CITY OF BURLINGTON
DEPARTMENT OF PUBLIC WORKS

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Chapin Spencer
DIRECTOR OF PUBLIC WORKS

M E M O R A N D U M

To: Tenzin Chokden, Clerks Office
From: Chapin Spencer, Director
Date: December 10, 2020
Re: Public Works Commission Agenda

Please find information below regarding the next Commission Meeting.

Date: **December 16, 2020**
Time: 6:30 – 9:00 p.m.

Due to current social distancing measures, this meeting will be held entirely virtually.

To view the meeting:
1. CCTV YouTube Channel (*streamed live*) or on Burlington Telecom Channel 317 (aired on a later date, *not live*). Comments on YouTube are not monitored by DPW staff. https://www.youtube.com/channel/UCJkWMLSqRNKLoyUZQiNoAcQ
2. Join via Zoom: https://us02web.zoom.us/j/83495330508
3. Call in for audio only: Phone number: 301-715-8592 Webinar ID: 834 9533 0508

To participate in public comment:
1. You must either join the meeting via the Zoom link above or by calling via the call-in information above.
2. If signed in via Zoom, please use the "Raise Your Hand" feature. This will alert DPW staff that you wish to speak and will automatically add you to the queue. When it's your turn to speak, your name will be called and you will be unmuted.
3. If you are calling in, please press *9 which will alert DPW staff that you wish to speak. When it's your turn to speak, your phone # will be called out and you will be unmuted.
4. If you encounter any difficulties when attempting to speak during public forum, please email DPWCommunications@burlingtonvt.gov.
5. In the event of challenges with Zoom video, please use the call-in option.

A G E N DA

ITEM

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 Queen City Park Rd and Higher Ground Proposal
- B Loading Zone Adjustment Adjacent to 372 N. Winooski Ave

5 20 Min Shelburne Street Roundabout Project Update
- A Presentation, O. Darisse & L. Wheelock
- B Commissioner Discussion
- C Public Comment
- D Action Requested –None

6 20 Min University Place Conceptual Designs
- A Presentation, P. Peterson & L. Wheelock
- B Commissioner Discussion
- C Public Comment
- D Action Requested –Vote

7 20 Min Russell Street & Charles Street Seasonal Parking Prohibition
- A Presentation, P. Peterson & L. Wheelock
- B Commissioner Discussion
- C Public Comment
- D Action Requested –Vote

9 15 Min Extension of 2 Hours Free at Marketplace Garage
- A Communication, J. Padgett
- B Commissioner Discussion
- C Public Comment
- D Action Requested –Vote

10 5 Min Approval of Draft Minutes of 11-18-2020

11 10 Min Director's Report

12 10 Min Commissioner Communications

13 **Adjournment & Next Meeting Date – January 20, 2021**

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City of Burlington
Department of Public Works

Technical Services Engineering Division
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Burlington, VT 05402
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TO: Scott Gustin, Principal Planner & Assistant Administrative Officer, Dept. of Permitting & Inspections

FROM: Susan Molzon, P.E., Senior Public Works Engineer

CC: Chapin Spencer, Director
Norm Baldwin, P.E., Assistant Director/City Engineer
Laura Wheelock, P.E., Senior Public Works Engineer

DATE: June 26, 2020

SUBJECT: Burton Hub, 180 and 266 Queen City Park Road – Department of Public Works Comments on Traffic Impact Study

The Department of Public Works (DPW), in consultation with Clough Harbour & Associates (CHA), has reviewed the submitted Traffic Impact Study (TIS) conducted by VHB, revised April 23, 2020 and a Memo of Additional Information for South Burlington dated April 23, 2020, for the proposed redevelopment of the Burton Hub properties located at 180 and 266 Queen City Park Road. City staff concurs with the independent analysis and comments provided in the attached CHA Memorandum dated June 26, 2020 and offers the following conclusions and recommendations:

- The traffic generated by the Burton Hub project will exacerbate the amount of delay at the Pine Street and Home Avenue intersection and increase traffic volumes on Home Avenue during the evening peak prior to construction of the Champlain Parkway. We recommend the Applicant complete a post-construction traffic analysis of neighborhood traffic impacts along Home Avenue after the Burton Hub redevelopment project is completed. Traffic calming measures will be warranted if the results of this analysis demonstrate the predicted values for traffic volume and intersection operation have been exceeded, and the street qualifies for traffic calming under DPW's guidelines. Costs for implementation of warranted traffic calming measures will be shared equally between the City and the Applicant.
- The traffic study shows that the Burton Hub project will have a negative impact at the intersection of Home Avenue and the Champlain Parkway during the evening peak. We recommend the Applicant perform a traffic study analysis of the Champlain Parkway/Home Avenue intersection after the Champlain Parkway is opened to vehicle traffic to determine if mitigation of increased traffic related to the Burton Hub site is necessary for the intersection to function as designed.
- We recommend all events in the performing arts space be restricted to not contribute to the peak hour traffic on surrounding roads before 6:00PM Monday through Friday.
- The traffic study shows that the Burton Hub project will not have a significant impact on traffic operations at other intersections within the study area, with or without construction of the Champlain Parkway.
- The traffic study shows that the operations of the one-lane Queen City Park Road bridge during morning and afternoon peak hours will be comparable in both the Build and No Build conditions of the Burton Hub project.

- During the review process, VHB provided updated Highway Capacity Manual Reports and Level of Service Tables to correct minor inconsistencies. We recommend the Applicant revise the TIS to formally incorporate these documents and resubmit an updated TIS for record purposes.

Please contact us if you have any questions or require additional information related to this review.

ATTACHMENTS:
CHA Burton Hub Review Memo, Dated June 26, 2020
Highway Capacity Manual Reports
Revised LOS Tables – Updated June 2020

design/construction solutions

MEMORANDUM
Burton Hub Mixed-Use Redevelopment – Queen City Park Road
Burlington, VT

To: Susan Molzon, PE
From: David Kahlbaugh, AICP
Date: June 26,2020

The comments below are provided based upon a review of the following documents for the Burton Hub Mixed-Use Redevelopment at 180 and 266 Queen City Park Road:

- Traffic Impact Study & Appendix, VHB (Revised April 23, 2020)
- Memo-Additional Information for South Burlington (April 23, 2020)

Review Comments:

1. *Traffic Volumes*: The traffic study used the ETC and ETC+20 design volumes for the Champlain Parkway as the basis for evaluating the impacts of the Burton Hub project. VHB's assessment of these volumes in the context of available historical traffic data is consistent with research done for the Parkway project, and we agree that the volumes as presented in the study are an appropriate basis for the impact analysis.

2. *Site Traffic Generation and Distribution*: We agree with the methodology used to estimate the trip generation of the project, and the estimation of the site trips and route distribution (both with and without the Champlain Parkway). We note that there are minor arithmetic inaccuracies in Table 2 and related text (+/- 1 vehicle), but these are due to data rounding in VHB's calculation spreadsheets (found in the appendix) and they are within the precision of the estimates and do not affect the impact assessment.

   The Traffic Study shows a small number of trips to the site originating from the surrounding neighborhoods during the PM peak hour in the condition without the Parkway but does not show these same trips in the condition with the Parkway. Since these trips are local, it is not expected that they would divert to the Parkway for access to the site. However, the amount of this traffic is minimal (2 vehicle trips in the peak hour), and this does not affect the impact assessment.

III Winners Circle, PO Box 5269, Albany, NY 12205-0269
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3. *Traffic Operations Analysis*:

- Errata:
    - the capacity analysis reports provided in the Appendix for the 2028 PM Peak Hour condition with the Parkway and without the Burton Hub project are a misprint and do not correlate to the LOS results shown in Table 3 of the Report. The correct capacity analysis reports were forwarded by VHB and are attached.
    - The LOS information for the intersection of US7 and Queen City Park Road for the 2008 Parkway Build-Burton No-Build scenario (PM Peak) are incorrectly transcribed from the analysis in the Appendix. A comparison is provided below:

	v/c	Delay	LOS
As shown in Table 3	0.89	30.8 secs	C
Per HCM Report in Appendix	0.87	30.3 secs	C

    - The capacity analyses of the signalized and unsignalized intersections of US7 and Queen City Park Road are incorrect as shown in the study for the following scenarios, because they are based on incorrect volume inputs for the US7 northbound through movement:
        - 2008 Parkway Build-Burton Build scenario (PM Peak)
        - 2028 Parkway Build-Burton Build scenario (PM Peak

      The updated analyses and LOS Tables from VHB are attached. The Burton Hub project is not anticipated to generate a significant amount of new traffic at this intersection either with or without the Champlain Parkway (< 30 new trips on any approach), and the analysis shows that the project will not have a significant impact at these two intersections.

- As noted in the study, the intersection of Pine Street and Home Avenue will operate at LOS E (AM) and LOS F (PM) without the Champlain Parkway. The traffic generated by the Burton Hub project will exacerbate the amount of delay at this location until the Parkway is constructed. The Burton Hub project will also add site traffic on Home Avenue between US 7 and Queen City Park Road/Austin Drive during the period prior to the Parkway's construction.

- The traffic study shows that the project will have an impact at the intersection of Home Avenue and the Champlain Parkway. As shown in Table 3, the overall intersection LOS will change from LOS D to LOS E in the peak hour with the traffic added by the Burton Hub project. The study should identify mitigation strategies to address this impact.

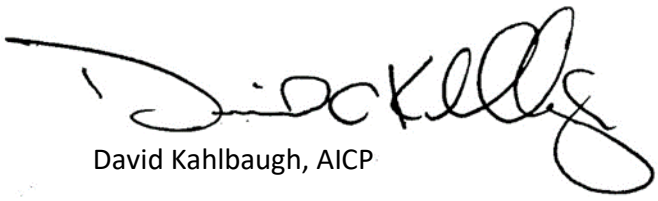
- The traffic study shows that the project will not have a significant impact on traffic operations at other study intersections within the study area, with or without the Champlain Parkway.
- We agree with the methodology used to represent the alternating one-way traffic operations on the Queen City Park Road bridge. These analyses show that the operations in the Build condition will be comparable to the No-Build conditions during the morning and afternoon peak hours, and that these operations will have low vehicle delays and short queues. The analyses also show that the one-lane bridge can accommodate the projected traffic on Queen City Park Road during the evening condition after the end of events at the Higher Ground component of the project.

4. *Parking Analysis*: The peak parking demand for sold-out events is 500 spaces, which is basically all the parking supply available on the site. Supplemental off-site parking may be required for specific events depending on the Time-of-Day considerations for parking for other uses on the site. This might be accommodated with temporary parking using grassed areas of the site and/or adjacent parking lots of other properties. An event parking management plan should be provided to outline this plan.

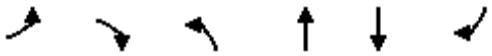
   The on-site parking supply is not all internally accessible from within the site and requires separate points of access to/from Queen City Park Road. There should be onsite attendants should be provided during the Higher Ground events to guide traffic to available parking to minimize unnecessary circulation to find a parking spot, and to facilitate exit after the event. This should be part of an event management plan developed for the site.

Respectfully submitted,

Clough, Harbour & Associates, LLP



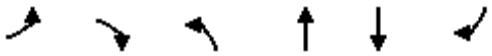
David Kahlbaugh, AICP



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	5	2180	1747	40
Future Volume (Veh/h)	0	0	5	2180	1747	40
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	5	2370	1899	43
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				246	134	
pX, platoon unblocked	0.41	0.66	0.66			
vC, conflicting volume	3094	950	1942			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0	0	1403			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	98			
cM capacity (veh/h)	413	718	320			

Direction, Lane #	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	5	1185	1185	950	950	43
Volume Left	5	0	0	0	0	0
Volume Right	0	0	0	0	0	43
cSH	320	1700	1700	1700	1700	1700
Volume to Capacity	0.02	0.70	0.70	0.56	0.56	0.03
Queue Length 95th (ft)	1	0	0	0	0	0
Control Delay (s)	16.4	0.0	0.0	0.0	0.0	0.0
Lane LOS	C					
Approach Delay (s)	0.0			0.0		
Approach LOS						

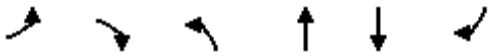
Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	81.6%	ICU Level of Service	D
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	33	2185	1747	63
Future Volume (Veh/h)	0	0	33	2185	1747	63
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	36	2375	1899	68
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				246	134	
pX, platoon unblocked	0.41	0.66	0.66			
vC, conflicting volume	3158	950	1967			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0	0	1441			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	88			
cM capacity (veh/h)	371	718	309			

Direction, Lane #	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	36	1188	1188	950	950	68
Volume Left	36	0	0	0	0	0
Volume Right	0	0	0	0	0	68
cSH	309	1700	1700	1700	1700	1700
Volume to Capacity	0.12	0.70	0.70	0.56	0.56	0.04
Queue Length 95th (ft)	10	0	0	0	0	0
Control Delay (s)	18.2	0.0	0.0	0.0	0.0	0.0
Lane LOS	C					
Approach Delay (s)	0.3			0.0		
Approach LOS						

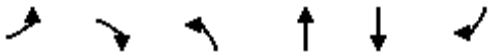
Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	83.0%	ICU Level of Service	E
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	5	2536	2029	47
Future Volume (Veh/h)	0	0	5	2536	2029	47
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	5	2757	2205	51
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				246	134	
pX, platoon unblocked	0.42	0.65	0.65			
vC, conflicting volume	3594	1102	2256			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	616	73	1852			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	98			
cM capacity (veh/h)	171	632	210			

Direction, Lane #	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	5	1378	1378	1102	1102	51
Volume Left	5	0	0	0	0	0
Volume Right	0	0	0	0	0	51
cSH	210	1700	1700	1700	1700	1700
Volume to Capacity	0.02	0.81	0.81	0.65	0.65	0.03
Queue Length 95th (ft)	2	0	0	0	0	0
Control Delay (s)	22.6	0.0	0.0	0.0	0.0	0.0
Lane LOS	C					
Approach Delay (s)	0.0			0.0		
Approach LOS						

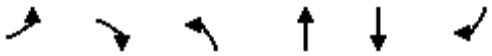
Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	92.4%	ICU Level of Service	F
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	33	2541	2029	69
Future Volume (Veh/h)	0	0	33	2541	2029	69
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	36	2762	2205	75
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				246	134	
pX, platoon unblocked	0.42	0.65	0.65			
vC, conflicting volume	3658	1102	2280			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	772	73	1889			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	82			
cM capacity (veh/h)	115	632	203			

Direction, Lane #	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	36	1381	1381	1102	1102	75
Volume Left	36	0	0	0	0	0
Volume Right	0	0	0	0	0	75
cSH	203	1700	1700	1700	1700	1700
Volume to Capacity	0.18	0.81	0.81	0.65	0.65	0.04
Queue Length 95th (ft)	16	0	0	0	0	0
Control Delay (s)	26.6	0.0	0.0	0.0	0.0	0.0
Lane LOS	D					
Approach Delay (s)	0.3			0.0		
Approach LOS						

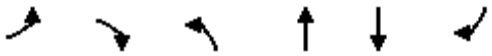
Intersection Summary				
Average Delay	0.2			
Intersection Capacity Utilization	93.8%	ICU Level of Service		F
Analysis Period (min)	15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	33	2326	1747	63
Future Volume (Veh/h)	0	0	33	2326	1747	63
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	36	2528	1899	68
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				246	134	
pX, platoon unblocked	0.41	0.66	0.66			
vC, conflicting volume	3235	950	1967			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0	0	1441			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	88			
cM capacity (veh/h)	371	718	309			

Direction, Lane #	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	36	1264	1264	950	950	68
Volume Left	36	0	0	0	0	0
Volume Right	0	0	0	0	0	68
cSH	309	1700	1700	1700	1700	1700
Volume to Capacity	0.12	0.74	0.74	0.56	0.56	0.04
Queue Length 95th (ft)	10	0	0	0	0	0
Control Delay (s)	18.2	0.0	0.0	0.0	0.0	0.0
Lane LOS	C					
Approach Delay (s)	0.3			0.0		
Approach LOS						

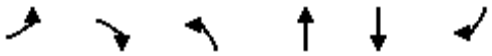
Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	83.1%	ICU Level of Service	E
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	33	2698	2029	69
Future Volume (Veh/h)	0	0	33	2698	2029	69
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	36	2933	2205	75
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				246	134	
pX, platoon unblocked	0.42	0.65	0.65			
vC, conflicting volume	3744	1102	2280			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	978	73	1889			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	82			
cM capacity (veh/h)	85	632	203			

Direction, Lane #	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	36	1466	1466	1102	1102	75
Volume Left	36	0	0	0	0	0
Volume Right	0	0	0	0	0	75
cSH	203	1700	1700	1700	1700	1700
Volume to Capacity	0.18	0.86	0.86	0.65	0.65	0.04
Queue Length 95th (ft)	16	0	0	0	0	0
Control Delay (s)	26.6	0.0	0.0	0.0	0.0	0.0
Lane LOS	D					
Approach Delay (s)	0.3			0.0		
Approach LOS						

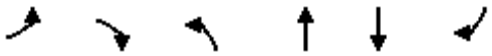
Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	154.0%	ICU Level of Service	H
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	276	11	0	2083	1747	0
Future Volume (vph)	276	11	0	2083	1747	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0	
Lane Util. Factor	1.00	0.95		0.95	0.95	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00		1.00	1.00	
Satd. Flow (prot)	1773	1504		3539	3539	
Flt Permitted	0.95	1.00		1.00	1.00	
Satd. Flow (perm)	1773	1504		3539	3539	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	300	12	0	2264	1899	0
RTOR Reduction (vph)	0	9	0	0	0	0
Lane Group Flow (vph)	301	2	0	2264	1899	0
Turn Type	Prot	Prot		NA	NA	
Protected Phases	4	4		2	2	
Permitted Phases						
Actuated Green, G (s)	18.0	18.0		100.0	100.0	
Effective Green, g (s)	18.0	18.0		100.0	100.0	
Actuated g/C Ratio	0.14	0.14		0.77	0.77	
Clearance Time (s)	6.0	6.0		6.0	6.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	245	208		2722	2722	
v/s Ratio Prot	c0.17	0.00		c0.64	0.54	
v/s Ratio Perm						
v/c Ratio	1.23	0.01		0.83	0.70	
Uniform Delay, d1	56.0	48.3		9.6	7.5	
Progression Factor	1.00	1.00		1.00	1.00	
Incremental Delay, d2	133.3	0.0		3.1	1.5	
Delay (s)	189.3	48.3		12.7	9.0	
Level of Service	F	D		B	A	
Approach Delay (s)	184.4			12.7	9.0	
Approach LOS	F			B	A	

Intersection Summary			
HCM 2000 Control Delay	23.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	83.1%	ICU Level of Service	E
Analysis Period (min)	15		

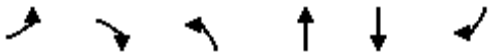
c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	135	388	0	2083	1747	0
Future Volume (vph)	135	388	0	2083	1747	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0	
Lane Util. Factor	1.00	0.95		0.95	0.95	
Frt	0.93	0.85		1.00	1.00	
Flt Protected	0.98	1.00		1.00	1.00	
Satd. Flow (prot)	1682	1504		3539	3539	
Flt Permitted	0.98	1.00		1.00	1.00	
Satd. Flow (perm)	1682	1504		3539	3539	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	147	422	0	2264	1899	0
RTOR Reduction (vph)	27	220	0	0	0	0
Lane Group Flow (vph)	263	59	0	2264	1899	0
Turn Type	Prot	Prot		NA	NA	
Protected Phases	4	4		2	2	
Permitted Phases						
Actuated Green, G (s)	18.0	18.0		100.0	100.0	
Effective Green, g (s)	18.0	18.0		100.0	100.0	
Actuated g/C Ratio	0.14	0.14		0.77	0.77	
Clearance Time (s)	6.0	6.0		6.0	6.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	232	208		2722	2722	
v/s Ratio Prot	c0.16	0.04		c0.64	0.54	
v/s Ratio Perm						
v/c Ratio	1.13	0.29		0.83	0.70	
Uniform Delay, d1	56.0	50.2		9.6	7.5	
Progression Factor	1.00	1.00		1.00	1.00	
Incremental Delay, d2	100.2	0.3		3.1	1.5	
Delay (s)	156.2	50.5		12.7	9.0	
Level of Service	F	D		B	A	
Approach Delay (s)	104.4			12.7	9.0	
Approach LOS	F			B	A	

Intersection Summary			
HCM 2000 Control Delay	22.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	83.0%	ICU Level of Service	E
Analysis Period (min)	15		

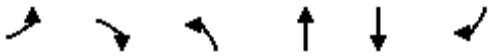
c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	317	13	0	2414	2029	0
Future Volume (vph)	317	13	0	2414	2029	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0	
Lane Util. Factor	1.00	0.95		0.95	0.95	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00		1.00	1.00	
Satd. Flow (prot)	1774	1504		3539	3539	
Flt Permitted	0.95	1.00		1.00	1.00	
Satd. Flow (perm)	1774	1504		3539	3539	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	345	14	0	2624	2205	0
RTOR Reduction (vph)	0	11	0	0	0	0
Lane Group Flow (vph)	346	2	0	2624	2205	0
Turn Type	Prot	Prot		NA	NA	
Protected Phases	4	4		2	2	
Permitted Phases						
Actuated Green, G (s)	18.0	18.0		100.0	100.0	
Effective Green, g (s)	18.0	18.0		100.0	100.0	
Actuated g/C Ratio	0.14	0.14		0.77	0.77	
Clearance Time (s)	6.0	6.0		6.0	6.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	245	208		2722	2722	
v/s Ratio Prot	c0.20	0.00		c0.74	0.62	
v/s Ratio Perm						
v/c Ratio	1.41	0.01		0.96	0.81	
Uniform Delay, d1	56.0	48.3		13.4	9.2	
Progression Factor	1.00	1.00		1.00	1.00	
Incremental Delay, d2	208.0	0.0		10.7	2.7	
Delay (s)	264.0	48.3		24.1	11.9	
Level of Service	F	D		C	B	
Approach Delay (s)	256.2			24.1	11.9	
Approach LOS	F			C	B	

Intersection Summary			
HCM 2000 Control Delay	35.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	154.0%	ICU Level of Service	H
Analysis Period (min)	15		

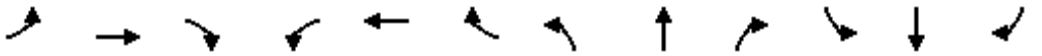
c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	160	403	0	2414	2029	0
Future Volume (vph)	160	403	0	2414	2029	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0	
Lane Util. Factor	1.00	0.95		0.95	0.95	
Frt	0.93	0.85		1.00	1.00	
Flt Protected	0.97	1.00		1.00	1.00	
Satd. Flow (prot)	1691	1504		3539	3539	
Flt Permitted	0.97	1.00		1.00	1.00	
Satd. Flow (perm)	1691	1504		3539	3539	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	174	438	0	2624	2205	0
RTOR Reduction (vph)	22	215	0	0	0	0
Lane Group Flow (vph)	292	83	0	2624	2205	0
Turn Type	Prot	Prot		NA	NA	
Protected Phases	4	4		2	2	
Permitted Phases						
Actuated Green, G (s)	18.0	18.0		100.0	100.0	
Effective Green, g (s)	18.0	18.0		100.0	100.0	
Actuated g/C Ratio	0.14	0.14		0.77	0.77	
Clearance Time (s)	6.0	6.0		6.0	6.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	234	208		2722	2722	
v/s Ratio Prot	c0.17	0.06		c0.74	0.62	
v/s Ratio Perm						
v/c Ratio	1.25	0.40		0.96	0.81	
Uniform Delay, d1	56.0	51.1		13.4	9.2	
Progression Factor	1.00	1.00		1.00	1.00	
Incremental Delay, d2	141.3	0.5		10.7	2.7	
Delay (s)	197.3	51.5		24.1	11.9	
Level of Service	F	D		C	B	
Approach Delay (s)	126.3			24.1	11.9	
Approach LOS	F			C	B	

Intersection Summary			
HCM 2000 Control Delay	30.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	93.8%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



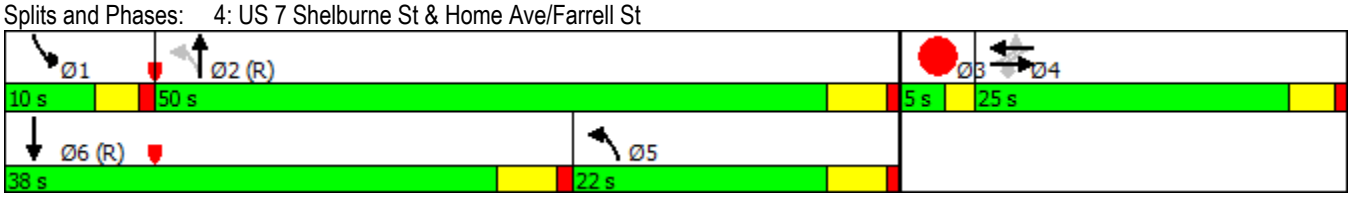
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	25	155	30	20	25	175	1295	15	40	935	15
Future Volume (vph)	35	25	155	30	20	25	175	1295	15	40	935	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		200	0		0	150		0	300		0
Storage Lanes	0		1	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850		0.917			0.998			0.998	
Flt Protected		0.972		0.950			0.950			0.950		
Satd. Flow (prot)	0	1811	1583	1770	1708	0	1770	3532	0	1770	3532	0
Flt Permitted		0.794		0.715			0.253			0.950		
Satd. Flow (perm)	0	1479	1583	1332	1708	0	471	3532	0	1770	3532	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			168		27			2			2	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1428			412			717			433	
Travel Time (s)		32.5			9.4			16.3			9.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	38	27	168	33	22	27	190	1408	16	43	1016	16
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	65	168	33	49	0	190	1424	0	43	1032	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		Prot	NA	
Protected Phases		4			4		5	2		1	6	
Permitted Phases	4		4	4			2					

Lane Group	Ø3
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Turn Type	
Protected Phases	3
Permitted Phases	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	4	4	4		5	2		1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0		4.0	20.0		4.0	20.0	
Minimum Split (s)	24.0	24.0	24.0	24.0	24.0		22.0	30.0		8.0	30.0	
Total Split (s)	25.0	25.0	25.0	25.0	25.0		22.0	50.0		10.0	38.0	
Total Split (%)	27.8%	27.8%	27.8%	27.8%	27.8%		24.4%	55.6%		11.1%	42.2%	
Maximum Green (s)	21.0	21.0	21.0	21.0	21.0		17.0	45.0		6.0	33.0	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0		4.0	4.0		3.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.0	4.0	4.0	4.0		5.0	5.0		4.0	5.0	
Lead/Lag	Lag	Lag	Lag	Lag	Lag		Lag	Lag		Lead	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	
Walk Time (s)	8.0	8.0	8.0	8.0	8.0			10.0			10.0	
Flash Dont Walk (s)	12.0	12.0	12.0	12.0	12.0			15.0			15.0	
Pedestrian Calls (#/hr)	0	0	0	0	0			0			0	
Act Effct Green (s)		9.4	9.4	9.4	9.4		63.9	63.9		7.7	49.6	
Actuated g/C Ratio		0.10	0.10	0.10	0.10		0.71	0.71		0.09	0.55	
v/c Ratio		0.42	0.53	0.24	0.24		0.33	0.57		0.28	0.53	
Control Delay		45.2	12.6	39.9	23.1		12.4	9.1		42.7	14.5	
Queue Delay		0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay		45.2	12.6	39.9	23.1		12.4	9.1		42.7	14.5	
LOS		D	B	D	C		B	A		D	B	
Approach Delay		21.7			29.8			9.5			15.6	
Approach LOS		C			C			A			B	

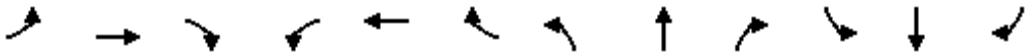
Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green			
Natural Cycle: 85			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.57			
Intersection Signal Delay: 13.2		Intersection LOS: B	
Intersection Capacity Utilization 60.4%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 4: US 7 Shelburne St & Home Ave/Farrell St



Lane Group	Ø3
Detector Phase	
Switch Phase	
Minimum Initial (s)	2.0
Minimum Split (s)	5.0
Total Split (s)	5.0
Total Split (%)	6%
Maximum Green (s)	3.0
Yellow Time (s)	2.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	Lead
Lead-Lag Optimize?	Yes
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	

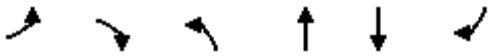
Intersection Summary



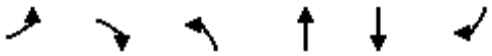
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	25	155	30	20	25	175	1295	15	40	935	15
Future Volume (vph)	35	25	155	30	20	25	175	1295	15	40	935	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0	4.0		5.0	5.0		4.0	5.0	
Lane Util. Factor		1.00	1.00	1.00	1.00		1.00	0.95		1.00	0.95	
Frt		1.00	0.85	1.00	0.92		1.00	1.00		1.00	1.00	
Flt Protected		0.97	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1810	1583	1770	1709		1770	3533		1770	3531	
Flt Permitted		0.79	1.00	0.71	1.00		0.25	1.00		0.95	1.00	
Satd. Flow (perm)		1479	1583	1331	1709		472	3533		1770	3531	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	38	27	168	33	22	27	190	1408	16	43	1016	16
RTOR Reduction (vph)	0	0	150	0	24	0	0	1	0	0	1	0
Lane Group Flow (vph)	0	65	18	33	25	0	190	1423	0	43	1031	0
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		Prot	NA	
Protected Phases		4			4		5	2		1	6	
Permitted Phases	4		4	4			2					
Actuated Green, G (s)		9.4	9.4	9.4	9.4		62.3	62.3		5.3	48.0	
Effective Green, g (s)		9.4	9.4	9.4	9.4		62.3	62.3		5.3	48.0	
Actuated g/C Ratio		0.10	0.10	0.10	0.10		0.69	0.69		0.06	0.53	
Clearance Time (s)		4.0	4.0	4.0	4.0		5.0	5.0		4.0	5.0	
Vehicle Extension (s)		3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		154	165	139	178		594	2445		104	1883	
v/s Ratio Prot					0.01		0.07	c0.40		0.02	c0.29	
v/s Ratio Perm		c0.04	0.01	0.02			0.16					
v/c Ratio		0.42	0.11	0.24	0.14		0.32	0.58		0.41	0.55	
Uniform Delay, d1		37.8	36.5	37.0	36.6		8.7	7.1		40.9	13.8	
Progression Factor		1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.9	0.3	0.9	0.4		0.3	1.0		2.7	1.2	
Delay (s)		39.6	36.8	37.9	37.0		9.1	8.2		43.5	15.0	
Level of Service		D	D	D	D		A	A		D	B	
Approach Delay (s)		37.6			37.4			8.3			16.1	
Approach LOS		D			D			A			B	

Intersection Summary			
HCM 2000 Control Delay	14.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	60.4%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



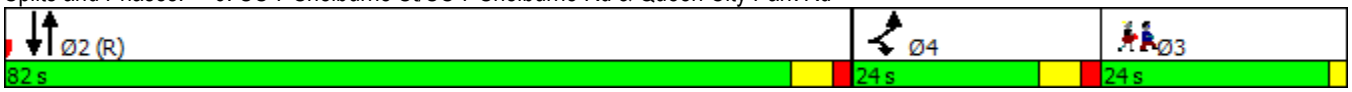
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø3
Lane Configurations							
Traffic Volume (vph)	155	385	0	2386	2029	0	
Future Volume (vph)	155	385	0	2386	2029	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Util. Factor	1.00	0.95	1.00	0.95	0.95	1.00	
Frt	0.933	0.850					
Flt Protected	0.973						
Satd. Flow (prot)	1691	1504	0	3539	3539	0	
Flt Permitted	0.973						
Satd. Flow (perm)	1691	1504	0	3539	3539	0	
Right Turn on Red		Yes				Yes	
Satd. Flow (RTOR)	26	249					
Link Speed (mph)	30			30	30		
Link Distance (ft)	338			385	246		
Travel Time (s)	7.7			8.8	5.6		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	168	418	0	2593	2205	0	
Shared Lane Traffic (%)		32%					
Lane Group Flow (vph)	302	284	0	2593	2205	0	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Left	Left	Right	
Median Width(ft)	12			0	0		
Link Offset(ft)	0			0	0		
Crosswalk Width(ft)	16			16	16		
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Turning Speed (mph)	15	9	15			9	
Number of Detectors	1	1		2	2		
Detector Template	Left	Right		Thru	Thru		
Leading Detector (ft)	20	20		100	100		
Trailing Detector (ft)	0	0		0	0		
Detector 1 Position(ft)	0	0		0	0		
Detector 1 Size(ft)	20	20		6	6		
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		
Detector 1 Channel							
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		
Detector 2 Position(ft)				94	94		
Detector 2 Size(ft)				6	6		
Detector 2 Type				Cl+Ex	Cl+Ex		
Detector 2 Channel							
Detector 2 Extend (s)				0.0	0.0		
Turn Type	Prot	Prot		NA	NA		
Protected Phases	4	4		2	2		3
Permitted Phases							
Detector Phase	4	4		2	2		
Switch Phase							
Minimum Initial (s)	5.0	5.0		5.0	5.0		1.0

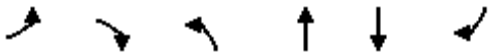


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø3
Minimum Split (s)	24.0	24.0		24.0	24.0		24.0
Total Split (s)	24.0	24.0		82.0	82.0		24.0
Total Split (%)	18.5%	18.5%		63.1%	63.1%		18%
Maximum Green (s)	18.0	18.0		76.0	76.0		22.0
Yellow Time (s)	4.0	4.0		4.0	4.0		2.0
All-Red Time (s)	2.0	2.0		2.0	2.0		0.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		
Total Lost Time (s)	6.0	6.0		6.0	6.0		
Lead/Lag	Lead	Lead					Lag
Lead-Lag Optimize?	Yes	Yes					Yes
Vehicle Extension (s)	2.0	2.0		2.0	2.0		0.2
Recall Mode	None	None		C-Max	C-Max		None
Walk Time (s)	0.0	0.0		0.0	0.0		5.0
Flash Dont Walk (s)	0.0	0.0		17.0	17.0		17.0
Pedestrian Calls (#/hr)	0	0		0	0		0
Act Effct Green (s)	18.0	18.0		100.0	100.0		
Actuated g/C Ratio	0.14	0.14		0.77	0.77		
v/c Ratio	1.18	0.67		0.95	0.81		
Control Delay	157.5	18.3		23.0	12.3		
Queue Delay	0.0	0.0		0.0	46.1		
Total Delay	157.5	18.3		23.0	58.5		
LOS	F	B		C	E		
Approach Delay	90.0			23.0	58.5		
Approach LOS	F			C	E		

Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 130			
Offset: 0 (0%), Referenced to phase 2:NBSB and 6:, Start of Green			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.18			
Intersection Signal Delay: 44.8		Intersection LOS: D	
Intersection Capacity Utilization 92.4%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 6: US 7 Shelburne St/US 7 Shelburne Rd & Queen City Park Rd

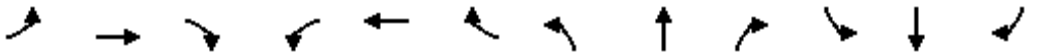




Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	155	385	0	2386	2029	0
Future Volume (vph)	155	385	0	2386	2029	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0	
Lane Util. Factor	1.00	0.95		0.95	0.95	
Frt	0.93	0.85		1.00	1.00	
Flt Protected	0.97	1.00		1.00	1.00	
Satd. Flow (prot)	1692	1504		3539	3539	
Flt Permitted	0.97	1.00		1.00	1.00	
Satd. Flow (perm)	1692	1504		3539	3539	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	168	418	0	2593	2205	0
RTOR Reduction (vph)	22	215	0	0	0	0
Lane Group Flow (vph)	280	69	0	2593	2205	0
Turn Type	Prot	Prot		NA	NA	
Protected Phases	4	4		2	2	
Permitted Phases						
Actuated Green, G (s)	18.0	18.0		100.0	100.0	
Effective Green, g (s)	18.0	18.0		100.0	100.0	
Actuated g/C Ratio	0.14	0.14		0.77	0.77	
Clearance Time (s)	6.0	6.0		6.0	6.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	234	208		2722	2722	
v/s Ratio Prot	c0.17	0.05		c0.73	0.62	
v/s Ratio Perm						
v/c Ratio	1.19	0.33		0.95	0.81	
Uniform Delay, d1	56.0	50.6		13.0	9.2	
Progression Factor	1.00	1.00		1.00	1.00	
Incremental Delay, d2	121.7	0.3		9.3	2.7	
Delay (s)	177.7	50.9		22.2	11.9	
Level of Service	F	D		C	B	
Approach Delay (s)	116.3			22.2	11.9	
Approach LOS	F			C	B	

Intersection Summary			
HCM 2000 Control Delay	28.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	92.4%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	80	20	130	95	50	5	105	395	85	5	965	55
Future Volume (vph)	80	20	130	95	50	5	105	395	85	5	965	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		75	0		0	125		0	100		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.996			0.974			0.992	
Flt Protected		0.962			0.969		0.950			0.950		
Satd. Flow (prot)	0	1792	1583	0	1798	0	1770	1814	0	1770	1848	0
Flt Permitted		0.679			0.643		0.950			0.950		
Satd. Flow (perm)	0	1265	1583	0	1193	0	1770	1814	0	1770	1848	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			141		1			11			3	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		335			128			357			349	
Travel Time (s)		7.6			2.9			8.1			7.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	87	22	141	103	54	5	114	429	92	5	1049	60
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	109	141	0	162	0	114	521	0	5	1109	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8								

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Turn Type	
Protected Phases	9
Permitted Phases	

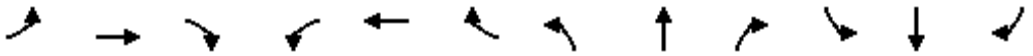
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	4	8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0		5.0	15.0		5.0	15.0	
Minimum Split (s)	15.0	15.0	15.0	15.0	15.0		11.0	20.0		11.0	20.5	
Total Split (s)	24.0	24.0	24.0	24.0	24.0		14.0	87.0		14.0	87.0	
Total Split (%)	16.0%	16.0%	16.0%	16.0%	16.0%		9.3%	58.0%		9.3%	58.0%	
Maximum Green (s)	19.0	19.0	19.0	19.0	19.0		9.0	82.0		9.0	82.0	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0	5.0		5.0		5.0	5.0		5.0	5.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		None	Max		None	Max	
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)		19.1	19.1		19.1		9.0	94.4		6.0	82.4	
Actuated g/C Ratio		0.15	0.15		0.15		0.07	0.73		0.05	0.63	
v/c Ratio		0.59	0.40		0.92		0.93	0.39		0.06	0.95	
Control Delay		67.1	12.0		104.6		123.9	10.0		64.8	39.2	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay		67.1	12.0		104.6		123.9	10.0		64.8	39.2	
LOS		E	B		F		F	A		E	D	
Approach Delay		36.0			104.6			30.4			39.3	
Approach LOS		D			F			C			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 150			
Actuated Cycle Length: 130			
Natural Cycle: 150			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.95			
Intersection Signal Delay: 41.2		Intersection LOS: D	
Intersection Capacity Utilization 87.3%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 7: Champlain Pkwy & Home Ave

Lane Group	Ø9
Detector Phase	
Switch Phase	
Minimum Initial (s)	1.0
Minimum Split (s)	25.0
Total Split (s)	25.0
Total Split (%)	17%
Maximum Green (s)	22.0
Yellow Time (s)	3.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	7.0
Flash Dont Walk (s)	15.0
Pedestrian Calls (#/hr)	5
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	

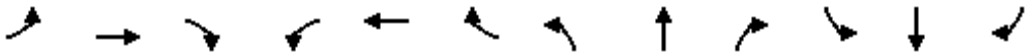
Intersection Summary



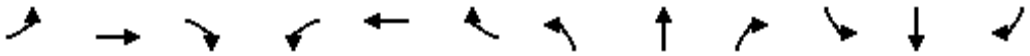
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	80	20	130	95	50	5	105	395	85	5	965	55
Future Volume (vph)	80	20	130	95	50	5	105	395	85	5	965	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Frt		1.00	0.85		1.00		1.00	0.97		1.00	0.99	
Flt Protected		0.96	1.00		0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1791	1583		1798		1770	1813		1770	1848	
Flt Permitted		0.68	1.00		0.64		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1265	1583		1193		1770	1813		1770	1848	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	87	22	141	103	54	5	114	429	92	5	1049	60
RTOR Reduction (vph)	0	0	121	0	1	0	0	3	0	0	1	0
Lane Group Flow (vph)	0	109	20	0	161	0	114	518	0	5	1108	0
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8								
Actuated Green, G (s)		19.1	19.1		19.1		9.0	94.4		1.2	86.6	
Effective Green, g (s)		19.1	19.1		19.1		9.0	94.4		1.2	86.6	
Actuated g/C Ratio		0.14	0.14		0.14		0.07	0.69		0.01	0.63	
Clearance Time (s)		5.0	5.0		5.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		177	221		166		116	1253		15	1172	
v/s Ratio Prot							c0.06	0.29		0.00	c0.60	
v/s Ratio Perm		0.09	0.01		c0.14							
v/c Ratio		0.62	0.09		0.97		0.98	0.41		0.33	0.95	
Uniform Delay, d1		55.2	51.1		58.4		63.7	9.1		67.3	22.8	
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		6.2	0.2		60.9		77.7	1.0		12.7	16.1	
Delay (s)		61.5	51.3		119.3		141.4	10.1		79.9	38.9	
Level of Service		E	D		F		F	B		E	D	
Approach Delay (s)		55.7			119.3			33.7			39.0	
Approach LOS		E			F			C			D	

Intersection Summary			
HCM 2000 Control Delay	45.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	136.5	Sum of lost time (s)	18.0
Intersection Capacity Utilization	87.3%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



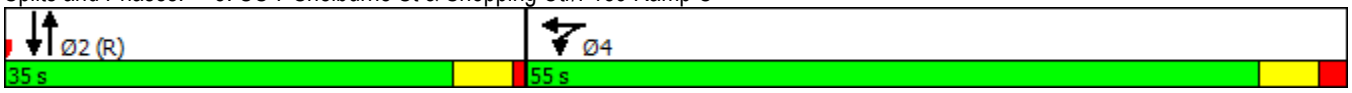
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	1455	135	0	0	795	0	0	1430	5
Future Volume (vph)	0	0	0	1455	135	0	0	795	0	0	1430	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	1.00	0.91	0.91
Frt												
Flt Protected				0.950	0.960							
Satd. Flow (prot)	0	0	0	1681	1699	0	0	3539	0	0	5085	0
Flt Permitted				0.950	0.960							
Satd. Flow (perm)	0	0	0	1681	1699	0	0	3539	0	0	5085	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)											1	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		132			144			732			140	
Travel Time (s)		3.0			3.3			16.6			3.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	1582	147	0	0	864	0	0	1554	5
Shared Lane Traffic (%)				46%								
Lane Group Flow (vph)	0	0	0	854	875	0	0	864	0	0	1559	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1	2			2			2	
Detector Template				Left	Thru			Thru			Thru	
Leading Detector (ft)				20	100			100			100	
Trailing Detector (ft)				0	0			0			0	
Detector 1 Position(ft)				0	0			0			0	
Detector 1 Size(ft)				20	6			6			6	
Detector 1 Type				Cl+Ex	Cl+Ex			Cl+Ex			Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)				0.0	0.0			0.0			0.0	
Detector 1 Queue (s)				0.0	0.0			0.0			0.0	
Detector 1 Delay (s)				0.0	0.0			0.0			0.0	
Detector 2 Position(ft)					94			94			94	
Detector 2 Size(ft)					6			6			6	
Detector 2 Type					Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)					0.0			0.0			0.0	
Turn Type				Split	NA			NA			NA	
Protected Phases				4	4			2			2	
Permitted Phases												
Detector Phase				4	4			2			2	
Switch Phase												
Minimum Initial (s)				15.0	15.0			30.0			30.0	

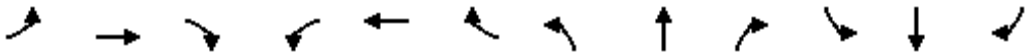


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)				24.0	24.0			35.0			35.0	
Total Split (s)				55.0	55.0			35.0			35.0	
Total Split (%)				61.1%	61.1%			38.9%			38.9%	
Maximum Green (s)				49.0	49.0			30.0			30.0	
Yellow Time (s)				4.0	4.0			4.0			4.0	
All-Red Time (s)				2.0	2.0			1.0			1.0	
Lost Time Adjust (s)				0.0	0.0			0.0			0.0	
Total Lost Time (s)				6.0	6.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)				3.0	3.0			3.0			3.0	
Recall Mode				None	None			C-Max			C-Max	
Walk Time (s)								7.0			7.0	
Flash Dont Walk (s)								11.0			11.0	
Pedestrian Calls (#/hr)								0			0	
Act Effct Green (s)				48.9	48.9			30.1			30.1	
Actuated g/C Ratio				0.54	0.54			0.33			0.33	
v/c Ratio				0.94	0.95			0.73			0.92	
Control Delay				38.6	40.6			30.7			38.6	
Queue Delay				0.0	0.0			0.0			0.0	
Total Delay				38.6	40.6			30.7			38.6	
LOS				D	D			C			D	
Approach Delay					39.6			30.7			38.6	
Approach LOS					D			C			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:NBSB and 6:, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.95			
Intersection Signal Delay: 37.4		Intersection LOS: D	
Intersection Capacity Utilization 80.8%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 8: US 7 Shelburne St & Shopping Ctr/I-189 Ramp C





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	1455	135	0	0	795	0	0	1430	5
Future Volume (vph)	0	0	0	1455	135	0	0	795	0	0	1430	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				6.0	6.0			5.0			5.0	
Lane Util. Factor				0.95	0.95			0.95			0.91	
Frt				1.00	1.00			1.00			1.00	
Flt Protected				0.95	0.96			1.00			1.00	
Satd. Flow (prot)				1681	1699			3539			5083	
Flt Permitted				0.95	0.96			1.00			1.00	
Satd. Flow (perm)				1681	1699			3539			5083	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	1582	147	0	0	864	0	0	1554	5
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	1	0
Lane Group Flow (vph)	0	0	0	854	875	0	0	864	0	0	1558	0
Turn Type				Split	NA			NA			NA	
Protected Phases				4	4			2			2	
Permitted Phases												
Actuated Green, G (s)				48.9	48.9			30.1			30.1	
Effective Green, g (s)				48.9	48.9			30.1			30.1	
Actuated g/C Ratio				0.54	0.54			0.33			0.33	
Clearance Time (s)				6.0	6.0			5.0			5.0	
Vehicle Extension (s)				3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)				913	923			1183			1699	
v/s Ratio Prot				0.51	c0.52			0.24			c0.31	
v/s Ratio Perm												
v/c Ratio				0.94	0.95			0.73			0.92	
Uniform Delay, d1				19.1	19.4			26.4			28.8	
Progression Factor				1.00	1.00			1.00			1.00	
Incremental Delay, d2				16.3	18.1			4.0			9.4	
Delay (s)				35.3	37.5			30.4			38.1	
Level of Service				D	D			C			D	
Approach Delay (s)		0.0			36.4			30.4			38.1	
Approach LOS		A			D			C			D	

Intersection Summary			
HCM 2000 Control Delay	35.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	80.8%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

SIGNALIZED INTERSECTION CAPACITY ANALYSES SUMMARY

Intersection	Champlain Parkway No Build						Champlain Parkway Build					
	Burton No Build			Burton Build			Burton No Build			Burton Build		
Movement	v/c+	Delay*	LOS **	v/c+	Delay*	LOS **	v/c+	Delay*	LOS **	v/c+	Delay*	LOS **
	2008											
US 7 / Home Ave												
AM Peak Hour	0.62	14.5	B	0.62	14.5	B	0.47	11.9	B	0.47	11.9	B
PM Peak Hour	0.73	19.7	B	0.83	22.0	C	0.59	14.0	B	0.59	14.0	B
US 7 / Queen City Park (north)												
AM Peak Hour	0.59	7.0	A	0.59	7.1	A	0.65	14.2	B	0.65	14.2	B
PM Peak Hour	0.88	20.0	C	0.91	23.1	C	0.87	20.6	C	0.89	22.3	C
Champlain Parkway / Home Ave												
AM Peak Hour							0.68	25.3	C	0.68	25.4	C
PM Peak Hour							0.89	38.8	D	0.98	57.5	E
I-189 Ramp C / US 7												
AM Peak Hour	0.83	28.6	C	0.84	28.6	C	0.75	25.6	C	0.75	25.6	C
PM Peak Hour	1.03	76.2	E	1.04	80.1	F	0.89	30.8	C	0.88	31.0	C

Intersection	Champlain Parkway No Build						Champlain Parkway Build					
	Burton No Build			Burton Build			Burton No Build			Burton Build		
Movement	v/c+	Delay*	LOS **	v/c+	Delay*	LOS **	v/c+	Delay*	LOS **	v/c+	Delay*	LOS **
	2028											
US 7 / Home Ave												
AM Peak Hour	0.72	16.5	B	0.72	16.5	B	0.47	12.4	B	0.47	12.4	B
PM Peak Hour	0.80	21.6	C	0.92	25.9	C	0.59	14.1	B	0.59	14.2	B
US 7 / Queen City Park (north)												
AM Peak Hour	0.62	7.5	A	0.62	7.5	A	0.69	15.0	B	0.69	15.0	B
PM Peak Hour	1.03	30.8	C	1.05	35.0	C	1.01	28.2	C	1.02	30.6	C
Champlain Parkway / Home Ave												
AM Peak Hour							0.74	28.9	C	0.74	29.0	C
PM Peak Hour							0.92	45.4	D	1.01	64.4	E
I-189 Ramp C / US 7												
AM Peak Hour	0.84	29.2	C	0.84	29.3	C	0.77	25.8	C	0.77	25.8	C
PM Peak Hour	1.10	99.2	F	1.11	101.4	F	0.94	35.8	D	0.94	36.9	D

+ *Volume to capacity ratio*

** Delay expressed in seconds per vehicle*

*** Level of Service*

UNSIGNALIZED INTERSECTION CAPACITY ANALYSES SUMMARY

	Intersection	Champlain Parkway No Build						Champlain Parkway Build					
		Burton No Build			Burton Build			Burton No Build			Burton Build		
	Movement	v/c[+]	Delay*	LOS **	v/c[+]	Delay*	LOS **	v/c[+]	Delay*	LOS **	v/c[+]	Delay*	LOS **
		2008											
AM	**Queen City Park / Home Ave / Austin Dr**												
	WB from Home Ave	0.09	5.2	A	0.09	5.2	A	0.09	5.2	A	0.09	5.2	A
	NB from Queen City Park Rd	0.08	10.6	B	0.08	10.6	B	0.08	10.6	B	0.08	10.6	B
	Pine St / Home Ave												
	EB from Home Ave	0.59	22.5	C	0.58	21.8	C	0.18	8.7	A	0.18	8.7	A
	WB from Home Ave	0.93	52.7	F	0.92	50.0	E	0.15	7.9	A	0.15	7.9	A
	NB from Pine St	0.49	19.3	C	0.48	18.8	C	0.10	8.2	A	0.10	8.2	A
	SB from Pine St	1.01	70.3	F	1.01	71.2	F	0.20	8.9	A	0.20	8.9	A
	US 7 / Queen City Park (north)												
	NB left onto Queen City Park Rd	0.08	15.8	C	0.08	15.9	C	0.08	15.8	C	0.08	15.9	C
PM	**Queen City Park / Home Ave / Austin Dr**												
	WB from Home Ave	0.03	1.7	A	0.11	4.4	A	0.03	1.7	A	0.11	4.5	A
	NB from Queen City Park Rd	0.14	10.5	B	0.21	12.2	B	0.14	10.5	B	0.21	12.2	B
	Pine St / Home Ave												
	EB from Home Ave	0.62	22.8	C	0.73	30.7	D	0.11	8.3	A	0.11	8.3	A
	WB from Home Ave	0.76	29.7	D	1.00	69.7	F	0.25	8.8	A	0.27	9.0	A
	NB from Pine St	0.51	18.8	C	0.57	22.8	C	0.06	7.9	A	0.06	8.0	A
	SB from Pine St	1.47	241.8	F	1.69	341.9	F	0.24	9.3	A	0.25	9.4	A
	US 7 / Queen City Park (north)												
	NB left onto Queen City Park Rd	0.02	16.4	C	0.12	18.2	C	**0.02**	**16.4**	**C**	**0.12**	**18.2**	**C**

	Intersection	Champlain Parkway No Build						Champlain Parkway Build					
		Burton No Build			Burton Build			Burton No Build			Burton Build		
	Movement	v/c[+]	Delay*	LOS **	v/c[+]	Delay*	LOS **	v/c[+]	Delay*	LOS **	v/c[+]	Delay*	LOS **
		2028											
AM	**Queen City Park / Home Ave / Austin Dr**												
	WB left from Home Ave	0.11	5.4	A	0.12	5.4	A	0.11	5.4	A	0.12	5.4	A
	NB from Queen City Park Rd	0.09	11.0	B	0.09	11.0	B	0.09	11.0	B	0.09	11.0	B
	Pine St / Home Ave												
	EB from Home Ave	0.69	28.0	D	0.69	28.1	D	0.20	8.9	A	0.20	8.9	A
	WB from Home Ave	1.06	84.6	F	1.06	86.2	F	0.16	8.1	A	0.16	8.1	A
	NB from Pine St	0.55	22.0	C	0.55	22.1	C	0.10	8.2	A	0.10	8.2	A
	SB from Pine St	1.20	135.5	F	1.20	135.9	F	0.22	9.2	A	0.22	9.2	A
	US 7 / Queen City Park (north)												
	NB left onto Queen City Park Rd	0.09	17.2	C	0.09	17.2	C	0.09	17.2	C	0.09	17.2	C
PM	**Queen City Park / Home Ave / Austin Dr**												
	WB left from Home Ave	0.03	1.7	A	0.12	4.3	A	0.03	1.7	A	0.12	4.3	A
	NB from Queen City Park Rd	0.16	10.9	B	0.24	12.9	B	0.16	10.9	B	0.24	12.9	B
	Pine St / Home Ave												
	EB from Home Ave	0.76	33.5	D	0.84	43.0	E	0.12	8.4	A	0.12	8.4	A
	WB from Home Ave	0.91	50.8	F	1.16	120.3	F	0.27	9.0	A	0.29	9.2	A
	NB from Pine St	0.59	23.5	C	0.62	26.0	D	0.06	8.0	A	0.06	8.1	A
	SB from Pine St	1.74	361.2	F	1.85	410.2	F	0.26	9.6	A	0.27	9.6	A
	US 7 / Queen City Park (north)												
	NB left onto Queen City Park Rd	0.02	22.6	C	0.18	26.6	D	**0.02**	**22.6**	**C**	**0.18**	**26.6**	**D**

[+] *Volume to capacity ratio*

** Delay expressed in seconds per vehicle*

*** Level of Service*

City of Burlington
Department of Public Works

Technical Services Engineering Division
645 Pine Street, Suite A
Burlington, VT 05402
P 802-863-9094 / F 802-863-0466 / TTY 802-863-0450
www.burlingtonvt.gov/DPW

Memo

Date: December 10, 2020

To: Public Works Commission

From: Phillip Peterson, Associate Public Works Engineer PCP

CC: Susan Molzon P.E., Senior Public Works Engineer
Nicole Losch, PTP, Senior Planner

Subject: Reallocation of Truck Loading Zone and Vehicle Loading Zone Adjacent to 372 North Winooski Avenue to Two-hour Time Limited Parking

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Recommendations:
Staff recommend the DPW Commission remove:
12-1 No parking except vehicles loading or unloading.
No person shall park a vehicle at the following locations unless engaged in loading or unloading the vehicle:

- On the west side of Hyde Street, beginning sixty-five (65) feet south of Riverside Avenue and extending south for a distance of forty (40) feet, between the hours of 8:00 a.m. and 6:00 p.m., Monday through Saturday.

13 No parking any time except truck loading or unloading.
No person shall park a vehicle at any time on the following streets, unless the same is a truck actually engaged in loading or unloading, and for no more than thirty (30) minutes:

- On the east side of North Winooski Avenue beginning sixty (60) feet south of Riverside Avenue and continuing for sixty (60) feet south.

Recommendations:
Staff recommend the DPW Commission approve:
10 Two hour parking.
No person shall park a vehicle for a period longer than two (2) hours between the hours of 8:00 a.m. and 6:00 p.m., Sundays and holidays excepted, in the following locations:

- On the east side of North Winooski Avenue beginning sixty (60) feet south of Riverside Avenue and continuing for sixty (60) feet south.
- On the west side of Hyde Street, beginning sixty-five (65) feet south of Riverside Avenue and extending south for a distance of forty (40) feet.

Purpose & Need:
The purpose of the existing loading zones on North Winooski Avenue and Hyde Street was to provide loading and unloading for the furniture manufacturing business which was located at 372 North Winooski Avenue. These loading zones are no longer needed as this business is no longer at this location. The reallocation of the loading zones to two-hour parking adjacent to 372 North Winooski Avenue, would provide parking turnover during business hours for the retail store currently occupying this location, and a parking resource for residents in the area during non-business hours.

Project Checklist:

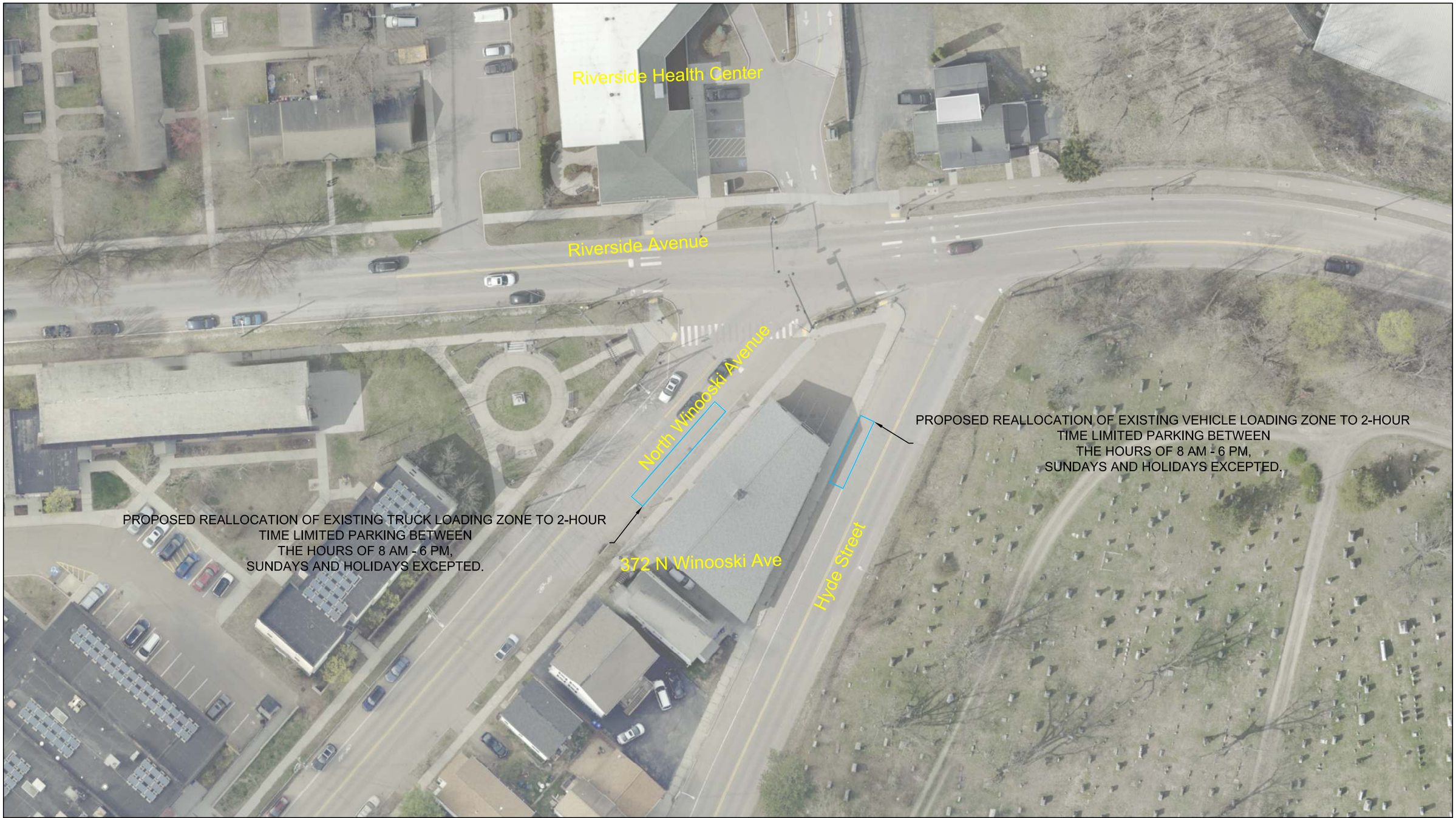
	N/A	Yes	No	Reference
Aligns with MUTCD standards and/or established City Policy?	X			
Aligns with City plans?	X			
Followed Public Engagement Plan?		X		These Traffic Regulation changes are defined as an INVOLVE project in the Public Engagement Plan (PEP).

Summary and Conclusion:
Staff received a request in December 2020 from a local business to reallocate the truck loading zone on North Winooski Avenue and the vehicle loading zone adjacent to 372 North Winooski Avenue to 2-hour time limited parking, which is approximately 6 parking spaces, see Attachment-1. This amendment would allow the public to park in these spaces with no time limit after business hours.

Public Engagement:
During the public outreach phase DPW Staff placed flyers at each property adjacent to the existing truck loading zone on North Winooski Avenue and the vehicle loading zone adjacent to 372 North Winooski Avenue. Staff did not receive any public input in regards to this project.

Attachments:

1. Site map.



0 50' 100'

SCALE: 1" = 50'

PROPOSED REALLOCATION OF LOADING ZONES TO TIME LIMITED PARKING NORTH WINOOSKI AVENUE

BURLINGTON PUBLIC WORKS ENGINEERING DIV.

645 PINE STREET
BURLINGTON, VT 05401
(802) 863-9094
(802) 863-0466 (Fax)

DESIGNED PMP	
DRAWN PMP	SCALE 1"=50'
CHECKED SM	DRAWING NO.
DATE 12/9/2020	SHEET 1 OF 1

Burlington Shelburne Street Roundabout

Project Review

Public Works Commission
December 16, 2020

VERMONT
AGENCY OF TRANSPORTATION

BURLINGTON, VT
PUBLIC WORKS

The “Rotary”

The “Rotary”

The “Rotary”

The “Rotary” in 2011.

Not much has changed with the streets in nearly 80 years. The “rotary” proper was enlarged and raised but much that has changed has been with business/residences and landscaping.

Identified Issues

Vehicle Volumes = 19,200 vpd

High Crash Location

- In 2006 = 53 reported crashes in 5 years
- In 2016 = 50 reported crashes in 5 years
- Has been on the HCL since at least 1998 – consecutively

The “Rotary”

- Improper size and shape
- Too small and restricts certain movements and storage
- Improper location within the intersection for sight distance and sight lines

Left Turns

- Generally high throughout the intersection
- Awkward left turns around the “Rotary”

Uncontrolled drive accesses

- At Century 21 & Majestic Car Rental

Adjacent School and Churches

- Destination for pedestrians

Elevated presence of bicyclists and pedestrians

- Especially children to/from school
- Long existing crosswalks
- Inadequate number of crosswalks

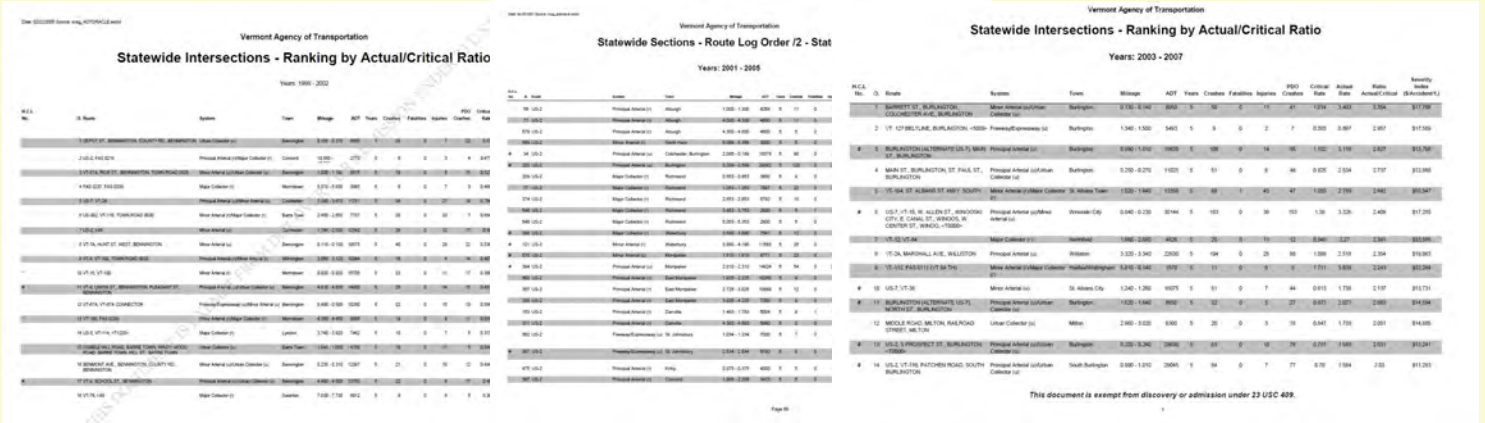
Aesthetically unappealing

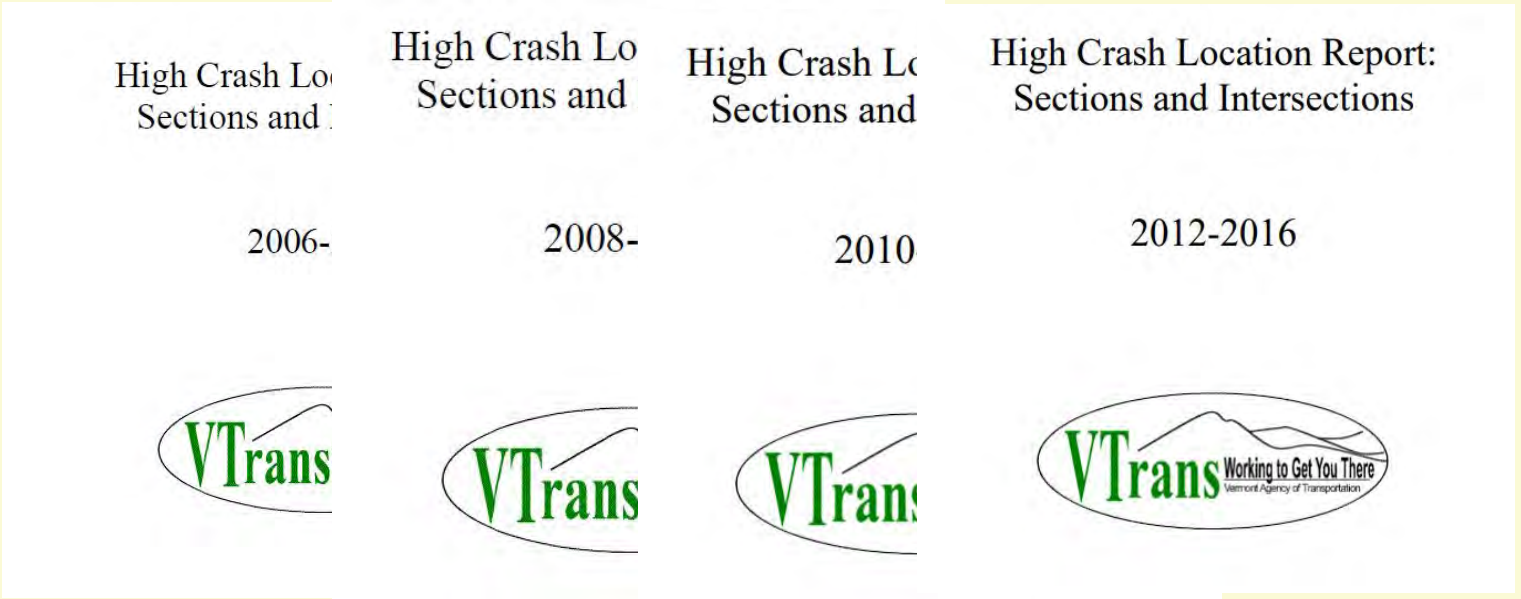
- A sea of pavement
- Lack of landscaping

Aging and failing (or soon-to-be failing) utilities

- 37,000 linear feet (> 7 miles) buried utilities

Lack of modern stormwater treatment



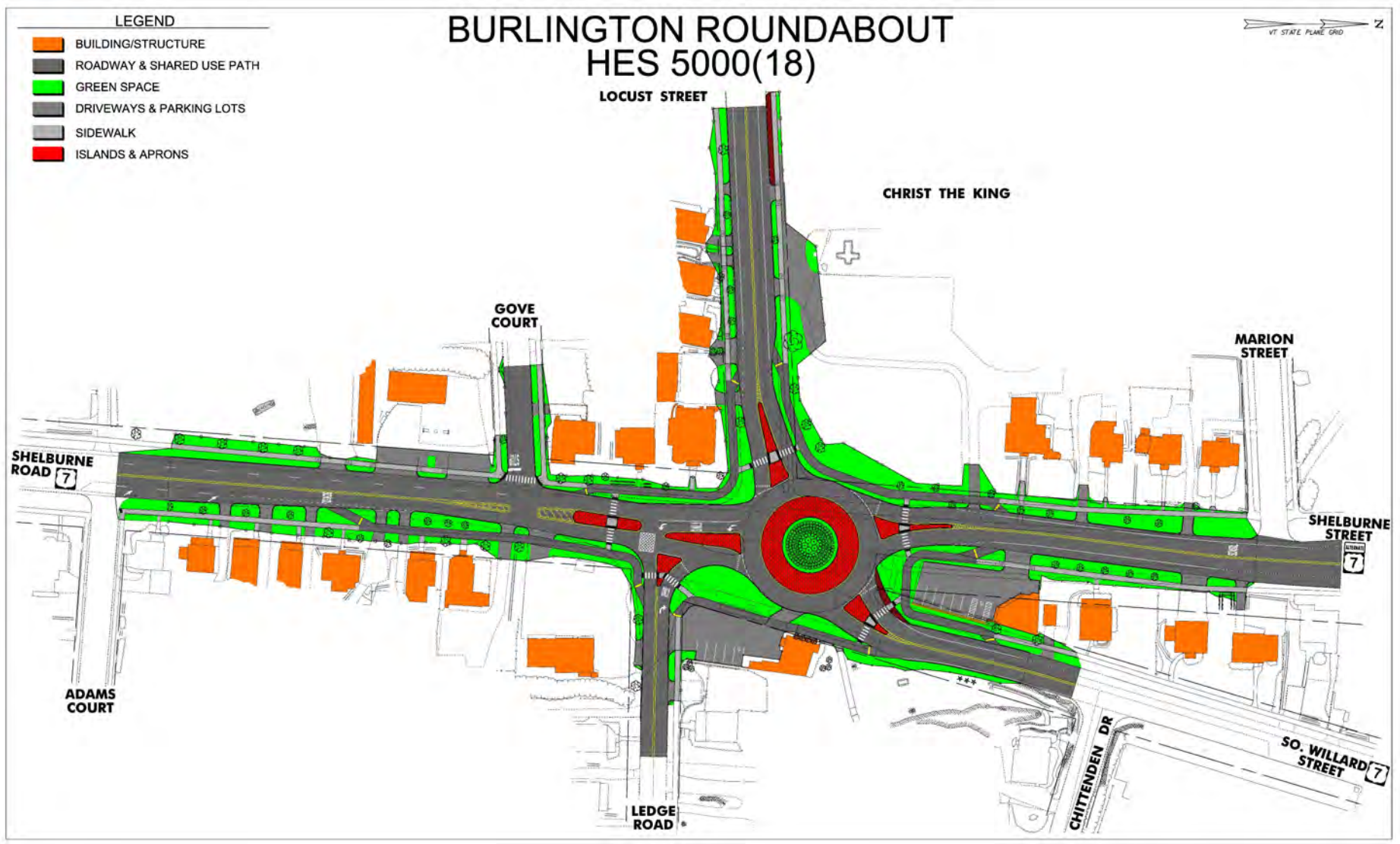


The Solution

The Modern Roundabout

Waterbury, VT: US Route 2 & VT Route 100

The Solution



The Solution

The Modern Roundabout

- Can handle the 19,200 vpd without needing new lanes (i.e. dual lane roundabout).
- Expected crash reduction of up to 72% (per FHWA CMF Clearinghouse).
- Geometry of the roundabout focuses user's sight lines by obscuring and revealing certain perspectives.
- Left turns become right turns (in most cases) and become more predictable to all users.
- Adjacent drives will be controlled.
- Crosswalks will be shorter in length (only must cross one lane at a time at the splitter islands, which will be in highly visible locations.
- The Central Island will create opportunity for aesthetic treatments (creation of a city gateway).
- Buried utility infrastructure will be relocated and consolidated in duct banks for easy and safe maintenance accessibility.
- New buried sand filters and detention vaults will treat previously untreated stormwater runoff without surcharging existing accepting systems.

Challenges to Implementation

No Small Feats

LEDGE & GLACIAL TILL

- Borings located at depths of 3’-17’. Several knobs visible at surface throughout.
- Blasting in close proximity of houses and businesses will be a challenge. The bedrock is not conducive to drilling and ripping.

Challenges to Implementation

No Small Feats

ARCHAEOLOGY

- Phase I and II Archaeology investigations yielded Native American artifacts in the form of stone chips from tool manufacturing.
- A Phase III Arch activity will collect some of the artifacts during construction.

Challenges to Implementation

No Small Feats

STORMWATER TREATMENT

- Existing dedicated storm system down Locust.
- Existing combined storm/sewer system down Shelburne to Englesby Brook (impaired).

- Maintain intact until new system is constructed.
- New system to filter and detain storm events without exasperating the existing surcharged downstream systems.

Challenges to Implementation

No Small Feats

CONTAMINATED SOILS & GROUNDWATERS

Environmental Site Assessment (ESA) currently under way.

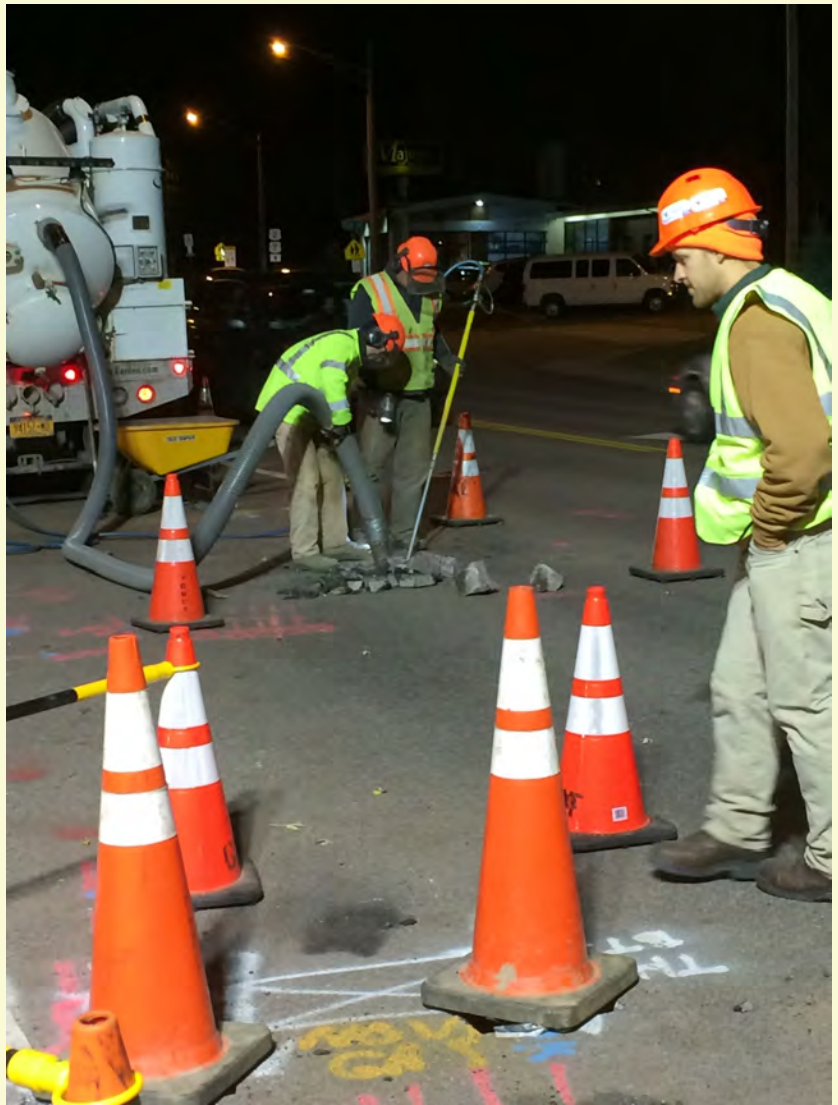
- 4 gas stations in the last 90 years
  - 2 SMAC'ed by DEC
  - 1 Currently under mediation
  - 1 Active
- Vermont Limited Re-Use Soils (VLRS) anticipated
  - Top 6" existing pervious turf removed if not re-used on site.

Challenges to Implementation

No Small Feats

UTILITIES

- Performed a Subsurface Utility Exploration (SUE) in 2015.
- Performed Quality Level B investigation (GPR)
- Performed Quality Level A investigation (Potholing) at

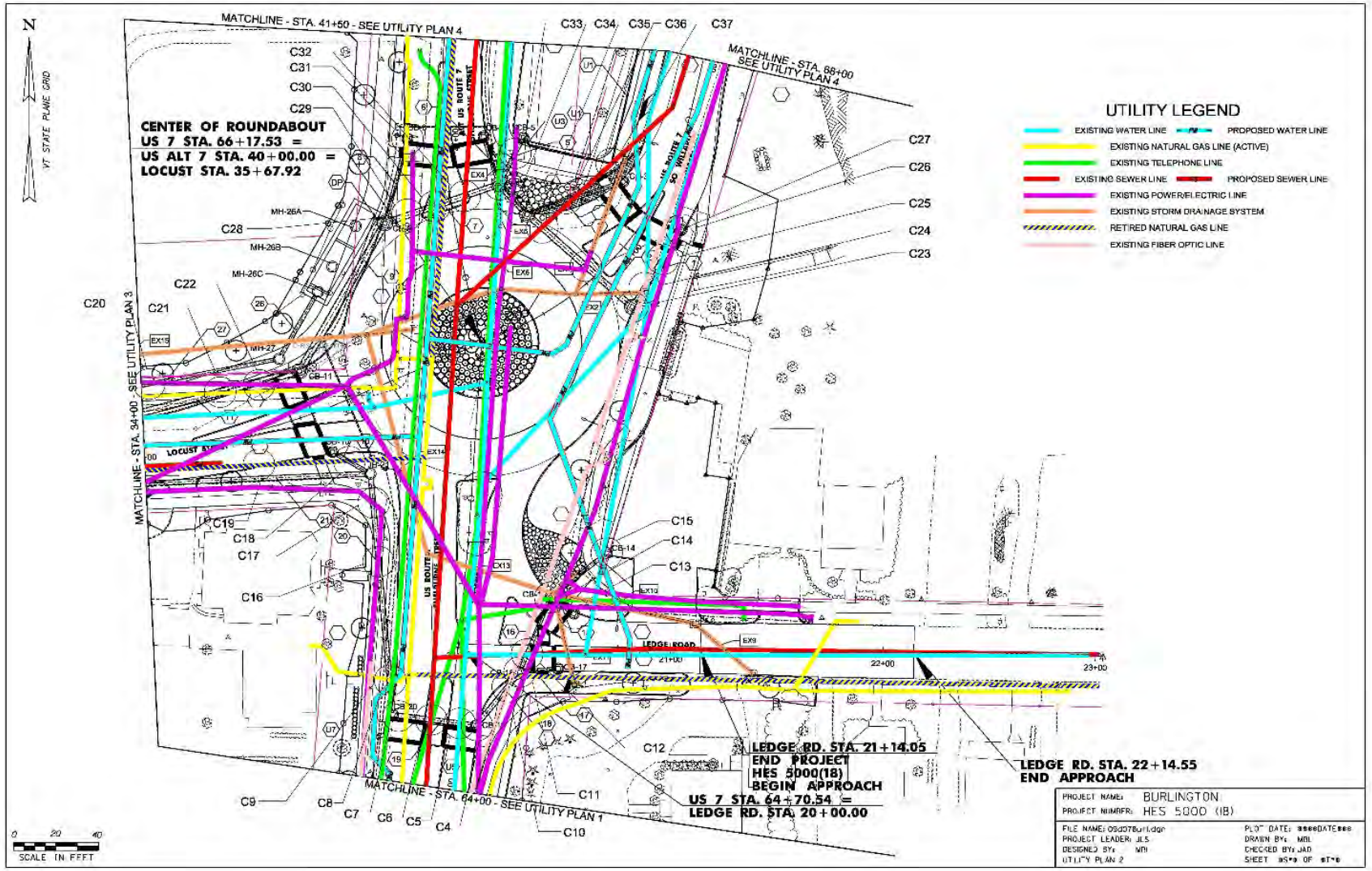


Challenges to Implementation

No Small Feats

UTILITIES

- 37,000 linear feet of existing utilities
- Some abandoned, most active
  - Gas
  - Sewer
  - Water
  - Electric
  - Telephone
  - Telecom
  - Fiber
  - Cable
  - Storm



Challenges to Implementation

No Small Feats

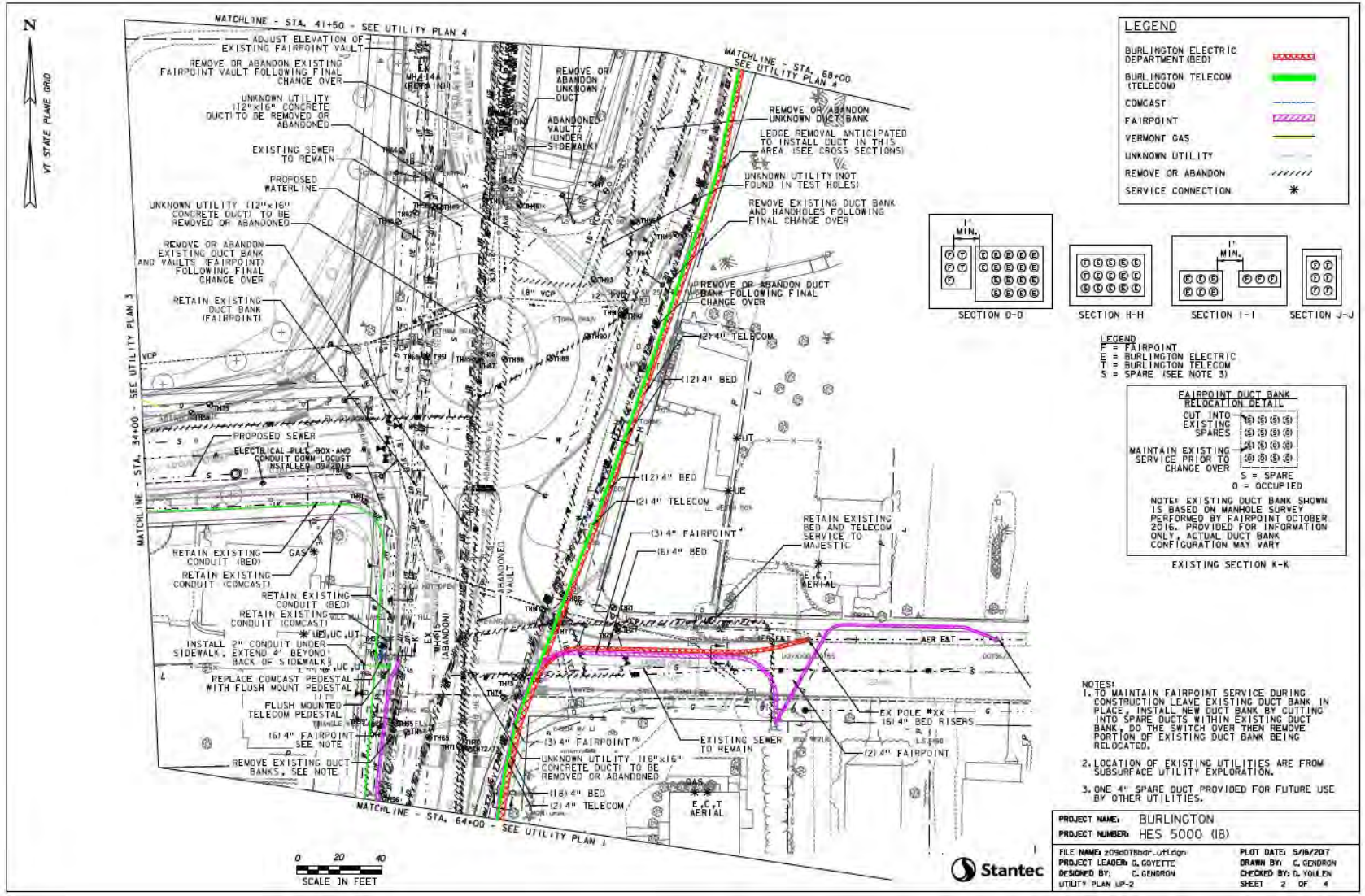
UTILITIES

- Utility Duct Bank (Concrete-encased)
- As small as 1x3
- As large as 5x4

- New Water Line

- Sleeve existing sewer lines in 2020 (UV Cured).

- Trick is to keep existing active services on while build new infrastructure.

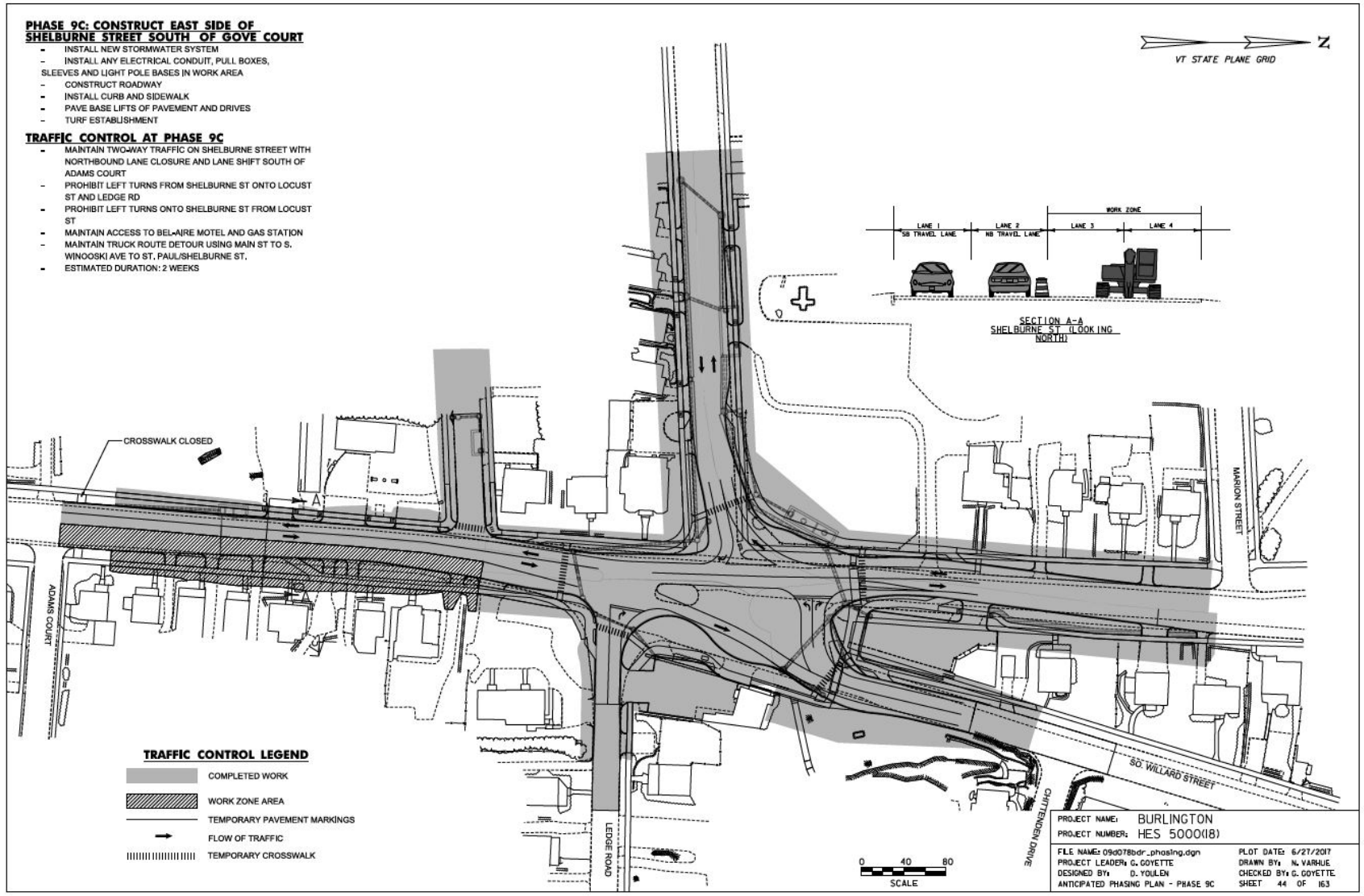


Challenges to Implementation

No Small Feats

TRANSPORTATION MANAGEMENT

- Maintain pedestrian and bicycle accommodations through construction
- Detours for certain construction phases
- Restrict Left Turns during construction (certain phases)
- Potential off-site student pick-up/drop-off locations
- Comprehensive Construction Phasing/Sequencing Plan



Traffic Control

VTrans and Consultant developing detailed work/traffic sequencing plan

- Analyze how each sequence affects existing traffic operations
- Assess construction risk factors
- Recommend mitigation measures for traffic mobility

Strategies Utilized:

- Lane Shifts
- Left Turn Restrictions
- Temporary Ramps and Crosswalks near Adams Court to allow for pedestrian egress from east to west across the project

Mobility Recommendations

- Two-way traffic during peak hours (6am-8pm) on Shelburne Street south of roundabout
- One-way traffic with detours for other direction on Shelburne Street north of roundabout

Traffic Control

- One-directional traffic on side streets used in conjunction with detours
- Use of Uniformed Traffic Officers and Flaggers
- Coordination with property owners on roads where one-way alternating traffic, detours, or road closures will be implemented
- Underground utility work will utilize one-way alternating traffic and be performed on off-peak hours and/or weekends
- Temporary sidewalk on east side of Shelburne Street after underground utilities are installed to re-establish north-south pedestrian route
- Close coordination with Champlain Parkway Project

Public Outreach

- VTrans hired Public Information Consultant to assist with outreach and project alerts (same consultant being used for Champlain Parkway)
- Use of Front Porch Forum, Social Media, VT Alert
- Email distribution list

Stantec

October 10, 2016
Greg Goyette

Reference: **Burlington HES 5000(18)**
Potential Traffic Management and Construction Sequencing Approach

PHASE 1 – REMOVE THE EXISTING ISLAND IN THE ROTARY AND PAVE FLUSH WITH EXISTING PAVEMENT

Estimate Duration: 1-2 weeks
Work hours: Normal Daytime Hours

Description: Removing the existing island and installing pavement will provide more room to shift traffic around the work zone as necessary in subsequent phases. Place barrels or tubular markers to recreate a physical barrier at the existing island location. Construct new temporary crosswalk ramps just north of Adams Court for use in future phases to give pedestrians a crossing point when the crosswalk across Shelburne Street north of Gove and the crossing of South Willard are not able to be used.

Impact to Existing Traffic Operations:

- Reduce Northbound Shelburne Street to one lane leading into intersection during work hours
- Prohibit left-turns from Southbound Shelburne Street onto Ledge Road during work hours
- Prohibit left-turns from Southbound Shelburne Street onto South Willard Street during work hours
- Prohibit left-turns from Locust Street onto Shelburne Street during work hours
- Prohibit left-turns from Gove Court onto Shelburne Street during work hours
- Prohibit left-turns from Northbound Shelburne Street onto Gove Court during work hours
- Restore traffic patterns after work hours
- Lane closures near Adams Court to construct temporary crosswalk ramps.

Rationale: Equipment and channelizing devices associated with the work zone will likely reduce sight distance at side roads making it less safe to make a left-turn. Restricting left turns on Shelburne Street and the side roads would minimize potential conflicts within the work zone and result in greater traffic mobility through the work zone.

Risks and possible mitigation measures:

- **Risk:** Left-turn restrictions during work hours may cause some confusion as some vehicles will need to adjust their route to their destination.

  Mitigation Measure: A well delineated work area with flagger's, UTO's, and approach signage will help with ensuring that traffic passes through the project area safely.

- **Risk:** Left-turn movements will be diverted to other intersections, such as the signalized intersection of St. Paul Street and Howard Street.

  Mitigation Measure: Given the short duration of this phase, recommendation is to station UTO's at the intersection of St. Paul and Howard during work hours.

Future Regulation Changes

DPW will be seeking approval of the following regulation changes during construction and as the project draws closer to completion:

Parking

No Parking Zones will be implemented on the approaches of each leg of the roundabout, and on the center median of the roundabout. Exact signage and sign placement is to be determined.

Regulatory Signs

Yield signs will be implemented on each leg of the roundabout approach; in locations without existing regulatory signage as well as replacing several existing stop signs.

Speed Limit

The 25mph speed limit zone will be extended to begin at Adams Court instead of Ledge Road (speed limit on Shelburne Street is currently 35mph until Ledge Road).

Crosswalks & Rectangular Rapid Flashing Beacons (RRFBs)

Crosswalks and RRFBs will be implemented across each leg of the roundabout.

Future Condition

Schedule & Budget

Schedule

ROW Clear: March 2020

PS&E Completion: January 2021

Bid Advertisement: February 2021

Construction: May 2021 – June 2023

Budget

100% Federal Funded (Safety funds)

$500,000 for duct bank

$1,000,000 for reimbursable relocations

$7,000,000 total

City of Burlington
Department of Public Works

Technical Services Engineering Division
645 Pine Street, Suite A
Burlington, VT 05402
P 802-863-9094 / F 802-863-0466 / TTY 802-863-0450
www.burlingtonvt.gov/DPW

Memo

Date: December 10, 2020

To: Public Works Commission

From: Phillip Peterson, Associate Public Works Engineer PCP

CC: Chapin Spencer, Director of Public Works
Norm Baldwin, P.E., City Engineer/Asst. Director – Technical Services
Laura Wheelock P.E., Senior Public Works Engineer

Subject: University Place Street Improvements Preferred Alternative

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Recommendations to the Commission:

The Department of Public Works respectfully requests that the Public Works Commission approve the following motion:

To recommend to the City Council approval of the "Enhanced Design" concept as the preferred alternative to the University Place Conceptual Design phase as outlined in the Agreement between the City of Burlington and University of Vermont and State Agricultural College regarding the Participation in the City's Ten Year Capital Plan.

Possible future amendments, in brief:
The below amendments may be necessary to facilitate parking and traffic along University Place, if and when the University Place Street Improvement project moves into the construction phase. Please note that the possible regulation changes below are approximations and will be subject to change during the engineering design phase of this project.

Possible DPW Commission approvals:
5 One-way streets designated.
The following streets are hereby designated as one-way streets, and all traffic and travel thereon, except pedestrians, shall pass in the directions indicated and not otherwise:

- University Place in a northerly direction, with the exception of bicycles traveling southbound in the designated contra-flow lane.

7 No parking areas.
No person shall park any vehicle at any time in the following locations:

- On the east side of University Place with the exception of the vehicle loading zone in front of Ira Allen Chapel and the food truck parking in front of the Royal Tyler Theatre.

12-1 No parking except vehicles loading or unloading.
No person shall park a vehicle at the following locations unless engaged in loading or unloading the vehicle:

- On the east side of University Place in front of Ira Allen Chapel.

(New Regulation) No parking except for the use of food truck vending.
Spaces designated as no parking at all times except for the use of food truck vendor vehicles only:

- On the east side of University Place in front of the Royal Tyler Theatre.

Valid food truck vendors shall meet the following criteria:

- Insurance that exceeds the state-mandated minimum.
- Food truck vendors shall assume responsibility for maintaining food truck vehicle spaces, should those spaces become damaged due to food truck vending operations.
- Other criteria to be defined in the future.

Background:
The Department of Public Works (DPW) in partnership with the University of Vermont and State Agricultural College (UVM), is working with consultants on developing two conceptual designs for the project area that includes University Place, a City of Burlington accessible public street, and the associated right of way. The Campus Master Plan reads, "University Place is pre-eminent amongst the priority projects for the historic and iconic nature of the buildings involved, its visual prominence, and location at the heart of the campus." University Place is also identified in UVM's Active Transportation Plan UVMoves as a signature project recommendation, specifically stating "University Place Conversion into a multi-modal street." Both UVM and the City are interested in improving safety on the street for pedestrians, bicyclists, and other active transportation users.

The University Place Street Improvements project is broken into three (3) phases; currently we are finishing up Phase One. Phase One – Conceptual Design (30%): The first phase will include two (2) 30% conceptual designs and permitting for University Place. Conceptual design will be in accordance with standards adopted by the City of Burlington as well as planning documents adopted by both UVM and the City of Burlington. The two concepts will be in two categories; basic and enhanced.

The University Place basic concept would involve basic street reconstruction with minimal changes to the streetscape and curb line. The enhanced concept will include the same reconstruction elements as the basic concept, and could include curb line changes, sidewalk improvements, a crossing plaza, and other enhanced materials. Phase One work started in March of 2020 and is scheduled to conclude in December 2020 with an approved concept.

Public Input:
During Phase One the University Place design team presented the University Place concepts to the TEUC, DPW Commission, local NPA, and held a standalone meeting (see Attachment-1). During these meetings input was taken from local Burlington businesses, residents, and the broader UVM community. Additionally, the University Place design team collected feedback through an online survey for both concepts. The general consensus from all of these stakeholders, is they would like the City and UVM to advance the enhanced concept as the preferred alternative.

At the November meeting of the Transportation Energy and Utilities Committee (TEUC) DPW Staff received a motion of support from the TEUC to advance the enhanced concept for the University Place project as the preferred concept. City Counselors from the TEUC stated that additional safety enhancements with the enhanced concept are necessary to creating a complete street and inclusive project design.

Next Steps:

1. Seek approval for the Enhanced Design concept from Board of Finance and City Council, at the December 21st meetings.
2. Seek approval by the UVM Board for the Enhanced Design concept in December.
3. Phase Two – Design and (100%) Construction Documents: The second phase will develop design, engineering and construction documents for University Place. This phase of work will follow Phase One and will take the approved concept and move it through design drawings for bidding in the Fall of 2021.
4. Phase Three – Construction: The third phase will be for construction of the proposed improvements. The current schedule has this work occurring in 2022.

Attachments:

1. University Place Concept Presentation.

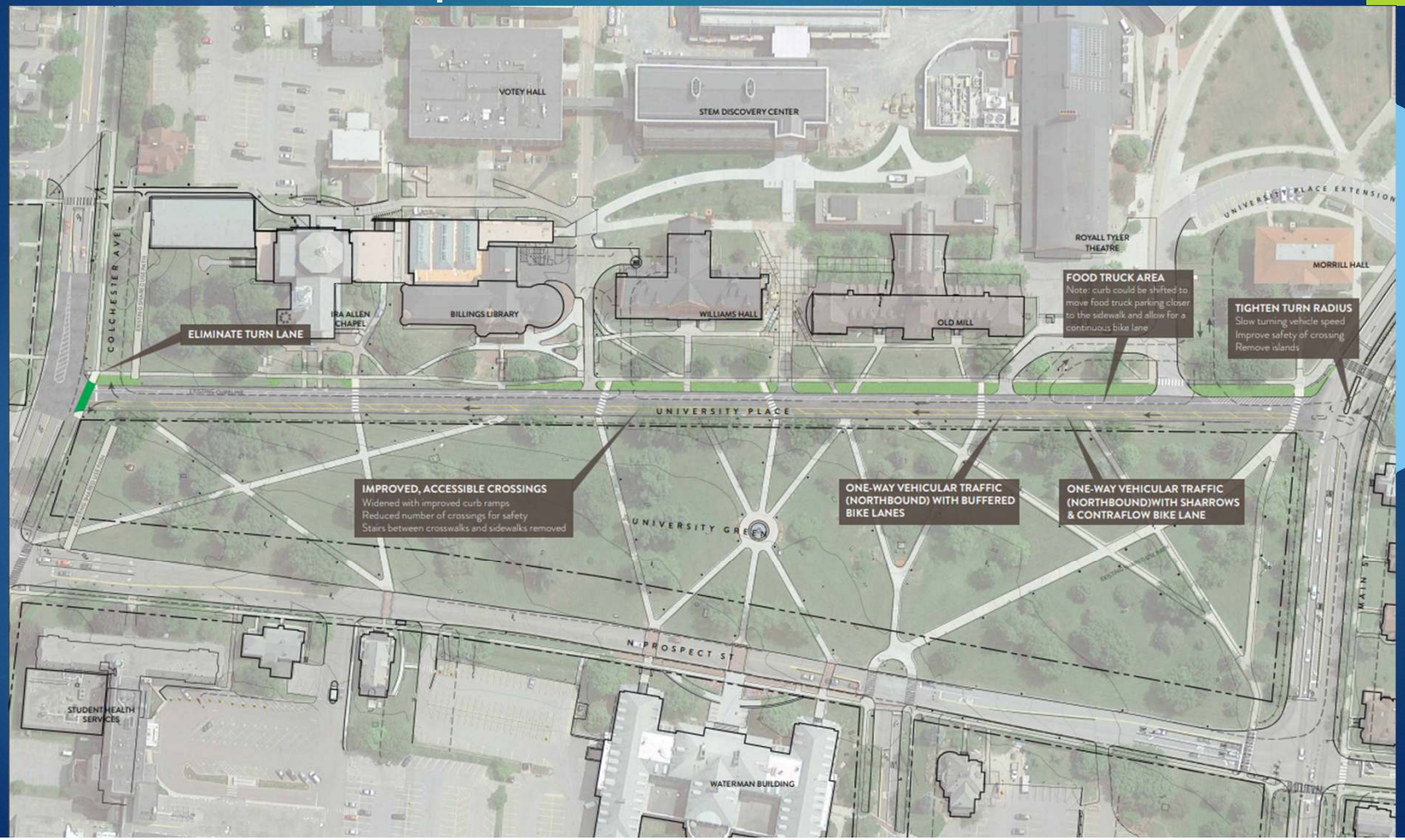
University Place Street Improvements

PREFERRED CONCEPT

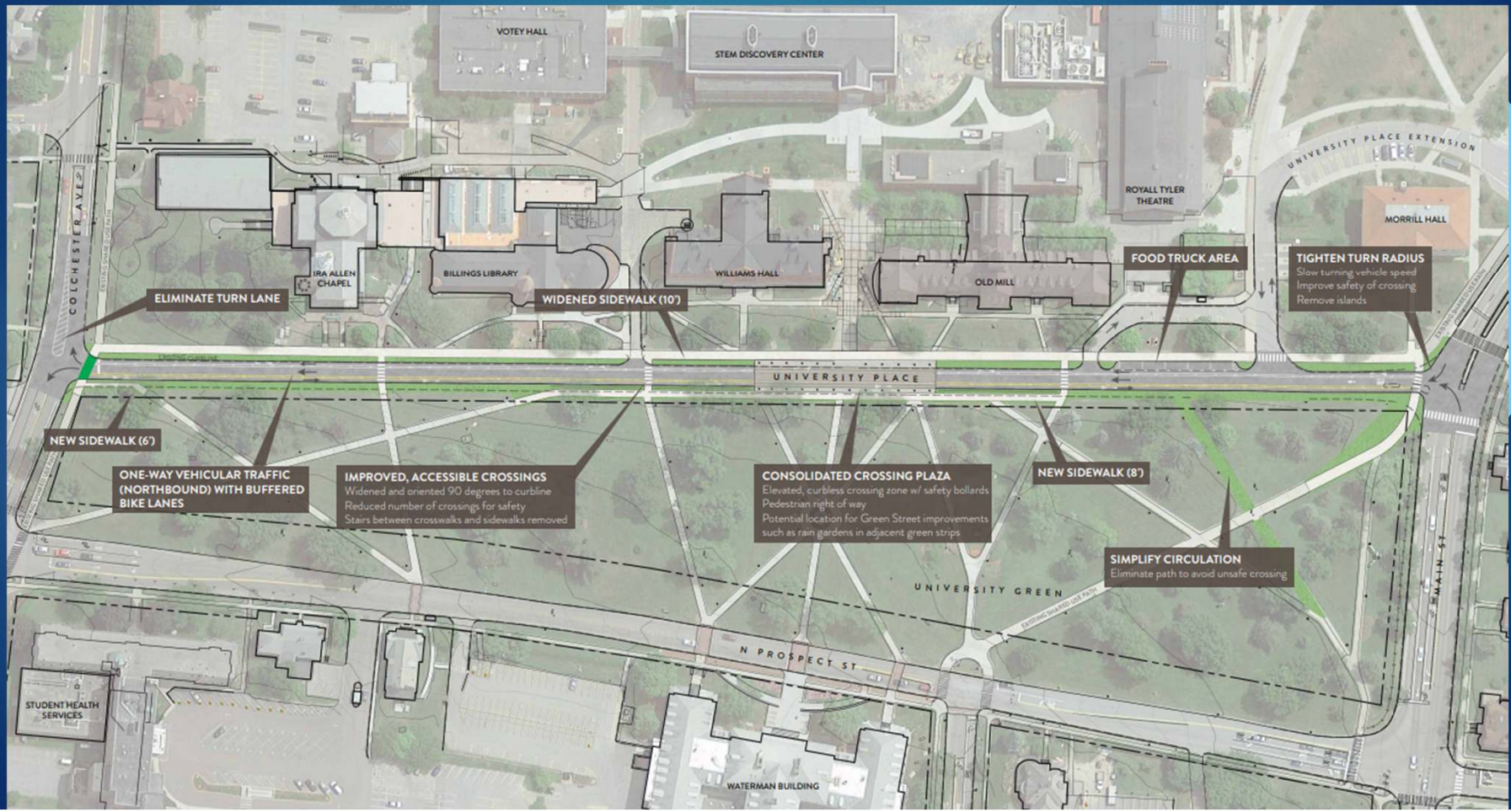
PUBLIC WORKS COMMISSION

DECEMBER 16, 2020

Basic Concept



Enhanced Concept



Budget – Enhanced Design

Estimated Costs

- Design $ 327,000
- Construction $ 790,000 (without any add alternatives)
- Inspection $ 60,000
- Contingency $ 180,000
- **Total** **$1,357,000**

Available Funds

- City $ 630,000
- UVM $ 547,000 (Minimum)
- Contingency $ 180,000 (This would be UVM funds per Agreement
- **Total** **$1,357,000**

University Place Timeline

1. 11.24.20; TEUC sponsorship for the University Place enhanced concept as the preferred concept.
2. 12.14.20 City Council presentation of University Place Street Improvements concepts.
3. 12.16.20 DPW Commission sponsorship for the University Place enhanced concept as the preferred concept.
4. 12.21.20 Board of Finance and City Council; preferred concept approval.
5. UVM boards and/or committees TBD.
6. Fall 2021 Phase two (2), construction documents and final designs.
7. 2022 Anticipated construction on University Place.

Questions?

Contact:

Phillip Peterson, Associate Engineer
Desk: 802.598.8356
Email: ppeterson@burlingtonvt.gov

City of Burlington
Department of Public Works

Technical Services Engineering Division
645 Pine Street, Suite A
Burlington, VT 05402
P 802-863-9094 / F 802-863-0466 / TTY 802-863-0450
www.burlingtonvt.gov/DPW

Memo

Date: December 10, 2020

To: Public Works Commission

From: Phillip Peterson, Associate Engineer PCP

CC: Susan Molzon P.E., Senior Public Works Engineer

Subject: Recommendations for Parking Restrictions on Narrow Streets (Charles Street and Russell Street)

Recommendations to the DPW Commission (please see the attached site maps):

1. Parking restrictions on the South side of Charles Street from January 1 to March 1.
2. Parking restrictions on the West side of Russell Street from January 1 to March 1.
3. Relocate ADA parking at 21 Russell Street to 20 Russell Street from January 1 to March 1, and ADA space reverting back to 21 Russell Street from March 2 to December 31.

BACKGROUND

DPW Staff developed a Narrow Streets Policy which was approved in 2018, and updated to the DPW Commission in October 2019. The purpose of the Narrow Streets Policy is to establish guidelines and standards which will balance community needs, Burlington Fire Department (BFD) Emergency Service needs, and DPW Maintenance needs for sufficient mobility and access to narrow streets.

Staff have identified 116 narrow streets within the City of Burlington. A narrow street is defined as a street which:

1. Is 28 feet wide or less;
2. Has on-street parking on one or both sides;
3. Has one-way or two-way traffic;
4. Is not typically a transit route;
5. Is categorized as a local or neighborhood street.

Both the BFD and DPW Maintenance teams have determined that fourteen (14) feet is the minimum preferred width for clearance.

RECOMMENDATIONS

DPW staff has implemented a measured approach to implementing parking restrictions on Narrow Streets. DPW Staff initiated this work in 2018 with the streets which are the most constraining for emergency responders and maintenance teams. Data has been collected to measure the roadway widths, occupancy rates, and presence of greenbelts on narrow streets to determine their effective travel width. Streets which had an effective travel width less than 10 feet were 2018's focus. In 2018 the DPW Commission approved seasonal parking restrictions on the east side of Germain Street, the east side of Latham Court, and based on resident request the south side of Hoover Street from December 1 to April 1.

Based on the Narrow Streets policy, in 2019, the DPW Commission approved a one-year pilot for parking restrictions on Russell Street and Charles Street as shown on the attached map, see Attachment 1. Based on community input the change was only in effect for a limited seasonal parking restriction from January 1 – March 1. Charles Street and Russell Street is a dense neighborhood, and several properties do not have driveways which lowers parking resources for the neighborhood. The January 1- March 1 parking restriction is during the coldest part of winter with consistent below freezing conditions, and snow easily accumulates. These one-sided winter parking restrictions on Charles Street and Russell Street have allowed better access for emergency services and winter maintenance crews.

DPW Staff collected data on Charles Street and Russell Street during the limited seasonal parking restrictions in January and February of 2020; data showed an average parking occupancy of 72% on Charles Street and 71% on Russell Street, see Attachment 2. Without the parking restrictions, average parking occupancy was 49% on Charles Street and 68% on Russell Street. The increase in parking occupancy rates is not concerning, and show the neighborhood adjusted well to the seasonal parking restriction. It's important to note these counts were conducted prior to the recent health emergency, so this is what staff would anticipate as the peak use during this seasonal parking restriction. Based on data collected, neighborhood input, input from BFD and streets maintenance crews; DPW Staff are recommending the DPW Commission permanently adopt the winter parking restrictions on Charles Street and Russell Street.

There are other narrow streets which have less than fourteen (14) feet of effective travel width. Given the current health emergency, parking behavior in the City will not present accurate data. Consequently, Staff will conduct future evaluations on these streets and recommend solutions to the Commission at a later date.

PUBLIC ENGAGEMENT

- In preparation for the 12/16/20 DPW Commission Meeting, Staff mailed flyers to each property owner on Charles Street and Russell Street to notify them of the DPW recommendations and all pertinent meeting details. Additionally, Staff sent emails to everyone involved in the public process from last year's Charles Street and Russell Street recommendation. Staff received one email from a local resident in support of this recommendation, see Attachment 3.

Attachments:

1. Site Map.
2. Narrow Streets Presentation 12-16-20.
3. Public input correspondence.

0 70' 140'

SCALE: 1" = 70'

SEASONAL PARKING RESTRICTION
CHARLES STREET AND
RUSSELL STREET

BURLINGTON, VT PUBLIC WORKS

BURLINGTON PUBLIC WORKS ENGINEERING DIV.
645 PINE STREET
BURLINGTON, VT 05401
(802) 863-9094
(802) 863-0466 (Fax)

DESIGNED PMP	
DRAWN PMP	SCALE 1"=70'
CHECKED SM	DRAWING NO.
DATE 12/10/2019	SHEET 1 OF 1

Narrow Streets Implementation & Update

CITY OF BURLINGTON, BURLINGTON FIRE DEPARTMENT (BFD)

CITY OF BURLINGTON, DEPARTMENT OF PUBLIC WORKS (DPW)

Purpose & Background

A. To balance community needs, BFD Emergency Services needs, and DPW Maintenance needs for sufficient mobility and access to narrow streets.
B. Narrow Streets Policy
    1. Collaboration with BFD Emergency Services and DPW Winter Maintenance Team
    2. Initial approvals, March 2018
    3. Updated October 2019 DPW Commission
C. Narrow Streets Implementation Fall 2018 and Fall 2019
    1. Restrict Parking to one-side on Germain, Latham, and Hoover from December 1 to April 1
    2. Restrict Parking to one-side on Charles and Russell from January 1 to March 1

Narrow Streets

1. 28 feet wide or less
2. 116 Narrow Streets in the City of Burlington
   A. 99 of the 116 Narrow Streets have existing parking restrictions
   B. BFD Emergency Services and DPW Winter Maintenance have determined 14 feet of effective travel width is the desired minimum width
      a) 19 Narrow Streets currently have less than 14 feet of effective travel width with no existing restrictions

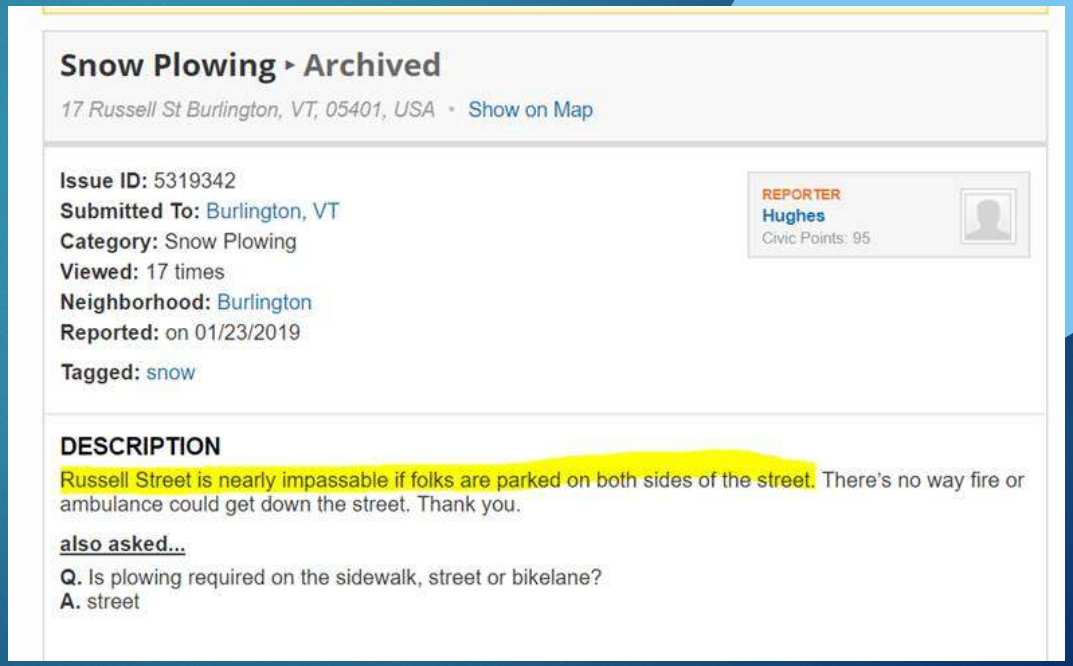
City Approach

1. Acknowledge challenge of balancing needs.
2. Incremental approach allows us to learn and adjust as we move forward.
3. DPW addressed the most constrained narrow streets (<10' effective travel width) in November 2018.
4. DPW implemented restrictions for Charles and Russell, challenging geometric configurations.
5. Additional data collection efforts.
6. Current health emergency has postponed efforts.

Charles Street & Russell Street – Winter Condition

Charles Street & Russell Street – Winter Condition

1. See, Click, Fix



Snow Plowing ▸ Archived

17 Russell St Burlington, VT, 05401, USA • Show on Map

Issue ID: 5319342
Submitted To: Burlington, VT
Category: Snow Plowing
Viewed: 17 times
Neighborhood: Burlington
Reported: on 01/23/2019
Tagged: snow

REPORTER
Hughes
Civic Points: 95

DESCRIPTION

Russell Street is nearly impassable if folks are parked on both sides of the street. There's no way fire or ambulance could get down the street. Thank you.

also asked...

Q. Is plowing required on the sidewalk, street or bikelane?
A. street

BFD Fire Truck

BFD Fire Truck

Charles Street - Statistics

- Location: Old North End
- One-way traffic (one lane)
- 26’ wide
- Parking on both sides (16’ total)
- Average occupancy rate: 48%
- 10’ of existing roadway available for emergency vehicles during the winter

Russell Street - Statistics

- Location: Old North End
- One-way traffic (one lane)
- 26’ wide
- Parking on both sides (16’ total)
- Average occupancy rate: 63%
- 10’ of existing roadway available for emergency vehicles during the winter

Data Collection

Street Information	Previous Conditions				With Jan1-Mar1 Parking Restrictions
Name	Occupancy Summer 2018	Occupancy Winter 2019	Occupancy Summer 2019	Occupancy Fall 2019	Occupancy Winter 2020
Charles St	49%	43%	43%	44%	72%
Russell St	63%	62%	60%	68%	71%

Recommendation

Narrow Streets Timeline

1. Spring 2019: Russell and Charles Neighborhood Meeting
2. Data Collection and Evaluation on Russell and Charles.
3. October, 23 2019: Narrow Streets policy and procedures update to DPW Commission.
4. October, 24 2019: Narrow Streets update to TEUC.
5. October, 30 2019: Russell and Charles Neighborhood Meeting
6. November 2019: Staff Recommendations to DPW Commission Prior to Winter 2020
7. Fall 2020 - Winter 2021: Staff recommendations.
    a) Staff Recommendation: Maintain the parking restrictions on Charles and Russell

Questions?

Contact:

Phillip Peterson, Associate Engineer
Desk: 802.865.5832
Email: ppeterson@burlingtonvt.gov

Public input correspondence emails

Tue 12/8/2020

Hello everyone,
Many thanks for this email and also the letter we received notifying us of this recommendation, and of the opportunity to comment. My spouse, Ted, and I do not object to this becoming a permanent policy. We were able to manage last year and did not experience the serious problems that we thought we would, in getting access to an on street parking space close to our house (we have no driveway). Please share this with the Commission.

best regards
Jane Knodell
Ted Wimpey

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Chapin Spencer
DIRECTOR OF PUBLIC WORKS

Jeffrey A. Padgett, MBA
ASSISTANT DIRECTOR for PARKING & TRAFFIC

Date: December 16, 2020

To: Public Works Commission

From: Jeffrey A. Padgett, MBA
Assistant Director for Parking and Traffic

C.C. Chapin Spencer, Director of Public Works

Subject: Garage Rate Structure Adjustment Request
MODIFIED IMPLIMENTATION SCHEDULE

Motion
"To Suspend any immediate effort to publish and notice of the previously approved June 17, 2020 updates to the Burlington Code of Ordinances, Appendix C, Chapter 19 Parking Rates, Sections (b) and instead publish and notice the updates related to ***Parking Rates*** *as described in Appendix C, Chapter 19(b)(8)-(10), and amended by the Public Works Commission on June 17, 2020, to become effective on approximately* ***April 1, 2021****."*

Background
At the July, 2020 meeting the Public Works Commission delayed adoption of a suite of changes to the rate structures in the parking garages. One set of changes related to formalizing Holiday rates and updating miscellaneous policies, these were delayed to be implemented on September 1st; these changes have now been executed. Other changes related to garage rates (that included the removal of 2 Hours Free at the Marketplace Garage) were delayed until January 1, 2020.

Current Action
Based on a formal request from the Church Street Marketplace Commission at their November meeting, we have been asked to further delay the removal of 2 Hours Free at the Marketplace Garage until April 1, 2021. DPW staff reviewed the request and decided to advance it to the Commission because:

1) The 2015 Downtown Parking & Transportation Plan recommended rates be adjusted to manage occupancy to an approximate 85% target. Due to the ongoing impacts of Covid-19, the Marketplace garage has not yet regularly returned to this target and we do not expect occupancy over the winter months to regularly meet this target.

2) We recognize that the business environment downtown has been severely impacted by the Covid-19 pandemic and that maintaining 2 Hours Free at the Marketplace Garage during the typical slow season downtown would help merchants and customers alike.

Considering the unknown impact of Covid-19 over the winter and what the recovery may look like in the spring, delaying the execution of the Ordinance to remove 2 Hours Free helps to:

1) Maintain the most attractive parking option downtown in an attempt to increase utilization/occupancy

2) Provide stability to the downtown merchants

Community Impact
At the July the Church Street Marketplace Commission meeting the Commission endorsed the removal of the 2 Hour Free program with the condition that it include 1) a free restaurant and retail worker parking program in the Lakeview and College Street garages and 2) a downtown merchant validation program. At the November 18, 2020 meeting an advisory vote unanimously recommended that the removal 2 Hours Free be "delayed due to a change in circumstance…" and be revisited when the garage reaches an average occupancy of 80%. This will leave the Employee Free program and Merchant Validation programs without a sustainable funding source. (Both of these programs do have short term funding in FY20.)

We believe that the proposed delay in removal of 2 Hours Free until July 1, 2020 meets the spirit of this request, but the "80%" metric is not an effective measure for the garage. This metric presumes that all occupancy is transient parkers (by the hour) and that free parking will drive occupancy. Considering our current financial position, we may need to begin selling "monthly" permits in the Marketplace garage and/or look to other revenue sources that are not effectively reflected by the 80% measure. Also, the experience in the garages since re-opening in June, has shown that occupancy remains low, even with the incentive of 2 Hours Free. In the Covid-19 environment, free parking may support the Downtown experience, but the data has demonstrated that it isn't a driver of activity Downtown. In fact, parking on Saturday (not free) tends to be busier than Sunday (free).

Financial Impact
Covid-19 has already had a significant impact on garage finances. In FY20, the Parking Facilities Fund lost about $1M over the three Covid-19 impacted months and is projected to lose another $1.3M in FY21 (due to lack of occupancy, revenues are at about 55% of last year's revenues). With additional revenues from the pending parking agreements with Burlington School District and the State of Vermont and savings from reduced staffing, the projected end-of-year fund balance for the Parking Facilities Fund is approximately $500K – precipitously down from ~$3M just one year ago. The debt instruments used to make capital improvements in our garages over the past several years have a "coverage ratio" condition that requires a minimum fund balance of $1.5M, which we will struggle to meet based on projections. We are in discussions with our creditors on addressing this situation. Restoring the fund balance in the Parking Facilities Fund in a timely manner is critical to ongoing sustainable management of the garages.

Based on the usage of 2 Hours Free at the Marketplace Garage in the early months of FY21, it is projected that maintaining the program could forego revenue of approximately $125K from January through March of FY21. However, we are supporting this action because returning the Parking Facilities Fund to health is dependent on having a fast and robust recovery Downtown. Maintaining the 2 Hour Free parking downtown during these next three critical months is a tool that we can offer to bolster the recovery heading into the upcoming spring/summer. Because a vibrant Downtown will, long-term, increase revenues in the City Garages thus restoring the health of the Parking Facilities Fund, it is reasonable to delay the change in Ordinance until April 1, 2021.

Attachments:

A. Appendix C Language requested to take effect in April, 2021.

CITY OF BURLINGTON

Regulation _____
Sponsor: Department of Public Works, Ordinance Committee

In the Year Two Thousand Twenty

Action: _____
Date: _____
Published: _____
Effective: _____

A Regulation in Relation to

Rules and Regulations of the Traffic Commission—
Excavation and Obstruction Permits—
Public Health Emergencies; accommodating business

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

That Appendix C, Rule and Regulations of the Traffic Commission, Chapter 19, Parking Rates, of the Code of Ordinances of the City of Burlington is hereby amended by amending Section (b), as follows:

Chapter 19. Parking Rates.

(a) As written.

(b)

(1)-(7) As written.

(8) ~~College Street Parking Garage: First two (2) hours free; one dollar ($1.00) per one-half (1/2) hour after two (2) hours for next two (2) hours; one dollar ($1.00) per hour after four (4) hours; maximum daily rate of eight dollars ($8.00). Eighty dollars ($80.00) for a five (5) day per week monthly lease and ninety-six dollars ($96.00) for a six (6) day per week monthly lease.~~

College Street / Lakeview / Westlake Parking Garage Facility.

a. Hourly, Maximum Daily Rates. One dollar ($1.00) per hour; first two (2) hours free; maximum daily rate of eight dollars ($8.00).

b. Parking is free on Sundays.

c. Monthly Permit Rates. Eighty dollars ($80.00) for a five (5) day per week monthly permit; the five days per week shall be Monday through Friday. Ninety-six dollars ($96.00) for a seven (7) day per week monthly permit. Twenty dollars ($20) for a 5 day per week monthly permit for City Employees when paid for by a City of Burlington department. The Director of Department of Public Works or his or her designee may pro-rate monthly parking permit fees at times of sale and termination.

(9) ~~Lakeview Parking Garage: First two (2) hours free; one dollar ($1.00) per one-half (1/2) hour after two (2) hours for next two (2) hours; one dollar ($1.00) per hour after four (4) hours; maximum daily rate of eight dollars ($8.00). Eighty dollars ($80.00) for a five (5) day per week monthly lease and ninety-six dollars ($96.00) for a six (6) day per week monthly lease.~~

Marketplace Parking Garage:

a. Hourly, Maximum Daily Rates. One dollar ($1.00) up to one (1) hour, two dollars ($2.00) up to two (2) hours; three dollars ($3.00) up to two and one-half (2 1/2) hours; four dollars ($4.00) up to three (3) hours; five dollars ($5.00) up to three and one half hours (3 1/2) hours; six dollars ($6.00) up to four (4) hours; seven dollars ($7.00) up to five (5) hours; eight dollars ($8.00) up to six (6) hours; nine dollars ($9.00) up to seven (7) hours; maximum day rate of 10 dollars ($10.00) after seven (7) hours.

b. Parking is free on Sundays.

c. Monthly Permit Rates: Ninety-six dollars ($96.00) for a seven (7) day per week monthly permit in the Marketplace Lower garage. No monthly permits available in the Marketplace Upper garage, except maintenance of those in existence at the time of adoption of this language. The Director of Department of Public Works or his or her designee may pro-rate monthly parking permit fees at times of sale and termination.

(10) ~~Marketplace Parking Garage: First two (2) hours free; three dollars ($3.00) per next one-half (1/2) hour after two (2) hours; one dollar ($1.00) per one-half (1/2) hour for next one and one-half (1 1/2) hours; one dollar ($1.00) per hour after four (4) hours; maximum daily rate of ten dollars ($10.00). Eighty dollars ($80.00) for a five (5) day per week monthly lease and ninety-six dollars ($96.00) for a six (6) day per week monthly lease.~~

Reserved.

(11)-(16) As written.

(c) As written.

(d) As written.

(e) As written.

(f) As written.

** Material stricken out deleted.
*** Material underlined added.

TD: BCO Appx.C, Ch 19, Sec. (b)
7/15/20

DEPARTMENT OF PUBLIC WORKS
645 PINE STREET, BURLINGTON, VERMONT 05401
COMMISSION MEETING - NOVEMBER 18, 2020

Video available at: https://www.cctv.org/watch-tv/programs/burlington-public-works-commission-157

Commissioners Present: Commissioner Archambeau, Commissioner Barr, Commissioner Bose, Commissioner Gillman, Commissioner Hogan (Chair), Commissioner O'Neill-Vivanco, Commissioner Overby.

ITEM 1 – CALL TO ORDER

Meeting was called to order at 6:31 p.m. by Commission Chair Hogan.

ITEM 2 – AGENDA

ACTION: Commissioner Barr made a motion to accept the agenda with consent agenda items A and B pulled and placed on the deliberative agenda as 4.1 and 4.2 respectively.
Commissioner O'Neill seconded. Unanimously approved.

ITEM 3 – PUBLIC FORUM

- Resident Lacey Sloan spoke to 4.1 the 15-minute space on North Winooski Avenue and supporting complete removal of the 15-minute designation.
- Resident Jason Stuffle spoke generally to recent bike improvements including Colchester Ave and supported upcoming investments such as the Mansfield Avenue sidepath.

ITEM 4 – CONSENT AGENDA

ACTION: Commissioner Archambeau moved to approve the consent agenda. Commissioner Barr seconded. Unanimously approved.

ITEM 4.1 – NORTH WINOOSKI AVE 15-MINUTE PARKING SPACE

Associate Engineer Phillip Peterson provided a summary of the request. Staff reviewed and based on stakeholder input, the recommendation is to reduce the 15-minute parking regulation from solely 8am to 6pm, Sundays and holidays excepted. Commissioners asked questions about data collection, public engagement and the opportunity for future adjustments.

ACTION: Commissioner Barr moved to amend Appendix C of the Burlington Code of Ordinances (BCO) as follows: "9 Fifteen-minute parking. No person shall park a vehicle longer than fifteen (15) minutes, between the hours of 8:00 a.m. and 6:00 p.m., Sundays and holidays excepted, in the following areas: In the parking space in front of 83 North Winooski Avenue." Commissioner Archambeau seconded. Unanimously approved.

ITEM 4.2 – FLETCHER PLACE ADA PARKING ADJUSTMENT

Associate Engineer Phillip Peterson provided a summary of the request to relocate an ADA parking space on Fletcher Place to better serve an adjacent resident with limited mobility and to make more efficient use of the on street parking overall. Commissioners asked about the written communication from resident Martha Lang. Mr. Peterson replied that he had discussed the matter with her and clarified it was only a relocation of an existing space, not a new request – and that Ms. Lang no longer had concerns with the request.

ACTION: Commissioner Barr moved to remove from Appendix C in the BCO the following: "7A Accessible spaces designated. On the west side of Fletcher Place starting four hundred sixty (460) feet north of Colchester." And approve "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 Fletcher Place in the first parking space south of the driveway for 43 Fletcher Place." Commissioner O'Neill seconded. Unanimously approved.

ITEM 5- WINTER MAINTENANCE PRESENTATION

Assistant Director Lee Perry presented on the Department's Snow and Ice Control Plan. Commissioners Overby, Archambeau, O'Neill and Hogan asked about prioritizing sidewalk routes such as around schools, bike lanes, the new New North End fueling facility at Leddy Park, new sidewalk tractors, narrow street regulations and utilization of GPS technology. Mr. Perry responded. No action was taken.

ITEM 6A – BURLINGTON CITY ORDNANCE LANGUAGE REVIEW TO ADDRESS GENEDERED PRONOUNS

Chair Hogan and Director Spencer suggested, based on recent conversations on the issue, that the Commission consider an advisory motion to suggest the City Council work to update the Burlington Code of Ordinance to have gender neutral or inclusive language. Commissioners discussed. Commissioner Archambeau was concerned that there was no material on the issue in the packet nor a recommended motion to clarify the scope of this request.

ACTION: Commissioner Barr moved to recommend the City Council review and update the Burlington Code of Ordinance language to be gender neutral. Commissioner Bose seconded. Commissioners Hogan, Overby, Gillman, Barr, O'Neill, and Bose voted Aye. Commissioner Archambeau abstained.

ITEM 6B - VOTE ON CLERK POSITION FOR DPW COMMISSION

Director Spencer, Chair Hogan and Commissioner Overby discussed shifting Clerk responsibilities from Commissioner Overby to Customer Service Supervisor Val Ducharme after a review of City Charter and recognizing that it is difficult for a Commissioner to fully participate in the meetings while taking notes. The Commission discussed.

ACTION: Commissioner Barr moved to elect Customer Service Supervisor Val Ducharme at the Clerk of the Commission. Commissioner Gillman seconded. Unanimously approved.

ITEM 7 – APPROVAL OF DRAFT MINUTES 10-21-20

Commissioner Archambeau requested a sentence be added to the minutes under the City Hall Park parking regulation item to identify the concerns he raised. Public Information Manager Goulding read the suggested change.

ACTION: Commissioner Barr moved to approved the minutes as amended. Commissioner O'Neill seconded. Unanimously approved.

ITEM 8 – DIRECTOR'S REPORT

Director Spencer referred to the Director's Report in the packet and spoke to pre-winter paving, COVID-19 budget impacts, GMT fare free status and the merged DPW Customer Service and Communications team.

ITEM 9 COMMISSIONER COMMUNICATIONS

- Commissioner O'Neill stated support for keeping GMT fare free and asked about the Commission's role.
- Commissioner O'Neill requested a presentation on the Burton Higher Ground proposal and Director Spencer said it would be added to next month's agenda.
- Commissioner Overby asked about the Greenride BikeShare and when ebikes would be introduced.
- Commissioner Overby shared information and pictures from a mini-roundabout she had visited.
- Commissioner Archambeau reported that the sidewalks on Intervale Avenue north of Archibald Street are in disrepair and wanted to know the timeline to address this.
- Commissioner Archambeau asked about the City's IT vulnerability after seeing the impact on the UVM Medical Center.
- Commissioner Barr thanked staff for all the pre-winter patching such as on lower Chase Street.
- Commissioner Barr recommended Burlington and Winooski staff meet to discuss how best to improve bike accommodations over the bridge and in the Winooski circulator.
- Commissioner Bose asked for an update on Shared Streets and the City's Making Space for Restaurant and Retail Recovery efforts with Director Spencer responding.

ITEM 10 – ADJOURNMENT & NEXT MEETING DATE - DECEMBER 16, 2020

ACTION: Commissioner Barr moved to adjourn. Commissioner Gillman seconded. Unanimously approved.

CITY OF BURLINGTON
DEPARTMENT OF PUBLIC WORKS

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www.burlingtonvt.gov/dpw

To: DPW Commissioners
Fr: Chapin Spencer, Director
Re: **DPW Director's Report**
Date: December 10, 2020

The December Public Works Commission meeting will be held online via Zoom.

QUICK UPDATES: It has been a busy couple of weeks, so I will provide shorter updates on a greater number of projects this month. I'm happy to talk more about any of these items.

- Paving Season: While our 2020 paving season recently wrapped up, we are already busy planning for the 2021 construction season. We plan on bringing the proposed 2020 paving list to the January Commission meeting.
- Waterfront Rail / Bike Path Coordination: Initial construction was completed this season on the first phase of the coordinated bike path relocation and the Amtrak passenger rail projects. Work shifted the rail between King and College Streets and relining/rehabilitating subsurface utilities at College Street. Vermont Rail System, VTrans and the City are continuing regular coordination meetings to prepare for a busy 2021 construction season between the railyard and College Street. Several legal documents (a lease and multiple 'finance and maintenance agreements') will go to the City Council for their approval over the coming month or two.
- 33 North Avenue: The Water Resources team is continuing the replacement of a Stormwater pipe and repair of the associated slope at 33 North Avenue – adjacent to Depot Street.
- Hazard Pay: We were pleased over the last week to work with the Administration, AFSCME and the City Council to approve one-time hazard pay for employees who have regularly worked on-site or in the field and have been in proximity with members of the public or others who could have been infected with the COVID-19 virus. Whether working from home or working in the field, staff have continued to go over and above during these challenging times to keep the infrastructure of the City running.
- Enterprise Asset Management: Staff has been involved in a big, cross-departmental effort to strengthen the City's asset management systems. A critical step is to acquire an Enterprise Asset Management / Computerized Maintenance Management System. We are interviewing vendors of top ranked proposals now and hope to be requesting City Council approval to acquire a system this winter.
- Racial Equity, Inclusion & Belonging: DPW staff are actively engaged in the City's Racial Equity, Inclusion and Belonging efforts. I am serving on the Recruitment & Retention subcommittee that seeks to have our workforce represent the full diversity of our community.
- FY'22-26 Capital Planning: Thanks to voters support in November 2016, Burlington launched an expanded capital reinvestment in our community through the Sustainable Infrastructure Plan. The bond approvals supported enhanced General Fund and Water Resources investments for 5 years (FY'17-21). Now that the five year window is ending, we need to set our sights on the next 5 years (FY'22-26). It will be a greater challenge this time as our community is struggling to recover from the pandemic. We'll have more updates in the coming months.

Please reach out with any questions prior to Wednesday's Commission meeting. Happy Holidays!

City of Burlington
Department of Public Works

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Memo

Date: December 16, 2020

To: Public Works Commission

From: Susan Molzon, Senior Public Works Engineer

Subject: Burton Redevelopment at 180 and 266 Queen City Park Rd

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As requested by the Public Works Commissioners, DPW Technical Services staff is providing this update to inform the Commission of DPW's involvement in the development process for the Burton Hub facility and the recent infrastructure work we have undertaken nearby. The South End is growing and dynamic and we are pleased to share this snapshot of some of our recent work.

BACKGROUND

The City of Burlington's Development Review Board (DRB) approved the Conditional Use application to create an 11,560 SF Performing Arts Center use within an existing 85,000+ SF structure and proposed façade improvements to existing building exterior as well as a permit for stormwater enhancements and parking layout revisions. Both decisions have been appealed to the Vermont Superior Court Environmental Division and are pending judgement.

CONDITIONAL USE PERMIT AND TRAFFIC IMPACTS

Burton submitted a conditional use application for a performing arts center within an existing mixed use commercial building to convert 11,560 SF of vacant interior commercial space to a performing arts center. The maximum capacity for the performing arts center is 1,500. There is an additional 2,380 SF outdoor plaza associated with the proposed performing arts center. Burton's primary industrial use of the building will remain. Additional non-industrial uses are contemplated but were not included in this application. This application was initially reviewed by the DRB on July 7, 2020. The public hearing was continued to August 4, 2020 and then again to August 18, 2020 and the DRB issued their Findings of Fact on September 1, 2020.

During the development review process, DPW Technical Services staff reviews traffic studies and provides comments or recommendations for consideration by the Development Review Board. However, DPW does not have a decision-making role in the development review process. A traffic impact study was developed by the Applicant and reviewed by DPW Technical Services staff. Traffic conditions in the vicinity of the site were analyzed and compared with and without the performing arts center, and with and without the Champlain Parkway for current traffic conditions and projected traffic in 2028.

For reference, DPW's June 26, 2020 Memo providing comments and recommendations on the submitted traffic impact study is attached to this Memo. Based on the traffic study, the primary areas of concern are the traffic volumes at the intersection of Home Avenue and Pine Street during the evening peak prior to construction of the Champlain Parkway, and traffic operations at the intersection of Home Avenue and the Champlain Parkway during the evening peak.

As mitigation for these traffic impacts, and to ensure the successful monitoring and implementation of the Operational Management Plan, the DRB approved the following permit conditions in concurrence with DPW recommendations:

- Within the first 6 months of operation, the applicant shall perform a traffic assessment of how the Operational Management Plan is addressing traffic impacts and return to the Development Review Board, including opportunity for public comment, to determine if traffic conditions require modification.
- Daytime use of the performing arts center shall be limited to 300 attendees. Doors shall not open for daytime uses of the performing arts center before 9:00AM, and exiting times shall not occur between 4:00PM and 6:00 PM. Evening use of the performing arts center shall be limited to 1,500 attendees. Doors shall not open for weekday evening uses of the performing arts center before 6:30 PM (6:00 PM for weekends and holidays). In no case shall any use of the performing arts center have an exiting time past 2:00 AM.
- This zoning permit requires consistent implementation of the Burton Hub-Performing Arts Center (PAC) Operational Management Plan dated April 23, 2020. The Operational Management Plan must include provision for event traffic control at the intersection of Home Avenue and Pine Street, Central Avenue, and the nearby 1-lane bridge. The Operational Management Plan may otherwise be altered only upon review and approval by the Development Review Board following a public hearing.
- The Applicant will complete a post-construction traffic analysis of neighborhood traffic impacts along Home Avenue after the Burton Hub redevelopment project is completed. Traffic calming measures will be warranted if the results of this analysis demonstrate the predicted values for traffic volume and intersection operation have been exceeded, and the street qualifies for traffic calming under DPW's guidelines. Costs for implementation of warranted traffic calming measures will be shared equally between the City and the Applicant.
- The Applicant will perform a traffic study analysis of the Champlain Parkway/Home Avenue intersection after the Champlain Parkway is opened to vehicle traffic to determine if mitigation of increased traffic related to the Burton Hub site is necessary for the intersection to function as designed.

STORMWATER ENHANCEMENTS

Burton submitted applications for stormwater enhancements and changes to the parking lot configuration to better manage stormwater on the 180 and 266 Queen City Park Road parcels. DPW Water Resources and Permitting & Inspections staff reviewed the submitted plans for conformance to the Ordinances and Zoning regulations and recommended approval of the submitted site plans by the DRB. The proposed improvements meet all Chapter 26 stormwater permitting needs and the proposed stormwater system is a net improvement compared to the existing conditions.

DPW INFRASTRUCTURE IMPROVEMENTS

In Fall 2020, DPW repaved Queen City Park Road between Home Ave/Austin Dr and the one-lane bridge. This work included full-depth reclamation of the street which improves the strength of the subbase and extends its lifespan. After the paving was completed, a new striping pattern was installed which uses advisory lanes for pedestrians and cyclists. Advisory lanes are marked with a dashed white line, indicating that people can drive over the advisory lane when needing to yield to oncoming motor vehicle traffic. These markings may be used on streets that have a higher volume of traffic than neighborhood streets, but less traffic than major roadways. These lanes give people biking and walking a space to do so, while leaving space available for motorists to pass oncoming traffic. PlanBTV WalkBike master plan identifies Queen City Park Road (formerly Industrial Parkway) as a corridor for shared use lane markings and improved connectivity as a slow corridor. **The City is still evaluating the feasibility and costs associated with separated pedestrian facilities on this street and is unable to install a sidewalk at this time.** The Chittenden County Regional Planning Commission (CCRPC), in partnership with South Burlington and Burlington, completed a scoping study in 2008 for improvements to the one-lane bridge on Queen City Park Road. The City's 5-year capital plan has identified the recommended 2-lane bridge as a potential project, but funding has not yet been confirmed. The CCRPC, South Burlington, and Burlington are also discussing the breadth of a new scoping study to connect shared use paths and fill sidewalk gaps between the two communities. The schedule for that study has not been determined while the overall scope of work and funding availability is under review at the CCRPC.

We hope this memo is responsive to the Commission's request for additional information on Queen City Park Road. I can be reached at smolzon@burlingtonvt.gov should you have any follow up questions.

ATTACHMENTS

DPW Memo Re: Burton Hub DPW Comments on Traffic Impact Study, dated June 26, 2020

CITY OF BURLINGTON
DEPARTMENT OF PUBLIC WORKS

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Chapin Spencer
DIRECTOR OF PUBLIC WORKS

M E M O R A N D U M

To: Tenzin Chokden, Clerks Office
From: Chapin Spencer, Director
Date: December 14, 2020
Re: Public Works Commission Agenda

Please find information below regarding the next Commission Meeting.

Date: **December 16, 2020**
Time: 6:30 – 9:00 p.m.

Due to current social distancing measures, this meeting will be held entirely virtually.

To view the meeting:
1. CCTV YouTube Channel (*streamed live*) or on Burlington Telecom Channel 317 (aired on a later date, *not live*). Comments on YouTube are not monitored by DPW staff.
https://www.youtube.com/channel/UCJkWMLSqRNKLoyUZQiNoAcQ
2. Join via Zoom: https://us02web.zoom.us/j/83495330508
3. Call in for audio only: Phone number: 301-715-8592 Webinar ID: 834 9533 0508

To participate in public comment:
1. You must either join the meeting via the Zoom link above or by calling via the call-in information above.
2. If signed in via Zoom, please use the "Raise Your Hand" feature. This will alert DPW staff that you wish to speak and will automatically add you to the queue. When it's your turn to speak, your name will be called and you will be unmuted.
3. If you are calling in, please press *9 which will alert DPW staff that you wish to speak. When it's your turn to speak, your phone # will be called out and you will be unmuted.
4. If you encounter any difficulties when attempting to speak during public forum, please email DPWCommunications@burlingtonvt.gov.
5. In the event of challenges with Zoom video, please use the call-in option.

AMENDED - A G E N D A

ITEM

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 Queen City Park Rd and Burton Hub Proposal
- B Loading Zone Adjustment Adjacent to 372 N. Winooski Ave

5 20 Min Shelburne Street Roundabout Project Update
- A Presentation, O. Darisse & L. Wheelock
- B Commissioner Discussion
- C Public Comment
- D Action Requested –None

6 20 Min University Place Conceptual Designs
- A Presentation, P. Peterson & L. Wheelock
- B Commissioner Discussion
- C Public Comment
- D Action Requested –Vote

7 20 Min Russell Street & Charles Street Seasonal Parking Prohibition
- A Presentation, P. Peterson & S.
- B Commissioner Discussion
- C Public Comment
- D Action Requested –Vote

9 15 Min Extension of 2 Hours Free at Marketplace Garage
- A Communication, J. Padgett
- B Commissioner Discussion
- C Public Comment
- D Action Requested –Vote

10 5 Min Approval of Draft Minutes of 11-18-2020

11 10 Min Director's Report

12 10 Min Commissioner Communications

13 **Adjournment & Next Meeting Date – January 20, 2021**

DEPARTMENT OF PUBLIC WORKS
645 PINE STREET
BURLINGTON, VERMONT 05401
COMMISSION MEETING DECEMBER 16, 2020

Commissioners Present: Commissioner Archambeau, Commissioner Barr, Commissioner Bose, Commissioner Gillman, Commissioner Hogan (Chair), Commissioner O'Neill-Vivanvco (Vice-Chair), Commissioner Overby.

ITEM 1 – CALL TO ORDER

Commissioner Hogan called meeting to order at 6:35 p.m.

ITEM 2 – AGENDA

Commissioner Overby requested that Item A be taken off of the consent agenda as she wanted more information on the project.
Commissioner Archambeau seconded.

Chair Hogan made a motion to pull item A off of consent and make that Item 8.
Commissioner Overby accepted that as long as DPW Engineer Susan Molzon was amenable to it. Commissioner Archambeau was amenable to this as well.
Vote on the agenda with Item 4A changed to Item 8.
Unanimous approval

ITEM 3 – PUBLIC FORUM

Kelley Devine stated that she has received strong feedback in support to extend the date forward for removing free 2 hours parking in the parking garage.

ITEM 4 – CONSENT AGENDA

Loading Zone Adjustment Adjacent to 372 No. Winooski Ave

Commissioner Archambeau made a motion to approve
Commissioner Bose seconded
Unanimous approval

ITEM 5- SHELBURNE STREET ROUNDABOUT PROJECT

DPW Senior Engineer Laura Wheelock opened the presentation, with support from DPW Engineer Olivia Darisse. She noted this presentation was put together primarily by

VTRANS, and the project is being managed by them as well. The rotary is a high crash site and this project is 100% federally funded through VTRANS.

Questions & comments included:

- Driveway at the Majestic Car Rental and it was found that they need to have a driveway; it is a one-way driveway out only.
- Whether a stop sign can be put up before the crosswalk as there is a large amount of kids who use this intersection and it is a school zone.
- Traffic calming -- it was stated that there would be RRFB's at the intersection, which will slow down traffic.
- Commissioner Hogan noted that there is a project website. He asked when we get more dates. DPW Engineer Wheelock stated that by February 10, 2021 the project will go out for bid; likely in April the contract will be awarded with construction starting in June after school lets out.

ITEM 6 – UNIVERSITY PLACE CONCEPTUAL DESIGNS

Associate Engineer Philip Peterson did presentation, along with DPW Senior Engineer Wheelock. There are two different plans under review: the basic plan and an enhanced plan. In the basic plan one lane of traffic would be eliminated, traffic will be one way north on the street, there will be bike lanes and crosswalks will go from nine feet to six feet for pedestrian safety. There will be removal of parking with the exception of the south end for the food trucks.

Enhanced plan we will narrow road from thirty feet to 22 feet, widen the sidewalk on the east side creating a crossing plaza in the middle of University Place. Food trucks will have notched parking into the curb. The north end will include drop off parking for events, and the left turn will be removed from Colchester Avenue onto University Place.

DPW Senior Engineer Wheelock stated a timeline has been presented to the City Council. We are asking for more time from the Council on this and both parties support this request.

Commissioner Barr made a motion to approve.
Commissioner O'Neill-Vivanco seconded.
Unanimous approval

ITEM 7 – RUSSELL STREET & CHARLES STREET SEASONAL PARKING PROHIBITION

Associate Engineer Philip Peterson defined a narrow street as 28 feet or less. There are 17 narrow streets in Burlington without current parking restrictions. Last year, we tried a temporary seasonal restriction on Russell and Charles. We want to extend the parking restriction on Russell Street and Charles Street again this year from January 1st through

March 1st. This will help ensure emergency vehicle and plow access during winter when snow typically constricts the width of the road.

Commissioner Archambeau raised the concern for the abbreviated winter parking ban for this street as compared to the rest of the city's narrow streets which is typically December 1st to April 1st. Senior Engineer Susan Molzon said that we look at this street by street – in this area there are several residences that have no parking and surrounding areas are residential parking only. Assistant Director/Senior Engineer Norm Baldwin stated that going until March 1st still typically captures our most extreme weather period and that we still factor in flexibility with neighborhoods. Mr. Baldwin stated that this was still a trial. Commissioner Archambeau suggested more defined guidelines when considering future streets would be important. DPW Director Spencer said these can be in place for future streets. Commissioner Overby concurred with Commissioner Archambeau. Commissioner Barr agreed this is important, but to include flexibility. A discussion ensued to determine what reasons or data could be included to determine any changes to the dates for a seasonal narrow streets parking restriction. Director Spencer offered motion language.

Commissioner Archambeau made a motion to approve traffic regulations described in the packet and to direct staff to develop written policy to inform decision on recommended duration of future seasonal parking restrictions.

Commissioner Barr seconded
Unanimous approval

ITEM 8 – EXTENSION OF 2 HOURS FREE AT MARKETPLACE GARAGE

Assistant Director Jeff Padgett referred to the memo in the Commission packet asking the Commission to extend 2-hour free parking in the Marketplace garage until April 1st due to the pandemic's economic impact downtown and currently lower parking utilization . Mr. Padgett referenced Parking finances, and stated that the City is working with the banks to restructure the loans. Burlington High School may be coming downtown, possibly will be leasing some parking which will be helpful. Also, have a short-term tenant coming in (state of Vermont who is doing construction on their garage) which needs 450-480 spots. Despite Covid, the Marketplace Garage was full 3 times over the last 3 months, which is not a lot, but more than it has been. People are still interested in coming out to downtown.

Commissioner Barr made a motion to support request.
Commissioner O'Neill seconded.
Unanimous approval

ITEM 9 - QUEEN CITY PARK RD AND HIGHER GROUND PROPOSAL

Commissioner Overby asked for more information on the traffic documents that were provided in the report, specifically how to interpret the data on pages 12 and 13 – 2008 vs 2028 projected traffic volume. Commissioner Overby asked for more info to determine how the Department concluded there would be no impact on QCPR based on this. DPW Senior Engineer Molzon gave context to what she included in the packet: a memo including a summary of where project is based on DPW's understanding, and DPW's role in the development process. Additionally included a memo from June 2020 from DPW's review of the traffic study. A conversation ensued about traffic data analysis. City Engineer offered a primer on the process, noted it's complex.

Commissioner O'Neill-Vivanco stated she wanted an update on the project – which could be "perceived as controversial", the area is on the border of Burlington and South Burlington and she wanted a high level summary, next steps and to be better able to respond when asked about this. DPW Senior Engineer Molson referred to the December 16th memo identifying what the DRB approved, which includes DPW recommendations. There are specifics on the map of traffic study done by Burton, go to the summary pages. Commissioner O'Neill-Vivanco asked about next steps and about the bicyclist and pedestrian considerations in this area. City Engineer described the quantitate and qualitative analysis for holistic transportation planning, but also the physical and financial constraints of the area.

Commissioner Overby asked for additional clarification on a data point: 'volume to capacity ratio.' City Engineer Baldwin and Senior Engineer Molzon responded to this – which included City Engineer Baldwind further describing the DRB process and DPW's role. He offered further opportunity to brief any members of the Commission on how the process works.

Chair Hogan suggested the DPW role in the DRB process is of interest and this could be a future briefing.

ITEM 10 – APPROVAL OF DRAFT MINUTES

Commissioner Archambeau asked that Commissioner O'Neill-Vivanco be identified as Vice Chair on the minutes, as is currently done with the identification of the Chair.

Commissioner Barr made a motion to accept minutes with changes
Commissioner Archambeau seconded
Unanimous approval.

ITEM 11 – DIRECTOR'S REPORT

Director Spencer reiterated main points of the written Director's Report, included in the packet.

ITEM 12 – COMMISSIONER COMMUNICATIONS

Commissioner Barr stated that some bike lanes need attention, including the Colchester Avenue bike lanes as the corridor entry in Burlington. Acknowledged things are looking good overall. Also East end neighborhood is planning some outside activities at Schamanska park.

Commissioner O'Neill-Vivanco thanked the team for a great year in maintaining infrastructure.

Commissioner Archambeau stated that the dump facility by Route 127 bike path down by Manhattan Drive has been broken into and there are flammable supplies around. He asked that this be secured.

Commissioner Overby wondered if we had to circle back to approve the item that was removed from the agenda.
Director Spender stated he did not think so as it was removed and put on for discussion.

Commissioner Hogan stated he appreciates DPW for moving things along. He was wondering about polling the staff for morale and their job satisfaction.

Director Spencer stated there were some surveys a few weeks ago and we are working on the areas that came out of the survey. Hazard pay was also offered last week to frontline employees.

ITEM 13 – ADJOURNMENT AND NEXT MEETING DATE JANUARY 20, 2021

Commissioner Barr made a motion to adjourn the meeting.
Commissioner Gillman seconded
Unanimous approval.

Meeting adjourned at 9:24 p.m.

DEPARTMENT OF PUBLIC WORKS
645 PINE STREET
BURLINGTON, VERMONT 05401
COMMISSION MEETING DECEMBER 16, 2020

Commissioners Present: Commissioner Archambeau, Commissioner Barr, Commissioner Bose, Commissioner Gillman, Commissioner Hogan (Chair), Commissioner O'Neill-Vivanvco (Vice-Chair) , Commissioner Overby.

ITEM 1 – CALL TO ORDER

Commissioner Hogan called meeting to order at 6:35 p.m.

ITEM 2 – AGENDA

Commissioner Overby requested that Item A be taken out of the consent agenda as she wanted more information on the project
Commissioner Archambeau seconded.

Motion to Pull Item A Item 9 is missing can we put 4A in the back making Queen City Park Road and Higher Ground Proposal Item 9. Commissioner Overby acceptable to that as long as Susan Molzon is. Director Spencer stated this was fine. Commissioner Archambeau was acceptable to this as well.
Vote on the agenda with Item A removed
Unanimous approval

ITEM 3 – PUBLIC FORUM

Kelley Devine stated that she has had strong feedback in support to move the date forward for the free 2 hours parking in the parking garage.

ITEM 4 – CONSENT AGENDA

Loading Zone Adjustment Adjacent to 372 No. Winooski Ave

Commissioner Archambeau made a motion to approve
Commissioner Bose seconded
Unanimous approval

ITEM 5- SHELBURNE STREET ROUNDABOUT PROJECT

Laura stated there was a presentation coming. This project was put together primarily by VTRANS, we are working in partnership but they are doing the design. The rotary is a high crash site and this project is 100% federally funded by VTRANS.

Questions about the driveway at the Majestic Car Rental and it was found that they need to have a driveway; it is a one-way driveway out only.
Question on whether a stop sign can be put up before the crosswalk as there is a large amount of kids who use this intersection, it is a school zone. Questions about traffic calming and it was stated that there would be RFB's at the intersection, which will slow down traffic.

Commissioner Overby expressed concern that the proposed 25 mile per hour approach speed to the roundabout was too fast for the safety of pedestrian crossings at the roundabout. She recommended the approach speed be 15 miles per hour. DPW staff stated that Burlington is prohibited by state law from setting City traffic speeds to less than 25 mph. Commissioner Overby said she would ask her state Reps what steps were necessary at the state level to enable Burlington to set a 15 mph speed limit for the approach to a roundabout.

Commissioner Hogan stated that there was a project website, which is dedicated to this project connecting to VTRANS. He asked when we get more dates.

Laura stated that February 10, 2021 the project will go out for bid; April the contract will be awarded with construction starting in June after school lets out.

ITEM 6 – UNIVERSITY PLACE CONCEPTUAL DESIGNS

Associate Engineer Philip Peterson did presentation. There are two different plans under review the basic plan and an enhanced plan. In the basic plan one lane of traffic would be eliminated, traffic will be one way north on the street, there will be bike lanes and crosswalks will go from nine feet to six feet for pedestrian safety. There will be removal of parking with the exception of the south end for the food trucks.

Enhanced plan we will narrow road from thirty feet to 22 feet, widen the sidewalk on the east side creating a crossing plaza in the middle of University Place. Food trucks will have notched parking into the curb. The north end will be a drop off parking for events, left turn will be removed from Colchester Avenue onto University Place.

Senior Engineer Laura Wheelock stated a timeline was presented to the City Council. We are asking for more time from the Council on this and both parties support this request.

Commissioner Barr made a motion to approve.
Commissioner O'Neill-Vivanco seconded.

Unanimous approval

ITEM 7 – RUSSELL STREET & CHARLES STREET SEASONAL PARKING PROHIBITION

Associate Engineer Philip Peterson stated that it was determined that a narrow street is 28 feet or less. There are 17 narrow streets in Burlington. We want to extend the parking restriction on Russell Street and Charles Street again this year from January 1st through March 1st for emergency vehicles to get through as well as plowing of the street when needed.

Commissioner Archambeau raised the concern for the abbreviated winter parking ban for this area as compared to the rest of the city from December 1st to April 1st. Assistant Director Norm Baldwin stated that this was the most extreme time periods in January through March and it is flexible with the neighborhood. Mr. Baldwin stated that this was a trial.
Senior Engineer Susan Molzon stated we can look at this street by street – this area there are several residences that have no parking and surrounding areas are residential parking only.

Motion was made to approve traffic regulations described in the packet and to direct staff to develop written policy to inform decision on recommended duration of future seasonal parking restrictions.
Commissioner Barr seconded
Unanimous approval

ITEM 8 – EXTENSION OF 2 HOURS FREE AT MARKETPLACE GARAGE

Assistant Director Jeff Padgett stated as noted in memo in Commission packet that it made sense to put the 2-hour free parking in the garages until April 1st for now and we will see how things are going. Mr. Padgett stated that the City is working with the banks to restructure the loans. BHS is coming downtown, which might be helpful. Also, have a short-term tenant coming in which needs 450 spots. The Marketplace Garage was full 3 times this past month, which is not a lot, but more than it has been. People are interested in coming out to downtown.

Commissioner Barr made a motion to support request.
Commissioner O'Neill seconded.
Unanimous approval

ITEM 9 - QUEEN CITY PARK RD AND HIGHER

Commissioner Overby asked for more information on the traffic documents that were provided in the report. How do you interpret some of the information, specifically

pages 12 and 13. Ms. Molzon the packet summary is where the project is now and look at memo June 2020 to review the traffic study that Burton prepared.

Commissioner O'Neill-Vivanco stated she wanted and update on the, the border of Burlington and South Burlington so I can better respond when I'm asked about this. What are the next steps? Ms. Molson stated if you look at the December 16th memo it identified what the DRB approved. There are specifics on the map of traffic study done by Burton, go to the summary pages. Commissioner O'Neill-Vivanco asked what is the next step? Concerns about the bicyclist and pedestrians that will be in this area. Nicole Losch will look into this as part of the Burlington bike/ride program.

ITEM 10 – APPROVAL OF DRAFT MINUTES

Commissioner Archambeau asked that the identification of Commissioner O'Neill-Vivanco be placed next to her, as is the identification of the Chair.

Commissioner Barr made a motion to accept minutes with changes
Commissioner Archambeau seconded
Unanimous approval.

ITEM 11 – DIRECTOR'S REPOETR

We are still active with construction. Working on the slope repair and wastewater line at 33 North Avenue. We will be doing some infrastructure work next year for the Waterfront Rail to prepare for when the passenger rail service starts, moving to left side.
Enterprise Asset Management tool system has been selected.

ITEM 12 – COMMISSIONER COMMUNICATIONS

Commissioner Barr stated bike lanes need some attention and some not for cleaning, Colchester Avenue bike lanes. Also East end neighborhood is planning some outside activities at Schamanska park.

Commissioner O'Neill-Vivanco thanked the team for a phenomenal year.

Commissioner Archambeau stated that Route 127 bike path down by Manhattan Drive, the old dump the facility has been broken into and there are flammable objects around. He asked that this be shored up.

Commissioner Overby wondered if we had to circle back to approve the item that was removed from the agenda.
Director Spender stated he did think so as it was removed and put on for discussion.

Commissioner Hogan stated he appreciates Team DPW for moving things along. He was wondering about polling the staff for morale and their job satisfaction. Set goals for staff development, health and job satisfaction.

Director Spencer stated there were some surveys a few weeks ago and we are working on the areas that came out of the survey. Hazard pay was given last week to employees.

ITEM 13 – ADJOURNMENT AND NEXT MEETING DATE JANUARY 20, 2021

Commissioner Barr made a motion to adjourn the meeting.
Commissioner Gillman seconded
Unanimous approval.

Meeting adjourned at 9:24 p.m.