.A. § 1325, or any amendment or  
7 renumbering thereof:

8 (1)-(27) As written.

9 (28) ~~On the west side of Hyde Street beginning one hundred ninety five (195) feet south of~~  
10 ~~Riverside Avenue and extending south for a distance of twenty (20) feet. Reserved.~~

11 (29)-(138) As written.

12 (139) ~~On the west side of North Willard Street in front of number 197. Reserved.~~

13 (140)-(173) As written.

14  
15 \*\* Material stricken out deleted.

16 \*\*\* Material underlined added.

17  
18 TD: BCO Appx.C., Section 7A  
19 12/21/22

## Attachment 2

### Public input correspondence

One phone call received from Heather Machia in support of the ADA spot removal. Ms. Machia says the spot is no longer in use.

# Memo

*Date:* November 9, 2022

*To:* Public Works Commission

*From:* Dora Bean, Associate Public Works Engineer

*CC:* Phillip Peterson P.E., Public Works Engineer

*Subject:* 197 N Willard Accessibility (ADA) Parking Change

---

**Staff recommends the DPW Commission remove, see Attachment-1:  
7A Accessible spaces designated.**

*No person shall park any vehicle at any time in the following locations, except automobiles displaying special handicapped license plates issued pursuant to 18 V.S.A. § 1325, or any amendment or renumbering thereof:*

- a.) (139) On the west side of North Willard Street in front of number 197.

**Purpose & Need:**

The purpose of this request is to reallocate an accessible (ADA) space as public parking because it is no longer in use. This change will provide parking need for residents of N Willard St.

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The purpose of this request is to reallocate an accessible (ADA) space as public parking because it is no longer in use. This change will provide parking need for residents of N Willard St.

**Project Checklist:**

|                                                             | N/A | Yes | No | Reference                                                                                               |
|-------------------------------------------------------------|-----|-----|----|---------------------------------------------------------------------------------------------------------|
| Aligns with MUTCD standards and/or established City Policy? | X   |     |    |                                                                                                         |
| Aligns with City plans?                                     | X   |     |    |                                                                                                         |
| Followed Public Engagement Plan?                            |     | X   |    | These Traffic Regulation changes are defined as an INVOLVE project in the Public Engagement Plan (PEP). |

**Summary and Conclusion:**

Staff received a request to remove an ADA space in front of 197 N Willard, which is no longer being utilized. Reallocating the space to public parking will allow more parking for local residents. The spaces surrounding the ADA spot are unrestricted.

**Public Engagement:**

In preparation for the 12/09/2022 DPW Commission Meeting, Staff distributed flyers to residents in the vicinity of 197 N Willard. Staff were engaged in a correspondence with a local resident, who supports the ADA space reallocation, the resident also wanted to discuss other parking issues which are not germane to this issue.

**Site Map:**



**Attachments:**

1. Traffic regulation.
2. Public Input Correspondence.

# CITY OF BURLINGTON

In the Year Two Thousand Twenty-two

## A Regulation in Relation to

Rules and Regulations of the Traffic  
Commission—  
Section 7A. Accessible spaces designated.

Sponsor(s): Department of Public Works

Action: Approved

Date: 12/21/2022

Attestation of Adoption:

Phillip Peterson, PE  
Public Works Engineer, Technical Services  
Published: \_\_\_\_\_  
Effective: \_\_\_\_\_

**It is hereby Ordained** by the  
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- 1 That Appendix C, Rule and Regulations of the Traffic Commission, Section 7A, Accessible  
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- 13 (140)-(173) As written.

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15 \*\* Material stricken out deleted.

- 16 \*\*\* Material underlined added.

- 17  
18 TD: BCO Appx.C., Section 7A  
19 12/21/22

# Attachment 2

## Public input correspondence emails

November 8, 2022

Subject: parking on N Willard

Message: To whom it may concern,

There were multiple parking spaces in front of our house removed by the recent construction on North Willard Street, a handicapped parking spot replaces one of them, but nobody in the surrounding houses is handicapped. This takes parking away from us residents of north Willard Street, where it is already hard to find parking. Not to mention in the time it has been reserved for handicapped people, no one has been able to occupy the parking spot. The other spot was removed entirely from the corner of Charles Street and North Willard and replaced by some angled lines that serve no purpose. Charles Street is a one way so there is no one who needs to come out of that street and take a left turn. This would make sense for visibility for cars to take a left turn, however as I previously stated, it is a one-way. I have spoken to a few of our neighbors and this change is all around unwelcome in our neighborhood. Please reconsider this choice.

If this is not the right department to contact about this issue I would like to be directed to the proper department to consult about this. I also tried to attach a photo of the area in question, but was not able to attach it in this browser, If you would like a clarifying picture I can send it to the appropriate email.

Thanks,

-Leo Nerbak

November 14, 2022

Hi Leo,

Thanks so much for reaching out with your concerns. Regarding the ADA parking space, at this stage the Burlington Public Works Department had decided to open the removal of the ADA space to public commentary. You, and your neighbors, received a flyer explaining these changes at your residence. If the spot is no longer being utilized, the Public Works Commission will vote on its removal at their upcoming meeting in December. With regards to your concerns about Charles Street, it would be great if you

could directly send me some photos of the angled lines so we can further review this issue. Please feel free to call or email me with any remaining questions.

Kindly, Dora Bean

November 14, 2022

Hi Dora,

I have not seen the flyer yet but I have been away for the weekend I will look when I get home. I appreciate your openness to changing it, as it has still not been occupied. As for the corner of Charles Street, I have attached a picture of the spot in question. In the picture you can see where the lines used to be which my neighbors and I believe it should be restored to.

Thank you and have a great day,

-Leo

November 18, 2022

Hello,

I am just following up again on the status of this issue. We still have not seen a flyer in the mail, and no one has used the handicapped spot still. Do you have any information on the corner of Charles Street as well? There have been people parking in that spot regardless of the lines, they should be removed.

-Leo

November 18, 2022

Hi Leo,

Thanks for reaching out again. Attached is a copy of the flyer we placed in your neighborhood informing folks of our intention to reallocate the ADA spot if it is no longer being utilized. As long as we don't hear back from anyone using the spot, the DPW Commission will vote on removing the spot at their monthly meeting on December 21st. If it is approved, the city will begin the process of removing the spot.

We are in the process of evaluating the lines on Charles St. I'll be sure to update you after we are done.

Thanks for your patience,

Dora Bean

November 18, 2022

Thank you for sending the flyer,

In the picture included with the flyer, you can see a car parked in the spot removed by the lines with plenty of room for the corner of Charles St.

Thanks for your consideration.

-Leo

November 28, 2022

Hi Leo,

I wanted to let you know that we have reviewed the lines you expressed concerns about on Charles Street. We went out and measured the lines. As it turns out, the lines are in compliance with the City of Burlington's Code Enforcement Ordinances, even though Charles Street is a one-way.

The DPW commission will still vote on removing the ADA spot at their monthly meeting on the 21st. If it is approved, the city will begin the process of removing the spot.

Thanks kindly,

Dora Bean

| PWC 12/21/2022 Agenda Item 5; Attachment A; VHB Memorandum 11/7/2022 Main Street Intersection Alternatives                                                        |                                  |                                       |                                |                                       |                                                    |                                          |                                  |                                          |                                  |                                                |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|---------------------------------------|--------------------------------|---------------------------------------|----------------------------------------------------|------------------------------------------|----------------------------------|------------------------------------------|----------------------------------|------------------------------------------------|
| Query: Performance Comparison 2037: similar number of vehicles queued at peak PM hour but projected delay per vehicle using intersection significantly different. |                                  |                                       |                                |                                       |                                                    |                                          |                                  |                                          |                                  |                                                |
|                                                                                                                                                                   | Table 1 - Roundabout Performance |                                       | Table 2 Signalized Performance |                                       | Table 5 Performance Comparison (2037 PM Peak Hour) |                                          |                                  |                                          |                                  |                                                |
|                                                                                                                                                                   |                                  |                                       |                                |                                       | Existing Conditions                                |                                          | Roundabout                       |                                          | Signalized                       |                                                |
|                                                                                                                                                                   | Delay in minutes<br>(seconds)    | Queue in no. of 25ft<br>vehicles (ft) | Delay in minutes<br>(seconds)  | Queue in no. of 25ft<br>vehicles (ft) | Delay in<br>minutes<br>(seconds)                   | Queue in no.<br>of 25ft<br>vehicles (ft) | Delay in<br>minutes<br>(seconds) | Queue in<br>no. of 25ft<br>vehicles (ft) | Delay in<br>minutes<br>(seconds) | Queue in<br>no. of<br>25ft<br>vehicles<br>(ft) |
| <b>Main St. and S. Winooski</b>                                                                                                                                   |                                  |                                       |                                |                                       |                                                    |                                          |                                  |                                          |                                  |                                                |
| Eastbound Morning Peak<br>Hour (heading for I-89)                                                                                                                 | less than one (4.8)              | 4.6 vehicles (115)                    | less than one (49.0)           | 11 vehicles (275)                     |                                                    |                                          |                                  |                                          |                                  |                                                |
| Westbound Morning Peak<br>Hour (heading for<br>downtown)                                                                                                          | less than one (4.0)              | 3.7 vehicles (92)                     | less than one (46.6)           | 21.8 vehicles (545)                   |                                                    |                                          |                                  |                                          |                                  |                                                |
| Eastbound Afternoon Peak<br>Hour (heading for I-89)                                                                                                               | 5.0 minutes (301.2)              | 18.0 vehicles(452)                    | 3.2 minutes (193.0)            | 13.9 vehicles (348)                   | 1.5 minutes<br>(91.4)                              | 15.8 vehicles<br>(395)                   | 5.02<br>minutes<br>(301.2)       | 18 vehicles<br>(452)                     | 3.2<br>minutes<br>(193.0)        | 13.9<br>vehicles<br>(348)                      |
| Westbound Afternoon<br>Peak Hour (heading for<br>downtown)                                                                                                        | 8. 5 minutes (507.7)             | 18.8 vehicles (468)                   | 1.5 minutes (93.9)             | 18.3 vehicles (458)                   | 1.0 minute<br>(62.2)                               | 19.4 vehicles<br>(487)                   | 8.5 minutes<br>(507.7)           | 18.8<br>vehicles<br>(468)                | 1.5<br>minutes<br>(93.9)         | 18.3<br>vehicles<br>(458)                      |

## 12/21/2022 Public Works Commission meeting, agenda item 5. Great Streets Main Street Intersection Control

From: Solveig Overby, Public Works Commissioner

At the May 22, 2022 Public Works Commission meeting, when presented with initial Main Street design concepts, I expressed several concerns and said that the Commission would benefit by having metrics for three intersection design options at each of the seven on Main Street that are part of the project: 1) roundabout 2) signalized (as they are now) or 3) all-way-stop (as is in use at Pearl/S. Winooski intersection). I suggested that data be provided for each design, providing vehicle and pedestrian delays, queues of vehicles, motor fuel/energy consumption, projected injuries and costs to the public (compared to those established by VTRANS for the years 2012-2016 for which we have data), and equity.

In our packet for Agenda item 5, consulting firm VHB has provided DPW an Intersection Evaluation Memo with the recommendation that DPW continue using signalized intersections for the Main Street re-development. Roundabouts, using the dimensions VHB recommended, were stated to be too complex to design, too expensive to implement, and caused too much delay in traffic movement, due largely to uncontrollable pedestrians.

I repeat my concerns below, acknowledging my debt to the late Transportation expert Tony Reddington who certainly would have participated in this meeting were he alive.

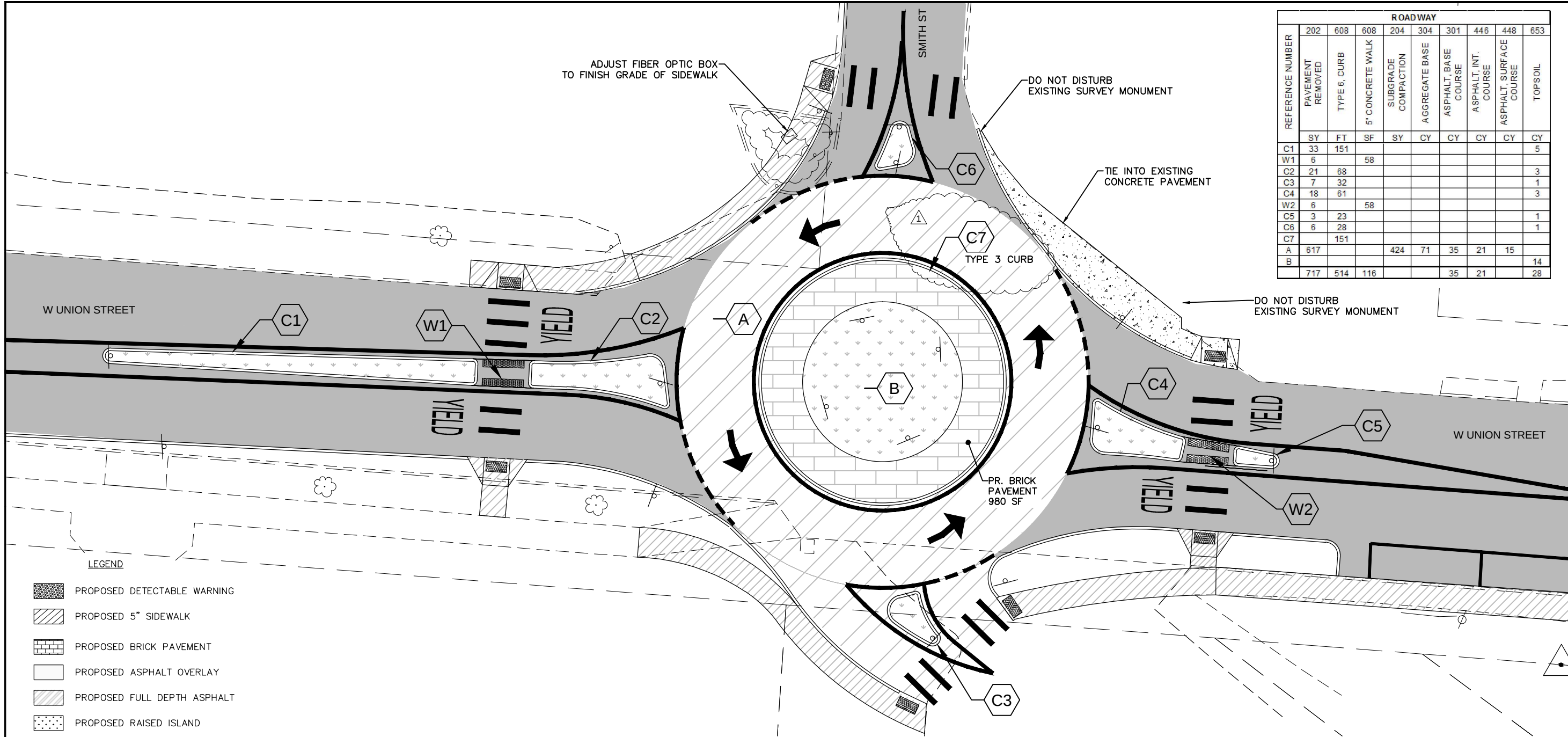
- 1) Four of the Main Street intersection in the proposed Main Street Great Streets “generational redevelopment” proposal are on Vermont’s high crash list based on 2012-2016 data:
  - #1 highest crash location in Vermont is Main and South Winooski
  - #24 is Main and St. Paul
  - #31 is Main and Battery
  - #52 is Main and South Union
- 2) Roundabouts provide 24/7 traffic calming, and create safer intersection crossings for pedestrians and bicyclists while facilitating smooth traffic flow by slowing traffic. Negotiation between vehicles at intersections is separated from negotiation between drivers of vehicles and pedestrians making for safer passage. Eye contact is facilitated between all users passing through intersections resulting in safer passage for all.
- 3) Roundabouts avoid forced greenhouse gas emissions caused by vehicles idling at signals when their movement is prohibited even when there are no competing vehicles or pedestrians/bicyclists at the intersection. Roundabouts cut CO2 emissions by 20-30%.
- 4) Signals at intersections are challenging to program in ways to avoid vehicle idling or pedestrians waiting to cross, despite there being no other vehicles at an intersection. “Intersection waiting experiences” can induce drivers and pedestrians to unsafely ignore signals and move through an intersection without regard to the signals.
- 5) Compared to roundabouts, signals unfortunately induce vehicle drivers to step on the gas at yellow signals, causing collisions with other vehicles.

- 6) Compared to roundabouts, signals leave pedestrians vulnerable to being hit by turning vehicles.
- 7) Compared to roundabouts, signals leave motorcyclists and scooter riders vulnerable to being hit while turning or rear-ended while waiting to turn.
- 8) Roundabouts are less expensive to maintain, by not requiring electricity costs, mechanical repairs and equipment upgrades year after year.

I provided three attachments to support my recommendation:

- 1) A document prepared by the late Transportation expert Tony Reddington listing crash statistics and costs at four high crash Main Street intersections based on 2012-2016 VTRANS data;
- 2) a document showing design specifications and photographs for a roundabout in Athens, Ohio. The information in that document makes it easier for people to visualize the aesthetics, safety and functionality of roundabouts. The Athens, OH roundabout document has been provided to the Department of Public Works and the Public Works Commission before, initially in 2020, to facilitate DPW understanding of the superior aesthetics, environmentally-sound functionality and safety of roundabouts.
- 3) The late Tony Reddington's testimony regarding the "Great Streets" TIF Bond ballot item, 2/20/2022

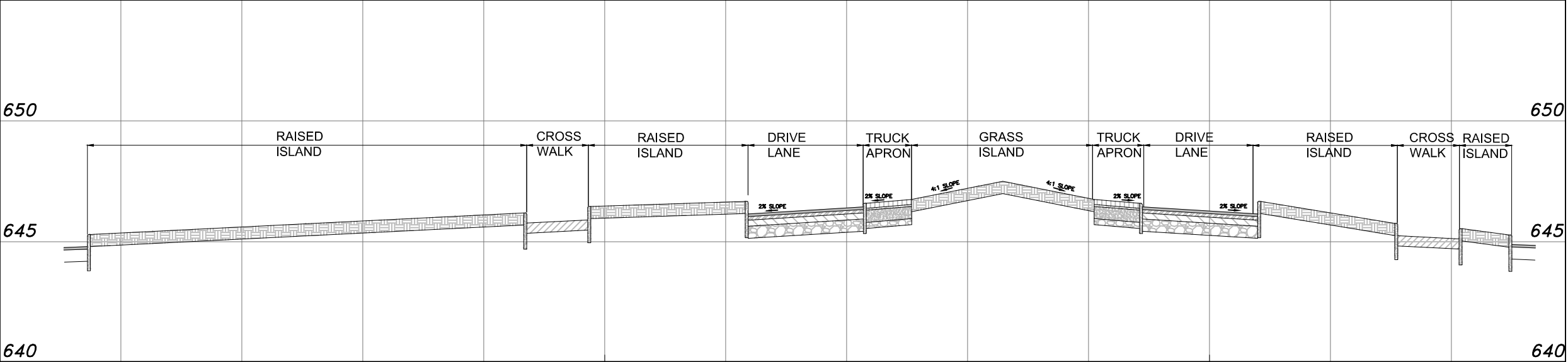
I am providing these documents again for the consideration of the Commission prior to any future meetings where the PWC will vote on resolutions concerning the Main Street intersection designs.



| REFERENCE NUMBER | ROADWAY          |              |                  |                     |                |                     |                      |                        |         |
|------------------|------------------|--------------|------------------|---------------------|----------------|---------------------|----------------------|------------------------|---------|
|                  | 202              | 608          | 608              | 204                 | 304            | 301                 | 446                  | 448                    | 653     |
|                  | PAVEMENT REMOVED | TYPE 6, CURB | 5" CONCRETE WALK | SUBGRADE COMPACTION | AGGREGATE BASE | ASPHALT BASE COURSE | ASPHALT, INT. COURSE | ASPHALT SURFACE COURSE | TOPSOIL |
| C1               | 33               | 151          |                  |                     |                |                     |                      |                        | 5       |
| W1               | 6                |              | 58               |                     |                |                     |                      |                        |         |
| C2               | 21               | 68           |                  |                     |                |                     |                      |                        | 3       |
| C3               | 7                | 32           |                  |                     |                |                     |                      |                        | 1       |
| C4               | 18               | 61           |                  |                     |                |                     |                      |                        | 3       |
| W2               | 6                |              | 58               |                     |                |                     |                      |                        |         |
| C5               | 3                | 23           |                  |                     |                |                     |                      |                        | 1       |
| C6               | 6                | 28           |                  |                     |                |                     |                      |                        | 1       |
| C7               |                  | 151          |                  |                     |                |                     |                      |                        |         |
| A                | 617              |              |                  | 424                 | 71             | 35                  | 21                   | 15                     |         |
| B                |                  |              |                  |                     |                |                     |                      |                        | 14      |
|                  | 717              | 514          | 116              |                     |                | 35                  | 21                   |                        | 28      |

LEGEND

- PROPOSED DETECTABLE WARNING
- PROPOSED 5" SIDEWALK
- PROPOSED BRICK PAVEMENT
- PROPOSED ASPHALT OVERLAY
- PROPOSED FULL DEPTH ASPHALT
- PROPOSED RAISED ISLAND



FILE NAME

05/30/14 - R

5-20 ADDENDUM

REVISION

CITY OF ATHENS

ATHENS COUNTY, OHIO

buckleygroup

CITY OF ATHENS

W UNION STREET

DATE

MAY 30,

SCALE

0

DRWN. RDB

C

JOB NO. 1349

SHEET NO.



ROUNDAABOUT  
AHEAD

15  
MPH







**Downtown and West End North Street Sites of 11 Burlington High Crash Intersections in the Latest 2012-2016 High Vermont High Crash Location Report from VTrans**

**Table 1: High Crash intersections/Injuries—Downtown and North Street**

|                           | <b>Intersections</b> | <b><u>Injuries</u></b>         | <b><u>Total Economic</u></b> |
|---------------------------|----------------------|--------------------------------|------------------------------|
|                           |                      | <b><u>10-year Per Year</u></b> | <b><u>Cost -10 years</u></b> |
|                           |                      | <b><u>Per</u></b>              | <b><u>(\$ Million)</u></b>   |
|                           |                      | <b><u>Intersection</u></b>     |                              |
| <b>North Street</b>       | <b>5</b>             | <b>32</b>                      | <b>0.6</b>                   |
|                           |                      |                                | <b>\$ 4.3</b>                |
| <b>Main Street</b>        | <b>4</b>             | <b>78</b>                      | <b>2.0</b>                   |
|                           |                      |                                | <b>\$15.0</b>                |
| <b>South Winooski Ave</b> | <b>1</b>             | <b>26</b>                      | <b>2.6</b>                   |
|                           |                      |                                | <b>\$14.3</b>                |
| <b>South Union</b>        | <b>1</b>             | <b>10</b>                      | <b>1.0</b>                   |
|                           |                      |                                | <b>\$ 1.2</b>                |
| <b>Total:</b>             | <b>11</b>            | <b>146</b>                     | <b>—</b>                     |
|                           |                      |                                | <b>\$34.8</b>                |

**Source:** Vermont Agency of Transportation Vermont High Crash Location Report 2012-2016 (Series)

<https://vtrans.vermont.gov/sites/aot/files/highway/documents/highway/Formal%202012-2016%20High%20Crash%20Location%20Report.pdf>

**Tabulated Burlington Intersections—19 signalized, 1 3-way stop control  
(dollars per crash)**

*CODE: # on VTrans list of 111 [worst #1]; intersection name; milepost; years of information/total crashes/total injuries/total PDO “property damage only” with today minimum damage of \$3,000 or injury requiring reporting to police].*

**(VTrans value average value per crash) Total Crashes (per year):  
crashes for all years in sample (crashes per year)**

**DOWNTOWN—MAIN STREET**

*CODE: # on VTrans list of 111 [worst #1]; intersection name; milepost; years of information/total crashes/total injuries/total PDO “property damage only” with today minimum damage of \$3,000 or injury requiring reporting to police].*

**#52** Main/South Union 0.520 5 years/37 crashes/9 injuries/30 PDO

**(Average cost per crash:\$30,689) Total Crashes 2012-2016: 37 (7.4 per year)**

**#1** S. Winooski/Main (Alternate US 7) 0.990 5 years/98 crashes/39 injuries/  
90PDO, 90 per

**(Average cost per crash: \$20,311) Total Crashes 2012-2016: 98 (19.6 per year)**

**#24** Main/St. Paul 0.250 5 years/39 crashes/7 injuries/32 PDO

**(Average cost per crash:\$25,156) Total Crashes 2012-2016:39 (7.8 per year)**

**#31** Battery/Main 0.220 5 years/45 crashes/8 injuries/38 PDO

**(Average cost per crash:\$25,276) Total Crashes 2012-2016: 45 (9.0 per year)**

**DOWNTOWN--SOUTH WINOOSKI AVE (except Main St)**

**#38** North Winooski Ave (Alternative US 7)/Pearl St 1.310 5 years/61 crashes/  
13 injuries/51 PDO

**(\$23,489) Total Crashes 2012-2016: 61 (12.2)**

**DOWNTOWN NORTH/SOUTH UNION**

**#20** North Union/South Union/Pearl 0.000 5 years/19 crashes/5 injuries/15 PDO

**(Average cost per crash:\$32,211) Total Crashes (per year): 19 (3.8)**

**NORTH STREET—NORTH AVE TO NORTH UNION**

**#110** North Avenue/North St 0.180 5 years/20 crashes/4 injuries/17

PDO

**(Average cost per crash:\$27,305) Total Crashes (per year): 20 (4.0)**

**#40** Park St/North St 0.280 5 years/19 crashes/4 injuries/16 PDO

**(Average cost per crash:\$28,147) Total Crashes (per year): 19 (3.8)**

**#23** North St/North Champlain St 0.220 5 years/20 crashes/5 injuries/17

PDO

**(Average cost per crash:\$30,219) Total Crashes (per year): 20 (4.0 )**

**#46** North Winooski Ave/North St (Alternate 7)/North 1.620 5 years/19

crashes/3 injuries/16 PDO

**(Average cost per crash: \$23,489) Total Crashes (per year): 19 (3.8)**

**#87** North Union/North St 0.300 5 years/15 crashes/0 injuries/15 PDO **(3-way stop)**

**(Average cost per crash:\$11,300) Total Crashes (per year): 15 (3.0)**

2/20/2022

Defeat the 430 million Burlington Main Street Proposal with its Four Vermont Four High Crash Intersections—Avoided Any Serious Safety, Equity and Climate Change Public Review and Analytics

Burlington voters decision on the The Burlington \$30 million Main Street vague investment, a so-called “Great Streets” design, on the March 1, Ballot item 4, remains a bad choice at a time of change where safety first along with equity and climate change which comprise the new paradigm for downtowns and neighborhoods must prevail.

Michael Long ( <https://vtdigger.org/2022/02/18/michael-long-tif-districts-are-an-economic-development-boondoggle/> ) “TIF districts are an economic development boondoggle” (VT Digger, February 18, 2020) details the diversion of millions of dollars from City’s municipal and school tax resources using “Tax Increment Financing” (TIF). What the \$30 million actual used for, vague at this point, also is equally disturbing at a time of transformative transportation change in what we invest and how we invest in downtowns and low income, racially diverse neighborhoods like the Old North End and King Maple which borders part of the Main Street, section from South Union (Edmunds Schools grounds) and westerly to Battery Street. Our Burlington core area suffers overburden with the majority of the City’s 20 high crash intersections (111 statewide), 11, generating 140 injuries a decade with great human suffering and overall costs of \$35 million estimated by VTrans.

The City in a decade has not addressed a single VT high crash intersection to maximize safety in the last decade with the single exception last year when the City Council overruled Public Works in the case of Colchester/East intersection. The four high crash Main Street intersections along generate 78 injuries per decade and \$15 million estimated costs using the most recent VTrans high crash report data. We live in a nation “trailing” other nations as US Department of Transportation Pete Buttigieg said in releasing a roadway safety strategy last month calling for a Safe System Approach in road investments to reverse the US three decade decline in safety from #1 in 1990, a decline which accelerated during covid and during a period 2010-2021 when pedestrian deaths increased

46%, disproportionately affecting people of color. ( <https://www.transportation.gov/NRSS> )

Yes, our core area of downtown and adjacent neighborhoods are overburdened by traffic and its terrible price exacted in injury and death even though most of the streets involved feature 25 mph speed limits. Five of the six west end of North Street intersections, for example, are high crash intersections with a rate of 46 injuries per decade—the new standard intersection, the roundabout, at five Vermont downtown intersections recorded just one injury a decade in their first half century of operation. The weekly roughly one pedestrian or bicycle injury in Burlington (about 2 car occupants suffer injuries weekly) are concentrated in the core of the City where 32% of residents do not have a car and are dependent on walking and public transit. And yes those residents are in neighborhoods with the lowest incomes and highest concentration of people of color—and they disproportionately suffer from the historic and current lack of safety predominant in the carcentric age, an age now ready to shift to safety, to minimizing climate emissions, and ending the high injury rates in our City, particularly first and foremost to the City low income and persons of color.

The Main Street project includes the S Winooski intersection, highest crash intersection in Vermont and part of the four S Winooski blocks privately referred to as “Death Valley” for its lack of safety, but never mentioned as a safety issue in the hour long Great Streets City presentation February 1. (The words “climate change” and “equity” were never uttered either.)

Burlington City Council has adopted to major policies directly related to the Main Street proposal never discussed since the last public engagement on Great Streets date back six years to 2016 before Racism as a Public Health Emergency and Climate as a Public Health Emergency were adopted. Great Streets never address these issues nor was safety even a consideration in the original scheme.

Please vote “No” on Ballot item 4 when there is no rush, there has been no public process, and we truly are at an inflection point where transportation safety will finally be first priority combined with dealing up front with racial equity, the poor and climate change!

cannot in any way be supported if you care about the safety of residents and visitors, care about racial and income equity, or care about climate changes. The proposal fails all three tests. And the Tax Increment Finance scheme rejected in a recent Vermont Digger commentary itself adds to the fatal flaws for this question

Not only has there been no public engagement on this ballot question for six years until just days before ballots hit our mailbox about February 11, but the entire issue of safety has been ignored, a clear case of malign neglect on the part of Public Works and the consultants hired to promote it the proposal.

On February 1, the two hour zoom meeting on the proposed \$32 million Main Street investment—from South Union Street to Battery Street drew about 20 participants, the first public engagement in six years. In fact public engagement never took place in a serious way. No advisory committees, no involvement of Neighborhood Planning Assemblies (NPAs), no analysis of safety at some of the most dangerous intersections in Vermont. NPA Wards 2/3, NPA Wards 1/8 and NPA Ward 6 all touch the Main Street proposal roadway section and NPA Ward 5 a block south from Saint Paul to Battery Streets arguably deserve to be part of any discussion of roadway changes.

No plans, specifications, estimates, or intersection designs have been studied or presented—just really just some pretty pictures. Pretty pictures of trees, sidewalks and bike lanes but no pretty pictures of intersections. This is not sufficient to justify giving a \$32 million blank check to Mayor Weinberger and the Department of Public Works. Champlain Parkway need not be mentioned.

Worst of all, four of the seven cross intersections—So. Union (Edmunds Schools crossings), So. Winooski, Saint Paul and Battery are on the Vermont Agency of Transportation list of the 111 highest crash intersections in Vermont! See the data below on these intersections (PDO is “property damage only” crashes).

<https://vtrans.vermont.gov/sites/aot/files/highway/documents/highway/Formal%202012-2016%20High%20Crash%20Location%20Report.pdf>

And the downtown gateway So. Winooski intersections holds the honor of being the highest crash rating in Vermont!

The four high crash intersections record an average of 7.8 injuries per year, 58 total crashes and an economic cost of \$1.5 million a year. But until prompted by attendees the Public Works staff and consultants never brought forth the safety issue and declined to even acknowledge that So. Winooski/Main is the #1 highest crash intersection in the state and a roundabout, the gold standard

for pedestrian safety, is shown as a gateway and safety design in the recently completed Winooski Corridor study!

Burlington has 20 high crash intersections, 18% of the 111 current VTrans list while our City and its Public Works Department has refused to address safety as a priority for addressing at any of these intersections—its refusal to prioritize safety in the case of East Avenue/Colchester Ave was overruled this past year by the City Council who ordered if money were available the safest-for-all-modes roundabout would be installed. [Note the roundabout is the first Dutch type roundabout with a separate lane for pedestrians and cyclists--now very likely to go forward as UVM plans hundreds of students to be housed in new dormitories in the Trinity Campus area.]

The Great Streets proposal, truly a boondoggle, comes as the US Department of Transportation adopted a National Roadway Safety Strategy last month, essentially Vision 0, using a Safe System Approach on street investments along with Safe System Intersections. Secretary Buttigieg states the safety initiative must include not only safety but also equity and climate change elements—the words “climate change” never were spoken in the one hour consultant presentation last night. Nor for the matter was equity even though King Maple, our lowest income neighborhood and largest community of color in Vermont borders Main Street from Saint Paul to Battery! <https://www.transportation.gov/NRSS>

So please consider a “no” vote on the fatally flawed Great Streets proposal—an amount of expenditure it might be noted more than sufficient for the City share of a light rail line from the waterfront via Marketplace to UVMMC-UVM to University Mall!

**DEPARTMENT OF PUBLIC WORKS  
645 PINE STREET  
BURLINGTON, VERMONT 05401  
COMMISSION MEETING DECEMBER 21, 2022  
FINAL MINUTES**

Commissioners Present: Commissioner Barr, Commissioner Damiani, Commissioner Hogan (Chair), Commissioner Munteanu (Via zoom), Commissioner O'Neill-Vivanco, Commissioner Overby

Commissioner Absent: Commissioner Fox

**ITEM 1 – CALL TO ORDER**

Commissioner Hogan called the meeting to order at 6:34 p.m.

**ITEM 2 – AGENDA**

Commissioner Barr made a motion to accept the agenda  
Commissioner O'Neill-Vivanco seconded  
Unanimous approval

**ITEM 3 – PUBLIC FORUM**

Filipe Hoyos asked if the parking issue on Main Street was taken off and then re-added does not want to sacrifice other modes of transportation.

**ITEM 4 – CONSENT AGENDA**

- A Approval of Draft Minutes 11-16-22
- B 197 North Willard Street ADA Spot Removal
- D Hyde Street ADA Spot Removal

Commissioner Munteanu made a motion to pass Consent Agenda with  
Commissioner Barr seconded  
Unanimous approval

**ITEM 5 – GREAT STREETS MAIN STREET INTERSECTION CONTROL DISCUSSION AND GENERAL PROJECT UPDATES**

Senior Engineer Laura Wheelock introduced Jen Connelly of VHB Consultants who will give an overview of the Main Street project. Also, there is ravine work continuing on this project.

Jen Connelly stated they were looking to create streets that are walkable, bikeable, sustainable, vibrant and functional. We will prioritize safety for all users. Traffic speeds will be reduced to 20 miles an hour.

We will evaluate right of way impacts, building structure impacts, bike and pedestrian operations, activation space impacts, heat island impacts, safety impacts and traffic operations.

Our study included reviewing the use of roundabouts versus traffic signals. Mini roundabouts are 80-foot diameter circulation and standard are 110-foot diameter – but we have to keep in mind the truck traffic if these are used. Traffic signals will be two lane cross section with turn lanes, two phase signal operations, concurrent Peds with leading indication and optimize the traffic in a.m. and eastbound in the p.m.

In presentation, we have a comparison for roundabouts versus traffic signals. In the end, it was found that traffic signals are a better alternative for this corridor.

Commissioner Munteanu stated that South Winooski Avenue and Main Street is one of the most dangerous how does roundabout versus signalization consider traffic moving on cross streets. Jenn stated that they did modelling not processing the side streets for through route. Overall safety is a narrow curb cut width on side streets – speed reduction will help safety.

Commissioner Barr stated the slowing traffic to 20mph that a roundabout in this area would not be safer for bicyclists in the area but slowing traffic will be a help.

Commissioner O'Neill-Vivanco asked if there were stats available for So. Winooski Avenue since the restriping. Commissioner O'Neill-Vivanco stated it feels safer. I would also like to know if you have any information on the impacts of Pine and Battery Street, St. Paul Street and South Winooski Avenue. Would like communication on traffic narrowing and how it is going to work.

Senior Engineer Laura Wheelock stated we could check into it. Senior Engineer stated that are 35' in parked areas and crosswalks are 30' in general.

Commissioner O'Neill-Vivanco stated 2 phase signal operation pedestrian and light turns pedestrians have a comfortable lead. Would like to see if Church Street possible roundabout trying to situate somewhere in corridor.

Commissioner Overby had asked several questions about the design for the Main Street. She stated that one of the safest places for pedestrians to cross is at Pearl and Winooski Avenue where all vehicles stop and then pedestrians can cross in all directions.

Commissioner Overby noted that four of the Main St. intersections in the project are on Vermont's high crash location list, with Main and S. Winooski being the #1 crash location in the state.

Commissioner Overby also reviewed the roundabout information she initially provided at the May 2022 Public Works Commission meeting. She provided for the record, supporting documents regarding the superior safety, reduced greenhouse gas/CO2 emissions, lower maintenance costs, and improved intersection performance for all modes of transportation to be gained by implementing roundabouts at intersections on Main St.

Commissioner Overby also asked what the current average speed was and was informed 24 mph. Commissioner Overby asked if there was a projected increase in traffic. Jenn advised that the traffic numbers were higher than expected.

Jenn advised they were still we are still fine-tuning the details of this project.

Commissioner Damiani asked at the cross streets is it a seven second same for cross streets. Jenn advised that the traffic numbers were higher than expected. Senior Engineer Laura Wheelock stated that staff would be recommending all signals on Main Street.

Commissioner Hogan asked about micro tunneling. Senior Engineer Laura Wheelock stated this was not her strong point but he was talking about the ravine work being done for this project. Commissioner Hogan stated the Shelburne Road roundabout was fantastic for vehicles. He asked about safety of bicyclists.

Filipe Hoyos stated this was an excellent presentation – signalized is the best option for streets. Had asked if the designers thought about raising the intersection to prevent any collisions. I am an advocate of raised intersections to slow traffic.

Michael Arnold supports the raised intersections as well. Asked about transit-signalized times. Senior Engineer Laura Wheelock stated they were working with GMT on consolidated stops and make sure it is covered.

Senior Engineer Laura Wheelock stated that the preliminary plans will be posted on the great streets website – comments coming in. Design team is on hold until mid-January and we will look at the concerns brought up. Final plants will be out to bid in June with September for a construction start date.

#### ITEM 6 - DIRECTOR'S REPORT

Thank you Commission for being here and listening to this item. We are moving ahead with talks with CSWD for the possible purchase of the Flynn Avenue parcel and if purchased the city will do their own soil management. Also the possibility of another drop off center for the citizens of Burlington

GMT budget FY245 is underway.

Also listened to the project updates.

#### ITEM 7 – COMMISSIONER'S COMMENTS

Commissioner Damiani stated the winter storm cleanup was very good. Was wondering about the communication for winter parking. Do we collect data on why the message was missed?

Information Officer Rob Goulding explained all the ways of reaching out to residents on the winter parking ban. The parking ban lights are on by 3:00 p.m.

Commissioner Overby asked about the status on the repair in the Marketplace Garage. She also asked if the free parking for downtown employees in the Downtown garage might be expanded into the Marketplace Garage.

She also noticed that Bank Street was made one way and parking meters removed. She asked when the PWC discussed that change and how the lost meter revenue was currently being collected.

Director Spencer stated that the parking on Bank Street where the meters were removed the spaces are paid by the contractor because of the encumbrance permit. A second request will be coming up.

Commissioner Munteanu stated the response for the storm was outstanding. The main bicycling corridors were all done. Hope to see it kept up.

Commissioner Barr stated the clean up was good but had questions about the bollards at bump out intersections. The ones on Chase Street are all gone. Are they doing a permanent bump out? Director Spender stated they are evaluating that intersection but they will be reinstalled in the spring.

Commissioner O'Neill-Vivanco asked about the snow ban e mail. UVM also lets students know. Information Officer Goulding stated that they would reach out to the younger crowd about via Instagram as younger people seem to be on Instagram instead of Facebook.

Commissioner O'Neill-Vivanco asked if meters could be added on Union Street near the old YMCA.

Thank you for the flashing beacon at Main and Summit Streets appreciate it.

Commissioner Hogan stated he received a complaint from someone about a sketchy left urn coming down Ledge Road, this was apparently on the old maps when looked up. I looked up and the maps have been changed. There is concern about the white crosswalk markings were torn up and gone already.

Director Spencer stated they noticed this issue and will be contacting the state and the contractor to get this fixed in the spring.

Recycling and trash toers are being put back in the bike lanes, please fix this.

Protected bike lane on North Union Street, can we reinstall the bollards.

Director Spencer stated we are seeking to install a two-way bike lane on Champlain Street with curbing. We are struggling with staffing.

ITEM 8 – ADJOURNMENT & NEXT MEETING JANUARY 18, 2023

Commissioner Barr made a motion for adjournment  
Commissioner O'Neill-Vivanco seconded  
Unanimous approval

Meeting ended at 8:36 p.m.