

# ***Pearl Street/ Prospect Street/Colchester Avenue Intersection Scoping Study***

## **Final Scoping Study**

December 2014



**CHITTENDEN COUNTY RPC**  
*Communities Planning Together*



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the science of **insight**

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**Disclaimer:**

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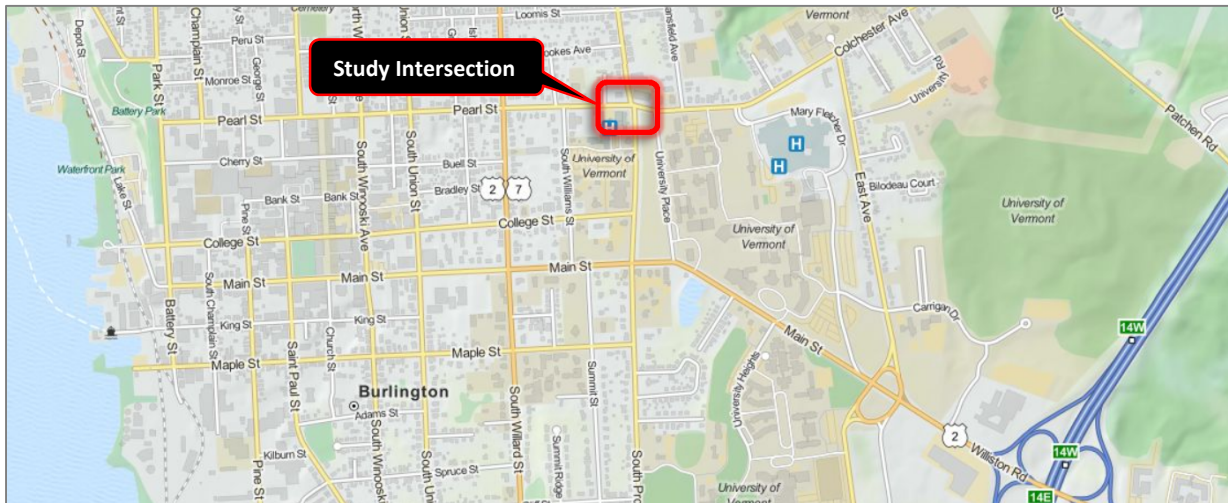


## 1.0 INTRODUCTION

The *Pearl Street/Prospect Street/Colchester Avenue Intersection Scoping Study* was conducted to evaluate alternatives that address safety, mobility, and operational issues at the Pearl Street/Prospect Street /Colchester Avenue intersection in Burlington, Vermont (see Figure 1 below).

Scoping is the initial phase of the development process for transportation project and it generally includes: assessment of the transportation system from a multimodal perspective and evaluation of current and future traffic conditions; solicitation of stakeholder input; development of the *Purpose and Need* statement; and the evaluation of a set of feasible alternatives. In most cases, the scoping process results in identification of a preferred alternative, which can then move forward into the project design and permitting phase.

Figure 1: Project Study Area (Map © OpenStreetMap contributors)



In 2012, the Chittenden County Regional Planning Commission (CCRPC) and the City's Department of Public Works (DPW) hired RSG, Inc. to assist with the development of this scoping study. A project Steering Committee was formed to facilitate stakeholder review and provide overall input to the scoping process. The Steering Committee was comprised of the following members:

- Sharon Bushor, *Burlington City Council*
- Richard Hilliard, *Ward 1 Neighborhood Planning Assembly*
- Dave Keelty, *Fletcher Allen Healthcare (FAHC)*
- Linda Seavey, *University of Vermont (UVM) Campus Planning*
- Meredith Birkett, *Chittenden County Transportation Authority (CCTA)*
- Sandy Thibault, *Campus Area Transportation Management Association (CATMA)*
- Charlene Wallace, *Local Motion*
- Nicole Losch, *Burlington Department of Public Works (DPW)*
- Guillermo Gomez, *Burlington DPW*
- Lani Ravin, *UVM Campus Planning*
- Eleni Churchill, *CCRPC [staff]*



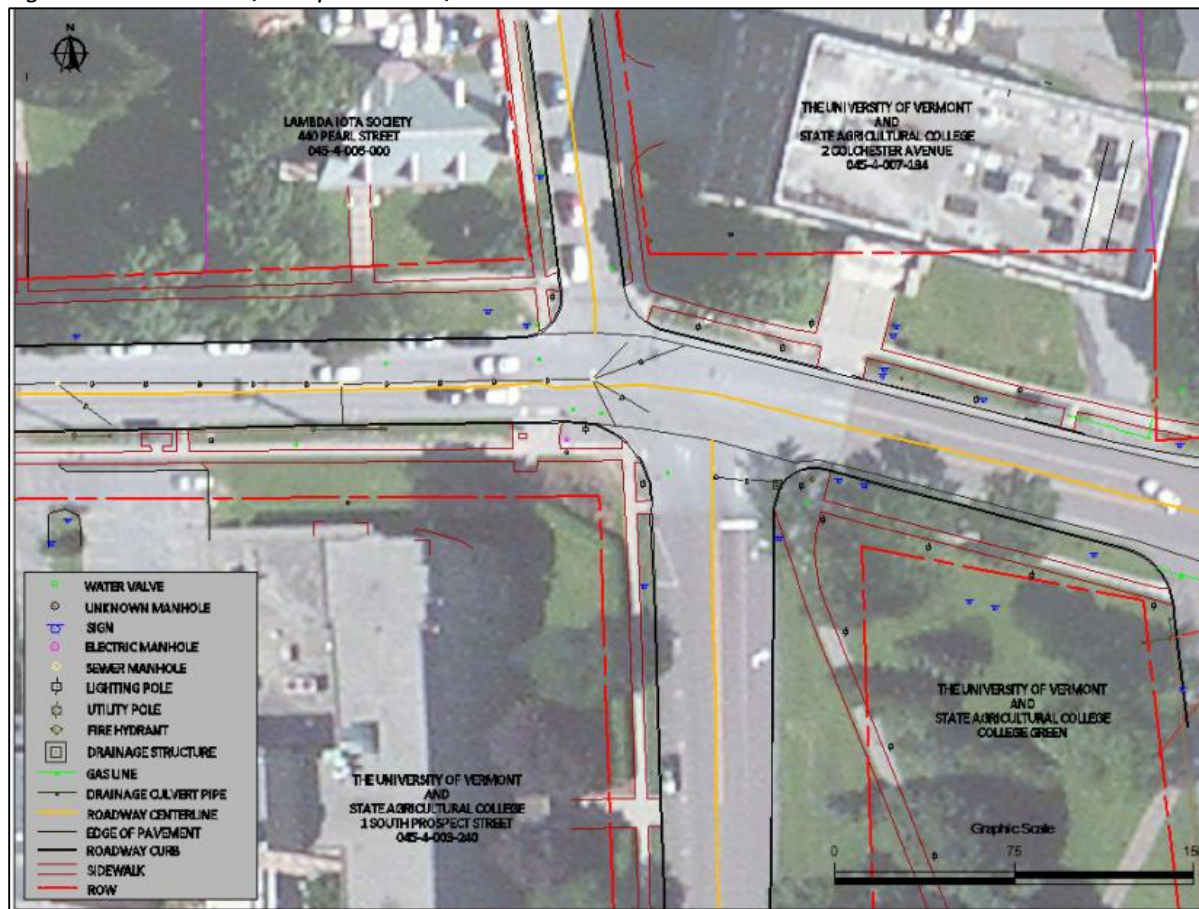
## 1.1 STUDY BACKGROUND

The Colchester Avenue Corridor Study, which was completed and accepted by the City Council in 2011, evaluated and developed numerous recommendations to address operational, safety, and design-related issues along the Colchester Avenue corridor. One of the corridor study's primary recommendations was to initiate an intersection scoping process to evaluate alternatives to address issues at the Pearl Street/Prospect Street/Colchester Avenue intersection.

The Colchester Avenue Corridor Study included the following recommendation regarding this intersection: “[t]he South Prospect Street approach to Colchester Avenue would be relocated to the west to be re-aligned with North Prospect Street. No other lane changes are currently suggested. Traffic analyses conducted for this plan indicated little benefit from adding an exclusive left-turn lane on the Pearl Street approach. The additional lane should be re-evaluated as part of the scoping and design process for this intersection. The re-alignment would create more green space adjacent to the UVM Green but would also place the roadway and sidewalk closer to the UHC building on the northwest corner.”

This Scoping Study conforms to the process outlined in the CCRPC's Project Definition Studies manual and adheres to a “Complete Streets” approach to scoping, in which all modes of transportation are included in development and evaluation of all alternatives.

Figure 2: Pearl Street/Prospect Street/Colchester Avenue Intersection Base Plan



## 1.2 STUDY TIMELINE

The Pearl Street/Prospect Street/Colchester Avenue Scoping Study effort was initiated in June 2012. By early 2013, several alternatives were developed and evaluated and the Steering Committee identified an opportunity for a short-term pilot project to implement low-cost safety improvements at the intersection. The project team (DPW, CCRPC and consultant staff) worked with input from the Public Works Commission and Steering Committee to develop a detailed pilot implementation plan during the spring of 2013. In June 2013, the City's Public Works Commission endorsed the pilot project which was launched in August and evaluated in the fall of 2013. Based on evaluation results as well as public comments, the City accepted as permanent the pilot's safety improvements in February of 2014. The scoping study resumed early 2014 with evaluation of a series of long-term alternatives that address all issues identified and concluded with a selection of a preferred alternatives by the City Council (June 2014).

The study followed the general timeline outlined below:

▪ Scoping Project Startup	June 2012
▪ Evaluation of Existing Conditions	June – November 2012
▪ Local Concerns Public Meeting	November 2012
▪ Pilot Project Planning & Design	Spring of 2013
▪ Pilot Project Acceptance by the PW Commission	June 2013
▪ Pilot Project Implementation & Evaluation	August & Fall 2013
▪ Permanent Endorsement of Pilot Improvements	February 2014
▪ Long-term Alternatives Analysis	January – March 2014
▪ Ward 1 NPA Meeting	May 2014
▪ Transportation, Energy & Utilities Committee Presentation	May 2014
▪ Selection of Preferred Alternative by City Council	June 2014
▪ Final Scoping Study	November 2014

The project also involved a significant stakeholder outreach which included presentations to the Ward 1 Neighborhood Planning Assembly, the Burlington Public Works Commission, and the Burlington City Council. Project information, meeting notices, and meeting minutes were made available through a project web page on the CCRPC's website.<sup>1</sup>

All notes from the project Steering Committee meetings, public/city meetings and public comments are included in Appendix A.



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<sup>1</sup> <http://www.ccrpcvt.org/transportationscoping/prospect-pearl-colchester-ave-scoping-study>

## 2.0 PROJECT PURPOSE AND NEED

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The Purpose and Need (P&N) statement of a project is essential for establishing a basis for the development and screening of alternatives and eventual selection of a preferred alternative. Please note that this P&N statement was developed prior to implementing the pilot project improvements that eliminated the concurrent signal phase of the north and south Prospect Street approaches.

### 2.1 PURPOSE

The purpose of the Prospect Street/Pearl Street/Colchester Avenue intersection Scoping Study is to develop transportation system improvements that enhance mobility, accessibility, and safety for all modes through the intersection.

### 2.2 NEEDS

#### **Improve Safety for All Users in the Project Area:**

- There is a need to address the High Crash Locations in the project area: The most recent VTrans High Crash Location (HCL) report (2006-2010 data) lists the Pearl Street/Prospect Street/Colchester Avenue intersection as the #25-ranked HCL intersection (among 659 identified HCLs) in the state.
- There is a need to address the offset north-south approach alignment: The North and South Prospect Street intersections are offset by approximately 70 feet. As the north- and southbound approaches currently run together under concurrent phasing, there are often situations where vehicles become trapped in the center of the intersection waiting to turn left and being unable to see beyond the opposing car to see any oncoming conflicting traffic. This inefficiency decreases the overall capacity at which the intersection operates.

#### **Enhance Mobility for All Users in the Project Area:**

- There is a need to improve accommodations for bicyclists and walkers through the intersection: Situated immediately adjacent to the UVM Green and between the campus and residential housing to the north, this intersection experiences a relatively high volume of pedestrians and bicyclists. Despite this high activity, the intersection has several identified deficiencies including no advanced pedestrian phase for east-west pedestrians, lack of delineated shoulders on three approaches, and a skewed crosswalk across the North Prospect Street approach.

#### **Reduce Traffic Congestion:**

- There is a need to address peak period traffic congestion at the intersection: The intersection currently experiences recurring congestion, delays, and extended vehicle queuing during peak periods due to relatively heavy vehicle demand, heavy pedestrian crossing demand, and confusion/inefficiencies created by the offset north and south approaches.





## 3.0 EXISTING CONDITIONS – *PRIOR TO PILOT PROJECT IMPROVEMENTS*

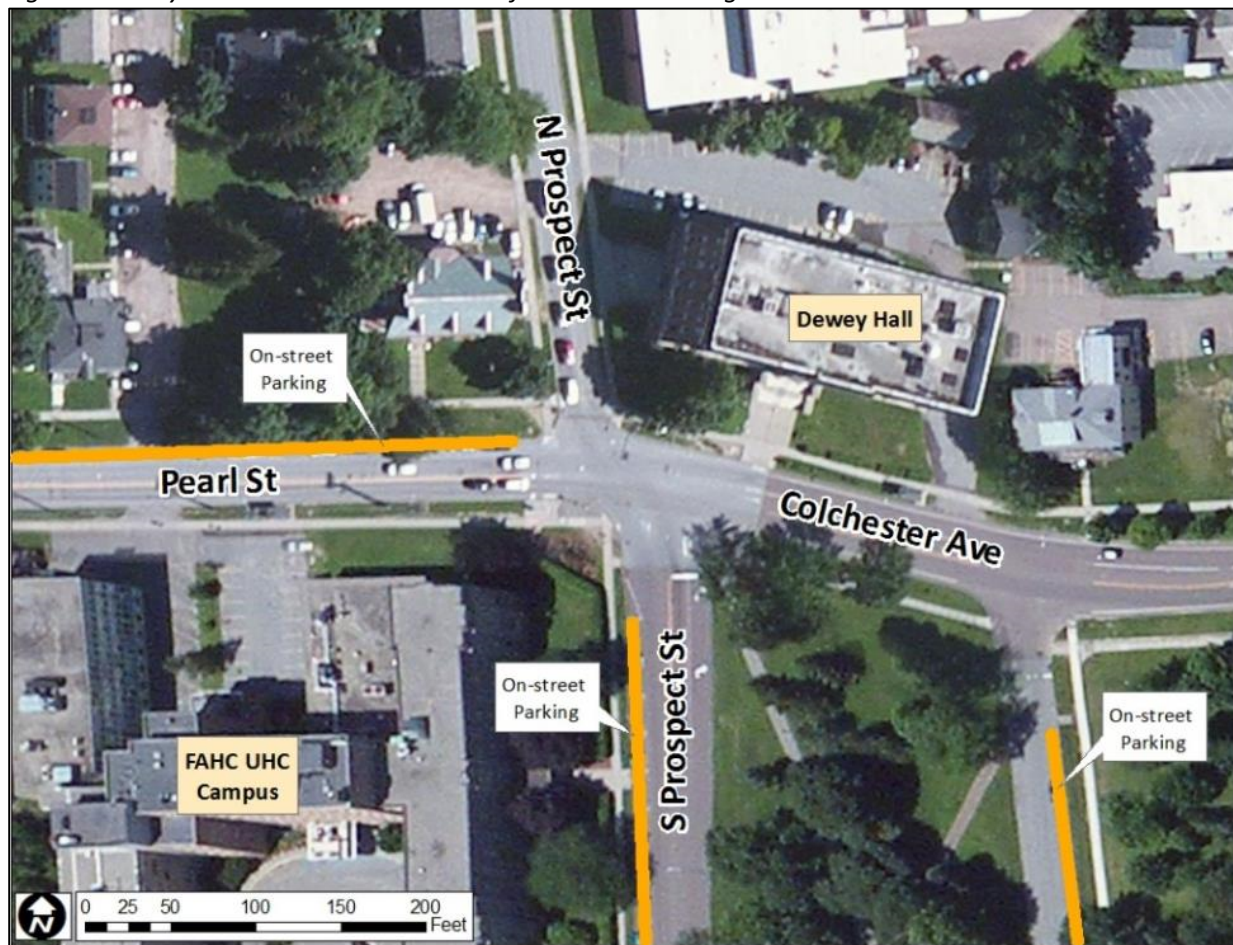
### 3.1 PROJECT LOCATION, INTERSECTION CONTROL AND, LANE CONFIGURATION

The current conditions discussed in this section of the report reflect conditions at the Pearl Street/Prospect Street/Colchester Avenue intersection (shown in Figure 3) prior to changes in lane configuration, parking and signal phasing which were part of a pilot project in the summer/fall of 2013 that became permanent in the winter of 2014 (the pilot project is discussed in Chapter 4).

The intersection is signal controlled with a dedicated left-turn lane on the westbound Colchester Avenue approach and a dedicated right-turn lane on the northbound South Prospect Street approach. The North and South Prospect Street approaches are offset by approximately 70 feet. There is on-street parking on the north side of Pearl Street and on the west side of South Prospect Street adjacent to the intersection.

Pearl Street and Colchester Avenue are classified as urban minor arterials; South Prospect Street is classified as an urban collector; and North Prospect Street is classified as a local road. The speed limit is posted at 25 miles per hour on all intersection approaches.

Figure 3: Study Intersection and Location of On-Street Parking



### 3.1.1 Complete Street Design Standards

The Burlington Transportation Plan, adopted by the City Council in 2011, classifies Colchester Avenue as a *Complete Street* and Pearl Street as a *Transit Street* (see Figure 4). Prospect Street is not designated in the Plan.

Figure 4: Street Types and Street Network (from Burlington Transportation Plan, 2011)



The *Complete Street* designation is assigned to the major corridors leading into and out of Burlington. These corridors are typically four-lane arterials dominated by automobile movement with limited bicycle, pedestrian and transit facilities. The goal of the *Complete Street* is to accommodate all modes of travel as safely and effectively as possible within existing curb-to-curb space. Currently, Colchester Avenue (east side of study intersection) carries one through lane in each direction with a center two-way left-turn lane, sidewalks on both sides of the street and designated bicycle lanes in both directions.

The *Transit Street* designation is assigned to streets where facilitating efficient transit movement is a priority. It aims to give transit a 'leg up' on other modes on designated streets, recognizing that time effective transit services pay off in ridership benefits. Similar to the *Complete Street*, sidewalks should be provided on both sides of the street, but bicycle lanes are not a priority on the *Transit Street*. Currently, Pearl Street west of the intersection has one lane in each direction with



sidewalks on both sides of street. There are on-street parking spaces on the north side of the street. A bus shelter and a transit stop are located on the south side with no bus turnout or other special accommodations for busses to stop and pick up passengers. In the peak hours, queuing on Pearl Street is exacerbated by the bus stopping during the green signal phase since there is not enough room for vehicles to go around the bus, especially with oncoming traffic.

## 3.2 BICYCLE AND PEDESTRIAN FACILITIES

Currently, only the Colchester Avenue approach has striped bicycle lanes. As discussed in the previous section, Pearl Street is classified as a “Transit Street” by the Burlington Transportation Plan, which prioritizes transit accommodations over bicycle facilities when space is limited. North Prospect Street has one lane in each direction and does not have enough room for a bicycle lane within the existing street width.

Travel for pedestrians is provided for by sidewalks and crosswalks on all four approaches to the intersection. Pedestrian signals are provided for all of the crossings. However, only the north-south pedestrian signals (crossing Pearl Street and Colchester Avenue) have the advanced pedestrian phasing which allows pedestrians to enter a crosswalk and establish right-of-way before vehicle traffic is allowed to enter the intersection.

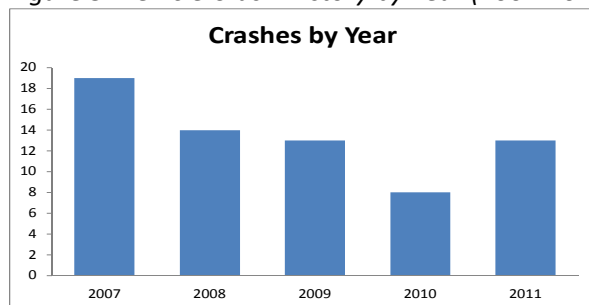
Issues noted by the public include inadequate pedestrian crossing time; vehicles turning right during the red signal phase when there are pedestrians in the crosswalk; poor condition of the pedestrian curb area at the southwest corner of the intersection; and limited visibility between pedestrians crossing South Prospect Street from the UVM Green to the Fletcher Allen University Health Center and eastbound right-turning drivers on Pearl Street.

## 3.3 SAFETY ASSESSMENT

### *Crash Data Analysis*

Crash records for the study intersection were collected from VTrans for the period of 2007 to 2011. VTrans maintains a statewide database of all reported crashes along all state highways and Federal Aid road segments.<sup>2</sup> Between 2007 and 2011, there were a total of 67 reported crashes at the Pearl Street/Prospect Street/Colchester Avenue intersection. The number of crashes varied by year from 8 in 2010 up to 19 in 2007.

*Figure 5: Vehicle Crash History by Year (2007-2011)*



<sup>2</sup> Per VTrans, these data are exempt from discovery or admission under 23 U.S.C. 409.

The Vermont Agency of Transportation maintains a list of high crash locations (HCL), which are intersections and roadway segments that have high crash rates over five years compared to other intersections or segments with similar functional classification and traffic levels.

In order to be classified as a High Crash Location (HCL), an intersection or road (0.3 mile) section must meet the following two conditions:

- It must have at least 5 crashes over a 5-year period
- The Actual Crash Rate must exceed the Critical Crash Rate for a similar facility.

The VTrans High Crash Location (HCL) Report (based on 2006-2010 data) lists the Pearl Street/Prospect Street/Colchester Avenue intersection as an HCL intersection, ranking 25<sup>th</sup> among 659 HCLs in VT during this period.

While several factors contribute to crashes, inattention, failure to yield right of way and following too closely are three major contributing factors for crashes at the study intersection.

*Figure 6: Contributing Factors of Crashes*

	# of crashes	% of crashes
Inattention	19	28%
Failed to yield right of way	16	24%
Followed too closely	9	13%
Unknown	8	12%
Driving too fast for conditions	3	4%
Made an improper turn	2	3%
Swerving or avoiding	2	3%
Under the influence of medication/drugs/alcohol	2	3%
Other improper action	2	3%
Distracted	2	3%
Disregarded traffic signs, signals, road markings	1	1%

*Note: some crashes may have more than one contributing factor.*

Inclement weather does not appear to be a significant factor in crashes since about 80% of the crashes occurred during clear or cloudy conditions. 22% of the crashes resulted in personal injuries and none resulted in fatalities.

*Figure 7: Severity and Weather Related Crashes*

	# of crashes	% of crashes
Inclement weather	14	21%
Injury crashes	15	22%
Fatalities	0	0%

Over one-third of the crashes at the intersection were rear-end collisions, while sideswipe and broadside collisions composed nearly half of total crashes. These results are likely driven by a combination of congestion in the corridor, complex intersection alignment, and frequent pedestrian crossings.



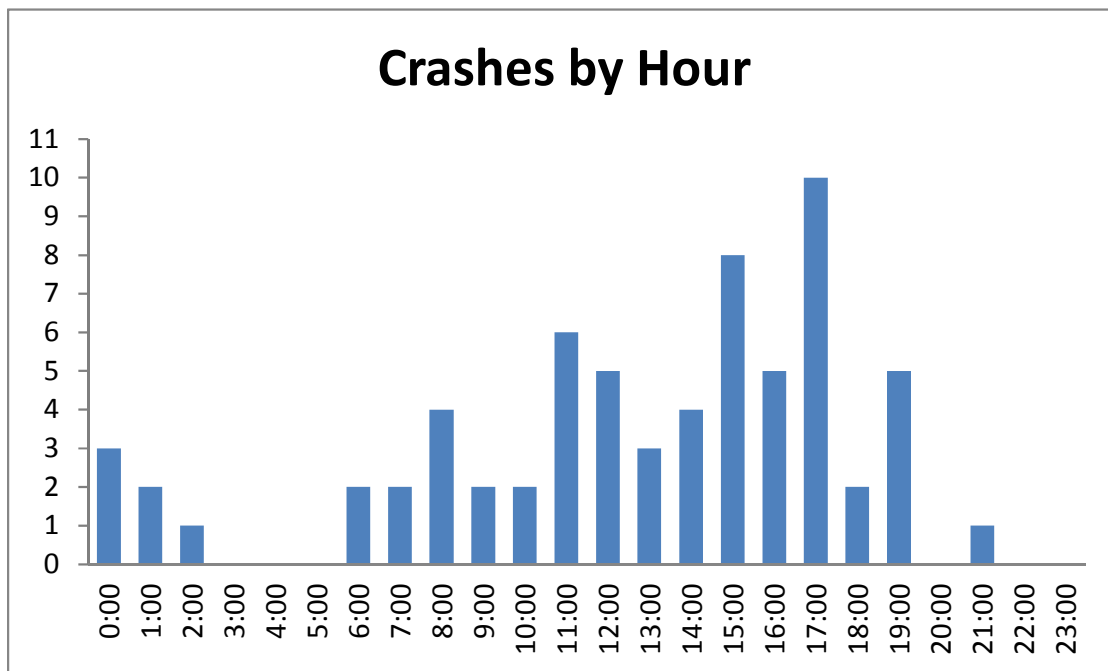


Figure 8: Type of Crashes

	# of crashes	% of crashes
Rear End	24	36%
Sideswipe	16	24%
Broadside	15	22%
Single Vehicle Crash	6	9%
Head On	2	3%
Left and Right Turns	2	3%
Other	2	3%
Total	67	100%

Figure 9 illustrates the crashes by time of day. The highest concentration of crashes at the study intersection occurs from 3 – 5 PM and coincides with times of peak student crossings and peak commuter traffic flow.

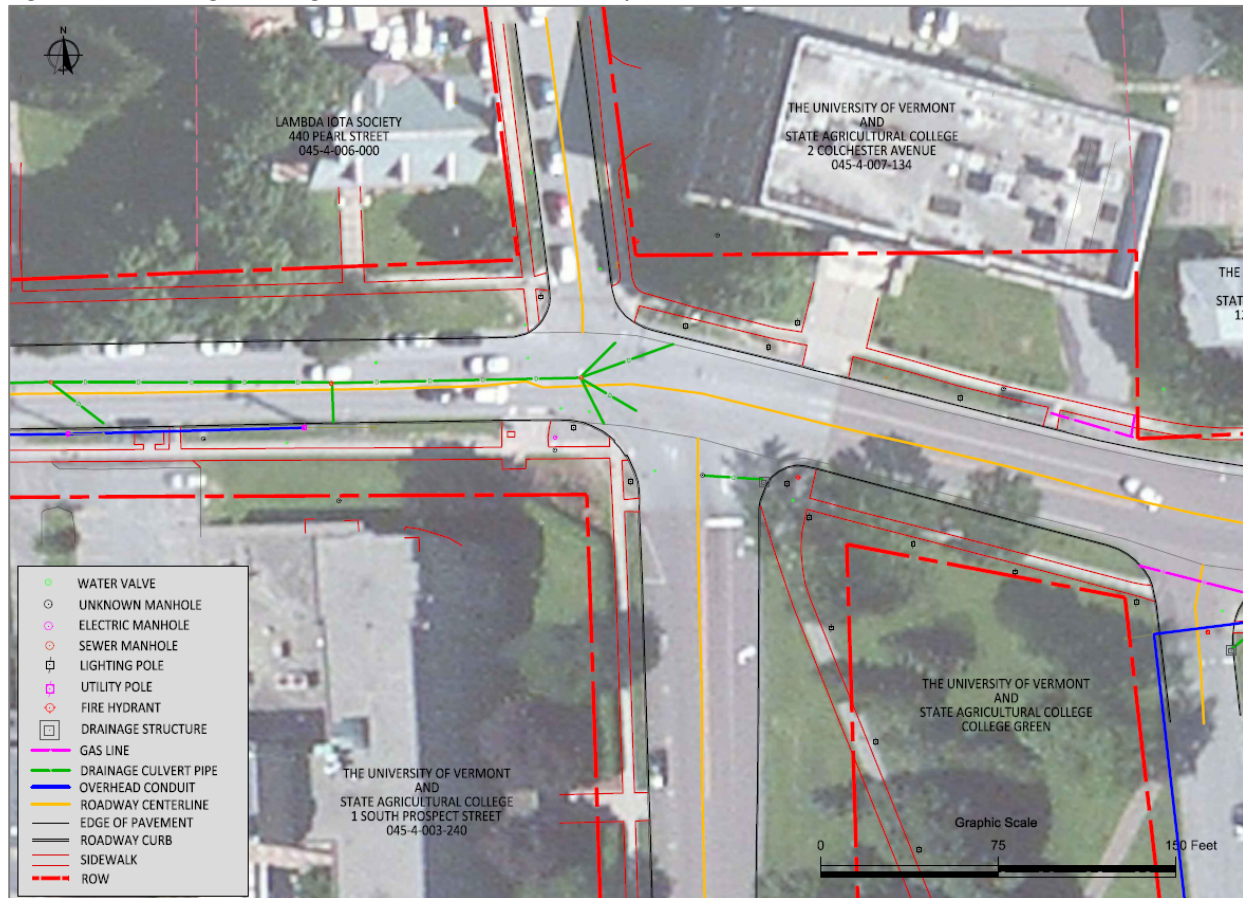
Figure 9. Vehicles Crashes by Time of Day



### 3.4 DRAINAGE AND UTILITIES

The existing storm water drainage system is located primarily along Pearl Street (see green lines in Figure 10). There is one catch basin at the southeast corner of the intersection and storm water on the other three approaches drains downhill to Pearl Street. Overhead utilities are buried through the intersection, and emerge as overhead utilities with poles west of the intersection on the south side of Pearl Street (see blue lines in Figure 10). There are also underground gas lines on the north and south sides of Colchester Avenue (see magenta lines in Figure 10).

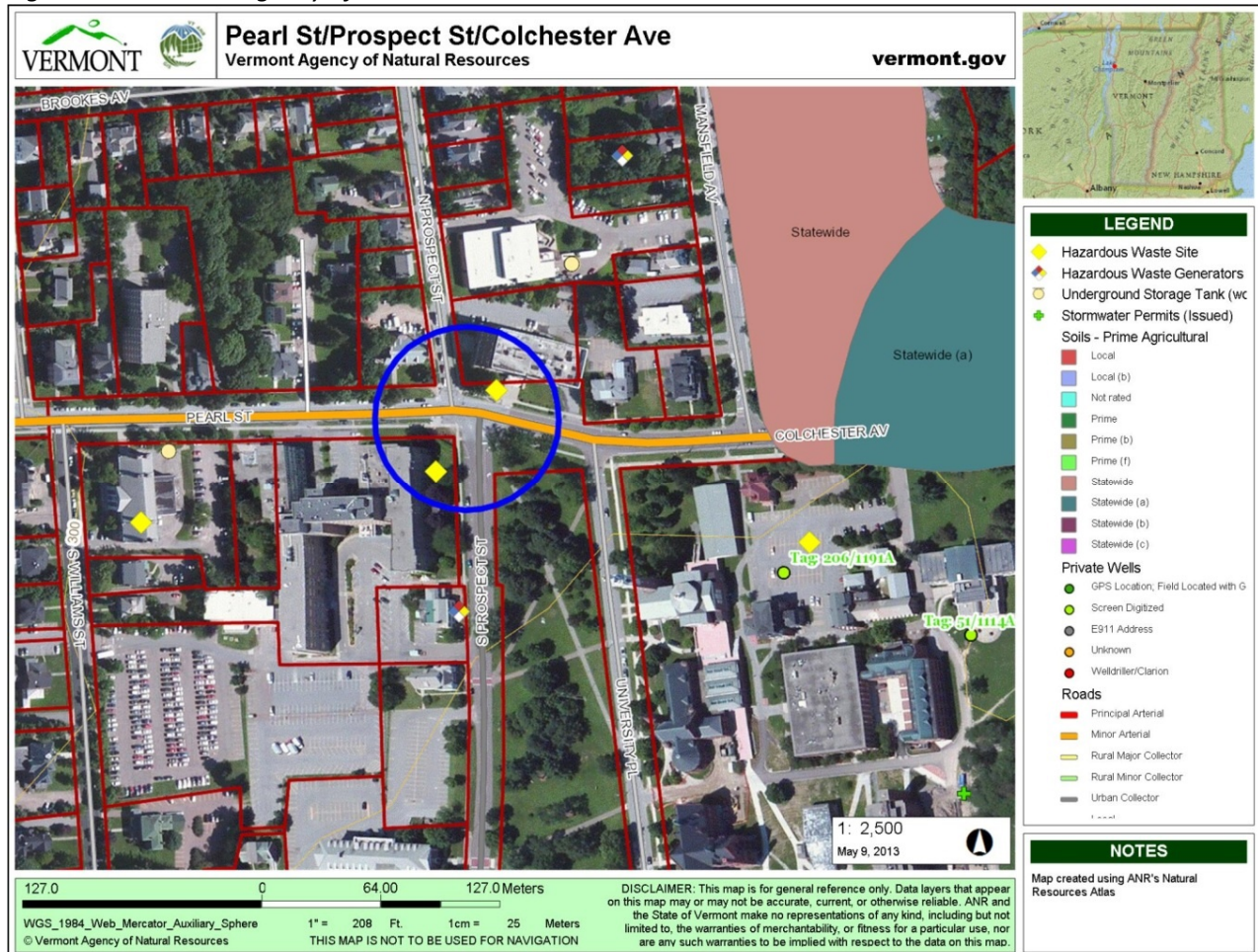
Figure 10: Existing Drainage and Utilities at the Study Intersection



### 3.5 ENVIRONMENTAL AND CULTURAL RESOURCES

The study area was examined for potential environmental, natural, and cultural resource impacts based on site assessments and the Vermont Agency of Natural Resource's Atlas (see Figure 11). This preliminary resource assessment should be revisited during the design phase.

Figure 11: Vermont Agency of Natural Resources Atlas



#### 3.5.1 Flood Zones

Based on the Vermont Agency of Natural Resource's Atlas, there are no identified flood zones in the study area. There is an issued stormwater permit approximately 1,100 feet southeast of the study intersection (see Figure 11).

#### 3.5.2 Wetlands

There are no significant wetlands identified in the study area.



### 3.5.3 Historic and Archeological Resources

The University of Vermont Consulting Archeology Program investigated historic and archeological resources in the project area and found that the project area lies within the northern end of the University Green Historic District, which includes the University Green and the University of Vermont buildings that border the perimeter of the Green. The University Green Historic District was listed on the National Register of Historic Places on April 14, 1975. There are five District resources at or nearby the intersection that have the potential to be affected by project work: DeGoesbriand Hospital, Lambda Iota Fraternity, John Dewey Hall, Pearl House, and the University Green, including a statue of the Marquis de Lafayette. Flexibility within the project area is fairly constrained by the closeness of historic buildings to roads, especially in the cases of John Dewey Hall and DeGoesbriand Hospital, and by the many objects and structures that line the roadways within the project area. Some areas, such as at Lambda Iota Fraternity and Pearl House, where buildings are set slightly farther back from the road's edge, may be able to accommodate minor changes without adversely affecting the properties, though even at these locations, there is little room for adding project components or moving existing elements. The same is true for areas that border the University Green. Although the Green has largely unconstrained open space along the road sides, any significant encroachment into or use of this historic resource would likely result in an adverse effect since it derives its significance from being an open parkland. A final Section 106 review of the project will be needed once project plans have been developed.

It is also concluded that the project area, located at the north end of the University Green, is considered archaeologically sensitive for historic cultural resources. If project work extends into any portion of the University Green, a Phase I archaeological survey is recommended.

The full reports of historic and archeological assessments are in Appendix B.

### 3.5.4 Hazardous Waste Sites

Based on the Vermont Agency of Natural Resource's Atlas, there are two hazardous waste site generators proximate to the intersection; one is located at the Fletcher Allen Outpatient Pharmacy approximately 350 feet south of the intersection and the other is located about 500 feet northeast of the intersection. There are two underground storage tanks located proximate to the intersection; one is about 550 feet west of the intersection and the other is about 300 feet northeast of the intersection (see Figure 11).

### 3.5.5 Prime Agricultural Soils

The closest identified Prime Agricultural Soils are located approximately 500 feet east of the intersection (see Figure 11).

### 3.5.6 Rare, Threatened or Endangered Species and Significant Communities

Based on the Vermont Agency of Natural Resource's Environmental Interest Locator there are no significant communities, rare, threatened or endangered species, nor deer wintering areas proximate to the intersection.





## 4.0 SHORT-TERM PILOT IMPROVEMENTS

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During the course of the Alternatives Assessment phase of the Scoping Study (December 2012), the project Steering Committee identified the potential to test the effectiveness of relatively low-cost safety improvements at the intersection through the implementation of a short-term pilot project. Following the initial Steering Committee discussion, the consultant team worked with the CCRPC, and City staff to refine the details of the pilot project. The pilot project was presented for discussion and comment to the Burlington Public Works Commission (March, April, May 2013); and the project Steering Committee (April 2013).



Key events and timeline associated with the pilot implementation are listed below:

**June 2013:** Public presentation of Pilot Improvements at the Ward 1 Neighborhood Planning Assembly (NPA) meeting.

**June 2013:** Burlington Public Works Commission approves the pilot project concept and temporarily removes 18 parking spaces adjacent to the intersection and prohibits eastbound left turns.

**July-August 2013:** Pre-launch public outreach including variable message signs, windshield flyers, press releases, Front Porch Forum postings and e-mail blasts. An on-line survey was launched immediately after the intersection changes.

**August 1, 2013:** Pilot striping and signage improvements implemented by DPW

**August 9, 2013:** Pilot signal timing and phasing changes implemented by DPW

**September:** Pearl Street paving project (interim pilot striping replaced on 10/3/13)

**October 16, 2013:** Turning movement count and queue observations conducted to measure pilot performance.

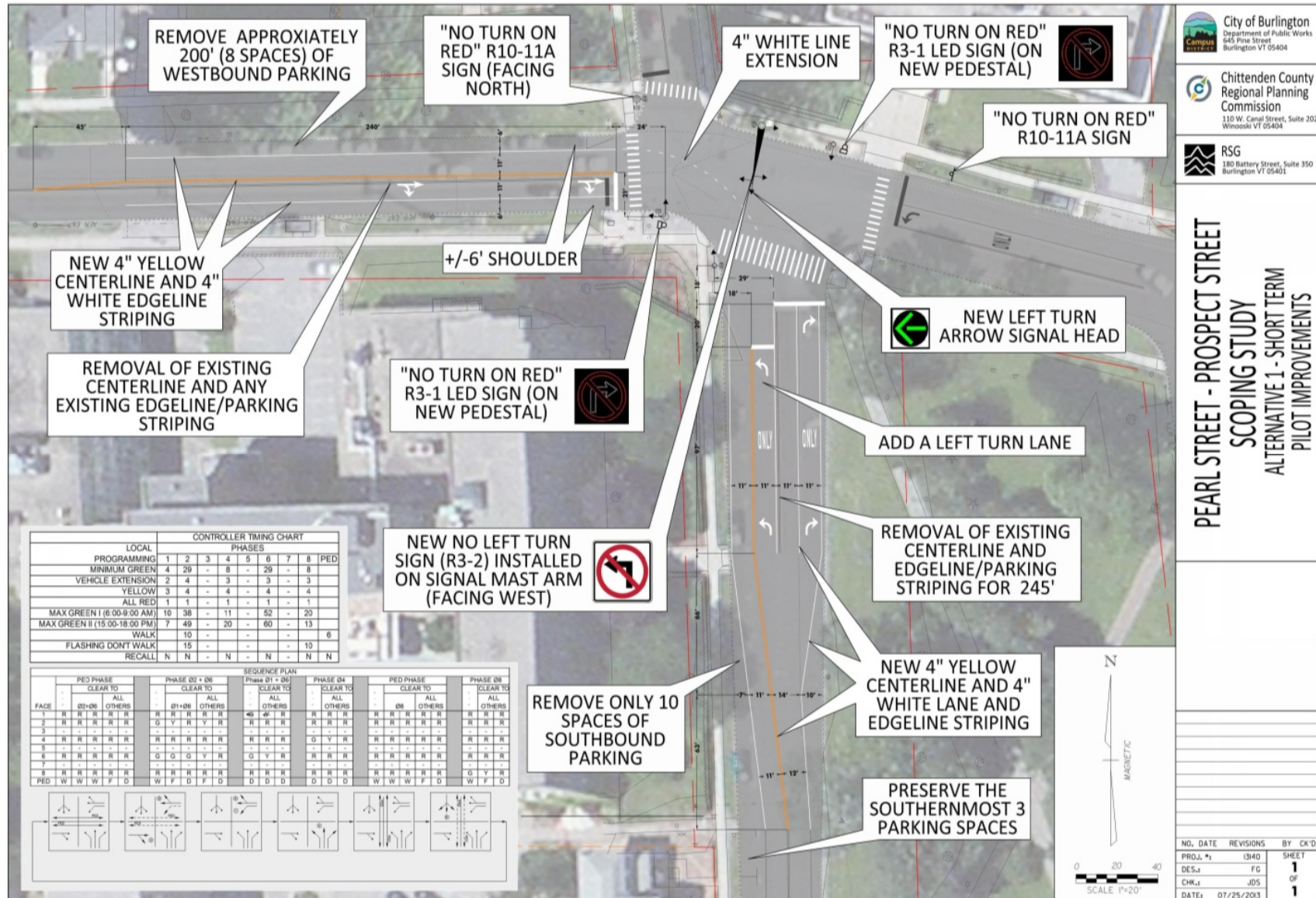
### 4.1 PILOT IMPROVEMENTS

The final package of pilot improvements (see Figure 12) includes the following components:

- An exclusive northbound left-turn lane (South Prospect approach) and new signal head;
- Removal of 18 parking spaces close to the intersection;
- Changes to the pavement striping as indicated in Figure 12;
- New signal timing and phasing plan—implement split phasing for the north and south Prospect Street approaches and add leading pedestrian phases;
- New “No Turn on Red” LED and static signs; and
- Prohibition of left turns from Pearl Street onto North Prospect Street.



Figure 12: Short-Term "Pilot" Improvements



## 4.2 ASSESSMENT OF PILOT PERFORMANCE

The pilot improvements were implemented during the summer and fall of 2013 and their effectiveness evaluated across a number of dimensions to ensure that the full range of benefits and deficiencies were accounted for. A summary of this evaluation is presented in Figure 13.

Figure 13: Summary of Pilot Project Performance

METRIC	PRE-PILOT	PILOT	CHANGE	NOTES
<b>Peak Hour Traffic Volume</b> <sup>3</sup>	2,229 (AM) 2,618 (PM)	2,078 (AM) 2,551 (PM)	-7% (AM) -3% (PM)	VTrans continuous counter on VT 127 in Burlington recorded a 2% reduction from September 2012 – September 2013
<b>Average Maximum Queue Length – All Approaches (# cars)</b> <sup>4</sup>	15 (AM) 30 (PM)	30 (AM) 44 (PM)	+48% (AM) +46% (PM)	Primary increases occurred on Pearl Street approach (increase from 4 to 7 cars in AM and from 14 to 24 cars in PM)
<b>PM Peak Cycle Length</b>	133 seconds	120 seconds	-10%	Shorter wait times for pedestrians.
<b>PM Peak Average Vehicle Delay</b> <sup>5</sup>	71 seconds	85 seconds	+20%	Optimized timing and removal of EB left turn increased intersection capacity.
<b>Vehicle Crashes</b> <sup>6</sup>	2 / year	0	-100%	Intersection currently #25 on HCL list.
<b>Vehicle Conflict Points</b>	32	26	-19%	The removal of the EB left-turn removed six potential conflict points.
<b>On-Street Parking Spaces Adjacent to Intersection</b>	21	3	-86%	10 spaces removed on S. Prospect to accommodate NB left-turn lane. 8 spaces removed on Pearl to accommodate bike shoulders.
<b>Leading Pedestrian Interval for East-West Pedestrians</b>	0 seconds	6 seconds	↑	Leading pedestrian interval added as part of pilot.
<b>Shoulder Width on Pearl Street</b>	2-3 feet (unmarked)	±6 feet	+100%	Shoulders widened and striped and on-street parking removed to improve bicyclist safety.

Detailed results from DPW's web survey (public input) on the pilot improvements are provided in Appendix C.

<sup>3</sup> Pre-pilot traffic counts conducted on October 23, 2012. Pilot phase traffic counts conducted on October 16, 2013

<sup>4</sup> Pre-pilot queue counts conducted on October 23, 2012. Pilot phase queue counts conducted on October 16, 2013

<sup>5</sup> Pilot phase volume/capacity ratio calculated using October 2012 (i.e. pre-pilot) traffic volumes.

<sup>6</sup> Pre-pilot crashes represent the average number of crashes occurring at the intersection between August and October from 2008 – 2012. The lack of crashes during the Pilot phase (August-October 2013) was based on information provided by the Burlington Police Department and verified by VTrans.



### 4.3 PILOT PROJECT DECISION

Results from the public feedback (web survey) and performance evaluation of the pilot project were reviewed by the CCRPC, DPW, and the Scoping Study's Steering Committee. The Steering Committee and staff of each agency unanimously agreed to recommend to the Public Works Commission that the intersection improvements be made permanent. At the same time, additional recommendations were proposed to improve the intersection performance:

- Relocate the "No Left Turn" sign on the signal mast arm closer to the center of the eastbound approach lane;
- Add pavement markings in the through lane on South Prospect Street: two straight arrows and the word "ONLY";
- Improve lighting at the southwest corner of the intersection; and
- Enhance signal coordination with the Mansfield Avenue and Mary Fletcher Drive signals.

On February 19, 2014 the Public Works Commission reviewed the Steering Committee's recommendation, pilot project assessment and public input and voted unanimously to accept the pilot improvements as permanent changes at the Pearl Street/Prospect Street/Colchester Avenue intersection. Specifically the Public Works Commission approved:

- Prohibition of parking on the north side of Pearl Street between Prospect Street and Handy Court
- Prohibition of parking on the west side of South Prospect Street for 10 spaces immediately south of the intersection
- Prohibition of left turns from Pearl Street onto North Prospect Street.

Appendix C provides detailed information on the implementation, performance and public input for the pilot (and now permanent) improvements at the Pearl Street/Prospect Street/Colchester Avenue intersection.





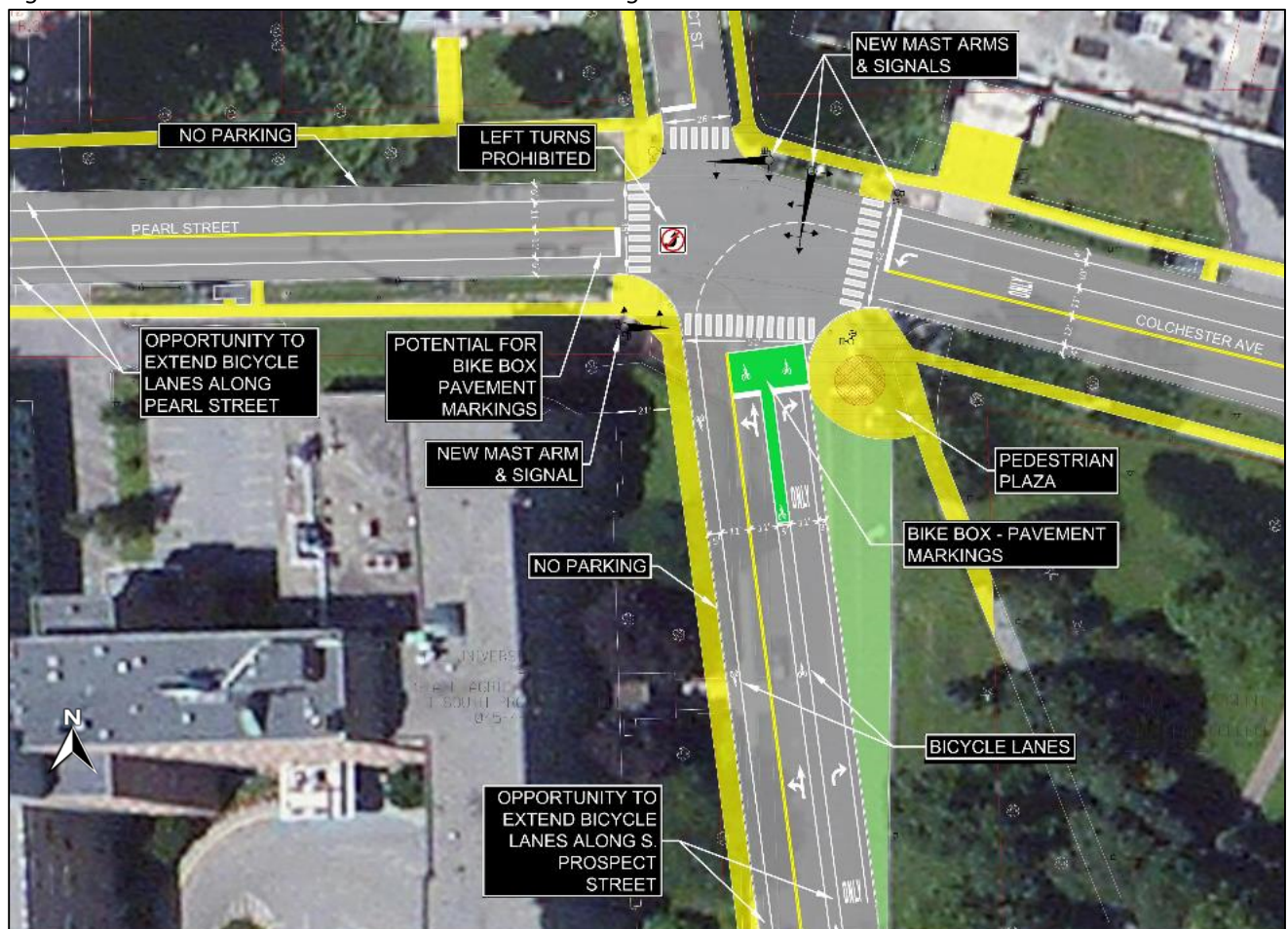
## 5.0 LONG-TERM ALTERNATIVES ASSESSMENT

### 5.1 OVERVIEW OF ALTERNATIVE CONCEPTS

#### 5.1.1 Alternative 1 – North-South Intersection Alignment

Under Alternative 1, the South Prospect Street approach is moved west to better align with North Prospect Street (see Figure 14). This westward shift of South Prospect Street provides the opportunity to expand the UVM Green and create an expanded pedestrian plaza in the southwest corner of the intersection. It also affords the opportunity to investigate relocation of CCTA's bus shelter from the west side of the intersection (Pearl Street) to the east side (Colchester Avenue).

Figure 14: Alternative 1 – North-South Intersection Alignment



The following elements are included in Alternative 1:

- Two northbound approach travel lanes on South Prospect (Through/Left and Right)
- New striped southbound and northbound bicycle lanes on South Prospect Street
- A marked “bike box” at the head of the northbound South Prospect Street approach which will provide bicyclists with a safe and visible way to get ahead of queuing traffic during the red signal phase

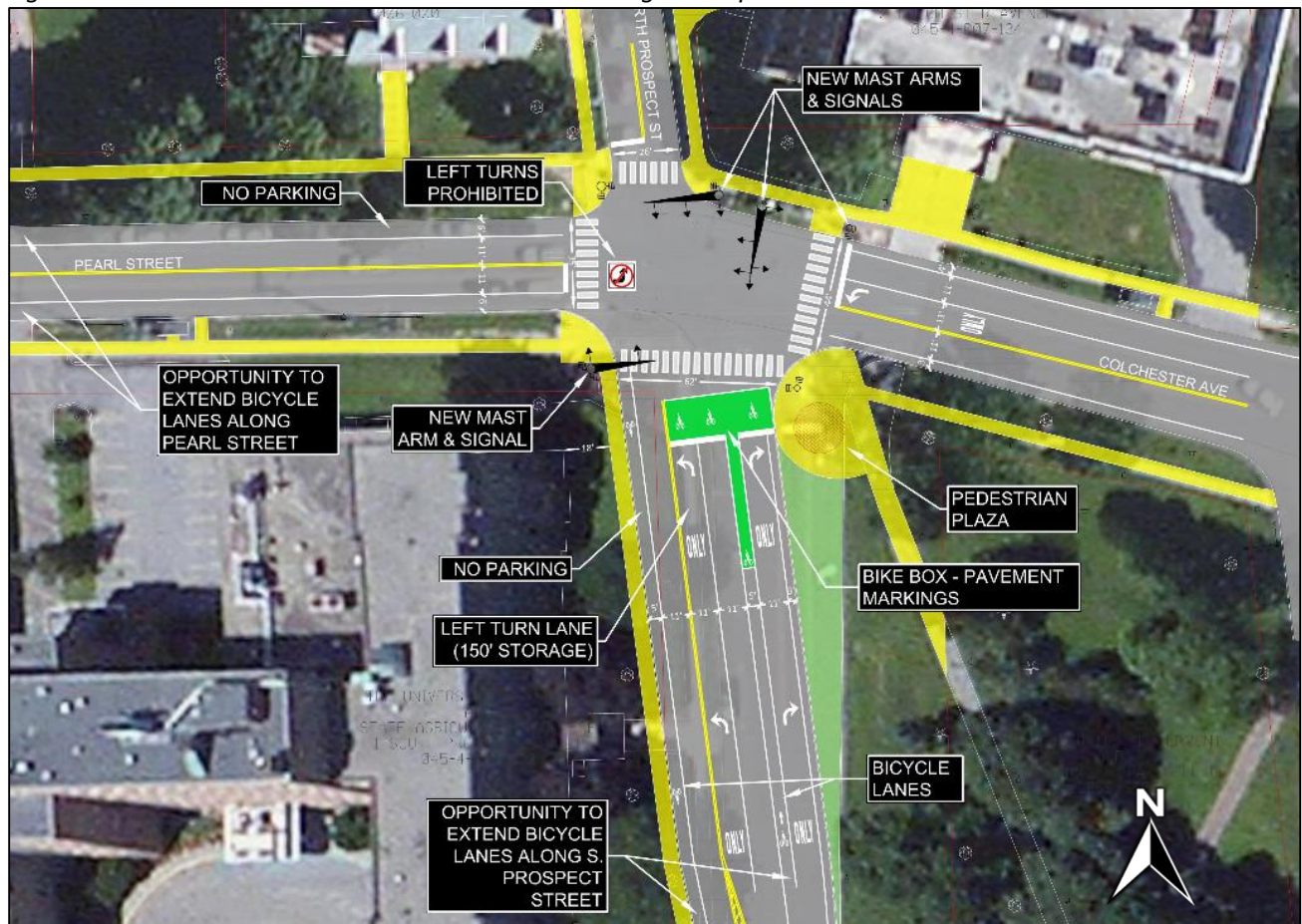


- No parking allowed for all approaches to the intersection (e.g., pilot project's parking configuration is retained)
- The existing crosswalk across Colchester Avenue is moved west to connect to the relocated pedestrian curb ramp on the southeast corner of the intersection.
- Wide shoulders on Pearl Street approach and prohibition of left turns from Pearl Street onto North Prospect.
- New signals installed on three new mast arms as shown in Figure 14.
- Consider relocating CCTA's sheltered bus stop on Pearl Street to the east side of the intersection (Colchester Ave).

### 5.1.2 Alternative 2 – North-South Intersection Alignment plus NB Turn Lane

This alternative is identical to Alternative 1 with the only exception the addition of an exclusive northbound left turn lane on South Prospect Street (see Figure 15). The additional lane on South Prospect Street requires the elimination of three on-street parking spaces on the west side of South Prospect Street.

*Figure 15: Alternative 2 – North-South Intersection Alignment plus NB Turn Lane*

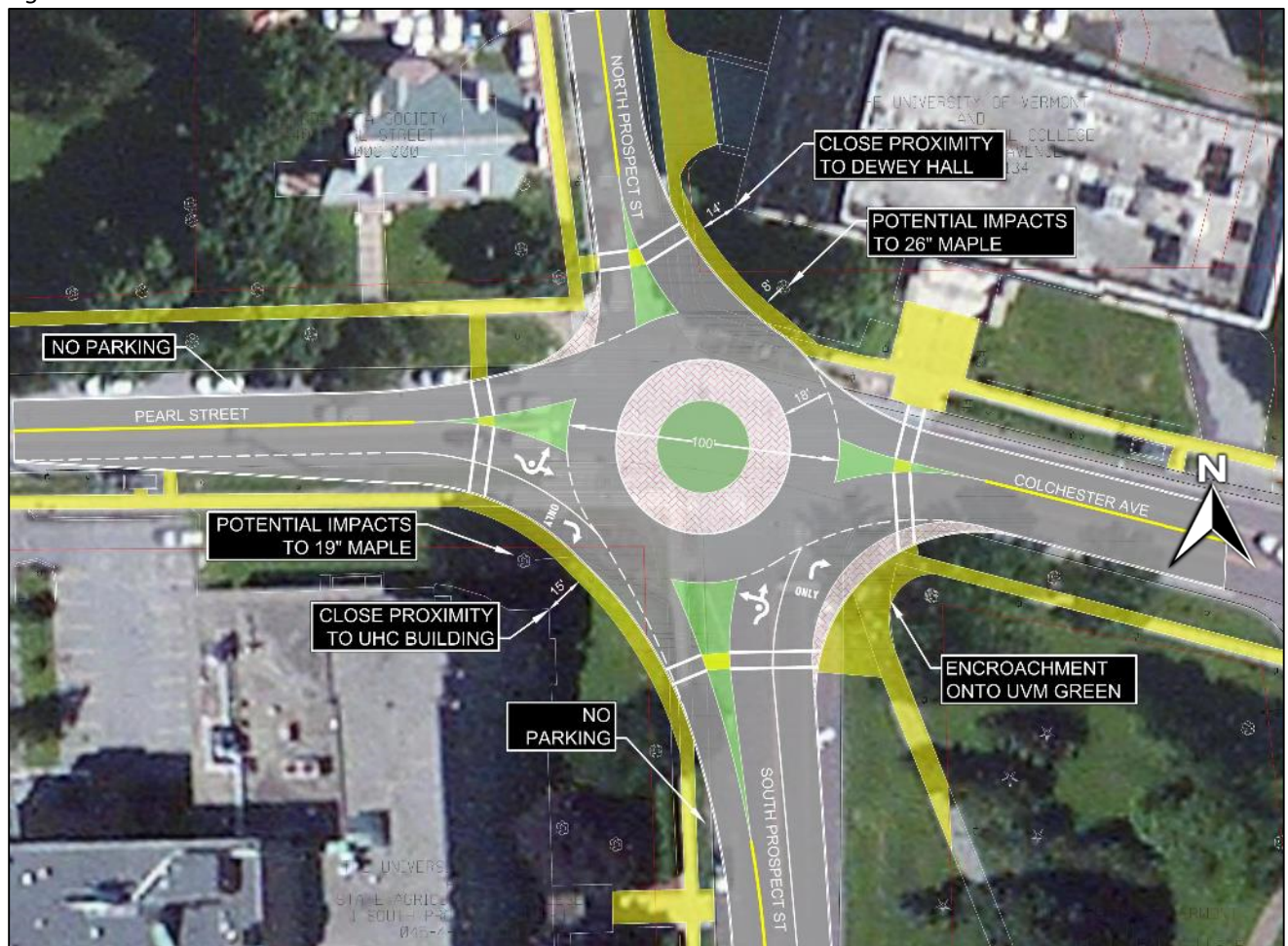




### 5.1.3 Alternative 3 – Single-Lane Roundabout

Alternative 3 examines the possibility of reconfiguring the study intersection to operate as a hybrid roundabout (see Figure 16). Due to limited space between buildings and the historic UVM green, the roundabout design evaluated is a relatively small (100 foot inscribed diameter) single-circulating lane roundabout with additional exclusive right-turn lanes on the eastbound (Pearl Street) and northbound (South Prospect Street) approaches. The layout shown below extends close to the Dewey Hall on the northeast corner (14 feet) and the UHC Building on the southwest corner (15 feet). It also encroaches onto the UVM Green on the southeast corner, and potentially impacts substantial maple trees on both the northeast and southwest corners.

Figure 16: Alternative 3 - Roundabout



## 5.2 TRAFFIC PERFORMANCE OF ALTERNATIVES

The operational (traffic) performance of the long-term intersection alternatives was assessed by conducting a detailed Level-of-Service and queuing analysis. Projected vehicle delays, levels of service, queues, and volume to capacity ratios ( $v/c$ ) were assessed for all alternatives during the weekday AM and PM peak hours of travel in 2012 (base year) and 2022 (future year). Design Hour Volumes (DHV)<sup>7</sup> were used for these analyses which were derived by applying factors and annual adjustments to peak period turning movement counts conducted on October 23<sup>rd</sup> 2012.<sup>8</sup>

Level-of-Service (LOS) is a qualitative measure describing the operating conditions as perceived by motorists driving in a traffic stream. LOS is estimated using the procedures outlined in the 2000 and 2010 Highway Capacity Manuals (HCM) and is based on the average control delay per vehicle. In addition to traffic volumes, key inputs include the number of lanes at each intersection and the traffic signal timing and phasing plans. LOS is graded from LOS A (free flow conditions) to LOS F (congested conditions), and for signalized intersections is based on the estimated average vehicle delay at the intersection—see Figure 17. In urban environments such as the Pearl Street / Prospect Street/Colchester Avenue intersection, overall intersection LOS E or better is generally considered satisfactory during peak hours of travel. LOS F could also be acceptable for locations where facility upgrades could severely impact the build environment and/or other resources or negatively affect other modes of transportation (e.g., increase pedestrian crossing time due to wider roadway).

*Figure 17: Level-of-Service Criteria for Signalized Intersections*

LOS	Characteristics	Signalized
		Total Delay (sec)
A	Little or no delay	$\leq 10.0$
B	Short delays	10.1-20.0
C	Average delays	20.1-35.0
D	Long delays	35.1-55.0
E	Very long delays	55.1-80.0
F	Extreme delays	$> 80.0$

The Highway Capacity Manual defines Volume to Capacity ratio ( $v/c$ ) as a measure of the sufficiency of an intersection to accommodate the vehicular demand. A  $v/c$  ratio less than 0.85 generally indicates that adequate capacity is available and vehicles are not expected to experience significant queues and delays. As the  $v/c$  ratio approaches 1.0, traffic flow may become unstable, and delay and queuing conditions may occur. Once the demand exceeds the capacity (a  $v/c$  ratio greater than 1.0), traffic flow is unstable and excessive delay and queuing is expected.

<sup>7</sup> The DHV is the 30th highest hour of traffic for the year and is used as the design standard in Vermont.

<sup>8</sup> The DHV adjustment is based on VTrans automatic count station S6D155 on Pearl Street east of Williams Street, and increases count volumes by 14%. The annual adjustment is based on assumptions established in the Colchester Avenue Corridor Study and increases count volumes by 2.5% between 2012 and 2022.



## 5.2.1 Alternatives Results

Signalized Alternatives 1 and 2 were evaluated using Synchro and SimTraffic (v8)<sup>9</sup> which utilize the Highway Capacity Manual's LOS methodology and simulate vehicle congestion and queuing on the road network. At the request of the Project Steering Committee, long-term Alternatives 1 and 2 were evaluated for both *concurrent phasing* (Alternatives 1A and 2A) and *split phasing* (Alternatives 1B and 2B) for the north and south Prospect Street approaches. Split phasing allows for opposing approaches to proceed through the intersection consecutively rather than concurrently. The traffic congestion analysis results showed significantly higher delay and queuing under the split phasing scenarios and so only concurrent phasing was considered further.

Performance of Alternative 3 (roundabout) was assessed using Sidra Intersection v6, which is a congestion analysis program specializing in roundabout capacity analyses.<sup>10</sup>

Figure 18 presents the performance results (LOS, delay, queues and v/c) for the No Build alternative (includes pilot project improvements) and the three long-term build alternatives for the AM and PM Peak Hour conditions in the future analysis year of 2022.

Figure 18: Level-of-Service Results for Future Year 2022

2022 AM Peak Hour												
	No Build (w/ short-term enhancements)				Alt 1A N-S Alignment				Alt 2A Align + Turn Lanes			
	LOS*	Delay**	Avg Q <sup>^</sup>	v/c <sup>^^</sup>	LOS*	Delay**	Avg Q <sup>^</sup>	v/c <sup>^^</sup>	LOS*	Delay**	Avg Q <sup>^</sup>	v/c <sup>^^</sup>
<b>Overall</b>	D	38	-	0.79	B	20	-	0.72	C	20	-	0.69
EB, Pearl St	D	46	281	0.87	B	20	160	0.73	C	22	173	0.73
WB, Colchester Ave	C	26	296	0.80	B	15	204	0.69	B	16	249	0.68
NB, S Prospect St	D	39	107	0.71	C	27	113	0.86	C	23	65	0.60
SB, N Prospect St	D	55	182	0.89	C	25	119	0.75	C	26	126	0.79
2022 PM Peak Hour												
	No Build (w/ short-term enhancements)				Alt 1A N-S Alignment				Alt 2A Align + Turn Lanes			
	LOS*	Delay**	Avg Q <sup>^</sup>	v/c <sup>^^</sup>	LOS*	Delay**	Avg Q <sup>^</sup>	v/c <sup>^^</sup>	LOS*	Delay**	Avg Q <sup>^</sup>	v/c <sup>^^</sup>
<b>Overall</b>	F	119	-	0.89	D	48	-	0.89	D	40	-	0.75
EB, Pearl St	F	226	1270	0.97	E	77	503	0.90	E	69	471	0.84
WB, Colchester Ave	C	24	272	0.84	B	19	231	0.78	B	16	210	0.72
NB, S Prospect St	F	101	474	0.93	E	55	307	1.03	D	37	177	0.74
SB, N Prospect St	F	146	223	0.99	C	31	88	0.41	C	33	88	0.53

\* LOS = Level of Service  
 \*\* Delay: Average vehicle delay (in seconds)  
 ^ Avg Q: Average vehicle queue length per approach (in feet)  
 ^^ v/c: Volume-to-Capacity ratio

<sup>9</sup> Vehicle delays and queues were obtained from SimTraffic and are based on the average of 10 hour-long runs. Queues present the average of the maximum queues observed every two minutes. Volume to capacity ratios are calculated with Synchro, using HCM equations.

<sup>10</sup> Following current industry practice, the roundabout analysis is conducted using the Sidra Standard methodology, site geometries, and an environmental factor of 1.2. Sidra standard methodology reports were compared against HCM 2010 outputs from the Sidra software package. Delays and v/c ratios during the more congested PM peak hour were found to be comparable between these two methodologies.



Performance results indicate that traffic conditions at the Pearl Street/Prospect Street/Colchester Avenue intersection are substantially more congested during the PM Peak rather than the AM Peak Hour of travel. As shown in Figure 18, Alternatives 1A and 2A (concurrent phasing) achieve the best traffic performance during the PM Peak hour of travel. These alternatives substantially improve the LOS for all intersection approaches (LOS E or better) as well as reduce delays and queues compared to the No-Build and the other Build Alternatives.

Alternative 3 has significant issues with the westbound approach—LOS F, long delays and queues as well as v/c well over 1.00.

### 5.3 ALTERNATIVES EVALUATION MATRIX

The Alternatives *Evaluation Matrix* shown in Figure 19 compares the No-Build and various Build Alternatives and indicates the degree to which an alternative meets the Purpose and Need and/or impacts known resources in the study area (on-street parking, trees, Right-of-Way, environmental, historic, and archeological). The Matrix also identifies permitting needs and provides order of magnitude cost estimates for each alternative. For an easier, more visual comparison of alternatives, green arrows were used to indicate positive change compared to the No-Build; red arrows indicate negative change and black arrows indicate no change. The number of arrows show the magnitude of change.

As Figure 19 shows, Alternative 1 positively addresses each component of the Purpose and Need Statement and has the least amount of Right-of-Way (ROW) impacts (approximately 1,400 square feet) on one property (UVM) compared to the other Build Alternatives. Alternative 2 positively addresses each component of the Purpose and Need Statement except for improving pedestrian safety (neutral) and improving pedestrian accommodations (negative). Alternative 2 has approximately 3,000 square feet of ROW impacts on one property (UVM). Alternative 3 negatively addresses nearly all of the Purpose and Need Statement components; has approximately 1,500 square feet of ROW impacts on two properties; impacts two significant trees adjacent to the intersections; and has potentially significant historic impacts due to the encroachment onto the UVM Green.





Figure 19: Alternatives Evaluation Matrix

Criteria:	No Build Pilot Improvements	Alternative 1 N-S Alignment	Alternative 2 Alignment + Turn Lane	Alternative 3 Roundabout
Conceptual Cost Estimate	\$0	\$935,000	\$995,000	\$730,000
Satisfies Purpose and Need				
1) Addresses Congestion	119 Seconds Delay V/C = 0.89	↑ Average delays reduced 48 seconds average delay	↑↑ Average delays & v/c reduced 40 seconds average delay	↓ Significant delays on WB approach. 1.12 v/c; 1,400' queue
2a) Improves Safety for Pedestrians	--	↑ Advanced ped phases; shortened crossing distances	↔ Advanced ped phases; Longer crossing distances	↓ Difficulty crossing downstream of right-turn slip lanes. No signalized control.
2b) Improves Safety for Bicyclists	--	↑ New bike lane and bike box on South Prospect Street. Potential for bike lanes on Pearl Street.	↑ New bike lane and bike box on South Prospect Street. Potential for bike lanes on Pearl Street.	↓ Physical constraints preclude separated bicycle facility/lane through intersection
2c) Improves Safety for Vehicles	--	↑ North-South approach alignment	↑↑ North-South approach alignment; Northbound left turn lanes	↑ Roundabout reduces speeds on all approaches; minimizes crash severity
3a) Improves Pedestrian Accommodations & Safety	160' Total Ped Crossing Distance	↑ 154' Total Ped Crossing Distance	↓ 167' Total Ped Crossing Distance	↔ 180' Total Ped Crossing Distance; Only need to cross one direction at a time.
3b) Improves Bicyclist Accommodations & Safety	Bikeable shoulders on Colchester & Pearl	↑ New bike lane and bike box on South Prospect Street. Potential for bike lanes on Pearl Street.	↑ New bike lane and bike box on South Prospect Street. Potential for bike lanes on Pearl Street.	↓ Difficult to accommodate separate bicycle facility due to building constraints
4) Addresses Intersection Offset	No	↑	↑	↑
Net Change in On-Street Parking Spaces	--	0	-3	0
ROW Impacts	--	1,360 SF (1 Property - UVM)	3,035 SF (1 Property - UVM)	1,500 SF (2 Properties - UVM)
Tree Impacts	--	0	0	2
Environmental / Cultural Impacts		Slight potential for historic impacts	Slight potential for historic impacts	Significant potential for historic impacts
Permitting Needs	--	Potential for Section 106, 4(f); Likely Act 250, Stormwater	Potential for Section 106, 4(f); Likely Act 250, Stormwater	Likely Section 106, 4(f), Act 250, Stormwater



## 6.0 PREFERRED ALTERNATIVE

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At their April 3, 2014 Meeting, the Project Steering Committee discussed the *Evaluation Matrix* and traffic performance results extensively. Committee members debated whether split or concurrent phasing on the aligned north/south Prospect Street approaches was their preference and the merits of accepting higher levels of congestion (split phasing) for clarity of vehicular movements through the intersection and potentially increased safety. They also discussed the pros and cons of having an exclusive northbound left-turn lane on the South Prospect approach.

Ultimately, the Project Steering Committee endorsed Alternative 1—signalized intersection with a north-south intersection alignment—as the long-term improvement to be presented to the Transportation Energy and Utilities Committee (TEUC) and ultimately the Burlington City Council for selection as the preferred alternative. The committee also decided to postpone decision on the question of concurrent versus split phasing until the project design phase.

At their May 28, 2014 Meeting, the TEUC reviewed the project findings and agreed with the Steering Committee’s endorsed alternative and decided to recommend Alternative 1 to the City Council for selection as the preferred alternative.

At their June 23, 2014 meeting, the Burlington City Council voted unanimously to select Alternative 1 as the preferred long-term alternative for the Pearl Street/Prospect Street/Colchester Avenue intersection—see Appendix D for the City Council resolution.





## **APPENDIX A**

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### **Public Engagement**



**Final Report on Public Engagement  
Prospect/Pearl/Colchester Avenue Scoping Study  
June 2014**

**Contents**

**1) Summary of Public Involvement Activities**

**2) Steering Committee & Staffing**

**3) Steering Committee Meetings – Agendas and Notes**

- Meeting #1: October 11, 2012
- Meeting #2: December 6, 2012
- Meeting #3: April 11, 2013
- Meeting #4: January 22, 2014
- Meeting #5: March 20, 2014
- Meeting #6: April 3, 2014

**4) Public Meeting**

- Public Meeting: November 27, 2012 (Media Advisory, Agenda, Notes)

**5) Outreach & Coordination with the City of Burlington**

- DPW Commission: March 20, 2013 (Agenda, Notes)
- DPW Commission: May 15, 2013 (Agenda, Notes)
- DPW Commission: February 19, 2014 (Agenda, Notes)
- City Council Transportation, Energy and Utility Committee (TEUC):  
March 6, 2014 (Agenda, Draft Notes) and May 28, 2014 (Agenda)
- City Council: June 16, 2014 and June 23, 2014

**6) Public Comments**

**7) Media Clips**

## **1) Summary of Public Involvement Activities**

The Public Involvement Plan for the Prospect/Pearl/Colchester Avenue Scoping Study was designed in the spirit of the Chittenden County Regional Planning Commission's (CCRPC) Public Participation Plan. The plan is predicated on an effective public involvement and public outreach campaign that involves transportation stakeholders and the broader public early in the process, checks in with them frequently, and then supports an outreach effort to present the final plan. The intent of the public involvement effort is to further foster a spirit of inclusiveness and ownership of the Prospect/Pearl/Colchester Avenue Scoping Study.

Public involvement was integrated into all aspects of the work plan. Tasks included: Steering Committee meetings, public and outreach meetings, outreach and coordination with the City of Burlington, and information management.

The Steering Committee consisted of eight members representing a broad range of community participation (see list of committee members). The group met six times between October 2012 and April 2014. Agendas and meeting notes are attached to this document.

There was one "Local Concerns" public meeting held on November 27, 2012 at the McClure Conference Room at Fletcher Allen Health Care on Colchester Avenue (near the intersection under study). It was attended by twenty-five members of the public, five members of the Steering Committee, and five staff/consultants. Meeting outreach included the Ward 1 Neighborhood Planning Assembly, Burlington Free Press and 7Days calendars, media advisories, broadcast email, targeted email, City of Burlington Buzz e-newsletter, Burlington Walk/Bike Council, UVM faculty/Staff/Student emails, and Front Porch Forums. Meeting materials were posted on a dedicated study website.

Coordination with the City of Burlington included meetings with the Department of Public Works (DPW) Commission, the City Council Transportation, Energy and Utility Committee (TEUC), and the City Council. Materials, where available, are attached to this document. Finally, visits to the Ward 1 Neighborhood Planning Assembly (NPA) were also made. Videotapes of these meetings are available at: <http://www.burlingtonvt.gov/Meeting-Video?id=142721>.

Information management included a website with background and current information, Steering Committee documents (agendas, meeting notes), public meeting documents (agendas, meeting notes), and a final report.

## **2) Steering Committee & Staffing**

### **Prospect/Pearl/Colchester Avenue Scoping Study**

#### **Steering Committee**

Meredith Birkett, CCTA  
Peg Boyle Single, Ward 1 NPA\*  
Sharon Bushor, City Council, Ward 1  
Dave Keelty, FAHC  
Nicole Losch, Burlington DWP  
Linda Seavey, UVM  
Sandy Thibault, CATMA  
Charlene Wallace, Local Motion

\*Ablly assisted by Richard Hillyard and Wayne Senville

#### **Study Project Manager**

Eleni Churchill, Chittenden County Regional Planning Commission (CCRPC)

#### **Study Staff**

Guillermo Gomez, Burlington DPW  
Sai Sarepalli, Chittenden County Regional Planning Commission (CCRPC)

#### **Study Consultant Team**

David Saladino, Director, RSG  
Diane Meyerhoff, Principal, Third Sector Associates

**Final Report on Public Engagement  
Prospect/Pearl/Colchester Avenue Scoping Study  
June 2014**

**3) Steering Committee Meetings – Agendas and Notes**

- Meeting #1: October 11, 2012
- Meeting #2: December 6, 2012
- Meeting #3: April 11, 2013
- Meeting #4: January 22, 2014
- Meeting #5: March 20, 2014
- Meeting #6: April 3, 2014



**Pearl Street/Prospect Street/Colchester Avenue Intersection Scoping Study  
Steering Committee Meeting #1**

October 11, 2012, 6:00 PM  
CCRPC, 110 West Canal St., #202, Winooski, VT

**AGENDA**

1. Welcome & Steering Committee Introductions
2. Scoping Process & Project Overview
3. Existing Conditions
4. Purpose & Need
5. Potential Alignment Alternatives
6. Next Steps

Materials continue to be posted on the website at:  
<http://www.ccrpcvt.org/scoping/prospect-pearl-colchester-ave-scoping-study/>

**Pearl Street/Prospect Street/Colchester Avenue Intersection Scoping Study  
Steering Committee Meeting Notes**

DATE: Thursday, October 11, 2012  
TIME: 6:00PM  
PLACE: CCRPC, 110 W. Canal St., #202, Winooski, VT

**MEMBERS PRESENT:**

Meredith Birkett, CCTA  
Sharon Bushor, City Councilor  
Richard Hillyard, Ward 1 NPA (for Peg Boyle Single)  
Dave Keelty, FAHC  
Nicole Losch, Burlington DPW  
Linda Seavey, UVM Planning  
Sandy Thibault, CATMA  
Charlene Wallace, Local Motion

**OTHERS PRESENT:**

Eleni Churchill, CCRPC  
Guillermo Gomez, Burlington DPW  
Fang Guan, RSG  
Lani Ravin, UVM Planning  
Diane Meyerhoff, Third Sector Associates  
Dave Saladino, RSG  
Sai Sarepalli, CCRPC  
Wayne Senville, Ward 1 NPA

**1) Welcome & Introductions**

Eleni Churchill of CCRPC welcomed everyone and introductions were made.

**2) Project Overview & Definition of Scoping**

Dave Saladino of Resource Systems Group (RSG) explained that the consultant team will be preparing a scoping study for the Pearl Street/Prospect Street/Colchester Avenue intersection. A scoping study includes the following activities: public & stakeholder outreach; existing conditions assessment; purpose & need statement; alternatives assessment; selection of preferred alternative; and a final scoping report.

Eleni described the scoping study process as it related to the overall life of a project, from conception to implementation (see graphic on last page). There are three major steps to overall project development and funding: project identification; project definition/scoping; and final design and construction. Scoping includes defining the project, studying the alternatives, and selection of the preferred alternative.

**3) Steering Committee Role & Membership**

Eleni reviewed the role of the Steering Committee, which is to: assist in the definition, development, and review of alternatives; provide ongoing feedback and input that reflects a broad range of stakeholder perspectives; and review and discuss all key materials prepared for the scoping study. Members of the Steering Committee include CATMA, UVM, FAHC, Local Motion, City of Burlington, and CCTA. Sharon Bushor of the City Council noted that the City Council and the Ward 1 Neighborhood Planning Assembly (NPA) should also be included in the listing of Steering Committee members.

#### **4) Existing Conditions**

Dave Saladino reviewed the elements of the existing intersection conditions in turn: a) traffic volumes, b) congestion & level of service, c) safety & crash data, d) transit service, e) pedestrian accommodations, and f) intersection layout & boundaries.

##### ***a) Traffic Volumes***

Dave Saladino explained that intersections are assigned “level of service” (LOS) grade values, from “A” to “F,” depending on the amount of delay experienced at the intersection during peak hours. Overall, in 2012, this intersection rates a “B” in the AM peak hour and “C” in the PM peak hour. Dave Saladino noted that these ratings were determined by looking at the intersection in isolation – i.e. without it being part of the overall transportation network. Later he will be providing updated information about the intersection’s performance as a part of the overall network.

Wayne Senville, a resident of Ward 1, asked if the traffic counts were taken while UVM was in session. After discussion, it was decided that updated traffic counts should be taken with UVM in session and in light of the Colchester Avenue redesign. Sharon Bushor feels we need take into consideration the high level of traffic when UVM students return to school in the late summer/early fall.

Wayne asked if the modeling can capture the adaptive signal timing due to the newly installed cameras at the intersection. Dave Saladino replied in the affirmative. Wayne asked if LOS is determined for pedestrians too. This intersection requires that pedestrians wait a significant amount of time before crossing; often people don’t wait for the “walk” signal which makes the intersection dangerous for all users. There was discussion of possibly providing an “exclusive” pedestrian crossing phase; however, the tradeoff is that vehicle traffic will be delayed through the intersection. The traffic volumes may be too high to allow for an exclusive signal phase. Nicole Losch of Public Works is open to discussing an exclusive pedestrian phase as part of the alternatives assessment.

##### ***b) Congestion & Level of Service***

Dave Saladino explained that the V/C Ratio (Volume to Capacity) is at 60 percent in the AM peak and 77 percent in the PM peak. Basically, this means there is capacity at the intersection, at least when looking at it separate from the influence of adjacent intersections.

##### ***c) Safety & Crash Data***

Crash data from 2007-2011 shows that the highest numbers of crashes occur between 3:00PM and 5:00PM. The primary crashes are rear end collisions, sideswipes, and broadside collisions. This intersection is the 25<sup>th</sup> highest crash location in the state; therefore there may be federal safety funds available to help pay to reconstruct the intersection.

##### ***d) Transit Service***

CCTA runs buses along Pearl Street/Colchester Avenue and Prospect Street, including the College Street Shuttle. There was discussion about potential accommodations for transit stops adjacent to the intersection and RSG agreed to investigate the possibility of relocating the CCTA stop on the north side of Colchester Avenue, east of Prospect Street.



#### ***e) Pedestrian Accommodations***

As part of a UVM archeological report of the area, Dave Saladino showed a historic map of the intersection and surrounding area from 1858 and 1873. The report showed that the area is already disturbed and there were no archeological concerns. He is awaiting UVM's report on historical resources and will share it at the next meeting.

#### ***f) Intersection Layout & Boundaries***

Dave Saladino distributed a map of the intersection.

### **5) Project Purpose & Need**

Dave Saladino introduced a very preliminary Purpose Statement: "To identify a preferred alternative that improves mobility and safety for all modes through the Prospect Street/Pearl Street/Colchester Avenue intersection". As to the Needs, he noted preliminary problem areas as peak period traffic congestion; high crash location; and offset north-south approach alignment. The Purpose and Need statement will be refined with the Steering Committee following the Local Concerns meeting.

### **6) Potential Alignment Alternatives**

Dave offered two alternatives that were identified in the Colchester Avenue Corridor Study: re-aligning the South Prospect Street approach and a roundabout. He asked the committee whether they had ideas for a third alternative. Dave noted that the preliminary assessment of a single- and double-lane roundabout was conducted and determined that footprint impacts would likely make this alternative unacceptable.

Lani Ravin of UVM asked about pedestrian and bicycle counts. Eleni didn't have the data at hand, but offered to provide it at the next meeting.

Sharon asked about the slight slope that vehicles must travel as they head down Colchester Avenue into this intersection. The grade change is very dangerous. Dave will look at the grade more closely.

Sharon is interested in moving this project along and not studying alternatives if the realignment solves most of the issues. Dave Keelty of FAHC agrees.

Lani asked if we can consider connecting existing and to-be-built bike lanes. Colchester Avenue/Pearl Street is a great bike route because it's flatter than the alternative east-west routes. Wayne suggested checking with the Walk/Bike Council. Charlene, Nicole, and Wayne are all members of the Council and will talk to the group about this intersection. Dave noted that bicycle accommodations through the intersection will be evaluated as part of this study, but also noted that the existing built environment and Right-of-Way boundaries may limit the ability to expand the paved area to include full bicycle lanes on all legs of the intersection.

There was discussion about the size of the study area; by expanding it we make the study more complicated. The transportation model was discussed and some of its abilities and limitations for this study. Richard Hillyard of the Ward 1 NPA noted that neighbors are concerned with traffic "cutting through" Mansfield Avenue and North Street to travel north rather than passing through the study intersection. Sharon noted that the North Street residents are looking for some relief; however, it's unlikely this intersection will provide that relief.

Dave Keelty suggested that we focus on improving the safety of the intersection for all modes. This will allow us to get the work done efficiently. If we reach too far, we'll complicate the process and not finish the work.

Sharon asked if a bus pull-off could be added to Colchester Avenue; Meredith Birkett of CCTA expressed concern that pull-offs located in advance of a traffic signal do not allow buses back into traffic efficiently. Eleni will talk more with Meredith about the bus shelter on Pearl Street in front of UHC.

Lani noted that the pedestrian curb area at the southwest corner is in very poor condition. Charlene noted that the aesthetics of this area are also poor and asked if the Study could recommend better pedestrian facilities and maintenance.

There was discussion of AARP's effort to study Colchester Avenue for pedestrian safety, and Nicole offered to review the results for relevant information. Sandy Thibault of CATMA conducts annual employee and student transportation surveys. She's willing to provide a summary of comments relevant to the intersection. Dave Saladino expressed interest in receiving that information.

Sharon asked about parking on both sides of Colchester Avenue near the Kampus Kitchen. This makes the travel lane very narrow. Eleni will add it to the list of issues.

#### **7) Next Steps**

- Local Concerns Public Meeting (*November/December* - Update: The public meeting is scheduled for November 27, 7:00-9:00PM at the McClure Conference Room, Fletcher Allen)
- Alternatives Assessment (*December - January*)
- Evaluation Matrix (*February*) *Comparison of alternatives based on impacts, costs, benefits*
- Alternatives Assessment Outreach (*March - April*) *Public Meeting, DPW Commission*
- Selection of Preferred Alternative (*May*) *Burlington TEUC City Council*
- Initial Scoping Study (*June*)
- Final Scoping Study (*July*)

There was discussion about where to hold the two public meetings and Dave Keelty agreed to check the FAHC Conference Room, which is the preferred location for the NPA meetings. For Steering Committee meetings, CCRPC can be a backup if FAHC isn't available. It was agreed that a stand-alone meeting was most desirable (rather than during an NPA meeting). For outreach, Lani offered to help Diane with outreach to UVM faculty, staff, and students. It was suggested that a spring visit to the Ward 1 NPA would be a good outreach tool.

The meeting was adjourned at 7:35PM.

#### **Upcoming meetings:**

**Local Concerns Public Meeting: Tuesday, Nov. 27<sup>th</sup>, 7-9:00PM, FAHC Conference Room**

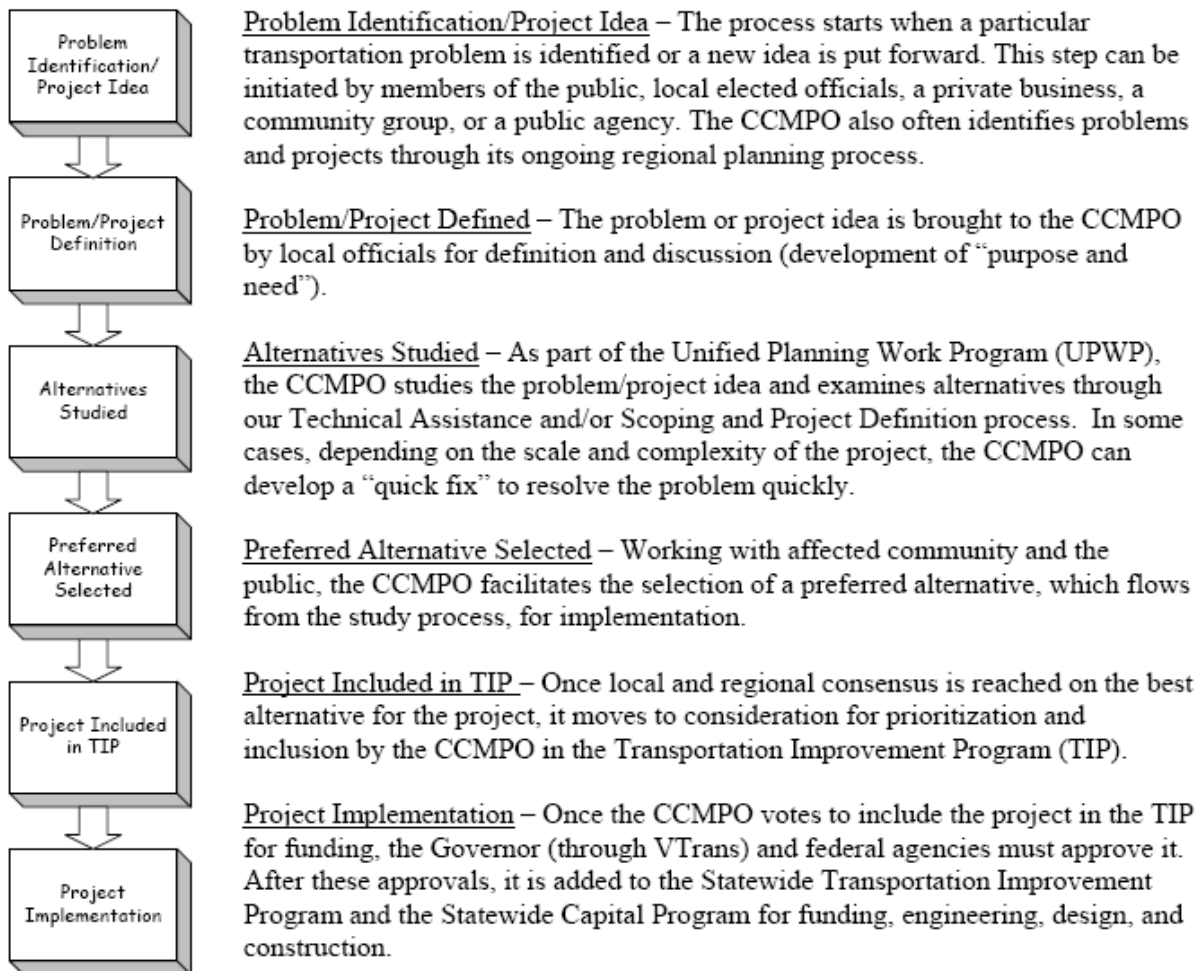
**Steering Committee Meeting: Thursday, December 6<sup>th</sup>, 6-7:30PM (CCRPC)**

## The Scoping Process as Part of the Life of a Project

***Steps 2-4 are Considered Scoping (Problem Definition through Preferred Alternative Selected)***

### ***The Life of a Project: From Concept to Reality***

Typical Stages in the Development and Funding of Transportation Projects





**Pearl Street/Prospect Street/Colchester Avenue Intersection Scoping Study  
Steering Committee Meeting #2**

December 6, 2012, 6:00 PM  
CCRPC, 110 West Canal St., #202, Winooski, VT

**AGENDA**

1. Welcome & Introductions
2. Highlights from November 27<sup>th</sup> Local Concerns Public Meeting
3. Discussion of Alternatives for Evaluation
4. Next Steps

Materials continue to be posted on the website at:

<http://www.ccrpcvt.org/scoping/prospect-pearl-colchester-ave-scoping-study/>

**Pearl Street/Prospect Street/Colchester Avenue Intersection Scoping Study  
Steering Committee Meeting Notes**

DATE: Thursday, December 6, 2012  
TIME: 6:00PM  
PLACE: CCRPC, 110 W. Canal St., #202, Winooski, VT

**MEMBERS PRESENT:**

Meredith Birkett, CCTA  
Sharon Bushor, City Councilor  
Richard Hillyard, Ward 1 NPA (for Peg Boyle Single)  
Dave Keelty, FAHC  
Nicole Losch, Burlington DPW  
Sandy Thibault, CATMA  
Charlene Wallace, Local Motion

**OTHERS PRESENT:**

Eleni Churchill, CCRPC  
Guillermo Gomez, Burlington DPW  
Fang Guan, RSG  
Lani Ravin, UVM Planning (6:25PM)  
Diane Meyerhoff, Third Sector Associates  
Dave Saladino, RSG  
Sai Sarepalli, CCRPC  
Wayne Senville, Ward 1 NPA

**1) Welcome & Introductions**

Eleni Churchill of CCRPC welcomed everyone and introductions were made. The purpose of tonight's meeting is to review comments and ideas from the public meeting and identify "build" intersection alternatives for further study.

**2) Highlights from the Local Concerns Public Meeting**

Dave Saladino of Resource Systems Group (RSG) provided a list of ideas (and number of comments on each idea) from the November 27<sup>th</sup> public meeting:

- No right turns on red (9)
- Consider split signal phasing (5) (exclusive phasing north and southbound)
- Re-align approaches (4); Exclusive pedestrian phase (4)
- Add turn lanes to eastbound Pearl Street & northbound Prospect Street (3)
- Longer pedestrian crossing time (3)
- Add bus pull-offs (2); Signal timing tweaks (2)
- Pedestrian bump-outs (1)
- Consider roundabout, shifted to the south and east
- Add bicycle lanes through intersection east-west
- Consider N. Prospect Street one-way to Brooks Avenue
- Improve intersection lighting
- Restrict southbound Prospect Street left-turns
- Add sidewalk on the west side of the green
- Straighten crosswalk on northbound Prospect Street approach
- Consider using green as a large traffic circle
- Concern: Roundabouts not safe for pedestrians and bicycles (5)



Wayne Senville of the Ward 1 NPA reminded the group that members of the public are concerned how changes to one intersection impact other streets. Sharon Bushor, Ward 1 City Councilor, is interested in pursuing a pilot project for “quick fixes.”

### **3) Discussion of Alternatives for Evaluation**

David S. described Alternative #1 as the re-alignment of South Prospect Street. Tonight the group will select one or two additional alternatives to evaluate. He reiterated some of the options discussed at the public meeting:

#### **Short-Term Options**

1. No Right Turn on Red (RTOR) plus exclusive pedestrian phase (during peak hours only)
2. Prohibit left turns on N. Prospect Street and Pearl Street
3. Change to split phasing for Prospect Street approaches
4. Make N. Prospect Street a one-way to Brooks Avenue

#### **Long-Term Options**

1. Exclusive left-turn lane on Pearl Street and South Prospect Street
2. Center the roundabout to the south and east of the current intersection

Wayne asked how prohibiting left turns has worked on Main Street. Nicole Losch of Public Works hasn't had any complaints. David S. noted that his counts on Main Street shortly after the left turn prohibition was enacted at the Main Street/South Prospect Street intersection showed several illegal turns, but he wasn't sure if that is still the case today. Eleni noted the small number of left turning vehicles from N. Prospect onto Colchester Avenue: 17 vehicles during AM peak hour and 16 vehicles during the PM peak.

Richard Hillyard of the Ward 1 NPA supports the split phasing of the intersection. David S. noted that one disadvantage is a longer traffic signal cycle length. Sharon noted that the signals could be different lengths depending on the amount of traffic; this could be safer for pedestrians and vehicles. Wayne asked if the existing cameras monitor traffic. Eleni responded yes; the cameras currently detect vehicles waiting at intersection approaches and prompt the signal to change.

Nicole said that DPW will consider any of the short-term options except for the one-way northbound North Prospect Street alternative.

Dave S. provided a quick description of how each of the options works from a traffic perspective as compared to the current weekday evening operations. The option with new exclusive northbound and eastbound left turn lanes performed the best, with average delays reduced by 52 percent and average queues on Pearl Street reduced by 97 percent. Adding the exclusive left turn lanes and split phasing had improved performance, but not as good as with concurrent phasing. Eliminating northbound and eastbound left turns or changing North Prospect to one-way north also showed improved performance. The alternatives involving just split phasing (with no other improvements) or a combination of “No Right Turn on Red” plus an exclusive pedestrian phase showed significantly longer queues on Pearl Street. There was discussion of queue lengths and backups to N. Willard Street. The idea of eliminating some

parking spaces on both Pearl Street and Prospect Street in front of UHC to create room for additional turn lanes was discussed. The group felt that some on-street parking spaces on both streets could be eliminated, but this needs to be approved by the Public Works Commission. There was discussion about whether a left- or right-turn lane on Pearl Street would be more effective. David S. stated that RSG would model both to see which is more effective. There was concern about changes at the Pearl/Prospect/Colchester intersection which will then affect the operation at the Mansfield/Colchester intersection. The Prospect Street and Mansfield Avenue signals are currently time-based coordinated, but are not hard wired.

David S. showed a schematic drawing of a 125-foot and 180-foot circle representing a single- and double-lane roundabout shifted to the south and east of the existing intersection. A one-lane roundabout cannot handle the peak hour traffic very well; but a two-lane has a very large footprint that will impact the UVM Green. Designing proper approaches to the roundabout, given the proximity of buildings to the intersection will be difficult as well. David S. noted that the University of Vermont's Consulting Archeology Program examined this area and identified historic resources (old stone cellars) at the north end of the UVM Green. A roundabout would impact these historical resources and would need to fully document any impacts during the permitting process. With further discussion, the group decided that the sensitivity issues are too great to consider a roundabout option.

Dave Keelty of FAHC asked if the group needs to prove due diligence with choosing alternatives to study. Dave S. responded that we need to study viable solutions; we don't need to invent them.

There was extensive discussion on pedestrian issues (access and safety) at the intersection. Richard suggested moving the pedestrian crossing at the South Prospect approach slightly to the south or straightening the crossing which is currently at a diagonal to shorten the path.

There was discussion on bus pull-offs and shelters. There is no transit signal priority in this corridor, and Meredith Birkett of CCTA is concerned about buses getting back into traffic from a pull-off located on the upstream side of a signal. Sharon would like to know if CCTA has identified the best locations for stops and shelters. Eleni indicated that these locations were identified in the Colchester Ave Corridor Study. Meredith is willing to consider changing shelter locations. CCTA is willing to use pull-offs on either side of the Mary Fletcher (Hospital) Drive if the buses don't have to travel to the FAHC entrance. Dave Keelty is concerned that patients cannot walk up the hill to the FAHC entrance from Colchester Ave.

Through all this discussion, a second "build" alternative emerged that could be tested through a pilot study this spring. This alternative includes:

- Removing on-street parking on the north side of Pearl Street and South Prospect Street in front of UHC.
- Adding a new turn lane (either left or right) on Pearl Street and a left-turn lane on South Prospect Street with the possibility of split signal phasing.
- Adding no right-turn-on-red (RTOR) prohibitions during peak hours of vehicle travel.

The committee agreed that the following two “build” alternatives will be carried forward for further capacity, safety, and resource impact evaluations:

1. Realignment of South and North Prospect Streets and signal optimization
2. Adding turn lanes on Pearl and South Prospect Streets with signal changes

There was discussion on the possibility of a pilot study for build alternative 2. Nicole would like to collect traffic data before and after any pilot study and cautioned that new hardware might be needed (which will take some time to procure). Parking space elimination requires DPW Commission approval. A pilot could not start before April. Sharon wants to ensure that the pilot will be in place while UVM is in session. David S. suggested that the Scoping Study could be put on hold while the pilot is underway. The pilot could restripe the left lanes, split the phasing, and add no RTOR.

Eleni suggested that before the final decision to move forward with the pilot study, the Steering Committee should review safety and capacity results for build alternative 2 as well as the evaluation matrix for both build alternatives. She is interested in starting the conversation with DPW and bringing the idea to the public in (late) March after the Steering Committee has had a chance to review results/evaluation matrix.

#### **4) Next Steps**

- Identify Alternatives for Evaluation (Tonight)
- Alternatives Assessment (*December - January*) Discussions with DPW staff & Commission
- Evaluation Matrix (*February*) Comparison of alternatives based on impacts, costs, benefits
- Alternatives Assessment Outreach (*March - April*) Public Meeting, DPW Commission
- Selection of Preferred Alternative (*May*) Burlington TEUC and City Council
- Initial Scoping Study (*June/July*)
- Final Scoping Study (*July/August*)

Sharon would like the Committee to submit a formal request to the DPW Commission to consider a pilot study. The group agreed. Charlene would also like bike lanes considered in the pilot.

The meeting was adjourned at 7:45PM.



**Pearl Street/Prospect Street/Colchester Avenue Intersection Scoping Study  
Steering Committee Meeting #3**

Thursday, April 11, 2014, 6:00 PM  
CCRPC, 110 West Canal St., #202, Winooski, VT

**AGENDA**

1. Welcome & Introductions
2. Results of Alternatives Analysis (David Saladino, RSG)
3. Discussion of possible Pilot Project (and Report from the DPW Commission Meeting)
4. Next Steps

Materials continue to be posted on the website at:  
<http://www.ccrpcvt.org/scoping/prospect-pearl-colchester-ave-scoping-study/>

**Pearl Street/Prospect Street/Colchester Avenue Intersection Scoping Study**  
**Steering Committee Meeting #3 Notes**

DATE: Thursday, April 11, 2013  
TIME: 6:00PM  
PLACE: CCRPC, 110 W. Canal St., #202, Winooski, VT

**MEMBERS PRESENT:**

Sharon Bushor, City Councilor  
Richard Hillyard, Ward 1 NPA (for Peg Boyle  
Single)  
Nicole Losch, Burlington DPW  
Linda Seavey, UVM Planning  
Charlene Wallace, Local Motion

**OTHERS PRESENT:**

Jason Charest, CCRPC (6:53 PM)  
Eleni Churchill, CCRPC  
Guillermo Gomez, Burlington DPW  
Lani Ravin, UVM Planning  
Diane Meyerhoff, Third Sector Associates  
David Saladino, RSG

**1) Welcome & Introductions**

The meeting began at 6:12 PM with Eleni Churchill of CCRPC welcoming everyone.

**2) Project Purpose & Need Statement**

David Saladino of RSG provided a brief overview of the current study process and what has happened since the last Steering Committee meeting. He then reviewed the draft Purpose & Need Statement, explaining that it helps to guide the scoping study and provides criteria to screen the alternatives. This is still a draft and Eleni continues to accept comments.

**Purpose:** The purpose of the Prospect Street/Pearl Street/Colchester Avenue intersection Scoping Study is to identify a preferred alternative improvement plan that enhances mobility and safety for all modes through the intersection.

**Needs:**

- **Peak period traffic congestion:** The intersection currently experiences recurring congestion, delays, and extended vehicle queuing during peak periods due to relatively heavy vehicle demand, heavy pedestrian crossing demand, and confusion/inefficiencies created by the offset north and south approaches.
- **High Crash Location:** The most recent VTrans High Crash Location (HCL) report (2006-2010 data) lists the Pearl Street/Prospect Street/Colchester Avenue intersection as the #25-ranked HCL intersection (among 659 identified HCLs) in the state.
- **Inadequate accommodations for bicyclists and walkers:** Situated immediately adjacent to the UVM Green and between the campus and residential housing to the north, this intersection experiences a relatively high volume of pedestrians and bicyclists. Despite this high activity, the intersection has several identified deficiencies including no advanced pedestrian phase for east-



west pedestrians, lack of delineated shoulders on three approaches, and a skewed crosswalk across the North Prospect Street approach.

- **Offset north-south approach alignment:** The North and South Prospect Street intersections are offset by approximately 70 feet. As the north- and southbound approaches currently run together under concurrent phasing, there are often situations where vehicles become trapped in the center of the intersection waiting to turn left and being unable to see beyond the opposing car to see any oncoming conflicting traffic. This inefficiency decreases the overall capacity at which the intersection operates.

### **3) Results of the Alternatives Evaluation**

David discussed the three alternatives (for more details see presentation at:

<http://www.ccrpcvt.org/transportation/scoping/prospect-pearl-colchester-ave-scoping-study/>)

#### ***Alternative 1: Short-Term Pilot Project Improvements***

- Remove on-street parking on the north side of Pearl Street (8 spaces) and west side of South Prospect Street in front of UHC (10 spaces).
- Add a new northbound left-turn lane on South Prospect Street.
- Add a new eastbound left-turn lane on Pearl Street.
- Install “no right-turn-on-red” (NRTOR) prohibitions during peak hours of vehicle travel.
- Implement a split-phasing signal plan at the intersection.
- Pilot project improvements could be implemented this summer (2013) during scheduled paving of the intersection.

There was discussion about pedestrians crossing Prospect from the UVM Green to UHC. The concern is that eastbound right-turning drivers on Pearl cannot see pedestrians in the crosswalk; moving the crosswalk back aggravates the situation. There is also concern about adequate pedestrian crossing time; in general, Burlington signals are set for a six-second lead time for advance pedestrian phases.

Nicole Losch of DPW and Sharon Bushor (Ward 1 City Counselor) discussed the DPW Commission meeting on March 20<sup>th</sup>. Overall, the Commission was supportive of the pilot project request.

Commissioners asked for the following information:

- The proposal removes 8 parking spaces on the north side of Pearl Street close to the intersection. The Commission would like to know who uses this parking and if they have concerns about its removal. (Nicole will check with DPW staff). UVM is supportive of removing the 10 spaces of parking on South Prospect in front of the UHC building.
- There is a separate request to remove parking on Handy Court. The Commission is concerned with the parking impact of that request in addition to the pilot request.
- The Commission would like more information about crashes and safety issues.
- The Commission is interested in looking into a possible realignment of Prospect Street by moving North Prospect Street to the east.
- The Commission is interested in “no right-turn-on-red” (NRTOR) signs for all approaches. (signs will be included for all approaches).

There was discussion on how to proceed if the Commission will not allow the removal of parking for the pilot. Likely, additional intersection analyses would be necessary.

### ***Alternative 2: North-South Prospect Street Approach Alignment***

This alternative realigns South Prospect Street (move to the west) to align with North Prospect Street. It includes:

- A new signal system
- New crosswalks
- Relocation of the CCTA bus shelter from Pearl Street (west side of intersection) to Colchester Ave (east side) with a pull-out (CCTA is supportive of this change)
- A new bike lane on the S. Prospect Street approach

There was discussion about the safety of the bike lane. Charlene Wallace of Local Motion suggested the addition of a bike box to make the lane more accessible to a wider range of riders. Jason Charest of the CCRPC explained that a bike box is a dedicated bike area in front of the vehicle stop bar that allows bikers to move during the pedestrian signal phase. Drivers will need to be educated about bike boxes. (For more information, see: <http://nacto.org/cities-for-cycling/design-guide/intersection-treatments/bike-boxes/>)

### ***Alternative 3: North-South Prospect Street Approach Alignment with Northbound Turn Lane***

This alternative includes all the elements of Alternative 2 and adds a northbound left-turn lane on South Prospect Street (and removal of 13 parking spaces on South Prospect in front of UHC) and an eastbound left-turn lane on Pearl Street (and removal of 8 parking spaces on Pearl Street).

## **4) Results of the Alternatives Evaluation**

David discussed traffic performance of all three alternatives:

- Alternative 1: Increased delay due to longer cycle length (split phasing & additional pedestrian interval)
- Alternative 2: Decreased delay due to removal of offset and shorter cycle length than Alternative 1
- Alternative 3: Decreased delay due to removal of offset, shorter cycle lengths, and northbound turn lane

There was discussion about whether improving the intersection will attract additional traffic as people change their travel patterns. Eleni responded that some redistribution of traffic might occur but overall there is not much added capacity under any of the alternatives. There was discussion about whether or not a level of service analysis could be done for pedestrians. It isn't clear if there is sufficient data to do so; David will research the feasibility of doing so.

David presented a summary of potential construction costs for the three alternatives, with Alternative 1 totaling approximately \$15,000 (if completed by a contractor – City forces will likely do the work), Alternative 2 totaling approximately \$885,000 and Alternative 3 totaling approximately \$900,000.

All three build intersection alternatives improved safety with Alternative 3 providing the most benefits, especially with congestion related crashes.

## Summary Matrix of Alternatives

Criteria:	No Build	Alternative 1 Pilot Improvements	Alternative 2 N-S Approach Alignment	Alternative 3 Alignment + Turn Lanes
Conceptual Cost Estimate	\$0	\$15,000	\$885,000	\$900,000
Satisfies Purpose and Need				
1) Addresses Congestion	No	↓ Average delays and v/c increased	↔ Delays and v/c largely unchanged from No Build	↑ Average delays and v/c reduced
2) Improves Safety	No	↑ Left turn lanes, advanced ped phases, & split phasing	↑ Approach alignment and advanced ped phases	↑↑ Left turn lanes, advanced ped phases & approach alignment
3a) Improves Pedestrian Accommodations	No	↑ New E-W leading ped interval & NRTOR signs; longer cycle length	↑ New E-W leading ped interval & NRTOR signs	↔ New E-W leading ped interval & NRTOR signs. Longer crossing distance
3b) Improves Bicyclist Accommodations	No	↓ Narrowed lanes on Pearl & South Prospect	↑ New bike lane on S. Prospect	↔ New bike lane on S. Prospect; Narrowed lanes on Pearl
4) Addresses Intersection Offset	No	↔	↑	↑
Net Change in On-Street Parking Spaces	0	-18	0	-21
Constructibility	N/A	↑ No change to road footprint	↓ Expanded road footprint; stormwater, utility impacts	↓ Expanded road footprint; stormwater, utility impacts
Tree Impacts	N/A	0	4	4
ROW Impacts	N/A	0	3,330 SF (1 Property - UVM)	3,035 SF (1 Property - UVM)
Environmental / Cultural Impacts	N/A	↑ No Impacts	↓ Potential historic impacts	↓ Potential historic impacts
Permitting Needs	N/A	↑ Burlington Public Works Commission/ City Council	↓ Section 106 (Historic), Stormwater	↓ Section 106 (Historic), Stormwater

## 4) Discussion of a Possible Pilot Project

David summarized the advantages of the pilot project: improved safety, low-cost, quick implementation, and temporary. The disadvantages are increased vehicle delays and potential initial driver confusion. He then presented a potential pilot project implementation schedule, which is shown below.

### Pilot Project Implementation Schedule

Initial presentation to DPW Commission	March 20, 2013 (complete)
Second presentation to DPW Commission	April 17, 2013
DPW Commission vote	April 17 <sup>th</sup> or May 15 <sup>th</sup>
Implementation pilot improvements	July
Monitor improvements	September/October
Determine effectiveness of improvements	October
Install permanent pavement markings	October/November

Richard Hillyard of Ward 1 asked about a public meeting. It was decided to make a presentation about the pilot project (if agreed to proceed) to the Ward 1 NPA at their June 12<sup>th</sup> meeting. Eleni will also contact Gail Champnois at UVM to discuss how best to alert returning students to the new traffic pattern. DPW could use variable message boards to warn motorists.

**The Steering Committee voted unanimously to move forward with the Pearl Street/Prospect Street/Colchester Avenue Pilot Project by making a specific request to the DPW Commission.**

Eleni will notify the Steering Committee about the DPW Commission's review schedule.

### **5) Next Steps**

If the pilot project proceeds, the committee will meet in May or June prior to implementation and then reconvene in the fall when pilot project preliminary data is available. If the pilot project is implemented, the Scoping Study will be put on hold:

- Pilot Project Outreach (*June 12<sup>th</sup> Ward 1 NPA meeting*)
- Traffic Counts (*May*)
- Pilot Project Implementation and Monitoring (*July-October*)
- Alternatives Assessment Outreach (*November-December*) *Public Meeting, DPW Commission*
- Selection of Preferred Alternative (*December/January 2014*) *Burlington TEUC and City Council*
- Initial Scoping Study (*February/March 2014*)
- Final Scoping Study (*April 2014*)

The meeting was adjourned at 7:35PM.



**Pearl Street/Prospect Street/Colchester Avenue Intersection Scoping Study  
Steering Committee Meeting #4**

Wednesday, January 22, 2014, 6:00 PM  
CCRPC, 110 West Canal St., #202, Winooski, VT

**AGENDA**

1. Welcome & Introductions
2. Review Intersection Pilot Implementation Assessment Report
  - Review pilot program timeline and modifications
  - Review pilot program performance metrics
  - Review public input
3. Discuss Steering Committee's Recommendation on Pilot Improvements
4. Review of Final Scoping Alternatives & Evaluation Matrix
5. Next Steps
  - Public Works Commission meeting
  - Finalize Intersection Scoping Study



**Pearl Street/Prospect Street/Colchester Avenue Intersection Scoping Study  
Steering Committee Meeting #3 Notes**

DATE: Wednesday, January 22, 2014  
TIME: 6:00PM  
PLACE: CCRPC, 110 W. Canal St., #202, Winooski, VT

**MEMBERS PRESENT:**

Meredith Birkett, CCTA  
Sharon Bushor, City Councilor  
Richard Hillyard, Ward 1 NPA (for Peg Boyle Single)  
David Keelty, FAHC  
Nicole Losch, Burlington DPW  
Linda Seavey, UVM Planning  
Sandy Thibault, CATMA

Charlene Wallace, Local Motion

**OTHERS PRESENT:**

Eleni Churchill, CCRPC  
Guillermo Gomez, Burlington DPW  
Lani Ravin (7:50PM), UVM Planning  
Diane Meyerhoff, Third Sector Associates  
David Saladino, RSG

**1) Welcome & Introductions**

The meeting began at 6:05 PM with Eleni Churchill of CCRPC welcoming everyone.

**2) Review Intersection Pilot Implementation Assessment Report**

***2a) Review pilot program timeline and modifications***

David Saladino of RSG provided a brief review of the project timeline:

- **June 2013:** Public presentation to Ward 1 NPA
- **June 2013:** Public Works Commission approves pilot concept
- **July-August 2013:** Pre-launch public outreach
- **August 1, 2013:** Pilot striping and signage improvements implemented
- **August 9, 2013:** Pilot signal timing and phasing changes implemented
- **September:** Pearl Street paving project (interim pilot striping replaced on 10/3/13)
- **October 16, 2013:** Turning movement count and queue observations conducted to measure pilot performance

***2b) Review pilot program performance metrics***

Dave reviewed the performance metrics with the pilot improvements in place and summarized them as follows:

- Peak hour traffic volume is slightly down (October 2012 vs. October 2013)
- There is more delay at the intersection and substantial increase in overall vehicle queues during AM and PM peak hours of travel
- The north-south movement on Prospect Street has been clarified for drivers
- There is better accommodation for pedestrians/bicycles than previously provided through the addition of an advanced pedestrian phase for east-west traveling pedestrians and the addition of "No Turn on Red" LED signals for

northbound and eastbound vehicles.

### **2c) Review public input**

Dave provided the results of the online public survey, conducted from August 26 to November 30, 2013. He summarized the results of the 102 completed surveys:

- Approximately half of respondents travelled through the intersection as a pedestrian.
- 79 percent of respondents felt that the changes were positive and 11 percent felt the changes created more problems than benefits.
- 68 percent of those driving on Prospect Street felt safer with the new configuration while 37 percent of drivers on Pearl/Colchester felt safer.
- 56 percent of pedestrians and 67 percent of bicyclists felt safer.
- 66 percent of drivers, 63 percent of pedestrians, and 44 percent of bicyclists preferred the new intersection configuration.
- 17 percent of respondents noted an increase in delay at eastbound Pearl Street. 32 percent acknowledged an increase delay in general, but said they were willing to wait because the changes made the intersection safer overall. 13 percent indicated that they are taking alternative routes.

### **3) Discuss Steering Committee's Recommendation on Pilot Improvements**

Dave offered a series of improvement recommendations for the new configuration:

- Relocate the "No Left Turn" sign (on mast arm) closer to the center of eastbound approach lane.
- Consider relocating the existing CCTA transit stop on Pearl Street to the east side of the intersection on Colchester Avenue to minimize the effects of stopped buses on intersection operations.
- Add through arrows on center lane at northbound Prospect approach.
- Enhance signal coordination with Mansfield Avenue and FAHC signals.

The second item, relocating the CCTA transit stop is not viewed positively by CCTA and UVM. It was tabled. This item will be addressed in the long term options/alternatives.

The committee discussed the recommendations and their observations of the pilot project. The committee asked for signal clarity for northbound traffic on Prospect Street. The green arrow doesn't make it clear that there is a through green allowed; the additional striping of through arrows on the central northbound approach lane should help to clarify this. There was discussion about vehicles passing buses on the left that are loading passengers and the inherent safety issues of doing so. The committee asked that the "no left turn" sign eastbound on Pearl Street be relocated for better visibility. For vehicles turning left onto South Prospect from Colchester Avenue, there is a feeling of lack of safety and room to make the turn with the reconfigured South Prospect Street. Eleni suggested this may be due to lack of illumination. There is concern that pedestrians are crossing on the diagonal and there may be need for simple fencing to prevent this dangerous movement.

After discussion, the Steering Committee unanimously agreed to recommend to the

Public Works Commission that the pilot improvements be made permanent because the benefits outweigh the disadvantages. The increased delay is clearly offset by the increase in safety. Nicole and Eleni will attend an upcoming DPW Commission meeting to relay the committee's recommendation and ask that the Commission approve removal of on-street parking (18 spaces) adjacent to the intersection and restriction of eastbound left turns permanently.

#### **4) Review of Final Scoping Alternatives & Evaluation Matrix**

Dave explained that the original scoping study had three alternatives. Dave, Eleni, Nicole, and Guillermo have been reviewing the roundabout options (mini-roundabout, single-lane roundabout, two-lane roundabout) prior to the Steering Committee meeting. The mini-roundabout is not viable due to the current traffic volumes and the two-lane roundabout has significant land impacts. The final option, the single-lane roundabout is very close to capacity when analyzed with current traffic volumes and it has impacts to adjacent properties including the historic Green. The committee wasn't enthusiastic about this option, especially considering the steady pedestrian traffic in the area. Eleni will distribute a video about roundabout operations, especially for pedestrians. The City is interested in the gateway aspect of this intersection – aesthetics are important here.

Dave briefly reviewed the two remaining long-term alternatives that reconfigure the intersection to better align the north and south approaches. Sharon suggested we consider a hybrid approach that maintains the pilot improvements and adds additional tweaks without completely realigning the intersection. The committee will discuss the long-term solutions at the next meeting.

#### **5) Next Steps**

- Public Works Commission meeting (February 19<sup>th</sup>)
- Steering Committee Meeting (March)
- Finalize Intersection Scoping Study

Sharon asked if we could schedule a visit to the Ward 1 NPA to explain the committee's recommendation to make the pilot project permanent and engage the public in discussion about the long-term decision.

The meeting was adjourned at 8:00PM.



**Pearl Street/Prospect Street/Colchester Avenue Intersection Scoping Study  
Steering Committee Meeting #5**

Thursday, March 20, 2014, 6:00 PM  
CCRPC, 110 West Canal St., #202, Winooski, VT

**AGENDA**

1. Welcome & Introductions
2. Update on February 19<sup>th</sup> Public Works Commission Meeting
3. Update on March 6<sup>th</sup> City Council Transportation, Energy, and Utilities Committee (TEUC) Presentation
4. Review Final Alternatives
5. Selection of an Alternative for the City's Consideration
6. Next Steps
  - TEUC to Review Preferred Alternative
  - City Council to Endorse Preferred Alternative
  - Finalize Scoping Report

**Pearl Street/Prospect Street/Colchester Avenue Intersection Scoping Study  
Steering Committee Meeting #5 Notes**

DATE: Thursday, March 20, 2014  
TIME: 6:00PM  
PLACE: CCRPC, 110 W. Canal St., #202, Winooski, VT

**MEMBERS PRESENT:**

Meredith Birkett, CCTA  
Sharon Bushor, City Councilor  
Richard Hillyard, Ward 1 NPA  
Nicole Losch, Burlington DPW  
Linda Seavey, UVM Planning

**OTHERS PRESENT:**

Eleni Churchill, CCRPC  
Guillermo Gomez, Burlington DPW  
Lani Ravin, UVM Planning  
Diane Meyerhoff, Third Sector Associates  
David Saladino, RSG  
Sai Sarepalli, CCRPC  
Wayne Senville, Ward 1 Resident

**1) Welcome & Introductions**

The meeting began at 6:05 PM with Eleni Churchill of CCRPC welcoming everyone.

**2) Update on February 19, 2014 Public Works Commission Meeting**

Guillermo Gomez of Burlington Public Works reported that the Commission expressed positive comments about the pilot project and voted unanimously to make the improvements (including the removal of 18 parking spaces on Pearl and South Prospect Streets and the restriction of eastbound left turns from the Pearl Street approach) permanent.

**3) Update on March 6, 2014 City Council Transportation, Energy, and Utilities Committee (TEUC) Presentation**

The TEUC had positive comments regarding the scoping study.

**4) Review Final Alternatives**

Dave Saladino of RSG reviewed the three alternatives.

***Alternative 1: North-South Approach Alignment of Prospect Street***

After discussion, the committee agreed to NOT replace the parking on South Prospect Street and on the north side of Pearl Street (parking remains as it is now). Lani raised the question of whether a bike box should be considered on the Pearl Street approach as well. There are concerns that including bike boxes will require an educational effort to alert motorists to bike box etiquette. Perhaps CATMA can help with this effort through outreach to their contacts at UVM and FAHC. Eleni and Nicole will investigate the use of bike boxes in areas where there is a through bike movement rather than left turning bikes. The committee expressed interest in seeing how this alternative performed with split phasing on the north- and south approaches to provide an additional measure or clarity and safety for drivers.



### **Alternative 2: North-South Alignment with Turn Lanes**

This alternative provides a series of dedicated turn lanes to move vehicles most efficiently through the intersection; however, bike and pedestrian movements are more difficult. The committee requested more analysis of this alternative with the elimination of the Pearl Street left-turn lane and split phasing on the north- and south approaches.

### **Alternative 3: Roundabout/Mini-Roundabout**

This alternative was not deemed to be favorable by the Committee because it involves both single and double lane approaches, creates potentially unsafe pedestrian conditions upstream of the right-turn slip lanes, encroaches onto the UVM Green, potentially impacts two mature trees at the northeast and southwest corners of the intersection, and results in long queues on the Colchester Avenue approach.

Dave compared the traffic performance of each alternative:

	2022 AM Peak Hour															
	No Build				Alt 1				Alt 2				Alt 3			
	Short Term Pilot				N-S Alignment				Align + Turn Lanes				Roundabout			
	LOS	Delay (s)	Avg Q. (ft)	v/c	LOS	Delay (s)	Avg Q. (ft)	v/c	LOS	Delay (s)	Avg Q. (ft)	v/c	LOS	Delay (s)	Avg Q. (ft)	v/c
Overall	D	37	-	0.79	C	23	-	0.72	C	21	-	0.69	C	24	-	-
EB, Pearl St	D	37	245	0.87	C	30	201	0.75	C	23	178	0.72	A	8	33	0.48
WB, Colchester Ave	C	26	88	0.80	B	16	135	0.70	B	17	153	0.68	D	40	418	0.98
NB, S Prospect St	D	37	98	0.71	C	30	121	0.85	C	21	59	0.59	A	8	70	0.24
SB, N Prospect St	E	65	207	0.89	C	26	124	0.75	C	27	120	0.79	C	24	13	0.72

	2022 PM Peak Hour															
	No Build				Alt 1				Alt 2				Alt 3			
	Short Term Pilot				N-S Alignment				Align + Turn Lanes				Roundabout			
	LOS	Delay (s)	Avg Q. (ft)	v/c	LOS	Delay (s)	Avg Q. (ft)	v/c	LOS	Delay (s)	Avg Q. (ft)	v/c	LOS	Delay (s)	Avg Q. (ft)	v/c
Overall	F	121	-	0.89	E	72	-	0.90	D	42	-	0.75	F	95	-	-
EB, Pearl St	F	245	1365	0.97	F	162	966	0.93	E	69	467	0.84	A	6	49	0.64
WB, Colchester Ave	C	24	88	0.84	B	18	139	0.77	B	17	135	0.73	F	248	1358	1.12
NB, S Prospect St	F	89	415	0.93	D	46	266	1.05	D	44	213	0.74	A	10	20	0.52
SB, N Prospect St	F	127	206	0.99	C	27	82	0.42	D	39	98	0.52	A	10	39	0.33

An alternative evaluation matrix was also developed for these alternatives:

Criteria:	No Build Pilot Improvements Included	Alternative 1 N-S Alignment	Alternative 2 Alignment + Turn Lanes	Alternative 3 Roundabout
Conceptual Cost Estimate	\$0	\$985,000	\$995,000	\$730,000
Satisfies Purpose and Need				
1) Addresses Congestion	121 Seconds Delay V/C = 0.89	↑ Average delays reduced 72 seconds average delay	↑↑ Average delays & v/c reduced 42 seconds average delay	↓ Significant delays on WB approach 1.12 v/c; 1,400' queue
2a) Improves Safety for Pedestrians	--	↑ Advanced ped phases; shortened crossing distances	↔ Advanced ped phases; Longer crossing distances	↓ Difficulty crossing downstream of right- turn slip lanes. No signalized control.
2b) Improves Safety for Bicyclists	--	↑↑ New bike lane and bike box on South Prospect Street. Potential for bike lanes on Pearl Street.	↔ New bike lane and bike box on South Prospect. Precludes future bike lanes on Pearl without	↓ Physical constraints preclude separated bicycle facility/lane through intersection
2c) Improves Safety for Vehicles	--	↑ North-South approach alignment	↑↑ North-South approach alignment; left turn lanes	↑ Roundabout reduces speeds on all approaches; minimizes crash severity
3a) Improves Pedestrian Accommodations & Safety	160' Total Ped Crossing Distance	↑ 154' Total Ped Crossing Distance	↓ 167' Total Ped Crossing Distance	↔ 180' Total Ped Crossing Distance; Only need to cross one direction at a time.
3b) Improves Bicyclist Accommodations & Safety	Bikeable shoulders on Colchester & Pearl	↑ New bike lane and bike box on South Prospect Street. Potential for bike lanes on Pearl Street.	↔ New bike lane and bike box on South Prospect. Precludes future bike lanes on Pearl without widening street.	↓ Difficult to accommodate separate bicycle facility due to building constraints
4) Addresses Intersection Offset	No	↑	↑	↑

Criteria:	No Build Pilot Improvements Included	Alternative 1 N-S Alignment	Alternative 2 Alignment + Turn Lanes	Alternative 3 Roundabout
Net Change in On-Street Parking Spaces	--	+10	-3	+11
ROW Impacts	--	3,330 SF (1 Property - UVM)	3,035 SF (1 Property - UVM)	1,500 SF (2 Properties - UVM)
Tree Impacts	--	4	4	6
Environmental / Cultural Impacts		Slight potential for historic impacts	Slight potential for historic impacts	Significant potential for historic impacts
Permitting Needs	--	Potential for Section 106, 4(f); Likely Act 250, Stormwater	Potential for Section 106, 4(f); Likely Act 250, Stormwater	Likely Section 106, 4(f), Act 250, Stormwater

## 5) Selection of an Alternative

The committee agreed that additional information is needed to make a final recommendation. Specifically, the committee asked that Alternative 1 be considered with split phasing of the traffic signal for the north- and south approaches and that Alternative 2 be considered with the elimination of the Pearl Street left-turn lane and split phasing of the signal for the north- and south approaches.

Some committee members wondered if there are remaining low cost items that can be done to improve the intersection; Eleni suggested that the low cost items were completed as part of the pilot project.

Dave, Nicole, Guillermo, and Eleni will complete the additional analysis and update the evaluation matrix for committee review. If the committee can make a decision via email, it will do so. If not, a tentative meeting is scheduled for Thursday, April 3<sup>rd</sup> at 5:00PM at the CCRPC.

Richard Hillyard is interested in starting the scoping study for Colchester/Riverside/Barrett. The CCRPC is finalizing its work program next week and is expected to include this study for FY15 (begins July 1, 2014).

#### **6) Next Steps**

- Committee Selects an Alternative to Recommend to the City Council (April 2014)
- Ward 1 NPA Presentation (Likely May 14, 2014)
- TEUC to Review Preferred Alternative (May 2014)
- City Council to Endorse Preferred Alternative (May/June 2014)
- Finalize Scoping Study (June 2014)

The meeting was adjourned at 8:00PM.

**The next TENTATIVE Meeting is scheduled for Thursday, April 3, 2014 at 5:00PM  
(Note new time) at the CCRPC.**

**Pearl Street/Prospect Street/Colchester Avenue Intersection Scoping Study**  
**Steering Committee Meeting #6 Notes**

DATE: Thursday, April 3, 2014  
TIME: 5:00PM  
PLACE: CCRPC, 110 W. Canal St., #202, Winooski, VT

**MEMBERS PRESENT:**

Sharon Bushor, City Councilor  
Richard Hillyard, Ward 1 NPA  
Nicole Losch, Burlington DPW  
Linda Seavey, UVM Planning  
Charlene Wallace, Local Motion

**OTHERS PRESENT:**

Eleni Churchill, CCRPC  
Guillermo Gomez, Burlington DPW  
Lani Ravin, UVM Planning  
Diane Meyerhoff, Third Sector Associates  
David Saladino, RSG (by phone)  
Sai Sarepalli, CCRPC  
Wayne Senville, Ward 1 Resident

**1) Welcome & Introductions**

The meeting began at 5:05PM with Eleni Churchill of CCRPC welcoming everyone.

**2) Review Final Alternatives Based on March 20<sup>th</sup> Meeting Input**

Dave Saladino of RSG described the alternatives in detail:

***Alternative 1: North-South Approach Alignment of Prospect Street***

**Alternative 1A:** Concurrent phasing for Prospect Street approaches

**Alternative 1B:** Same as 1A with **Split phasing** for Prospect Street approaches

Both 1A and 1B include the following:

- Two northbound approach lanes on South Prospect (Through/Left and Right)
- No parking on Pearl Street and South Prospect in front of UHC
- Prohibited left turns from Pearl Street to North Prospect
- Wide shoulders on Pearl Street approach
- Bike box pavement markings for through lanes on Pearl Street
- An opportunity to extend bicycle lanes along South Prospect Street

***Alternative 2: North-South Alignment with Turn Lanes***

**Alternative 2A:** Concurrent phasing for Prospect Street approaches

**Alternative 2B:** Same as 2A with **Split phasing** for Prospect Street approaches

Both 2A and 2B include the following:

- Three northbound approach lanes (Left-Through-Right)
- No parking on Pearl Street and South Prospect in front of UHC
- Prohibited left turns from Pearl Street to North Prospect

- Wide shoulders on Pearl Street approach
- Bike box pavement markings for through lanes on Pearl Street
- An opportunity to extend bicycle lanes along South Prospect Street

### **Alternative 3: Roundabout/Mini-Roundabout**

This alternative stays the same.

### **Alternatives Evaluation: Traffic Performance**

Dave explained that the shaded areas in the table below under “2022 PM Peak Hour” represent roadway segments that are operating at Level of Service (LOS) F. Split phasing of the traffic signal, in all cases increases the delays significantly and in some cases, doubles the delay time due to its inherent inefficiencies. The committee needs to decide if the delay and queues (especially on Pearl Street) is tolerable due to the increase in the level of safety.

Dave suggested that if the committee cannot decide on the split phasing, it is possible to study it further during final design. The City could also test split phasing with the option to return to concurrent phasing if the congestion is too great.

Some committee members expressed an interest in an enhanced “no build” scenario. Unfortunately, in the current configuration, there is no opportunity to improve bicycle access. The pilot project provided as much improvement as possible within the existing curb-to-curb distance. However, some minor improvements, like lighting, can be done soon without major construction.

### **Alternatives Evaluation: Traffic Performance**

	2022 AM Peak Hour																							
	No Build				Alt 1A				Alt 1B				Alt 2A				Alt 2B				Alt 3			
	(w/ short-term enhancements)				N-S Alignment				Alt 1A + Split Phasing				Align + Turn Lanes				Alt 2A + Split Phasing				Roundabout			
	LOS	Delay (s)	Avg Q. (ft)	v/c	LOS	Delay (s)	Avg Q. (ft)	v/c	LOS	Delay (s)	Avg Q. (ft)	v/c	LOS	Delay (s)	Avg Q. (ft)	v/c	LOS	Delay (s)	Avg Q. (ft)	v/c	LOS	Delay (s)	Avg Q. (ft)	v/c
<b>Overall</b>	D	38	-	0.79	B	20	-	0.72	D	39	-	0.83	C	20	-	0.69	D	39	-	0.78	C	24	-	-
EB, Pearl St	D	46	281	0.87	B	20	160	0.73	D	47	284	0.89	C	22	173	0.73	D	54	314	0.86	A	8	33	0.48
WB, Colchester Ave	C	26	296	0.80	B	15	204	0.69	C	27	328	0.83	B	16	249	0.68	C	26	167	0.78	D	40	418	0.98
NB, S Prospect St	D	39	107	0.71	C	27	113	0.86	D	39	156	0.86	C	23	65	0.60	C	33	85	0.67	A	8	70	0.24
SB, N Prospect St	D	55	182	0.89	C	25	119	0.75	E	57	192	0.90	C	26	126	0.79	E	55	194	0.86	C	24	13	0.72

	2022 PM Peak Hour																							
	No Build				Alt 1A				Alt 1B				Alt 2A				Alt 2B				Alt 3			
	(w/ short-term enhancements)				N-S Alignment				Alt 1A + Split Phasing				Align + Turn Lanes				Alt 2A + Split Phasing				Roundabout			
	LOS	Delay (s)	Avg Q. (ft)	v/c	LOS	Delay (s)	Avg Q. (ft)	v/c	LOS	Delay (s)	Avg Q. (ft)	v/c	LOS	Delay (s)	Avg Q. (ft)	v/c	LOS	Delay (s)	Avg Q. (ft)	v/c	LOS	Delay (s)	Avg Q. (ft)	v/c
<b>Overall</b>	F	119	-	0.89	D	48	-	0.89	F	101	-	0.97	D	40	-	0.75	E	75	-	0.89	F	95	-	-
EB, Pearl St	F	226	1270	0.97	E	77	503	0.90	F	173	1014	1.02	E	69	471	0.84	F	122	752	0.95	A	6	49	0.64
WB, Colchester Ave	C	24	272	0.84	B	19	231	0.78	C	25	299	0.87	B	16	210	0.72	C	24	143	0.83	F	248	1358	1.12
NB, S Prospect St	F	101	474	0.93	E	55	307	1.03	F	109	560	1.08	D	37	177	0.74	F	84	410	0.96	A	10	20	0.52
SB, N Prospect St	F	146	223	0.99	C	31	88	0.41	F	112	183	1.17	C	33	88	0.53	F	81	153	1.05	A	10	39	0.33

## Alternatives Evaluation: Summary

Criteria:	No Build Pilot Improvements Accepted	Alternative 1 N-S Alignment	Alternative 2 Alignment + Turn Lane	Alternative 3 Roundabout
<b>Conceptual Cost Estimate</b>	<b>\$0</b>	<b>\$935,000</b>	<b>\$995,000</b>	<b>\$730,000</b>
<b>Satisfies Purpose and Need</b>				
1) Addresses Congestion	119 Seconds Delay V/C = 0.89	↑ Average delays reduced 48 seconds average delay	↑↑ Average delays & v/c reduced 40 seconds average delay	↓ Significant delays on WB approach 1.12 v/c; 1,400' queue
2a) Improves Safety for Pedestrians	--	↑ Advanced ped phases; shortened crossing distances	↔ Advanced ped phases; Longer crossing distances	↓ Difficulty crossing downstream of right- turn slip lanes. No signalized control.
2b) Improves Safety for Bicyclists	--	↑ New bike lane and bike box on South Prospect Street. Potential for bike lanes on Pearl Street.	↑ New bike lane and bike box on South Prospect Street. Potential for bike lanes on Pearl Street.	↓ Physical constraints preclude separated bicycle facility/lane through intersection
2c) Improves Safety for Vehicles	--	↑ North-South approach alignment	↑↑ North-South approach alignment; Northbound left turn lanes	↑ Roundabout reduces speeds on all approaches; minimizes crash severity
3a) Improves Pedestrian Accommodations & Safety	160' Total Ped Crossing Distance	↑ 154' Total Ped Crossing Distance	↓ 167' Total Ped Crossing Distance	↔ 180' Total Ped Crossing Distance; Only need to cross one direction at a time.
3b) Improves Bicyclist Accommodations & Safety	Bikeable shoulders on Colchester & Pearl	↑ New bike lane and bike box on South Prospect Street. Potential for bike lanes on Pearl Street.	↑ New bike lane and bike box on South Prospect Street. Potential for bike lanes on Pearl Street.	↓ Difficult to accommodate separate bicycle facility due to building constraints
4) Addresses Intersection Offset	No	↑	↑	↑
Criteria:	No Build Pilot Improvements Accepted	Alternative 1 N-S Alignment	Alternative 2 Alignment + Turn Lane	Alternative 3 Roundabout
<b>Net Change in On-Street Parking Spaces</b>	<b>-18</b>	<b>0</b>	<b>-3</b>	<b>0</b>
<b>ROW Impacts</b>	--	1,360 SF (1 Property - UVM)	3,035 SF (1 Property - UVM)	1,500 SF (2 Properties - UVM)
<b>Tree Impacts</b>	--	0	0	2
<b>Environmental / Cultural Impacts</b>		Slight potential for historic impacts	Slight potential for historic impacts	Significant potential for historic impacts
<b>Permitting Needs</b>	--	Potential for Section 106, 4(f); Likely Act 250, Stormwater	Potential for Section 106, 4(f); Likely Act 250, Stormwater	Likely Section 106, 4(f), Act 250, Stormwater



### **3) Selection of an Alternative for the City's Consideration**

The committee discussed split phasing and the balance between safety and delays. For some, Alternative 2 felt safer than Alternative 1; however, the longer pedestrian crossing distance for Alternative 2 was a cause for concern. It was noted that other intersections are contributing to the delays and must be studied more thoroughly.

**After discussion, the committee recommended Alternative 1 with the issue of split phasing versus concurrent phasing to be determined later.**

### **4) Next Steps**

- Ward 1 NPA Presentation (May 14, 2014, FAHC)
- TEUC to Review Preferred Alternative (May/June 2014)
- City Council to Endorse Preferred Alternative (June 2014)
- Finalize Scoping Study (June 2014)

The meeting was adjourned at 6:15PM.

## **MEDIA ALERT**

### **Public Meeting: Prospect St./Pearl St./Colchester Ave. Intersection Study**

**WHAT:** Public Meeting - Prospect St./Pearl St./Colchester Ave. Intersection

**WHEN:** Tuesday, November 27, 7:00-9:00PM

**WHERE:** McClure Conference Room, Fletcher Allen Health Care  
Colchester Avenue, Burlington  
(Free car and bike parking – follow signs)

***Come to the first public meeting for the Prospect St/Pearl St/Colchester Ave Intersection Study and let your voice be heard on transportation issues, such as traffic congestion, safety, pedestrian and bicycle travel at this intersection.***

The Prospect St/Pearl St/Colchester Ave Intersection Study builds on strategies proposed in the Colchester Avenue Corridor Study (2011) that developed a comprehensive plan for improving multimodal travel in this important corridor. One of the strategies proposed for this intersection is to consider realigning the South and North Prospect approaches to improve safety and accessibility for all users.

The public meeting will feature a presentation of transportation issues (traffic congestion, safety, pedestrian and bicycle travel) and possible alternatives to be analyzed. Information from this public meeting will be used to help better define the alternatives and plan for more efficient and safer travel at this intersection for all users.

More information is available at:

<http://www.ccrpcvt.org/scoping/prospect-pearl-colchester-ave-scoping-study/>

Refreshments will be served. Free car parking is available at the garage across from the Fletcher Allen staff entrance. Bike parking is also available and the location is accessible by sidewalk and bus ([www.cctaride.org](http://www.cctaride.org)). This meeting is sponsored by the Chittenden County Regional Planning Commission (CCRPC) in partnership with the City of Burlington, University of Vermont, Fletcher Allen Health Care, Campus Area Transportation Management Association, CCTA, and Local Motion.

All are welcome and encouraged to attend. All meetings are fully accessible. In accordance with provisions of the Americans with Disabilities Act (ADA) of 1990, the CCRPC will ensure public meeting sites are accessible to people with disabilities. Requests for free interpretive or translation services, assistive devices, or other accommodations should be made to Andrea Grayson, CCRPC Title VI Coordinator, at 802-846-4490 ext. 21 or (711 for Telecommunications Relay Services), or [agrayson@ccrpcvt.org](mailto:agrayson@ccrpcvt.org), no later than November 20<sup>th</sup>.

For additional information, contact Eleni Churchill ([echurchill@ccrpcvt.org](mailto:echurchill@ccrpcvt.org)), 802.846.4490 x11.



**Prospect St./Pearl St./Colchester Ave. Intersection Study**  
**Tuesday, November 27, 7:00-8:30 PM**  
**McClure Conference Room, Fletcher Allen Health Care**  
**Colchester Avenue, Burlington**

*Purpose: To inform the public about the start of the Intersection Study and hear comments, feedback, and questions about the study.*

**AGENDA**

- |                    |   |
|--------------------|---|
| <b>7:00 – 7:05</b> | <b>1) Welcome</b><br>(Nicole Losch, Burlington DPW and Sharon Bushor, City Council) |
| <b>7:05 – 7:15</b> | <b>2) Project Background &amp; Overview</b> (Eleni Churchill)                       |
| <b>7:15 – 7:45</b> | <b>3) Presentation of Existing Conditions</b> (David Saladino, RSG)                 |
| <b>7:45 – 8:25</b> | <b>4) Discussion</b> (All)  |
| <b>8:25 – 8:30</b> | <b>5) Thank You and Next Steps</b> (Eleni Churchill)                                |

<http://www.ccrpcvt.org/scoping/prospect-pearl-colchester-ave-scoping-study/>

**Pearl Street/Prospect Street/Colchester Avenue Intersection Scoping Study  
Public Meeting #1 Notes**

DATE: Tuesday, November 27, 2012  
TIME: 7:00 PM  
PLACE: McClure Conference Room, FAHC, Burlington

**1) Welcome**

Nicole Losch of the Burlington DPW and Sharon Bushor, Ward 1 City Councilor welcomed participants. The City has been working with the community to improve Colchester Avenue for a long time. This intersection has been identified often, including in the recent Colchester Avenue Corridor Study, as one needing safety and operational improvements.

**2. Project Background & Overview**

Eleni Churchill of the CCRPC explained that the consultant team will be preparing a scoping study for the intersection. A scoping study includes the following activities: public & stakeholder outreach; existing and future conditions assessment; development of a Purpose & Need statement; alternatives assessment; selection of preferred alternative; and a final scoping report.

Eleni described the scoping study process as it relates to the overall life of a project, from conception to implementation. There are four major steps to overall project development: project identification; project definition/scoping; identification of funding sources; and preliminary, final design and construction. Scoping includes defining the project, studying the alternatives, and selection of the preferred alternative. The preferred alternative will be chosen by the Burlington City Council.

Eleni explained the goals for the meeting are to gather public input for the study, especially concerning: specific issues and concerns with the intersection; potential opportunities to improve the intersection's safety and operations; potential alternatives for consideration; and the draft Purpose & Need statement.

**3) Presentation of Existing Conditions**

Dave Saladino of Resource Systems Group (RSG) reviewed the elements of the existing intersection conditions in turn: a) intersection layout and boundaries; b) pedestrian accommodations; c) transit service; d) traffic volumes, congestion, and Level of Service; and e) safety and crash data.

***a) Intersection Layout & Boundaries***

Dave Saladino showed current and historical maps of the intersection.

***b) Pedestrian Accommodations***

There are sidewalks and crosswalks on all four approaches to the intersection. The overall alignment of the intersection creates safety issues for drivers, bicycles and pedestrians.

***c) Transit Service***

CCTA runs buses along Pearl Street/Colchester Avenue and Prospect Street, including the College Street Shuttle.

#### **d) Traffic Volumes, Congestion, and Level of Service**

Dave explained that intersections are assigned “level of service” (LOS) grade values, from “A” to “F,” depending on the amount of delay experienced at the intersection during peak hours. The overall intersection LOS in 2012 is a “C” in the AM peak hour and “D” in the PM peak hour with certain approaches experiencing lower LOS and long vehicle queues. In 2022, the overall intersection LOS in the AM peak hour remains a “C” while the PM peak hour LOS moves to an “E.” Traffic traveling east to west is the heaviest in the morning peak. In the evening, the heaviest traffic moves west to east, however there is also heavy flow northbound from South Prospect Street.

#### **e) Safety & Crash Data**

VTrans crash data from 2007-2011 shows that the highest numbers of crashes occur between 3:00 PM and 5:00 PM. The primary crashes are rear end collisions, sideswipes, and broadside collisions. Five of the crashes involved bicycles and/or pedestrians. This intersection is the 25<sup>th</sup> highest crash location in the state; therefore it may be eligible for federal safety funds to help pay for improvements.

#### **4) Study Draft Purpose & Need**

The Draft Study Purpose is to identify a preferred alternative that improves mobility and safety for all users through the Prospect Street/Pearl Street/Colchester Avenue intersection. The preliminary needs have been identified as:

- Peak period traffic congestion
- High crash location
- Bike/Pedestrian travel
- Offset north-south approach alignment

#### **5) Intersection Alignment Alternatives**

Dave offered two alternatives that were identified in the Colchester Avenue Corridor Study: re-aligning the South Prospect Street approach and a roundabout. Dave noted that the preliminary assessment of both single- and double-lane roundabouts was conducted and it was determined that footprint impacts would likely make this alternative very difficult. Dave is expecting that an additional alternative will be identified at tonight’s meeting.

Steve Goodkind of the Burlington DPW asked if the roundabout could be centered east of the existing intersection to allow for a larger diameter. Sharon Bushor asked how roundabouts accommodate safe pedestrian travel. Dave responded that triangular splitter islands create a refuge for pedestrians. Linda Seavey of UVM suggested that the heavy bicycle traffic at this intersection would make a roundabout dangerous for riders.

#### **6) Public Comments, and Questions**

*(These comments were transcribed from easel pad sheets)*

Comment: Has the new pavement alignment affected the functioning of this intersection – especially the addition of the left turn lanes? Traffic evaluation results take into account the new configuration of Colchester Ave.

C: How does your model take into account bicycle/pedestrian traffic? Dave: the model allows for different pedestrian signal phasing. The tradeoff is decreased time for other users to allow pedestrians longer crossing times.

C: Roundabouts are not amenable for pedestrians, stop lights would be required. There should be dedicated bike lanes. Buses should have pull-offs. There should be a dedicated left-turn lane from Pearl Street west to east and S. Prospect north.

C: Police accident reports show that Prospect Street North and South should be two separate roads. You should readjust traffic control devices to split phasing. Left-hand turn crashes are predominant. The road should be realigned.

C: Since realignment is a long-term fix, could there be signal timing changes in the short-term?

C: North Prospect Street is too narrow to allow parking or a left-turn lane.

C: There should be an “all red” phase of the traffic signals for safe pedestrian crossing. There should be no right on red. There is insufficient time to cross now. A roundabout is too difficult for pedestrians to cross.

C: In the PM peak hour, signals at Mansfield and FAHC entrance should blink yellow to move cars through.

C: The least amount of traffic comes from N. Prospect heading south. Could an interim solution be to make N. Prospect one-way to Brooks Avenue? Parking should not be allowed on N. Prospect.

C: Traffic on Upper North Street during AM peak is a problem. There is no sidewalk and children can't cross the street.

C: For pedestrians to cross two lanes is difficult – the wait is long and safety is an issue. Dewey Hall employees have complained about the long waits. Could there be a “no left turn” to assist pedestrians?

C: Thank you for addressing this intersection. How do we move forward with realignment? Where does the funding come from? Eleni: Estimated costs (but not funding) will be determined through this process. It could be about five years to construction of the project. Federal safety funds might be available for this intersection.

C: There needs to be left turn lanes on South Prospect going north.

C: Drivers try to pass buses when they are stopped at shelters. This is very dangerous; buses should have pull-offs. Meredith Birkett, CCTA: We generally do not support pull-offs because buses have a difficult time merging back into traffic. If a pull-off is needed, a location after the intersection would be preferred.

C: Can there be some signalization changes or other ideas that could improve the flow for all users as well as safety? Can there be a pilot project to try some new ideas?

C: There needs to be sufficient time for pedestrians to cross.

C: There needs to be sufficient lighting to illuminate pedestrian crossings.

C: Left-turn lanes should be restricted traveling south.

C: Pedestrians often block cars that have green lights from making left-hand turns.

C: From downtown on Pearl Street, buses block cars and create a pedestrian conflict with turning cars. There should be No Turn on Red. The intersection should be reconfigured.

C: No Turn on Red should only be when activated by a pedestrian, not in force 24 hours a day.



C: Could there be sidewalks on the east side of the Green? That might help pedestrian crossings.

C: Are there smaller, short-term changes that could be implemented, like bump-outs for pedestrians that might help?

C: Could the pedestrian crossing from the Green to UHC on Prospect be pulled back and made straight, rather than at angle? This would be a shorter distance for pedestrians and give drivers a better sight distance.

C: Install bollards to control pedestrian crossings.

C: Could there be a diagonal crossing for pedestrians?

C: You should consider a bike/ pedestrians underpass.

### **7) Thank You and Next Steps**

- Local Concerns Public Meeting (*Tonight*)
- Alternatives Assessment (*December - January*)
- Evaluation Matrix (*February*) *Comparison of alternatives based on impacts, costs, benefits*
- Alternatives Assessment Outreach (*March - April*) *Public Meeting, DPW Commission*
- Selection of Preferred Alternative (*May/June*) *Burlington TEUC City Council*
- Initial Scoping Study (*June/July*)
- Final Scoping Study (*July/August*)

The meeting was adjourned at 8:20 PM.

### **Project Website**

<http://www.ccrpcvt.org/transportationscoping/prospect-pearl-colchester-ave-scoping-study/>

### **David Saladino – RSG Project Manager**

David.Saladino@rsginc.com

### **Eleni Churchill – CCRPC Project Manager**

echurchill@ccrpcvt.org

**Participants**

<b>Last</b>	<b>First</b>	<b>Affiliation</b>
Birkett	Meredith	SC Member, CCTA
Bushor	Sharon	SC Member, City Council
Butani	Susan	
Conger	Matt	
Crandall	Vincent	
Derenthal	Tom	W1 NPA
Drake	Jack	
Goldstein	Amanda	
Gomez	Guillermo	Burlington DPW
Goodkind	Steve	Burlington DPW
Harvey	Chester	UVM Transp. Res. Ctr.
Herendeen	Robert	
Hillyard	Richard	W1 NPA
Hopkins	Jean	
Hurd	Andy	
Keelty	Dave	SC Member, FAHC
Koehler	Vincent	
Langan	Jim	
Lawrence	Isaac	
Losch	Nicole	SC Member, Burlington DPW
MacDonald	Don	
Porter	Mark	
Ravin	Lani	UVM Planning
Seavey	Linda	SC Member, UVM Campus Planning
Senville	Wayne	
Single	Richard	
Terry	Philip	
Thibault	Sandy	SC Member, CATMA
Wallace	Charlene	SC Member, Local Motion
Warden	Kevin	

CCRPC Staff: Eleni Churchill (Project Manager), Sai Sarepalli

Consultant Team: David Saladino and Fang Guan (RSG), Diane Meyerhoff (TSA)

## Prospect Street Scoping Study – Public Comments Received

**November 28, 2012**

Robert Herendeen, 83 Nottingham Lane (from printed comment sheet)

I said this at the meeting: quality of experience for pedestrians is unhurried total freedom from being defacto targets for cars. This is accomplished by:

- 1) No Right on Red
- 2) All Red while peds are moving

I suggest these 2 condition or constraints on some (at least) of your modeling.

\*\*\*\*\*

On 11/27/2012 12:29 PM, Lori Roberts wrote:

Hello Lani,

I work in John Dewey Hall at the miserable intersection of these four streets. Having just come off a serious knee injury, the safety of this intersection brings me personally closer to the dangers of crossing any of the streets. Cars come past Fletcher Allen / MCHV and seem to FLY through the intersection down Pearl Street - more often than not, running the red light. Anyone who has traveled through this intersection knows its design needs to be updated before a fatality occurs.

A co-worker had a rather simple, possibly cost-free way to adjust the intersection for safety, which would be to install timers or sensors on the lights and only permit one direction of traffic to proceed at a time. Five Corners in Essex Junction uses this type of timing for another dangerous five-way intersection. Without ripping apart all of the existing roads, this might be an idea worth serious consideration and analysis.

I am unable to be at the meeting tonight, but I sure wish there was a representative from our building (Psychology Department) who could be on the committee, due to our position in the intersection. All students coming to and from our building are at risk, as well as anyone traveling through the area.

Thanks for your consideration, and looking forward to updates, Lori Roberts

\*\*\*\*\*

On 11/26/2012 2:32 PM, Diana St. Louis wrote:

Lani -

For one thing, I am very happy to see this intersection being addressed. I've seen many accidents and near accidents.

The time for folks to walk is also quite short and dozens of students don't rush and dozens of cars try to jump the gun so to speak.

The 2 major concerns that I have is that cars turn right on red while the pedestrian has the walk signal with some hits and near misses;

\*\*\*and folks going north and south on prospect have no idea who should go first and some folks put on their turn blinker when they are really going straight (as straight as that intersection allows), but because it is curved, they see it as a left.

Hope this makes sense - very bad intersection

\*\*\*\*\*

On 11/26/2012 11:36 AM, Gail Kirby wrote:

Hi! I have been working in Dewey Hall for over 13 years and have seen many accidents involving cars, cars and pedestrians, etc. This intersection is terrible for both pedestrians and for those trying to drive through this intersection.

I would like to suggest that each of the four streets have their own left hand signal, similar to the Dorset Street and Kennedy Drive intersection. It works well, allows everyone a chance to cross the intersection safely and then allows pedestrians their own light to cross at all corners at the same time.

My feeling is that someone is going to get seriously injured or killed if this traffic pattern continues. Also, I would wish that those turning right from Prospect st onto Colchester Ave remember that pedestrians have a crossing light and those turning right do not have the right of way. Even the buses disobey this rule!!

Please feel free to contact me with any questions you might have concerning this email. Thanks. Gail

\*\*\*\*\*

----- Original Message -----

**Subject:** Dewey intersection meeting  
**Date:** Mon, 26 Nov 2012 11:05:53 -0500  
**From:** Annie Murray-Close

Dear Lani Ravin,

I wanted to send an email because although I cannot attend the meeting regarding the Dewey intersections on Tuesday evening, I work in Dewey hall and I would like to pass along my feedback regarding the intersection. I am so happy to hear that this is on people's radar, because I believe that this intersection is very dangerous and that it is likely that someone will be seriously injured (or worse) without changes.

These are the biggest issues that I have observed:

- 1) People run the red lights. This is a problem everywhere, of course, but for some reason it seems particularly bad at this intersection. I have almost been hit by a car several times crossing as a pedestrian when I have the right of way because the light has just turned red. This seems to be an issue of enforcement -- I never see police here, and I have never seen someone ticketed.
- 2) Traffic heading north that wants to take a right on Colchester tends to not yield for pedestrians. Even when the walk signal is on, and the traffic light is red, traffic takes right turns. I have almost been hit here several times as well. It seems that this should be a no turn on red intersection.
- 3) The traffic light for the North/South seems too short. This tends to back up fairly far, which I think adds to the drive impulse to run red lights.
- 4) During rush hour, people go into the intersection even when there is not space and prevent traffic moving in the other direction from passing. Not sure that there is anything to do on this one.

Thank you again for your work on this.

Regards, Annie Murray-Close

\*\*\*\*\*

On 11/27/2012 2:17 PM, Michael George wrote:  
Hi Lani,

I work in John Dewey Hall. To be more precise, I've worked there for the last 32 years. So I know the intersection quite well. There are two areas of concern that probably amount to 95% of the problems with this intersection:

1. Left turn from North Prospect St. onto Colchester Ave.

The problem here is with inexperienced (or poorly trained) drivers. Invariably you have a timid driver that is scared to get out into the intersection. Consequently, all the cars stack up behind him or her. Everyone in those cars get real frustrated and start blowing their horns. I've even seen drivers so scared that they don't even turn once the light changes to red. They just sit there for the next green light.

2. Running a red light when going northbound or southbound on Prospect St.

I've seen it in both directions. People constantly run the red light. A lot of them are not even close. I have to cross N. Prospect St. using the sidewalk on the north side of Pearl St./Colchester Ave. to get to and from work. I have learned never to trust the light. I always double-check to make sure all the cars traveling on Prospect St. are stopped before crossing, since so many of them run this red light. The most dangerous ones are those traveling north on So. Prospect. They tend to shoot out behind a car making a left onto Pearl St. as the light is changing, so you have very little chance of picking them up visually before they are right on top of you.

Michael George

\*\*\*\*\*

November 27, 2012

Lani,

I can't attend tonight's meeting on the Prospect St/Pearl St/Colchester Ave intersection, but I've always wondered why they don't stagger the green lights for northbound and southbound on Prospect. This would eliminate the confusion caused by left turns from Prospect (especially when northbound and southbound cars want to turn left at the same time, which can bring the entire intersection to a standstill).

Sincerely,

Peter Callas

\*\*\*\*\*

### Prospect St/ Pearl St/ Colchester Ave Intersection Study

Comments from employees at CATMA's member institutions:

Hello,

I heard a study was going to take place regarding the Pearl Street/Prospect/Colchester Ave intersection. I drive through this intersection every weekday on my way home and every day I am afraid of an accident. The problem stems from drivers going North and South on Prospect who want to turn on Pearl Street/Colchester Ave. Prospect is not a straightforward street, it curves a bit crossing over Pearl/Colchester, which makes those who need to yield to oncoming traffic not sure how far into the intersection they should sit while waiting for traffic to clear so they can turn, which is not only unsafe, but clogs the intersection with cars not sure how to turn. I'm not sure what the solution to this intersection is, which has been nicknamed "the worst intersection in Burlington." Making it not possible to turn onto Pearl/Colchester from Prospect because of the curvature of the street? I'm not sure, but I am thankful this issue is being looked into. Hopefully something can be done to fix this horrible area before someone has to die.

I hope my concerns are taken into consideration.

Thank you,

###

Hello CATMA and Task Force Committee:

I work in Dewey Hall and am a bicycle commuter from the Malletts Bay area of Colchester. I have watched many near-accidents occur at this intersection, and quite honestly, fear that a fatality here is just a matter of time. One of our temp employees came up with a brilliant idea, in my opinion. If the entire intersection cannot be redesigned due to the design and placement of the buildings, then a light system ought be installed similar to the light system at Five Corners in Essex Junction. This way, only one direction of traffic proceeds at a time. This would allow left turning traffic to have a pre-set amount of time to turn without oncoming traffic, while the straight-through traffic proceeds. Each direction of traffic could be given either a set amount of time per light change, or be regulated by a sensor, so a particular direction will not prompt the light change unless cars are present. Cars turning left from each of the four directions encounter difficulties and potential accidents, especially when a large number of students need to cross this intersection frequently. After all four directions have had a green light for straight or turning traffic, a mandatory "WALK" light and prohibitive turning light would allow pedestrians to safely cross.

Thanks for considering safe alternatives to this terribly dangerous intersection.

###

One suggestion would be to strictly enforce the Walk/Don't Walk indicators as this intersection and all other regulated intersections throughout the greater Burlington area. I see too many people walking, running and biking through regulated intersections when the relevant signal tells them not to. Enforcement shouldn't apply only to drivers, pedestrians and bikers MUST be held accountable as well.

One other thought, having nearly gotten hit at the North Prospect crosswalk on Monday, all four corners should be "No Right On Red" which should be strictly enforced and the walk signals should ONLY be lit for pedestrians when every single lane of traffic has a red light. The guy who nearly hit me Monday was driving a medical courier vehicle and was not paying attention. I was in the crosswalk legally, saw him coming and stopped and waited to see if he was going to allow me to cross. He finally did stop, IN the crosswalk, and he was belligerent about it which was most distressing. I don't know what it's going to take to get that intersection fixed but it has to happen soon.

Comments above forwarded by Sandy Thibault, CATMA

[www.catmavt.org](http://www.catmavt.org) | 802-656-RIDE

11/28/12





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**Steven Goodkind, P.E.**  
DIRECTOR OF PUBLIC WORKS  
CITY ENGINEER

## **M E M O R A N D U M**

To: Amy Bovee, Clerks Office  
From: Steve Goodkind, Director  
Date: March 13, 2013  
Re: Public Works Commission Agenda

Please find information below regarding the next Commission Meeting.

Date: **March 20, 2013**  
Time: 6:30 – 9:00 p.m.  
Place: 645 Pine Street – Main Conference Room

## **A G E N D A**

### **ITEM**

- 1 Agenda
- 2 5 Min Public Forum
- 3 5 Min Birch Ct. Parking Request
  - 3.10 Communication, J. Fleming
  - 3.20 Discussion
  - 3.30 Decision
- 4 5 Min Handy Ct. Parking Request
  - 4.10 Communication, J. Fleming
  - 4.20 Discussion
  - 4.30 Decision
- 5 10 Min 122 Maple St. Parking Request
  - 5.10 Communication, J. Fleming
  - 5.20 Discussion
  - 5.30 Decision

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- 6    10 Min    Central Ave East Side Parking Removal
  - 6.10    Communication, J. Fleming
  - 6.20    Discussion
  - 6.30    Decision
  
- 7    15 Min    Main St. Addition of Metered Parking
  - 7.10    Communication, J. Fleming
  - 7.20    Discussion
  - 7.30    Decision
  
- 8    20 Min    Pearl St/Prospect St/Colchester Ave Intersection Study
  - 8.10    Presentation, N. Losch & G. Gomez
  - 8.20    Discussion
  
- 9    15 Min    Discussion of Scheduling a Meeting With The Planning Commission Regarding Resident Parking
  - 9.10    Oral Communication, S. Goodkind
  - 9.20    Discussion
  
- 10   10 Min    Waterfront Project North
  - 10.10   Communication, S. Goodkind
  - 10.20   Discussion
  
- 11   30 Min    395 Manhattan Dr. – Vacant Building Appeal
  - 11.10   Commission, W. Ward & Appellant
  - 11.20   Discussion
  
- 12   10 Min    Ordinance Change Proposal: Appeal Hearing
  - 12.10   Communication, Commissioner Lavery
  - 12.20   Discussion
  - 12.30   Decision
  
- 13            Minutes of 2/20/13
  
- 14            Director's Report – Customer Service & Renewal of Inspection Agreement with State of Vermont
  
- 15            Commissioner Communications
  
- 16            Deliberative Session to Discuss Appeals
  
- 17            Adjournment & Next Meeting Date – 4/17/2013

**BURLINGTON PUBLIC WORKS COMMISSION MONTHLY MEETING**

**645 Pine Street**

**MINUTES – March 20, 2013**

**(DVD of meeting on file at DPW)**

**COMMISSIONERS PRESENT:** Bob Alberry, Tiki Archambeau, Matt Conger (Secretary), Asa Hopkins, Nathan Lavery (Chair) and Solveig Overby     **ABSENT:** Mark Porter (Vice Chair)

Commissioner Lavery called the meeting to order at 6:40 p.m.

**ITEM 1 – AGENDA:** No changes or amendments.

**ITEM 2 – PUBLIC FORUM**

Steve Norman – On behalf of Walk/Bike Council, announced public supper with Keynote address by UVM's Richard Watts: "Better Walking in Burlington" scheduled for March 28, 2013. Mr. Norman encouraged the DPW staff and Commission to continue working towards adding French verbiage to simple English language signage, such as parking garage hours of operation and, on behalf of Alliance Française of the Lake Champlain Region.

**ITEM 3 – BIRCH COURT PARKING REQUEST** (Joel Fleming, Public Works Engineer)

(Refer to Commission packet)

**Commissioner Alberry moved** to accept staff's recommendation, that the Commission *not* adopt the proposed amendment to eliminate the existing parking restriction on the south side of Birch Court (i.e., there will be no change in parking on Birch Court). Commissioner Conger seconded. Unanimous.

**ITEM 4 – HANDY COURT PARKING REQUEST** (Joel Fleming, Public Works Engineer)

(Refer to Commission packet)

**Commissioner Lavery proposed** that action on this proposal be postponed so that Mr. Fleming may take another count while UVM and Champlain College are in session.

**ITEM 5 – 122 MAPLE STREET PARKING REQUEST** (Joel Fleming, Public Works Engineer)

(Refer to Commission packet)

**Commissioner Lavery proposed** postponing action on the parking request until the building (34-unit condominium complex going up on St. Paul Street) is completed. Mr. Fleming will return to the Commission at a future meeting. Mr. Fleming will review the site distance at the entrance to the 122 Maple Street driveway and notify the Commission of his findings, via e-mail if prior to the next meeting, or at the April meeting.

**ITEM 6 – CENTRAL AVENUE EAST SIDE PARKING REMOVAL** (Joel Fleming, Public Works Engineer)

(Refer to Commission packet)

**Commissioner Alberry moved** to accept staff's recommendation to adopt a parking restriction on the east side of Central Avenue, south of Harrison Avenue. Commissioner Conger seconded. Unanimous.

#### **ITEM 7 – MAIN STREET ADDITION OF METERED PARKING**

(Joel Fleming, Public Works Engineer)

(Refer to Commission packet)

**Commissioner Archambeau moved** to adopt staff's recommendation to adopt the parking layout included in the packet: the addition of three (3) metered spaces on the north side and three (3) metered spaces on the south side. Commissioner Overby seconded. Unanimous.

#### **ITEM 8 – PEARL ST/PROSPECT STREET/COLCHESTER AVENUE INTERSECTION STUDY**

(Nicole Losch, Transportation Planner, and Guillermo Gomez, Public Works Engineer)

(Refer to "Pearl/Prospect/Colchester Avenue Intersection Scoping Study: Overview of Potential Short-Term Pilot Improvements" handed out at meeting.)

The Chittenden County Regional Planning Commission has initiated the intersection Scoping Study in partnership with the City of Burlington. A Steering Committee with representation from the City Council, Ward 1 NPA, UVM, FAHC, CCTA, CATMA and LocalMotion have met three times; held a public meeting last November to solicit input; and have summarized the basic conceptualization of the pilot improvement plan in the handout. Last evening's Steering Committee was cancelled; once the next meeting takes place, Ms. Losch and Mr. Gomez will return to a future Commission meeting with more information. Ms. Losch will also get back to the Commission with more information on: 1) whether creating two lanes on Prospect Street, southbound (one to turn and one to go straight) was considered and if so, why it is not in the proposed Pilot Study; and 2) whether the proposed changes would decrease accidents at the intersection.

#### **ITEM 9 – DISCUSSION OF SCHEDULING A MEETING WITH THE PLANNING**

**COMMISSION REGARDING RESIDENT PARKING** (Steven Goodkind, Public Works Director)  
(Oral communication)

Commissioner Lavery will contact the Commissioners via e-mail to coordinate with the Planning Commission, which meets twice/month.

#### **ITEM 10 – WATERFRONT PARK NORTH** (Steven Goodkind, Public Works Director)

(Refer to Commission packet for summary. NOTE: The artist rendition of the concept, attached to the summary, is incorrect. The correct version was shown and described at the meeting.)

The Community and Economic Development Office (CEDO), with assistance from DPW and Parks and Recreation, are finalizing designs for accessibility to the Moran development area with a *Complete Streets* model. Director Goodkind explained the current concept. This project is supported by a combination of approximately twenty (20) funding sources.

#### **ITEM 11 – 395 MANHATTAN DRIVE – VACANT BUILDING APPEAL**

(William Ward, Director of Code Enforcement)

(Refer to Commission packet, and handouts distributed at the meeting by Director Ward)

This Item had been postponed from the previous Commission meeting to accommodate the property owner. The Code Enforcement Office is requesting that the Public Works Commission uphold the determination that the building has been and remains vacant, and the full fee of \$500 is due for the January-March, 2013 quarter. The property owner, Chris Khamnei, was not present, nor was anyone present who identified themselves as his representative. Eugene Bergman, Esq., from the City Attorneys' Office, was present to serve as counsel to the Commission.



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**Steven Goodkind, P.E.**  
DIRECTOR OF PUBLIC WORKS  
CITY ENGINEER

## **M E M O R A N D U M**

To: Amy Bovee, Clerks Office  
From: Steve Goodkind, Director  
Date: May 8, 2013  
Re: Public Works Commission Agenda

Please find information below regarding the next Commission Meeting.

Date: **May 15, 2013**  
Time: 6:30 – 9:00 p.m.  
Place: 645 Pine Street – Main Conference Room

## **A G E N D A**

### **ITEM**

- 1 Agenda
- 2 5 Min Public Forum
- 3 20 Min Resident Parking Program Draft
  - 3.10 Communication, J. King & G. Bergman
  - 3.20 Discussion
  - 3.30 Decision
- 4 5 Min St. Louis St Parking Removal Request
  - 4.10 Communication, J. Fleming
  - 4.20 Discussion
  - 4.30 Decision
- 5 10 Min Hoover St Resident Parking Request
  - 5.10 Communication, J. Fleming
  - 5.20 Discussion
  - 5.30 Decision

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- 6    10 Min    Maple St – Champlain College Bus Stop
  - 6.10    Communication, J. Fleming
  - 6.20    Discussion
  - 6.30    Decision
  
- 7    30 Min    Electrical Appeal – 233 ST. Paul St
  - 7.10    Appeal, S. Warren, S. Goodkind & Appellant
  - 7.20    Discussion
  - 7.30    Decision
  
- 8    20 Min    Champlain College Parking Request
  - 8.10    Presentation, J. Caulo & B. Isler
  - 8.20    Discussion
  
- 9    20 Min    Colchester Ave & Pearl St Pilot Program
  - 9.10    Presentation, N. Losch, G. Gomez, D. Saladino & E. Churchill
  - 9.20    Discussion
  - 9.30    Decision
  
- 10   15 Min    Car Share VT
  - 10.10   Presentation, B Van Dyke
  - 10.20   Discussion
  
- 11   15 Min    Request For Services Presentation
  - 11.10   Presentation, S. Goodkind
  - 11.20   Discussion
  
- 12   20 Min    FY 13 & 14 Budget Update
  - 12.10   Presentation, S. Goodkind
  - 12.20   Discussion
  
- 13            Minutes of 2/20/13 & 4/17/13
  
- 14            Director's Report
  
- 15            Commissioner Communications
  
- 16            Deliberative Session to Discuss Appeals
  
- 17            Adjournment & Next Meeting Date – 6/19/2013



**BURLINGTON DEPARTMENT OF PUBLIC WORKS COMMISSION**  
**MONTHLY MEETING – MINUTES, May 15, 2013**  
**645 Pine Street**  
**(DVD of meeting on file at DPW)**

**COMMISSIONERS PRESENT:** Bob Alberry, Tiki Archambeau, Matt Conger (Secretary), Nathan Lavery (Chair), Solveig Overby, Mark Porter (Vice Chair)  
**ABSENT:** Asa Hopkins

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

**ITEM 1 – AGENDA:** Commissioner Alberry moved to amend the Agenda, adding Item 2.5 – Parking Rate Proposal. Commissioner Conger seconded.

**ITEM 2 – PUBLIC FORUM:** No one came forward.

**ITEM 2.5 – PARKING RATE PROPOSAL**

(See 2 handouts: 1) Letter from Paul Sisson, Interim CAO for the City, to Commissioner Lavery dated May 13, 2013; and 2) Memorandum from Patrick Buteau, DPW Assistant Director, to the Public Works Commission dated May 14, 2013)

Mr. Sisson and Mr. Buteau briefly explained their proposals concerning an increase in parking violation fines (Mr. Sisson), and parking meter- and parking garage-rates (Mr. Buteau). There was no discussion; the Commission will schedule a special meeting to address it and make any changes. The warning will be posted with the 30-day notice as required, with proposed changes to the rates going into effect on July 1<sup>st</sup>.

**ITEM 3 – RESIDENT PARKING PROGRAM DRAFT**

(John King, Burlington Police Dept. Parking Enforcement, and Gene Bergman, Esq., City Atty's office)  
(Refer to Commission packet)

Mr. King and Atty. Bergman presented the revised draft proposal (a version of which was presented at last month's meeting), which would allow them to administer the Resident Parking Program. The Commission will not make a decision at this meeting but will give permission for Mr. King and Atty. Bergman to proceed.

Mr. King will seek public input and then, the Commission will decide whether to adopt the proposed revisions to the Resident Parking Program.

Commissioner Alberry requested that Mr. King simplify the proposal by creating a document listing the present rules and proposed changes, which will be helpful when soliciting public input.

**Commissioner Porter moved** to amend the draft rules to require notarization of the application for resident parking. Commissioner Alberry seconded. Unanimous approval.

Mr. King requested that this item be included on the agenda for the special meeting (for proposed parking fine/rate increases).

**Commissioner Conger moved** put a cap on the number of resident passes allowed per dwelling, to a maximum of four (4); Commissioner Alberry seconded. Four (4) Commissioners voted in favor; two (2) were opposed (Commissioners Archambeau and Overby). The motion passed.

Commissioner Overby will send suggestions/proposed clarifying statements to Mr. King and Atty. Bergman.

One Commissioner will attend each public forum at which this issue is addressed.

Mr. King and Atty. Bergman have been asked to e-mail the final draft to the Commission.

#### **ITEM 4 – ST. LOUIS STREET PARKING REMOVAL REQUEST**

(Joel Fleming, Public Works Engineer)

(Refer to Commission packet)

**Commissioner Alberry moved** to accept staff's recommendation to remove parking for thirty feet (30') from the corner to clear the site lines for pedestrians and vehicles using Archibald and St. Louis Streets. Commissioner Conger seconded. Discussion: Mr. Fleming will work with Nicole Losch, DPW Transportation Planner to come up with additional traffic calming options at this intersection (e.g., STOP sign). Unanimous approval.

#### **ITEM 5 – HOOVER ST RESIDENT PARKING REQUEST** (Joel Fleming, Public Works Engineer)

(Refer to Commission packet)

**Commissioner Archambeau moved** to accept staff's recommendation to deny the request seeking to establish resident-only parking restriction on Hoover Street (given that there isn't a demonstrated need for relief to the demands placed on the parking inventory and there are concerns further restrictions could further complicate parking in the greater neighborhood). Commissioner Alberry seconded. Unanimous approval.

#### **ITEM 6 – MAPLE STREET - CHAMPLAIN COLLEGE BUS STOP**

(Joel Fleming, Public Works Engineer)

(Refer to Commission packet)

Carl Riden, Champlain College Office of Campus Safety, answered the commissioners' questions.

**Commissioner Conger moved** to deny staff's recommendation to adopt a bus stop on Maple Street starting at the corner of the Hauke-Bader parking lot extending west fifty feet (50'). Commissioner Archambeau seconded denying staff's recommendation. Unanimous agreement.

#### **ITEM 7 – ELECTRICAL APPEAL – 233 ST. PAUL STREET**

(Steven Goodkind, DPW Director and Shelley Warren, DPW Electrical Inspector)

(Refer to handout from Ms. Warren distributed to the commissioners at the meeting and submitted into evidence)

Atty. Bergman had stated earlier in the meeting that he had not been notified of this Agenda item and could not stay for this appeal hearing; however, he would assist with any deliberations.

The Appellant, Chris Khamnei, was not present, nor was a stated representative. Mr. Khamnei will hereafter be referred to in these Minutes as "the Appellant."

#### Director Goodkind:

- A Certified letter was sent to the Appellant. No specific item was presented indicating that Appellant received the Certified letter.
- This appeal concerns the decision of the Electrical Inspector in the upgrade of the electrical service at 233 St. Paul Street, owned by the Appellant. Per State and City practice, and a

requirement of the State, when a service is upgraded, the electrical panel associated with that panel also needs to be brought up to code.

- Inspector Warren identified at a recent inspection, a panel that was not up to code (located in a closet) and told the owner and electrician that said-panel, and any such panels in the other units of the building, would need to be brought up to code. It is this directive that the Appellant is appealing.
- Director Goodkind, as required by Ordinance, held a hearing at which the Appellant failed to show. Director Goodkind had handed the Appellant notice of the hearing, in front of witnesses. The hearing was still held and the evidence was reviewed. Director Goodkind's ruling was to uphold Inspector Warren's requirement. The Appellant is appealing Inspector Warren's requirement.

#### Electrical Inspector Shelley Warren:

- Inspector Warren named the documents later copied/handed out to the commissioners:
  - Permit to do the service upgrade;
  - Highlights of Inspector Warren's notes from the inspection:
    - Work was done about 9 months before the final inspection;
    - Electrician noted that most of the panels in the units of 233 St. Paul Street were in closets. Electrician stated to Inspector Warren that he had verbalized this to the Appellant but claims that the Appellant wouldn't allow the electrician to do the work (bringing panels up to code).
    - Inspector Warren and the electrician met at 233 St. Paul Street at the first apartment that had this situation. Inspector Warren told the Appellant what needed to be done and suggested that they not continue with the rest of the inspections because of the intrusion on the tenants, considering an additional inspection would need to take place after the work has been done correctly. The Appellant became enraged and verbally abusive. Inspector Warren made three (3) suggestions to the Appellant:
      - Talk with her supervisor about the Appellant's dissatisfaction with her job performance;
      - Appeal the decision;
      - Move on and discuss something else.
    - Inspector Warren and the Appellant proceeded by meeting as scheduled at the next property (also owned by the Appellant). Inspector Warren followed through with an e-mail to the Appellant which included her inspection notes and reminding him that he had the option of appealing her decision. Inspector Warren copied Assistant Director Norman Baldwin and Director Goodkind.
    - Inspector Warren talked with the electrician to confirm that he (the electrician) was clear to the Appellant of the need for the work needed at 233 St. Paul Street; the electrician was sure about it. The electrician texted Inspector Warren the following day stating that two of his staff were present when he informed the Appellant of the additional work needed.
    - Inspector Warren also included in her documents an e-mail from the State Chief Electrical Inspector stating that generally they would consider this the appropriate time to remove the panels from the closets and put them in a more code-compliant location.

The commissioners were given the opportunity to ask questions. Inspector Warren provided answers and clarification, including the following:

- The need for the upgrade to the service at 233 St. Paul Street originated from the Appellant's addition of an apartment unit to the ten- (10) unit property, requiring an upgrade. It was subsequently revealed that the Appellant had not applied for permits for the additional unit he created (either from the Planning & Zoning Office or the Department of Public Works).
- Inspector Warren's work is governed by the Vermont Electrical Safety Rules and Chapter 12 of the City Ordinances.
- Inspector Warren believes that the electrician accepted working with the Appellant fully intending to follow proper procedure.
- The panels at 233 St. Paul Street are in Inspector Warren's opinion, from the 1950's but since the grounding of those panels was found to be improperly configured for the new equipment going in.
- Joel Snyder of JFS Electric was the electrician hired by the Appellant. Inspector Warren believes that the electrician was unaware of the panels' location in closets until he began to do the grounding.
- Inspector Warren typically recommends easy and affordable options to customers for relocation of panels; however, in this case, was not given the opportunity to do so by the Appellant.
- There had been no rough inspection; there was a service inspection so that the electrician could get the meters back in for the apartment occupants (outside work). Power is shut down while the electrician does the work of installing the meters and further work is done at another time for a multiple-unit building of this size.
- There was no time frame given by Inspector Warren to get the panel boxes out of the closets, which is typical when it wasn't an immediate safety issue.

Commissioner Lavery made a final confirmation that the Appellant was not present (he was not) and closed the hearing. The deliberative session to discuss this appeal will be held later in the evening.

#### **ITEM 8 – CHAMPLAIN COLLEGE PARKING REQUEST**

(Beth Isler, RSG, Transportation Consultant for Champlain College, and John Caulo, Associate Vice-President, Champlain College)  
(Presentation)

Ms. Isler and Mr. Caulo are present to give an update on this proposed Pilot Test item (which was also on last month's agenda). Action items taken:

- Initiated a windshield survey of current parkers in the spaces observed and enforced by Champlain College in order to identify who, why, length of time, frequency, etc. Postcards placed on windshields invited parkers to participate in an on-line survey. (Ms. Isler explained the findings of the 17 respondents, out of 138 postcards deployed.)
- Reached out to Ward 6 Neighborhood Planning Assembly/NPA (Ms. Isler and Mr. Caulo attended the May 9<sup>th</sup> meeting which was unusually sparsely attended - 6 attendees. Ms. Isler and Mr. Caulo feel that the forum of the NPA meeting was well advertised and an adequate forum for public outreach. The attendees felt they needed more time to consider what was presented.
- Defined parameters of the Pilot Test more specifically.

Councilor Sharon Bushor was in attendance and spoke briefly on this topic.

Commissioner Lavery asked that Ms. Isler and Mr. Caulo provide a short synopsis of what the proposal is and ask recipients what their concerns are and how they would be impacted. He asked that DPW coordinate with Ms. Isler and Mr. Caulo on this outreach, since the parking spaces are in the City right-of-

way. The resulting communication would be distributed to all residents living in the areas highlighted on the map projected during this presentation.

Commissioner Lavery requested that Ms. Isler and Mr. Caulo be present at next month's meeting to present the feedback from the June NPA meeting and from the communication distributed to residents.

#### **ITEM 9 – COLCHESTER AVENUE & PEARL STREET PILOT PROGRAM**

(Presentation, Nicole Losch, DPW Transportation Planner, Guillermo Gomez, DPW Engineer, D. Saladino and Eleni Churchill, part of the Regional Planning Commission)

(See handouts from April meeting concerning this Item)

Ms. Losch and Ms. Churchill spoke on the scoping study for the Pearl St/Prospect St/Colchester Ave intersection. The goal is "...to identify a preferred alternative improvement that enhances mobility and safety for all modes..." Of the three long-term solution alternatives: #1: Short-term "Pilot" improvements; #2: North-south approach alignment; and #3: Alignment and turn lanes. The committee is focusing on Alternative #1.

Commissioner Lavery confirmed that the committee members are present to approve the Pilot and decide on the parking changes. Under Director Goodkind's authority, the Pilot Project can begin and continue for 30 days. However, because this proposed project will extend over the 30-day period, impacting the parking, the committee members are asking the Commission's approval (requires a vote since parking changes are involved) to remove the parking in the identified areas for the Pilot Project. The start date is some time this June or July; the project would be monitored through October, evaluated, and wrapped up by November. Parking removal would occur during that time. Preserving parking on Prospect Street would extend waiting times for traffic.

**Commissioner Conger moved** to temporarily remove eighteen (18) parking spaces as indicated so that the Pilot Project may proceed. Commissioner Alberry seconded. Unanimous approval.

#### **ITEM 10 – CarShare Vermont** (Becca Van Dyke, Operations Manager and Jess Oske, Board Member) (Presentation)

Ms. Van Dyke is requesting a stand-alone parking ordinance, replacing current language in Section 27 of the Municipal Code, in order to streamline the process used when making street parking space requests for car-sharing through DPW. The current process is extremely cumbersome and differs depending on location. She is also asking that the language expand on what CarShare is.

Regarding the proposed language, the City Engineer does not have the authority to delegate a space; each request for a new public parking space would need to be brought before the Commission. Commissioner Lavery offered to confirm this. He also suggested contacting the City Attorney to confirm that the current language could be adopted.

Commissioner Lavery asked Ms. Van Dyke and Ms. Oske if it was acceptable for the length of the process be approximately three (3) months, with an additional 30-day notice period. Ms. Oske agreed that three months would be an acceptable turn-around time.

Director Goodkind recommended that CarShare Vermont initially contact DPW Customer Service when making a request for a specific space. A Request for Service (RFS) would be created and forwarded to the appropriate staff person (most likely Mr. Fleming in Engineering) for further investigation.

Commissioner Lavery encouraged Ms. Van Dyke to then follow up with DPW or one of the commissioners to keep them in the loop and/or ask for the status of her request if she had not heard back from staff in a reasonable time.



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

## **M E M O R A N D U M**

To: Amy Bovee, Clerks Office  
From: Chapin Spencer, Director  
Date: February 12, 2014  
Re: Public Works Commission Agenda

Please find information below regarding the next Commission Meeting.

Date: **February 19, 2014**  
Time: 6:30 – 9:00 p.m.  
Place: 645 Pine Street – Main Conference Room

## **A G E N D A**

### **ITEM**

- 1 Agenda
- 2 5 Min Public Forum
- 3 5 Min Consent Agenda
  - 3.10 Pearl St Crosswalk Installation
  - 3.20 Pearl St at George St Parking Request
  - 3.30 Handicap Parking Space at 523 North St
  - 3.40 South Union St & Shelburne St Parking Request
  - 3.50 Howard St, St. Paul St & S. Winooski Ave Crossing Guard Request
  - 3.60 FY2015 Street Reconstruction Program- Approval of Street List
- 4 15 Min Sidewalk Capital Funding
  - 4.10 Oral Communication, E. Demers & N. Losch
  - 4.20 Discussion

### Non-Discrimination

The City of Burlington will not tolerate unlawful harassment or discrimination on the basis of political or religious affiliation, race, color, national origin, place of birth, ancestry, age, sex, sexual orientation, gender identity, marital status, veteran status, disability, HIV positive status or genetic information. The City is also committed to providing proper access to services, facilities, and employment opportunities. For accessibility information or alternative formats, please contact Human Resources Department at 865-7145.

- 5    15 Min    Parking Meter Ordinance Changes
  - 5.10    Communication, P. Buteau
  - 5.20    Discussion
  - 5.30    Decision
  
- 6    20 Min    Colchester/Pearl/Prospect Intersection Pilot Project - Results & Recommendations
  - 6.10    Communication, N. Losch
  - 6.20    Discussion
  - 6.30    Decision
  
- 7    40 Min    Commission Goals List
  - 7.10    Oral Communication, C. Spencer
  - 7.20    Discussion
  
- 8               Minutes of 12-18-13 & 1-15-14
  
- 9               Director's Report
  
- 10              Commissioner Communications
  
- 11              Adjournment & Next Meeting Date – 3-19-14



**BURLINGTON DEPARTMENT OF PUBLIC WORKS COMMISSION**  
**MINUTES, February 19, 2014**  
**645 Pine Street**  
**(DVD of meeting on file at DPW)**

**COMMISSIONERS PRESENT:** Tiki Archambeau, Asa Hopkins, Nathan Lavery (Chair), Jeffrey Padgett and Mark Porter (Vice Chair) **ABSENT:** Bob Alberry & Solveig Overby

Commissioner Lavery called the meeting to order at 6:33 p.m.

**ITEM 1 – AGENDA**

**Commissioner Porter requested** that item 3.30 be withdrawn from the Consent Agenda (Handicap Parking Space at 523 North St) & **Commissioner Padgett requested** that item 3.10 also be withdrawn from the Consent Agenda (Pearl St Crosswalk Installation). **Unanimous.**

**ITEM 2 – PUBLIC FORUM:**

Sharon Bushor – City Councilor, Ward 1, voice support regarding the Pearl/Prospect Pilot Project – Feels change was successful, overall was cost effective and safer. Signage needed to be looked at and adjusted and would like the project to continue.

Kelley Devine – Executive Director of the Burlington Business Association voiced support for the parking meter ordinance changes and multiple forms of payment.

**ITEM 3 – CONSENT AGENDA**

- 3.20 Pearl St at George St Parking Request
- 3.40 South Union St & Shelburne St Parking Request
- 3.50 Howard St, St. Paul St & S. Winooski Ave Crossing Guard Parking Request
- 3.60 FY2015 Street Reconstruction Program – Approval of Street List

(Refer to Commission Packet)

The commissioners were unanimous in adopting the Consent Agenda as amended.

**ITEM 3.1 - PEARL ST CROSSWALK INSTALLATION**

(Communication, J. Fleming & N. Baldwin Engineer)

(Refer to Commission packet)

Staff was asked to put a cross walk at Peal St and North Williams St. because it is a long stretch of road with no crosswalk at this location. In order to provide adequate sightline parking would also need to be removed.

Commissioner Padgett noted that this would be a midblock crossing, which are challenging to design appropriately. Having cars stop in the middle of the road may cause more rear end accidents with drivers not paying attention. Feels it warrants more data. Pearl Street intersections were recently improved.

Mr. Fleming stated that he does not have a pedestrian count because there is no current crosswalk. There is 1200 Foot section without a crosswalk. He has observed many students jaywalking in the area.

Mr. Baldwin stated that it is used for students crossing for housing and to and from school.

Commissioner Padgett stated he has gone across but doesn't see a lot of people crossing there. Residents would use it from Brooks Ave or North Williams. He would like to see more evidence. City Councilor, Sharon Bushor also concerned and uncomfortable with a midblock crosswalk installation, unless you make it very visible to notify the motorist. Needs more data.

**Commissioner Padgett moved** to deny installation of crosswalk. Commissioner Porter seconded. Unanimous.

### **ITEM 3.3 – HANDICAP PARKING SPACE AT 523 NORTH ST.**

(Communication, J. Fleming, Engineer)

(Refer to Commission packet)

This item was originally presented late last fall. Resident has one off street parking space. They have two cars. Mansfield Ave, parts of North St & parts of North Prospect St. is residential parking. Resident is handicap and elderly and has difficulty getting to residence if they have to park far away.

**Commissioner Porter** pulled item from consent agenda to make sure we aren't setting precedence.

Mr. Fleming states that there are no handicap spaces in or around this neighborhood.

**Commissioner Padgett moved** to approve. Commissioner Hopkins seconded. Motion carries with one no vote (Commissioner Porter).

### **ITEM 4 – SIDEWALK CAPITAL FUNDING**

(Oral Communication, N. Losch, Engineer & C. Spencer, DPW Director)

(Refer to Commission Packet)

Our goal is to secure sufficient annual capital to maintain our sidewalk system. We need to understand the state of our current system and reach a collaborative work plan to reach these goals. Our program goals are acceptable sidewalk conditions, increase quality and quantity, target alternative funding, be proactive instead of reactive, and meet ADA goals. 80% of current funding is focused on long runs which are more efficient, 10% to patching for smaller work & 10% for curb and greenbelt repair. The rate of repair can't keep up with the rate of deterioration. Our goal is consistent concrete sidewalks of a sufficient width throughout the city.

Commissioner Padgett summarized that there are a number of sidewalks in good shape but a big chunk that are bad and getting worse faster. Does sidewalk plowing shorten the life of the sidewalk?

Commissioner Lavery would like to see some of the alternatives presented to commission as a menu of options in order to make decision. Commissioner Porter asked if there is any other option out there. How do we make this easier on ourselves? Greg Roy, resident states that streets that don't have sidewalks are a priority, then ones that have spalling and drainage issues. Commissioner Archambeau asked if there is coordination with Parks regarding tree issues, damaging sidewalks. Commissioner Hopkins feels curbing is an important issue and streets without sidewalks need them.

**Item to be revisited next month.**

## **ITEM 5 – PARKING METER ORDINANCE CHANGES**

(Communication, P. Buteau)

(Refer to Commission packet)

Mr. Buteau would like to update the 1962 ordinance in order for DPW to try out the pilot program to allow the use of smart meters that accept multiple forms of payment in order to move our department into the 20<sup>th</sup> century. Smart meters would have to be PCI compliant and card encrypted.

Commissioner Archambeau asked about the city taking on additional infrastructure dealing with installation and maintenance. Commissioner Hopkins states that the Downtown Parking Advisory supports this change.

**Commissioner Porter moved** to adopt proposed changes. Commissioner Hopkins seconded. Unanimous.

## **ITEM 6 – COLCHESTER/PEARL/PROSPECT INTERSECTION PILOT PROJECT – RESULTS & RECOMMENDATIONS**

(Communication, N. Losch, Engineer & E. Churchill, Chittenden County Regional Planning Commission)

(Refer to Commission packet)

Fall of 2012 study was initiated due to VTrans stating that this intersection was a high crash location. August 2013 DPW implemented signs, striping and signal changes at the intersection of Colchester Avenue/Pearl St and S. Prospect St. Removal of 18 on street parking spaces, prohibiting left turns for east bound vehicles, adding left turn lane for northbound vehicles, changing pedestrian crossing timing and signal cycles. Online survey was completed by 102 people. Across all respondents, the majority said the intersection changes provided more benefits than problems. The intersection felt safer by bicyclists. 50% of pedestrians had fewer conflicts with right turning vehicles. Larger scoping will be done in the next couple of months and staff will be seeking final approval.

**Commissioner Padgett moved** to accept proposed changes. Commissioner Hopkins seconded. Unanimous.

## **ITEM 7 – COMMISSION GOALS LIST**

(Oral Communication, Chapin Spencer, Director)

(Refer to Commission packet)

Director Spencer handed out a draft commission work plan based on a prior meeting with Commissioners Padgett, Porter & Archambeau. Three goals are Operational Excellence, Exemplary Customer Service, & Culture of Innovation. Director Spencer is looking for revisions so we can adopt the operation of the commission at the next meeting in March.

The commission feels it is a good start. Would like to see the mission and goals finalized and then presented as a one page document. The Commission wants to clarify whether this will be for calendar year 2014 or through FY'15.



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**Councilor Maxwell Tracy, Chair** *WARD 2*  
**Councilor Tom Ayres,** *WARD 7*  
**Councilor William “Chip” Mason,** *WARD 5*

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**Transportation, Energy and Utilities Committee of the City Council**

**Thursday, March 6<sup>th</sup>, 2014 at 4:45 PM**

**Burlington Public Works – Front Conference Room**

**645 Pine Street – Burlington, VT**

**–AGENDA–**

1. Agenda
  - a. DISCUSSION
  - b. ACTION
2. Public Forum
3. Minutes of 1/21/2014
  - a. DISCUSSION
  - b. ACTION
4. Spring Street Closure – Nicole Losch, DPW
5. Colchester/Pearl/Prospect Intersection – Nicole Losch, DPW
6. North Avenue Corridor Study – Nicole Losch, DPW
7. Bicycle & Pedestrian Action Plan – Nicole Losch, DPW
8. Adoption of the Town Road and Bridge Standards – Nicole Losch, DPW
9. Councilors’ Updates
10. Adjourn



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

# Memo

*Date:* February 25, 2014

*To:* Transportation, Energy, & Utilities Committee

*From:* Nicole Losch, Transportation Planner

*Subject:* Colchester Avenue / Pearl Street / Prospect Street Intersection Scoping Update

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## **BACKGROUND**

In 2011 the Colchester Avenue Corridor Study was completed and the report adopted by the City Council. The 2011 report includes numerous recommendations to improve the safety and mobility for travelers along Colchester Avenue, including the need for additional scoping to identify long-term improvements to the intersection of Colchester Avenue / Pearl Street / Prospect Street.

At the request of the DPW, the Chittenden County Regional Planning Commission (CCRPC) advanced this scoping study in 2012. The study includes public and stakeholder outreach, existing and future conditions analysis, statement of the project purpose and need, assessment of alternatives, selection of a preferred alternative, and a final scoping report. The Steering Committee for this study includes representatives of the University of Vermont, Fletcher Allen Health Care, Campus Area Transportation Management Association, Chittenden County Regional Transit Authority, Local Motion, Burlington City Council, Ward 1 Neighborhood Planning Assembly, and Burlington DPW.

In early 2013 several alternatives were developed, and the Steering Committee endorsed a pilot project to test one alternative as a short-term solution and possible long-term alternative.

## **PILOT PROJECT STATUS AND SCOPING STUDY UPDATE**

The pilot project (Figure 1) was launched in August 2013. A round of traffic data and observations were made in October 2013, and an online survey was available from August through November 2013. The data collection measured traffic operations against 2012 measurements, as shown in Figure 2. Results of the online survey are attached.

Upon review of the pilot project performance metrics, the public comments, and general observations, the Steering Committee recommended the pilot improvements be made permanent. At their last meeting, the Public Works Commission approved the traffic regulations that will effectuate the pilot treatments as a permanent configuration. Some small adjustments will be considered by DPW in spring



2014 to improve the operations at this intersection, including relocation of the "No Left Turn" sign on the eastbound signal mast arm closer to the center of the lane (closer to the signal head), through-arrow pavement markings for northbound traffic, enhanced signal coordination with signals at Mansfield Avenue and Mary Fletcher Drive, and improved lighting at the southwest corner.

The Steering Committee has one final meeting in March 2014 to consider the various long-term alternatives and make a final recommendation. After this meeting, we anticipate returning to the TEUC with the final report for consideration and future approval by City Council.

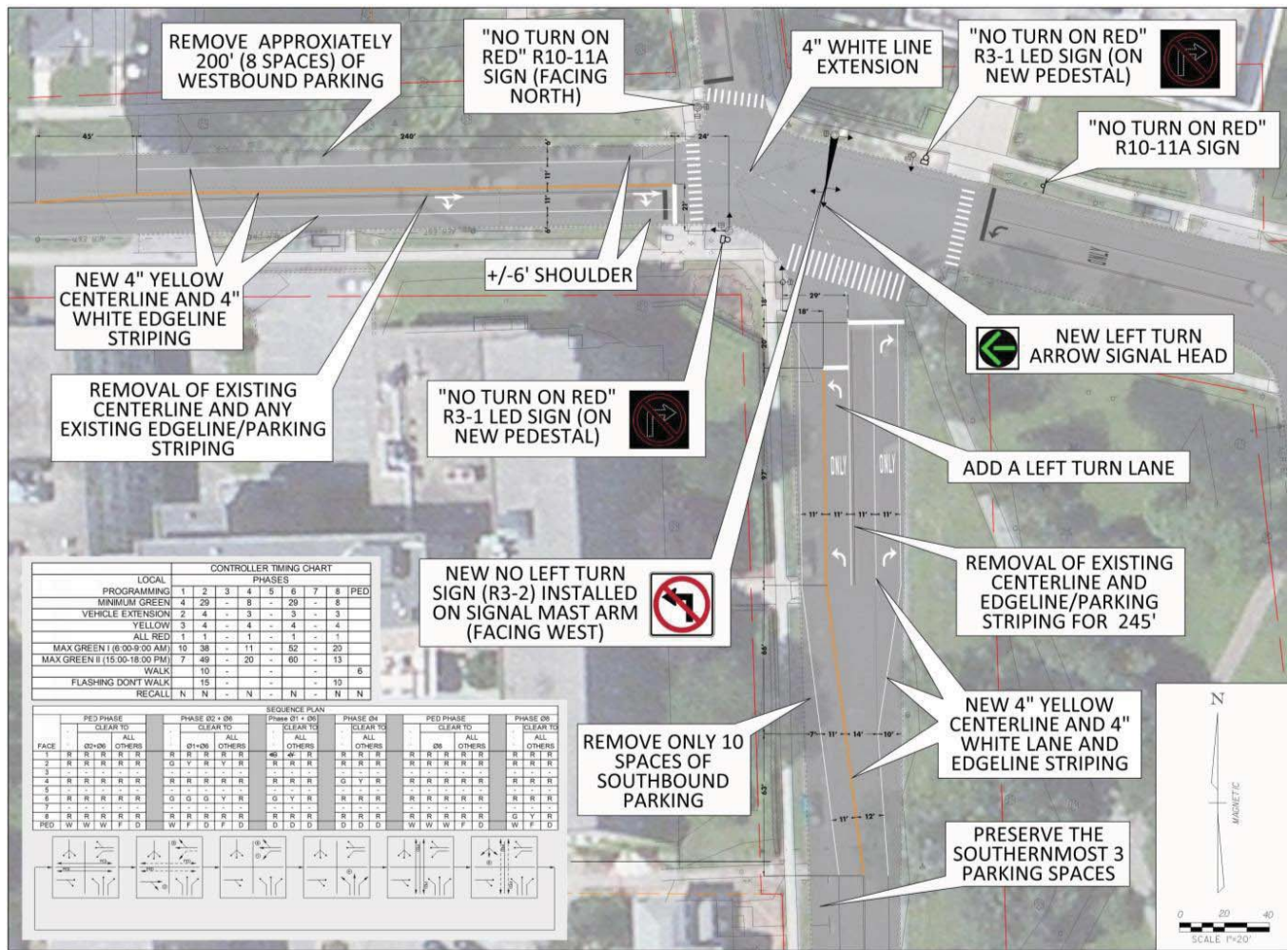


Figure 1: Pilot Project Features

METRIC	PRE-PILOT	PILOT	CHANGE	NOTES
<b>Peak Hour Traffic Volume</b> <sup>1</sup>	2,229 (AM) 2,618 (PM)	2,078 (AM) 2,551 (PM)	-7% (AM) -3% (PM)	VTrans continuous counter on VT 127 in Burlington recorded a 2% reduction from September 2012 – September 2013
<b>Average Maximum Queue Length – All Approaches (# cars)</b> <sup>2</sup>	15 (AM) 30 (PM)	30 (AM) 44 (PM)	+48% (AM) +46% (PM)	Primary increases occurred on Pearl Street approach (increase from 4 to 7 cars in AM and from 14 to 24 cars in PM)
<b>PM Peak Cycle Length</b>	133 seconds	120 seconds	-10%	Shorter wait times for pedestrians.
<b>PM Peak Average Vehicle Delay</b> <sup>3</sup>	71 seconds	85 seconds	+20%	Optimized timing and removal of EB left turn increased intersection capacity.
<b>Vehicle Crashes</b> <sup>4</sup>	2 / year	0	-100%	Intersection currently #25 on HCL list.
<b>Vehicle Conflict Points</b>	32	26	-19%	The removal of the EB left-turn removed six potential conflict points.
<b>On-Street Parking Spaces Adjacent to Intersection</b>	21	3	-86%	10 spaces removed on S. Prospect to accommodate NB left-turn lane. 8 spaces removed on Pearl to accommodate bike shoulders.
<b>Leading Pedestrian Interval for East-West Pedestrians</b>	0 seconds	6 seconds	↑	Leading pedestrian interval added as part of pilot.
<b>Shoulder Width on Pearl Street</b>	2-3 feet (unmarked)	±6 feet	+100%	Shoulders widened and striped and on-street parking removed to improve bicyclist safety.

<sup>1</sup> Pre-pilot traffic counts conducted on October 23, 2012. Pilot phase traffic counts conducted on October 16, 2013

<sup>2</sup> Pre-pilot queue counts conducted on October 23, 2012. Pilot phase queue counts conducted on October 16, 2013

<sup>3</sup> Pilot phase volume/capacity ratio calculated using October 2012 (i.e. pre-pilot) traffic volumes.

<sup>4</sup> Pre-pilot crashes represent the average number of crashes occurring at the intersection between August and October from 2008 – 2012. The lack of crashes during the Pilot phase (August-October 2013) was based on information provided by the Burlington Police Department and verified by VTrans.

**Figure 2: Pilot Performance Metrics 1**



Colchester Avenue / Pearl Street / Prospect Street Pilot Project  
*Summary of Online Survey Results*

## Intersection Pilot - Public Input

Online survey ran from August 26 - November 30, 2013

### Pearl St / Prospect St / Colchester Ave Intersection Survey

Page One

1. Do you pass through this intersection as a: \*

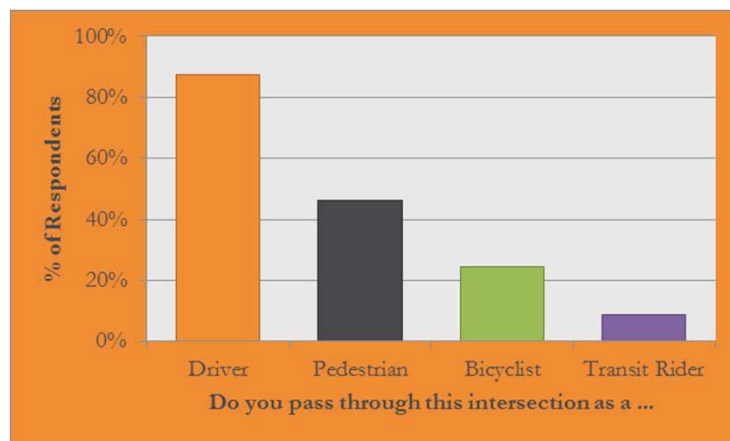
- ☐ Pedestrian
- ☐ Bicyclist
- ☐ Driver
- ☐ Transit Rider

2. Overall, are the changes to the intersection beneficial or problematic? \*

- ☐ More benefits than problems
- ☐ More problems than benefits
- ☐ No impact

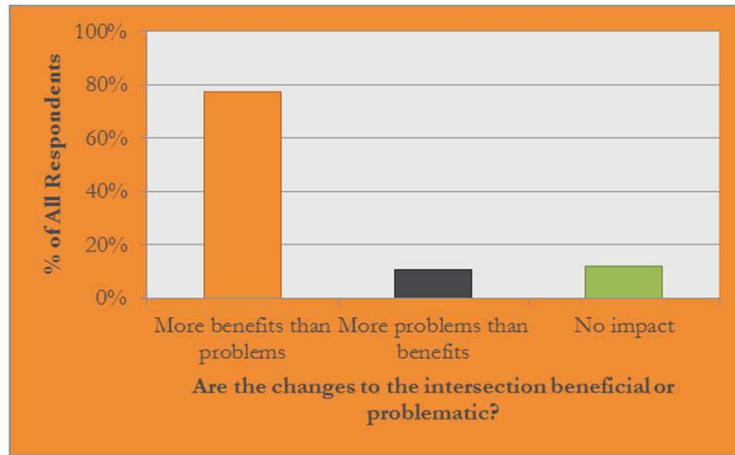
Next

## Pilot Public Input - Travel Modes



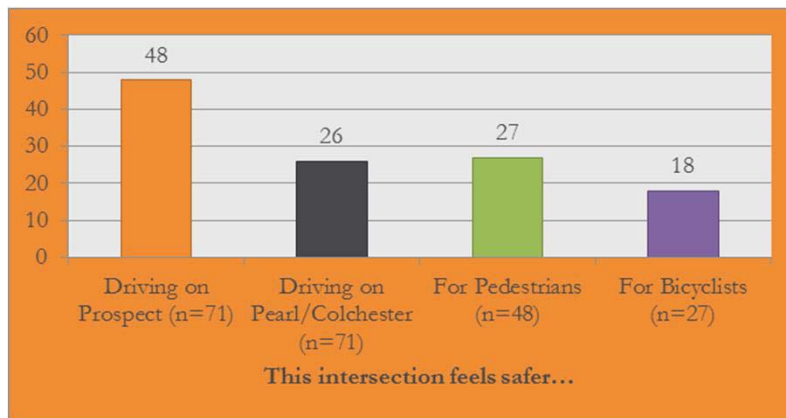
102 total completed surveys. Approximately 1/2 of respondents travelled through the intersection as a pedestrian.

## Pilot Public Input - Overall Perception of Changes



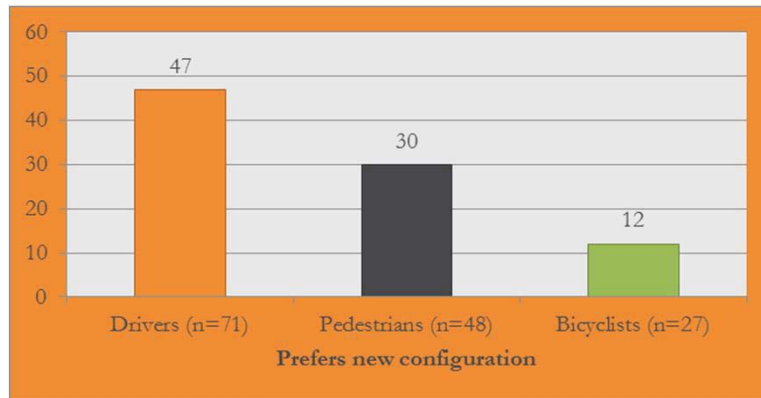
*79% felt pilot changes were positive. 11% felt the changes created more problems than benefits.*

## Pilot Public Input - Perception of Safety



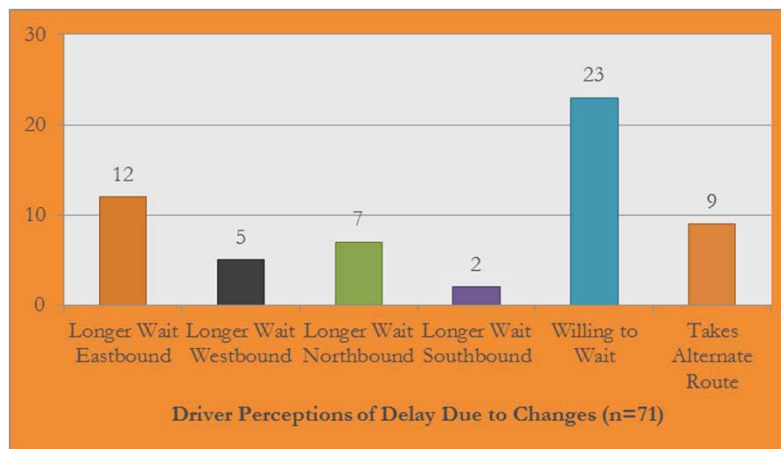
*The majority of drivers on Prospect (68%) felt safer with the new configuration while only 37% of drivers on Pearl/ Colchester felt safer. 56% of pedestrians and 67 % of bicyclists felt safer.*

## Pilot Public Input - New Configuration Preference



*66% of drivers, 63% of pedestrians and 44% of the bicyclists preferred the new intersection configuration.*

## Pilot Public Input - Driver Perception of Delay



*17% of respondents noted an increase delay on EB Pearl Street.  
32% acknowledged an increased delay in general, but said they were willing to wait because the changes made the intersection safer overall.  
13% indicated that they are taking alternate routes.*

## Pilot Public Input - Additional Comments

### Open-ended Comments

#### Positive Aspects

- Wider shoulder on Pearl Street
- Safer, less ambiguous traffic patterns
- Reduced conflict with left-turning traffic
- Restricted right turns improve pedestrian crossing experience

#### Negative Aspects

- Fewer parking spaces
- Difficulty of left turns from Colchester Ave
- Lack of space to maneuver on Prospect Street due to narrower shoulders and more NB lanes
- Traffic delays and backups along Pearl Street/Colchester Avenue



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**Transportation, Energy and Utilities Committee**

**DRAFT MEETING MINUTES:**

**Thursday, March 6<sup>th</sup>- 2014 at 4:45 PM**

**DPW – Front Conference Room  
645 Pine Street – Burlington, VT**

Members present: Chair, Maxwell Tracy (TEUC)  
Tom Ayres (TEUC)  
Chip Mason (TEUC)

Others present: Norm Baldwin, DPW  
Guillermo Gomez, DPW  
Nicole Losch, DPW  
Chapin Spencer, DPW

Chair Tracy called the meeting to order at 4:55 pm.

**1. Agenda**

Chair Tracy moved to approve the agenda with the addition of one item at the end: An update on CCTA negotiation. All in favor.

**2. Public Forum**

**3. Minutes of 1/21/14**

Councilor Ayres moved to approve minutes from 1/21/14. All in favor.

**4. Spring Street Closure**

Losch: Information about the closure was included in the memo attached to the meeting agenda. There was a neighborhood request for Traffic Calming in 2012. Residents were concerned about vehicles speeding and the awkward sight lines at this location. We have been

working together for this closure with Parks and Recreation because of the location, right next to Dewey Park. After discussing the options with residents, there was interest in testing a street closure. DPW did a pilot project, which included data collection, and later analyzed and discussed the results and observations. General results were satisfactory. Only one person complained about the closure. We held a negative poll, which closed last week. The results were in favor of moving forward with the permanent street closure. We plan to implement the closure in two phases. First, we will do the closing with a temporary measure. We are doing this because Parks & Rec is interested in expanding the park. Phase 2 of the closure will be managed by Parks & Rec. Today we are asking the TEUC's approval and advancement of this to the City Council.

Tracy: The results are consistent with what I heard from the neighbors.

Losch: We got feedback from residents, which proved useful in improving the design.

Tracy: What is the temporary measure to be used for the closure?

Losch: We are going through the options. We do not want Jersey barriers. Planter boxes are an option. We are also in conversations with Burlington City Arts to see if the school could participate in this. Parks might also be able to contribute small trees.

Mason: Is there ever a presentation at an NPA level for traffic calming?

Losch: Not usually. The meetings usually include the residents that are directly affected. If there is a major impact, we will hold a larger meeting. The first meeting for this project attracted a lot of supporters.

Tracy: Yes, a good mix of people showed up.

Losch: The neighborhood has been very active throughout the project.

Councilor Mason moved to approve the closure and bring this to the City Council. All in favor.

## **5. Colchester/Pearl/Prospect Intersection – Nicole Losch, DPW**

Losch: We are in the midst of a scoping study for the Colchester/Pearl/Prospect intersection. This study was initiated after the Colchester Avenue Corridor was completed. As part of this project, a short term alternative was conceived, which consisted of changes in signalization and lane configuration at the intersection. The Steering Committee for this study met after the data collection was completed, and based on the feedback received, the committee voted to make the changes at the intersection permanent. The pilot project had already gone through the Public Works Commission, which approved all the regulatory changes.

## **Prospect/Pearl/Colchester Avenue Scoping Study (2012-2014) Public Comments**

**From:** Richard Hillyard

**Sent:** Tuesday, January 28, 2014 9:39 AM

**Subject:** Pearl/Prospect etc

Just a couple of thoughts that I brought up last week but wanted to amplify:

1) No left-turn travelling East on Pearl on to North Prospect northbound: The Red Cross still have their sign out with an arrow inviting travellers to take a left on to N. Prospect for access to the Red Cross. One would have no doubt that, if a driver/cyclist was in doubt about the left turn there, this would help convince them that a left turn is permissible.

2) I still don't get the apparent reluctance of the bus lobby to accept turn-ins at bus-stops, just in the same way as there are on Main Street. There seems little doubt that buses are a major contributory factor in traffic back-ups on Colchester (and possibly Pearl). Surely well-placed signs instructing drivers to "yield to buses" would help the drivers ease out in to traffic? Not everyone would yield, but not everyone stops at red lights or stop signs. Most would yield, especially with a skilled driver signalling and using bus "body language" to ease in to the traffic lane. If buses continue their current practice we could advocate spending \$1M for a roundabout or road realignment, but still be suffering back-ups because of bus traffic.

I've copied Nicole on this as she might have ideas on the Red Cross conundrum, but don't have addresses for most of the other Task Force members. Would be interesting to hear RSG's and Eleni's thoughts at the very least. Not precious about either, but we all want the best solution for the least cost . . . . !

\*\*\*\*\*

**From:** Wayne Senville

**Sent:** Saturday, August 03, 2013 6:00 PM

**Subject:** Potential major flaw in Prospect St. lane markings

**To:** Prospect Street Intersection Committee

Just spent a few minutes this afternoon watching the intersection in action. I was surprised to see a number of cars heading northbound on Prospect Street that were in the left turning lane then proceed "straight" through the intersection continuing on North Prospect.

I think the lane markings are not clear enough. Some drivers in the left turn lane may well think the jog to the left IS a left turn. This is compounded by the fact that for some reason there is no lane marking in the center lane (i.e, there's no arrow indicating the direction of movement in the center lane should be straight (i.e., slightly left).

There may well be the need for additional overhead signage besides the lane markings.

Given what I saw today, I'm very concerned we're soon going to have sideswipe accidents where a car in the center lane and a car in the left turn lane both cross the intersection towards North Prospect.

I urge folks from the MPO and Burlington Public Works to consider this, and also spend some time at the intersection and see what happens. Maybe what I saw was just a fluke, but don't think so.

\*\*\*\*\*



**From:** Bushor, Sharon F.

**Sent:** Wednesday, June 19, 2013 8:47 AM

Hi everyone, I was at the Ward 1 NPA and the request was not to retain the parking on Pearl but rather create a short bike lane that safely allows bikers to get thru the intersection and then with notice immediately stating bike lane will end in so many feet. I know there were mixed views on the parking on South Prospect ... some wanted it retained. When is this on the agenda for tonight. It would be good to have an approximate time if anyone wanted/was able to attend.

\*\*\*\*\*

**From:** Wayne Senville

**Sent:** Wednesday, June 19, 2013 9:09 AM

I was also at the Ward 1 NPA meeting. There was unanimous concern about the yellow turn signal option and a desire that during the pilot the left turn movement be prohibited from Pearl onto N. Prospect. In terms of the elimination (or not) of parking spaces on Pearl, I believe one individual at the meeting expressed concern about elimination of the parking spaces because she felt there were not enough spaces for drivers with disabilities in the area; several individuals spoke in support of eliminating the parking spaces and continuing the bicycle lane through the intersection as an important plus for bicyclists. I found the bicyclists argument more persuasive -- if there is a need for more spaces for individuals with disabilities who attend or work at FAHC or UVM, I would see this as those institutions' responsibility, especially as they maintain parking areas in the vicinity (including the very large lot at FAHC and by Waterman).

Wayne Senville, North Prospect Street resident

\*\*\*\*\*

**From:** richard hillyard

**Sent:** Tuesday, December 11, 2012 7:11 AM

I just wanted to record some options available with some refinement of Short Term Option 3: "Split phasing for Prospect Street approaches". I believe some significant improvements to the existing junction could be obtained by making a few small changes:

1) Have three separate light settings - four if you include a pedestrian only facility:

~One for East- and West-bound on Pearl Street.

~One very short (southbound from Mansfield on to Colchester is often set at 8 - 10 seconds and is more than adequate except during Mater Christi in and out hours) green for North Prospect southbound only.

~One, slightly longer - say 12 - 5 seconds for South Prospect northbound.

~One for pedestrians only.

That should result in a red for Pearl at about 40 sec's, perhaps even less as you could even choose to eliminate a partial cycle as the East Ave / Colchester Ave junction seems to favour - from East (Northbound) on to Colchester.

(I think it's important to remember that Pearl/Colchester is the chosen route in and out of Burlington for thousands of people, whereas there are clear alternatives for North/South traffic - I'd imagine, for instance, that 75% of the traffic that travels from the ONE and NNE to Colchester Avenue flows (undesirably!) through North Street and Mansfield Ave, not down N. Prospect, so impacts on other North/South routes needs to be considered also.)

2) Install a left-hand turn only lane for East-bound Pearl (On to N.Prospect). But you wouldn't need a left-turn lane on either Prospect St as that traffic will flow uninterrupted on green. Does that free up room for a

pedestrian island on S.Prospect St? Not sure it's desirable but certainly an option.

The above should enable free-flowing traffic both each of four ways, except left-bound from Pearl (both ways).

3) Assuming that we are agreed that safety should trump convenience for pedestrians:

Consider moving at least one (on S.Prospect St) pedestrian crossing away from the junction. The crossing, which appears to be just an extension of the diagonal (SE to NW) path across the green, is dangerous in two ways:

~It is way too close to the junction for cars entering South Prospect.

~Because it is diagonal, it takes almost twice as long to cross.

That simple expedient would minimize the problem of Vehicles waiting for pedestrians to cross as they enter Prospect St.

(I would strongly endorse one of the speakers at the Public Meeting who advocated railings at busy junctions to better channel pedestrian flow - previous recommendations along these lines on Colchester Ave have been criticized because of difficulty with snow removal. Not sure about that, but railings are an integral part of most major junctions in other parts of the World.)

4) Most travellers to the United States are divided as to what they like most about "America" (usually money), but on one thing they tend to be unanimous: "Right On Red" is brilliant!

Not everywhere though and, given the improved flow that would result from these simple changes, I'd feel that some restrictions should be imposed, even if for especially busy times of day.

Other nitpicks would include dealing with the buses more safely (current practice seems a bit head-in-the-sand to me), review of other pedestrian crossings (make them as short in distance as possible), possible elimination of a small number of parking spaces (likely to be unpopular, I'd've thought), and maintaining a full signal cycle even through the 9.00 p.m. - 6.30 a.m. hours instead of the flashing lights.

Anyway, you're probably way ahead of me on this, but I'd think these changes could satisfy 90% of our goals at minimal cost and even less disruption.

Just had to put this down! Would this obviate the eventual need for junction realignment? Don't know, but essentially treating Prospect as two separate streets may help do the trick.

\*\*\*\*\*

**November 27, 2012** (via printed comment sheet)

Robert Herendeen, 83 Nottingham Lane

I said this at the meeting: quality of experience for pedestrians is unhurried total freedom from being defacto targets for cars. This is accomplished by:

1) No Right on Red

2) All Red while peds are moving

I suggest these 2 conditions or constraints on some (at least) of your modeling.

\*\*\*\*\*

**From:** Lani Ravin

**Sent:** Tuesday, November 27, 2012 12:33 PM

**Subject:** Re: Prospect-Pearl-Colchester intersection

Hi Lorie, Thank you for your comments. I've forwarded to the project managers, and these comments will be considered. Thanks, Lani

**On 11/27/2012 12:29 PM**, Lori Roberts wrote:

Hello Lani,

I work in John Dewey Hall at the miserable intersection of these four streets. Having just come off a serious knee injury, the safety of this intersection brings me personally closer to the dangers of crossing any of the streets. Cars come past Fletcher Allen / MCHV and seem to FLY through the intersection down Pearl Street - more often than not, running the red light. Anyone who has traveled through this intersection knows its design needs to be updated before a fatality occurs.

A co-worker had a rather simple, possibly cost-free way to adjust the intersection for safety, which would be to install timers or sensors on the lights and only permit one direction of traffic to proceed at a time. Five Corners in Essex Junction uses this type of timing for another dangerous five-way intersection. Without ripping apart all of the existing roads, this might be an idea worth serious consideration and analysis.

I am unable to be at the meeting tonight, but I sure wish there was a representative from our building (Psychology Department) who could be on the committee, due to our position in the intersection. All students coming to and from our building are at risk, as well as anyone traveling through the area.

Thanks for your consideration, and looking forward to updates, Lori Roberts

\*\*\*\*\*

**On 11/26/2012 2:32 PM**, Diana St. Louis wrote

Lani -

For one thing, I am very happy to see this intersection being addressed. I've seen many accidents and near accidents.

The time for folks to walk is also quite short and dozens of students don't rush and dozens of cars try to jump the gun so to speak.

The 2 major concerns that I have is that cars turn right on red while the pedestrian has the walk signal with some hits and near misses;

\*\*\*and folks going north and south on prospect have no idea who should go first and some folks put on their turn blinker when they are really going straight (as straight as that intersection allows), but because it is curved, they see it as a left.

Hope this makes sense - very bad intersection

Diana St Louis, Administrative Assistant to Chair and Graduate Program Directors  
University of Vermont/Psychology Department  
John Dewey Hall Room 202

\*\*\*\*\*

**On 11/26/2012 11:36 AM**, Gail Kirby wrote: gkirby@uvm.edu

Hi! I have been working in Dewey Hall for over 13 years and have seen many accidents involving cars, cars and pedestrians, etc. This intersection is terrible for both pedestrians and for those trying to drive through this intersection.

I would like to suggest that each of the four streets have their own left hand signal, similar to the Dorset Street and Kennedy Drive intersection. It works well, allows everyone a chance to cross the intersection safely and then

allows pedestrians their own light to cross at all corners at the same time.

My feeling is that someone is going to get seriously injured or killed if this traffic pattern continues. Also, I would wish that those turning right from Prospect st onto Colchester Ave remember that pedestrians have a crossing light and those turning right do not have the right of way. Even the buses disobey this rule!!

Please feel free to contact me with any questions you might have concerning this email. Thanks. Gail  
\*\*\*\*\*

----- Original Message -----

**Subject:**Dewey intersection meeting

**Date:** Mon, 26 Nov 2012 11:05:53 -0500

**From:** Annie Murray-Close

Dear Lani Ravin,

I wanted to send an email because although I cannot attend the meeting regarding the Dewey intersections on Tuesday evening, I work in Dewey hall and I would like to pass along my feedback regarding the intersection. I am so happy to hear that this is on people's radar, because I believe that this intersection is very dangerous and that it is likely that someone will be seriously injured (or worse) without changes.

These are the biggest issues that I have observed:

- 1) People run the red lights. This is a problem everywhere, of course, but for some reason it seems particularly bad at this intersection. I have almost been hit by a car several times crossing as a pedestrian when I have the right of way because the light has just turned red. This seems to be an issue of enforcement -- I never see police here, and I have never seen someone ticketed.
- 2) Traffic heading north that wants to take a right on Colchester tends to not yield for pedestrians. Even when the walk signal is on, and the traffic light is red, traffic takes right turns. I have almost been hit here several times as well. It seems that this should be a no turn on red intersection.
- 3) The traffic light for the North/South seems too short. This tends to back up fairly far, which I think adds to the drive impulse to run red lights.
- 4) During rush hour, people go into the intersection even when there is not space and prevent traffic moving in the other direction from passing. Not sure that there is anything to do on this one.

Thank you again for your work on this.

Regards, Annie Murray-Close

\*\*\*\*\*

**November 26, 2012**

**FROM:** Diane Meyerhoff

Hi Tom!

Indeed, this intersection study was recommended in the Final Colchester Avenue Corridor Plan, which is available at: <http://www.ccrpcvt.org/corridors/colchester-avenue-corridor/>

The Intersection Study website is at:

<http://www.ccrpcvt.org/transportationscoping/prospect-pearl-colchester-ave-scoping-study/>

I hope that is helpful and that we'll see you tomorrow night. Diane

-----Original Message-----

From: Tom Derenthal

**Sent: Monday, November 26, 2012 5:26 PM**

Subject: Re: Reminder: Prospect St. Intersection Meeting, 11/27, 7PM, FAHC

Did a definitive plan come from the Colchester Ave Corridor Study / Task Force?

If so, is the subject effort following that plan? [Please send a pointer to the approved plan].

If not, is this project separate from the Colchester Ave Corridor work [meaning separate plan and separate funding]? Tom D.

\*\*\*\*\*

**On 11/27/2012 2:17 PM**, Michael George wrote:

Hi Lani,

I work in John Dewey Hall. To be more precise, I've worked there for the last 32 years. So I know the intersection quite well. There are two areas of concern that probably amount to 95% of the problems with this intersection:

1. Left turn from North Prospect St. onto Colchester Ave.

The problem here is with inexperienced (or poorly trained) drivers. Invariably you have a timid driver that is scared to get out into the intersection. Consequently, all the cars stack up behind him or her. Everyone in those cars get real frustrated and start blowing their horns. I've even seen drivers so scared that they don't even turn once the light changes to red. They just sit there for the next green light.

2. Running a red light when going northbound or southbound on Prospect St.

I've seen it in both directions. People constantly run the red light. A lot of them are not even close. I have to cross N. Prospect St. using the sidewalk on the north side of Pearl St./Colchester Ave. to get to and from work. I have learned never to trust the light. I always double-check to make sure all the cars traveling on Prospect St. are stopped before crossing, since so many of them run this red light. The most dangerous ones are those traveling north on So. Prospect. They tend to shoot out behind a car making a left onto Pearl St. as the light is changing, so you have very little chance of picking them up visually before they are right on top of you.

Michael George

\*\*\*\*\*

Lani,

I can't attend tonight's meeting on the Prospect St/Pearl St/Colchester Ave intersection, but I've always wondered why they don't stagger the green lights for northbound and southbound on Prospect. This would eliminate the confusion caused by left turns from Prospect (especially when northbound and southbound cars want to turn left at the same time, which can bring the entire intersection to a standstill).

Sincerely,

Peter Callas

-----  
Peter W. Callas, PhD

Research Associate Professor Medical Biostatistics

Hills Building, University of Vermont

Burlington, VT 05405



**CITY OF BURLINGTON, VERMONT**  
**CITY COUNCIL TRANSPORTATION, ENERGY & UTILITIES COMMITTEE**

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**Councilor Maxwell Tracy, Chair** *WARD 2*  
**Councilor Tom Ayres,** *WARD 7*  
**Councilor William “Chip” Mason,** *WARD 5*

**Inquiries:**  
**Guillermo Gomez**  
802.540.0557 DIRECT  
ggomez@burlingtonvt.gov

**Transportation, Energy and Utilities Committee of the City Council**

**Wednesday, May 28<sup>th</sup>, 2014 at 4:45 PM**

**Burlington Public Works – Front Conference Room**

**645 Pine Street – Burlington, VT**

**–AGENDA–**

1. Agenda
  - a. DISCUSSION
  - b. ACTION
2. Public Forum
3. Minutes of 4/30/2014
  - a. DISCUSSION
  - b. ACTION
4. Newly Adopted Lighting Policy- Jean O’Sullivan, Burlington Electric Department.
5. Adoption of Town Road and Bridge Standards – Nicole Losch, David Allerton, DPW
6. Colchester/Pearl/Prospect Scoping Study – Nicole Losch, DPW
7. Downtown Parking Initiative – Nathan Wildfire, CEDO
8. Councilors’ Updates
9. Adjourn



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**Councilor Maxwell Tracy, Chair, WARD 2**  
**Councilor, Tom Ayres, WARD 7**  
**Councilor William “Chip” Mason, WARD 5**

**Inquiries:**  
**Guillermo Gomez**  
802.540.0557 DIRECT  
[ggomez@burlingtonvt.gov](mailto:ggomez@burlingtonvt.gov)

**Transportation, Energy and Utilities Committee**

**DRAFT MEETING MINUTES:**

**Wednesday, May 28<sup>th</sup> - 2014 at 4:45 PM**

**DPW – Front Conference Room  
645 Pine Street – Burlington, VT**

Members present: Chair, Maxwell Tracy (TEUC)  
Chip Mason (TEUC)

Others present: Eleni Churchill, CCRPC  
Guillermo Gomez, DPW  
Barbara Grimes, BED  
Munir Kasti, BED  
Nicole Losch, DPW  
Kirsten Merriman-Shapiro, CEDO  
Nathan Wildfire, CEDO  
Charlie Willette, BED

Chair Tracy called the meeting to order at 4:47 pm.

**1. Agenda**

Chair Tracy moved to approve the agenda. All in favor.

**2. Public Forum**

**3. Minutes of 3/6/14**

Councilor Mason moved to approve minutes from 4/30/14. All in favor.

**4. Newly Adopted Lighting Policy – Jean O’Sullivan - BED**

O’Sullivan: At BED we have been operating under a set of procedures. This effort is to put all of these procedures and policies in writing. The purpose of this is also to deal with the issue of



decorative lighting and banners on BED poles. Additionally, the Dark Skies Initiative is something that we also have included in the policies. This effort was done through the Lighting Committee. This committee consists of two BED Commissioners and two members of the public.

Charlie Willette and Munir Kasti are here to talk about the current procedures and then I will go over the policy.

Grimes: They will both explain how current practice at BED. This effort started years ago after an unfortunate incident that happened near Red Rocks, where a woman was seriously injured. BED ended up having to pay \$6.5 Million because the City's Policy had lapsed. Mayor Kiss put together a lighting committee and conversations started about a policy, but the conversation went nowhere. The delay in the policy is also related to the Dark Skies Initiative. BED follows IES standards. IES has been looking at modified standards related to the Dark Skies Initiative, but they haven't really adopted any changes.

Mason: You are using some terminology we are not very familiar with. Could you explain Dark Skies?

O'Sullivan: It is a movement that is seeking to get rid of unnecessary artificial lights we have on the planet. Most people in residential areas feel over-lit. Many towns have gone dark or have dimmed their public lighting, but in Burlington we haven't done that because we have been sued in the past. We have a known liability. Because of this, we can't suggest any standards that haven't been approved. In the new lighting policy, it says that we will be aware of Dark Skies. This is important because if Dark Skies becomes part of common practice and incorporated into lighting standards, we are leaving an open window in the policy to make Dark Skies part of BED's practice in the future. We will be looking at standards that will hold up in court. Under the current IES standards that BED follows, more lighting is required than what we usually have. We are approximately 10% compliant. When Barbara Grimes started in BED, she suggested we start bringing commercial areas to compliance first. So if we come up with a defensible dark skies policy, we have done no harm.

Grimes: BED will be having an intern from the Vermont Law School, who will be working together with Gregg Meyer from the City Attorney's Office.

Willette: BED is responsible for lighting the streets of Burlington. Whenever streets are lit by BED, they will conform to IES (Illuminating Engineering Society) recommendations for lighting levels and uniformity. Lighting fixtures are selected by BED based on performance, durability, workability and cost. BED's standard installation consists of an LED cobra head fixture mounted approximately 30 feet above the ground on either a wooden or a fiberglass pole. When a light that is not compliant with IES recommendation, it is replaced with an equivalent LED cobra head fixture. BED maintains a street light capital plan that lists projects initiated by BED, City/State initiated street light projects and customer requested projects. The capital plan also includes upgrades of street lighting to IES recommendations. When a customer

requests to check lighting levels, Munir's group will perform a lighting study. If the study shows the street falls below IES recommendations, the street is added to the capital plan and upgraded as the budget allows. If the study shows the fixture exceeds the IES recommendations, the lighting levels will be adjusted. If the study shows the lighting levels meet the recommendations, BED informs the customer that the lighting levels are adequate. There are a few areas of the City that currently have decorative lighting. These areas include Upper Main Street & Riverside, Downtown District and Lower Church and North Streets.

Grimes: We've had problems with some of the decorative light installations. The problem with some of these is that the providers stopped manufacturing them and they had to be special ordered.

Kasti: The yearly Street Lighting Capital budget was approximately between \$75,000 and \$90,000. Since we are now installing LED lights, there are currently some rebates that have allowed us to increase the budget. Last year, the budget was increased to approximately \$250,000 and this upcoming year the budget is about the same.

Grimes: We are able to replace more lights now because of the rebates, but this is not going to last in the long term.

O'Sullivan: If you take a look at the handout, the policy reflects in writing BED's procedures. The only new part is the part that talks about Decorative Lighting and Banners. Decorative lighting is typically more expensive. The policy says that the City should be responsible for the decision of where to install decorative lighting. It will be the City's responsibility to designate decorative lighting and banner districts and then inform BED of those designations. After this, BED will be in charge of the logistics.

We have encountered an issue in the past with banners. When we install light poles, they have a warranty, which is only valid if poles are installed following the manufacturer's specifications. Any deviation from these specs, including hanging banners, will void this warranty. Paul Alexander has been working with attorneys to develop a liability waiver. We understand the value of banners in some parts of the City. This is why banner districts need to be designated. In these areas, the City would sign the liability waiver and by doing this, we would be protecting the rate payers.

Grimes: The Planning Department, CEDO, DPW or any other interested party can take the lead on the creation of these districts. Basically, what we are saying is that if we are asked to install something other than the standard, this directive needs to come from someone other than BED.

Willette: In Colonial Square, we are having an issue. They have decorative lighting in this area. The bulbs used in those fixtures are coming to an end of life and we won't have replacements because of the manufacturers have discontinued them.

Tracy: I can pass all this information to the full City Council

Mason: If I understand correctly, this policy has already been passed by the BED Commission? And after the TEUC, it will go to full City Council?

Grimes: That is correct.

Kasti: The initial cost of decorative lighting on Upper Main Street and Riverside Avenue was done through a grant.

Grimes: In the past, decisions were made without our input and now we are running into issues of maintenance. People need to understand that manufacturers change what they produce, that special lighting carries an additional cost and that in the future, manufacturers can choose to discontinue some of their products and that can be a challenge.

Tracy: When do you think this will need to go to the full City Council?

Grimes: Some time during the summer or fall.

Tracy: There is no urgency.

Grimes: No.

Mason: This might be a little more complicated. There may be a need for new ordinances to be passed to allow the creation of these districts.

Wildfire: We (CEDO) think this is great, but we have some questions. How should we proceed?

Mason: I think you should have a conversation with BED before this goes to full City Council.

## **5. Adoption of Town and Road Standards – Nicole Losch, DPW**

Losch: In the last meeting we had a discussion about the adoption of Town and Road Standards. It is a very short document assuring that we are building roads to some basic standards. By adopting these standards, we will be able to reduce the local share required in case of emergencies.

Mason: We had a discussion about this before, am I correct?

Losch: Yes, but the actual document was not included in the meeting materials last time. We have included the document for your review prior to this meeting.

Mason: I make a motion to adopt the Town and Road Standards.

Tracy: I second. It passes unanimously.

Losch: We can draft the resolution that will go to the full City Council

Mason: Thanks

## **6. Colchester/Pearl/Prospect Scoping Study – Eleni Churchill, CCRPC & Nicole Losch, DPW**

Losch: This scoping study started after the Colchester Avenue Corridor Study was concluded, back in 2011. One of the recommendations from that study was to further research the Colchester/Pearl/Prospect intersection.

Churchill: This study started in 2012. This study included public and stakeholder outreach, existing and future conditions analysis, statement of the project purpose and need, assessment of alternatives, selection of a preferred alternative, and a final scoping report. Several alternatives were developed and the Steering Committee endorsed a pilot project to test one alternative as a short-term solution. The pilot project was launched in August 2013, and traffic data and observations were done in October 2013. An online survey tool was available from August through November 2013. After reviewing the data and feedback collected from the pilot project, the Steering Committee recommended these changes to be made permanent. The Public Works Commission approved the regulations that made the pilot project permanent with some minor adjustments to improve operations. Development of long term alternatives continued after the Pilot Project. The final alternatives included a No-Build Alternative (keeping Pilot Project Changes), Alternative 1 (realignment of North-South Approaches), Alternative 2 (realignment of North-South Approaches plus Turn Lanes), and Alternative 3 (roundabout). Performance under future traffic condition was evaluated for these different alternatives, and an evaluation matrix was developed to compare the advantages and disadvantages of the alternatives in other criteria. After deliberation, in a Steering Committee meeting in April, *Alternative 1* was selected as the preferred alternative.

We would like to ask the TEUC to identify a preferred alternative or support the Steering Committee's recommendation, and advance this to the City Council.

Mason: I support the alternative endorsed by the Steering Committee.

Tracy: I second. (Passes unanimously).

## **7. Downtown Parking Initiative – Nathan Wildfire, CEDO**

Wildfire: We are hoping to start having monthly updates to the TEUC due to the amount of work around parking happening right now. We currently have four studies happening related to parking:

- Downtown Parking Initiative
- Residential Parking Study
- Parking Garage Assessment
- Traffic Demand Management

We hired consultants to perform these four studies. July 11<sup>th</sup> is a big date. This is when the findings from the Parking Garage Assessment will be available. We are expecting a big number needed to bring garage structures into compliance.

These studies will reveal needs in the parking infrastructure that will require revenue enhancements in order to have enough funds to implement the changes and improve the parking experience for both residents and visitors. The revenue enhancements under consideration are:

- Raising parking rates
- Adjusting the 2 hour free parking program
- Enforcement of parking after 6 pm
- Enforcement on parking on Sundays.

Some of the changes that we are looking into don't require City Council approval, others do. The Mayor is still trying to figure out how to approach the roll-out of any changes. Parking can be an emotional issue, so there is very likely to be a strong response to any change. What the public finds difficult to visualize is that modest price changes and increased revenue can have a positive impact in the customer service experience.

We are also looking at some improvements in technology. These include:

- Payment by cell phone
- Payment by credit card (approximately 281 credit cards reading meters)
- Automation of the Marketplace Garage
- Wayfinding improvements

Another improvement that we are looking into is having an application or website with the City's Transportation Information Centralized. There is no centralized location for residents or visitors for information on parking, transit, etc.

Mason: One thing I don't see is changes in traffic management of traffic when the garage is full.

Wildfire: We are currently developing relationships private property owners who have parking spaces. There are lots of parking spots available at prime locations. We are trying to develop pilot agreements.

Tracy: Another idea that has been used in other places is variable pricing for parking. Higher pricing for premium parking spaces

Wildfire: Parking is a sensitive topic. Communication will be an important part of this process.

## **8. Councilors' Updates**

The next TEUC meeting will take place on Wednesday, June 25<sup>th</sup> at 4:45 PM at the Front Conference Room at Burlington Public Works.

## **9. Adjourn**

Tracy moves to adjourn. All in favor. Meeting adjourned at 6:11 PM.

## **APPENDIX B**

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### **Historic & Archeological Resource Assessment**





**HISTORIC RESOURCES REVIEW FOR THE PEARL STREET, PROSPECT STREET  
AND COLCHESTER AVENUE INTERSECTION SCOPING STUDY,  
BURLINGTON, CHITTENDEN COUNTY, VERMONT**



*Top row to bottom row, left to right: View southeast, southwest, northwest and northeast of the Pearl Street, Prospect Street and Colchester Avenue Intersection, Burlington, Chittenden County, Vermont*

**Prepared for:**

Resource Systems Group, Inc.  
55 Railroad Row  
White River Junction, VT 05001

**Submitted by:**

Catherine A. Quinn and Kate Kenny  
Consulting Archaeology Program  
University of Vermont  
111 Delehanty Hall  
180 Colchester Avenue  
Burlington, VT 05405  
November 2012

Report No. 704

## **INTRODUCTION**

This historic resources review of the Pearl Street, Prospect Street and Colchester Avenue Intersection Scoping Study, located in Burlington, Chittenden County, Vermont, was conducted by Historic Preservation Specialist, Catherine A. Quinn, with assistance from Kate Kenny, of the UVM Consulting Archaeology Program, in order to assist Resource Systems Group, Inc. and the City of Burlington with compliance under Section 106 of the National Historic Preservation Act of 1966 and its amendments. The scoping study was reviewed according to standards set forth in 36 CFR, the regulations established by the Advisory Council on Historic Preservation to implement Section 106. Review consists of identifying and evaluating potential impacts to historic resources on or eligible for listing on the National Register of Historic Places that may be impacted by project work. Research for this report included a search of historic photograph and postcard collections, historic reference files and town histories, historic maps and newspapers, court records, land records, genealogical records, the National Park Service's National Register of Historic Places Inventory and the State of Vermont Division for Historic Preservation (VDHP) Historic Sites & Structures Survey. A site visit and visual inspection of the proposed project area was conducted on October 26, 2012.

## **PROJECT DESCRIPTION**

The City of Burlington, through the consulting firm of Resource Systems Group, Inc. (RSG), is conducting a scoping study to investigate potential alternatives for the intersection located where Prospect Street crosses over Pearl Street and Colchester Avenue, in Burlington, Chittenden Count, Vermont (Figure 1). At this intersection, Pearl Street, which runs in an east-west direction from the downtown section of Burlington toward the City of Winooski, changes in name to Colchester Avenue after it crosses over Prospect Street. The road continues in an east-west direction as Colchester Avenue, into Winooski. To the south of Pearl Street and Colchester Avenue is South Prospect Street, and to the north, is North Prospect Street, both of which travel in a north-south direction. The openings to South and North Prospect Streets are not exactly opposite each other; South Prospect lies slightly east of North Prospect creating an off-centered alignment at the intersection. There are buildings situated on the southwest, northwest and northeast corners of the intersection, and the University Green occupies the southeast corner (Figures 2 – 6).

Although there are currently no plans available for review, RSG is looking at several alternatives for the redesign of the intersection. One alternative is to relocate the South Prospect Street approach to Pearl Street/Colchester Avenue to the west so that it re-aligns with North Prospect Street. This realignment would create more green space adjacent to the University Green but would also place the roadway and sidewalk closer to the hospital building located at the corner of South Prospect and Pearl streets. Traffic analyses conducted as part of planning for the project indicated little benefit from adding an exclusive left-turn lane on the Pearl Street approach; however, this additional lane design is still being evaluated. A roundabout at the intersection may also be considered.



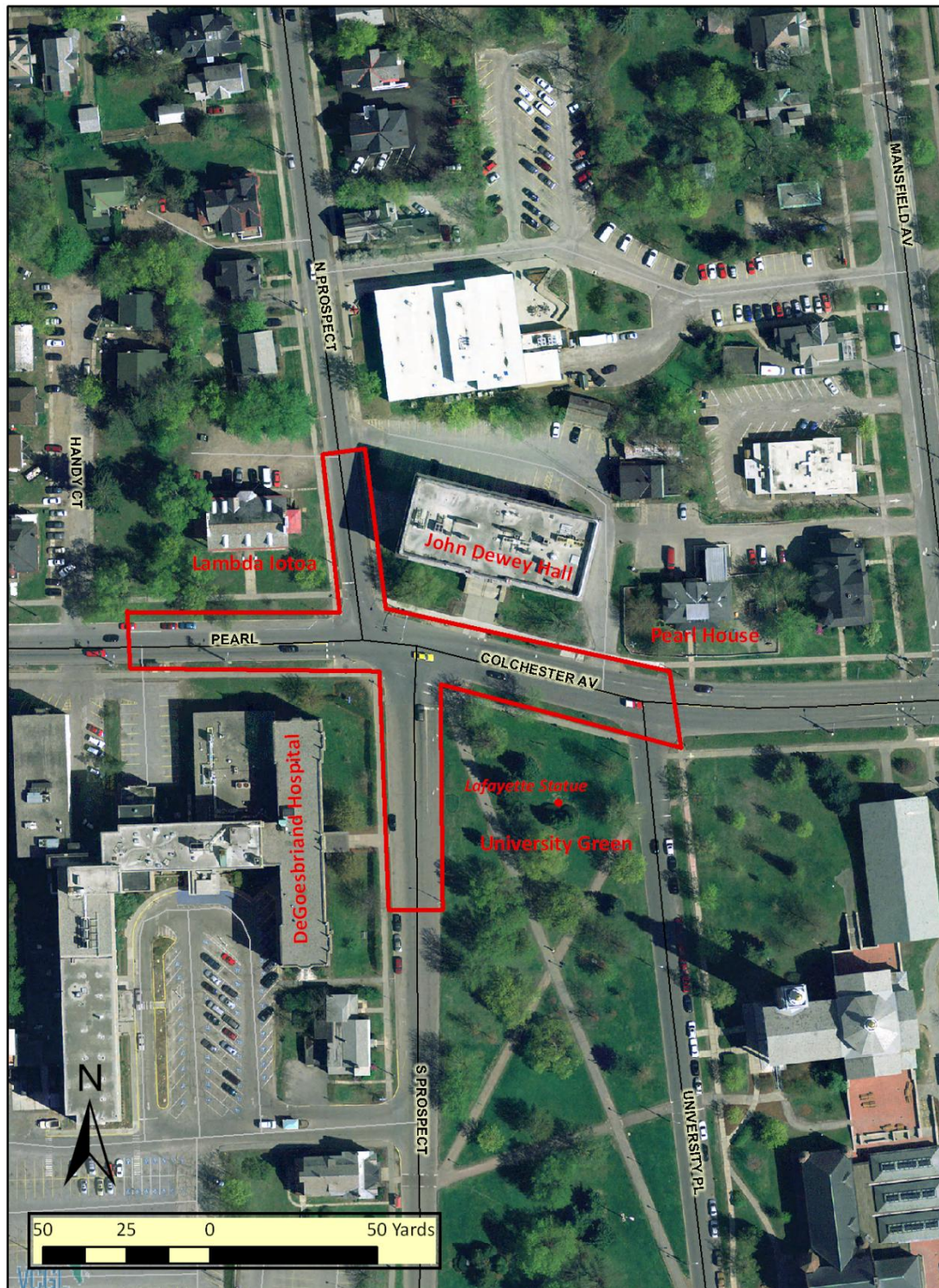


Figure 1. Map showing the approximate location of the proposed Pearl Street, Prospect Street and Colchester Avenue Intersection Scoping Study project area, Burlington, Vermont, with historic resources in project area identified.

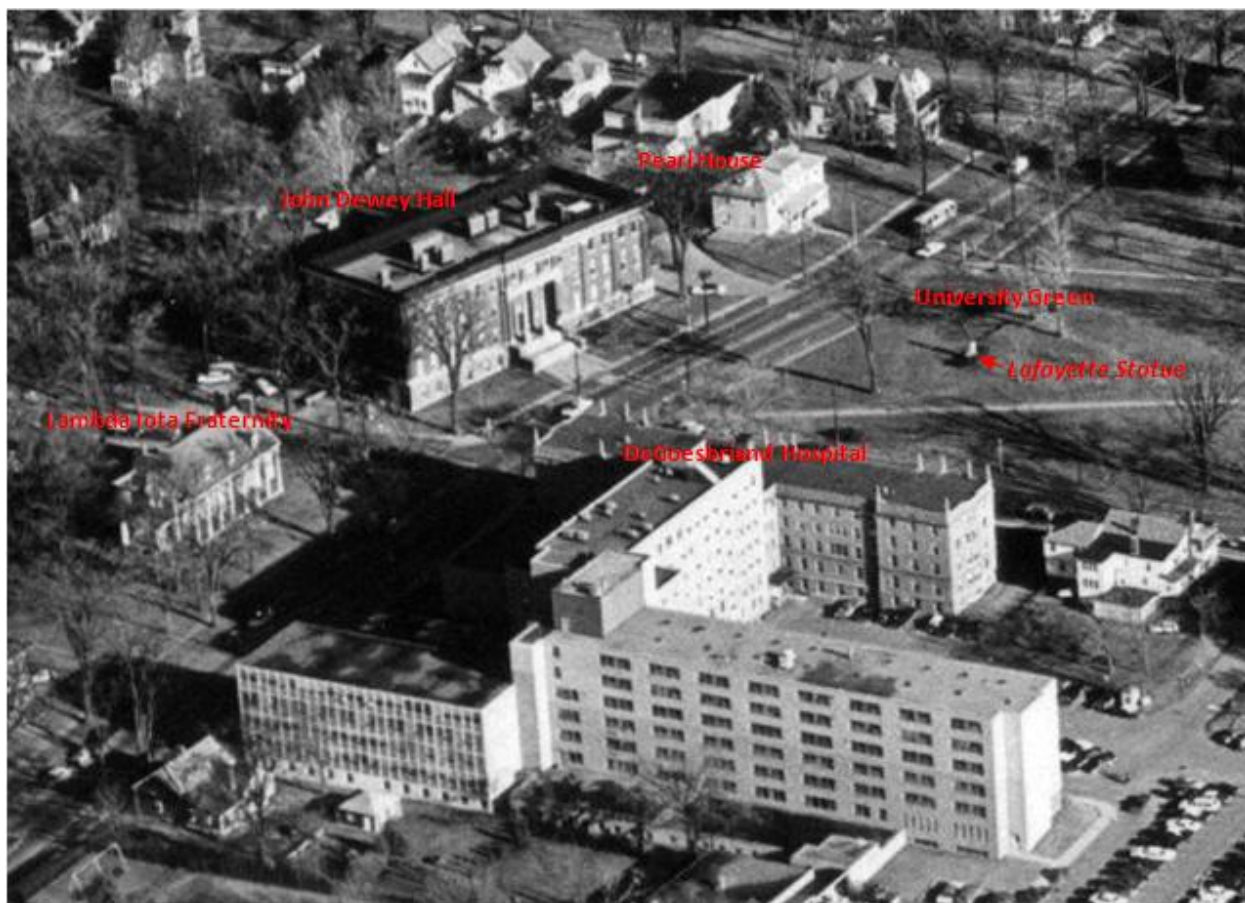


Figure 2. Detail of a 1967 aerial photograph showing the Pearl Street, Prospect Street and Colchester Avenue intersection with identifications of buildings and the University Green added in red (UVM Landscape Change Program, image LS09969; courtesy of University of Vermont Archives).





Figure 3. View toward southwest corner of intersection with Colchester Avenue at left, South Prospect Street at center, and Pearl Street at right; DeGoesbriand Hospital building at center.



Figure 4. View toward northwest corner of intersection with Colchester Avenue at right and South Prospect Street at left; Lambda Iota Fraternity building at center.





Figure 5. View toward northeast corner of intersection with Pearl Street at left foreground and Colchester Avenue at center background; Dewey Hall building at center.



Figure 6. View toward southeast corner of intersection with North Prospect Street at left, Colchester Avenue at center background, South Prospect Street at center right, and Pearl Street at right foreground; University Green at center background.

## PROJECT AREA HISTORY

The area around the head of Pearl Street and on 'College Hill' in the City of Burlington, Vermont, was essentially a small hamlet, which was settled in the late 1780s and flourished into the 1830s, after which it developed as part of the University of Vermont (Figures 7 – 11). It was one of the four early centers of Burlington that would, in time, grow and fuse together into the city seen today. A brief history of this area is presented below; a more detailed history is presented in Appendix I.

Nineteenth-century histories of the city indicate that, early on in Burlington's history more business was conducted "around the square at the head of Pearl Street" than anywhere else in the village (including Church Street) (*Burlington Free Press* 1893; Rann 1886:409). It was said that: "In earlier years the active men and firms who carried on the business naturally located on Pearl Street, which was the entrance to town from the east and northeast" (Rann 1886:477-478). These firms included those of Harry Bradley, Vilas & Noyes, Luther Loomis, E. Deming, Moore Brothers, Horace Loomis, Edward Loomis, and others (Rann 1886:477-478). This area was home to tannery, a book store, several dry goods stores, a harness shop, two taverns, law offices, a tailor, a wheelwright, a 'ladies straw hat factory,' a gunsmith, a blacksmith, and the homes of professionals and merchants as well as student boarding houses in early 1800s. However, "as the state became more settled and population increased, the business, especially in flour, iron, grain, butter, cheese, and heavy goods, assumed more of a wholesale character, and to avoid the expense as well as the inconvenience of cartage, it drifted towards the lake, and additional docks and wharves were built to accommodate it. The stores on Pearl Street closed up one after another, until the retail business centered about [City Hall Park]" (Rann 1886:478). This shift in the preferred location for businesses was also true of the town's taverns and hotels (especially after the arrival of the railroads along the lake shore) and the area eventually developed into the site of the University of Vermont.

The University Corporation was given fifty acres of land by Gen. Ira Allen in 1792 (part of Lot#112) (Baker, Hathaway, and Frink 2002 Vol. I:37). However, it would be several years before development of the college property would occur. In 1799, "the college common was covered with wood, no building erected upon it and no road running through it" (*Burlington Free Press* 1893). That year, some of the land was cleared and a President's house was started; it was located "a little to the southwest" of the old library/museum building (which would be built in 1862) and is now "the present site of the Science Hall" [Williams] (*Burlington Free Press* 1893; *Burlington Free Press* May 9, 1918). Control of the lands belonging to the college were put into the hands of an agent (David Russell) to sell as needed to pay for the construction of the first main college building (*American Repertory* May 28, 1822; Baker, Hathaway, and Frink 2002 Vol. II:130-131), "was built about where the Old Mill is now" between 1801 and 1804 (*American Repertory* May 28, 1822; *Burlington Free Press* May 9, 1918; *Burlington Free Press* 1893). In the process, most of the land once owned by the corporation, except for the 1.5 acre lot on which the main building stood, was sold off or lost in judgments "to pay agents or others,"; in fact when all was said and done "even the president's house was owned by persons living in Massachusetts" (*American Repertory* May 28, 1822; Baker, Hathaway, and Frink 2002 Vol. II:130-131; *Burlington Free Press* 1893; Lindsay 1954:65). Eventually, the entire area was reacquired and developed by the University, which owns it today.

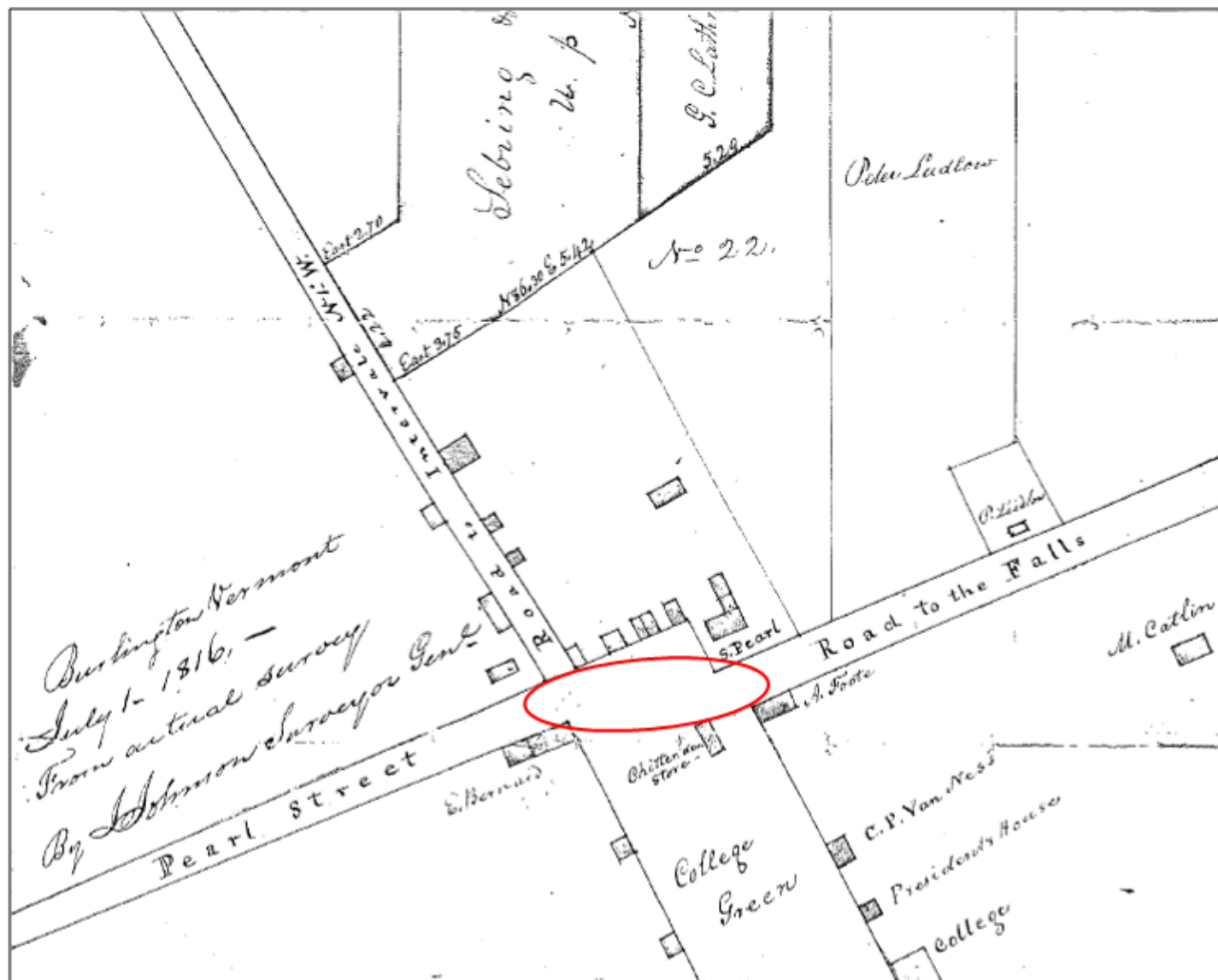


Figure 7. Detail of a John Johnson map *Burlington, Vermont, Northeast of College Green, July 1, 1816* with the project area intersection circled in red.



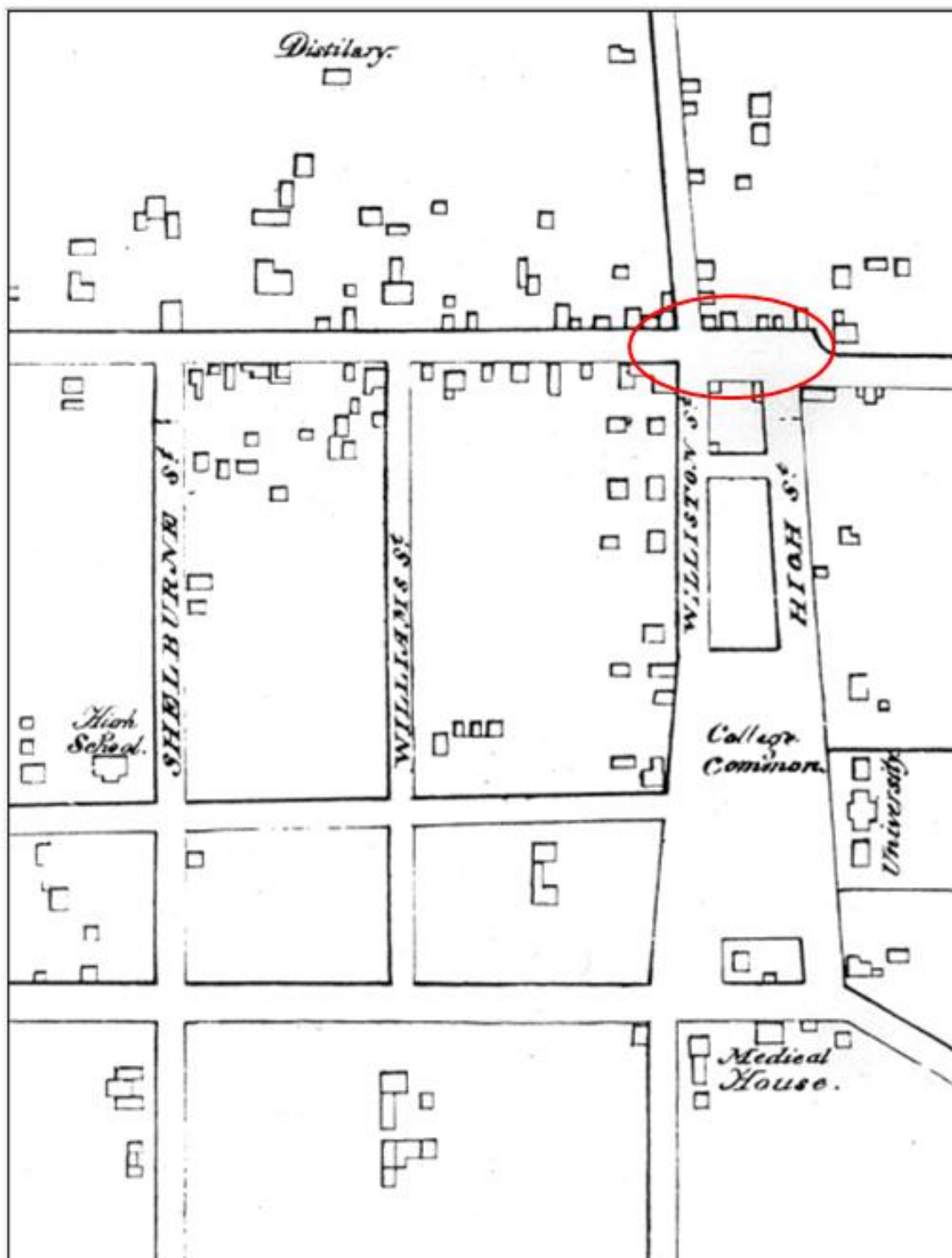


Figure 8. Detail of Ammi B. Young's *Map of Burlington Village* (1830) with the project area intersection circled in red.

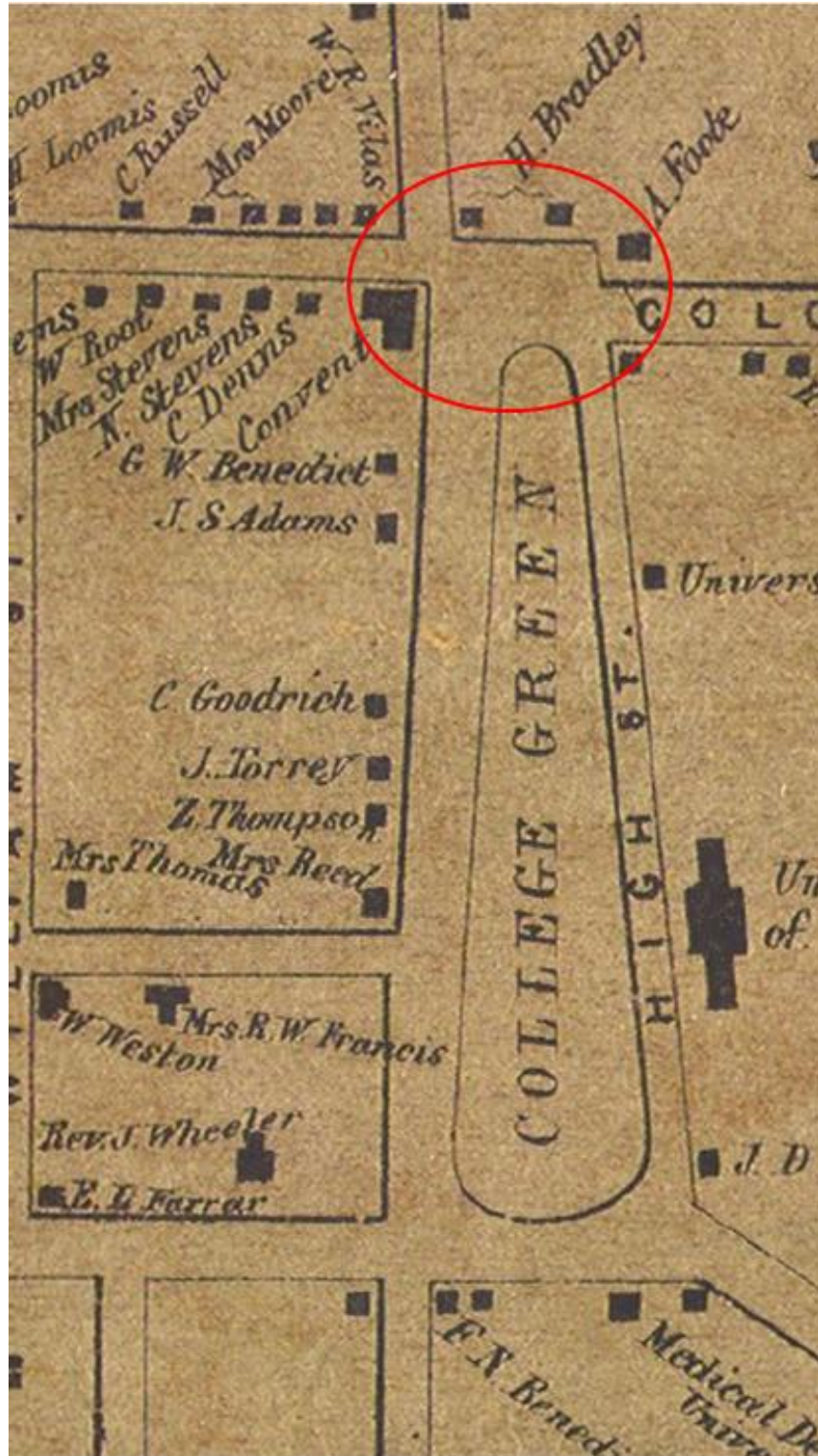


Figure 9. Detail of H. F. Walling's 1857 Map of Chittenden County, Vermont, with the project area intersection circled in red.



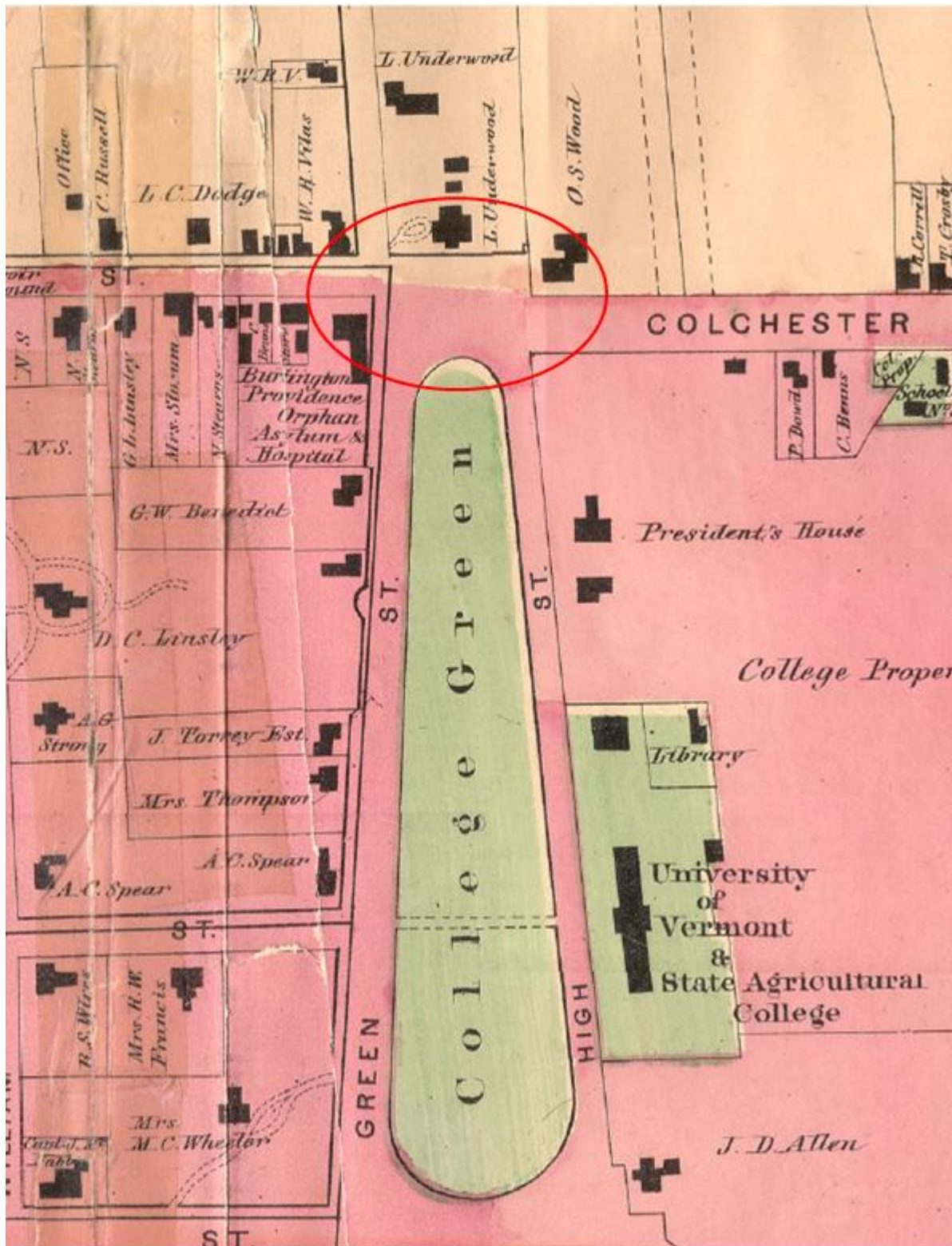


Figure 10. Detail of Beers' 1869 *Atlas of Chittenden County, Vermont*, with the project area intersection circled in red.



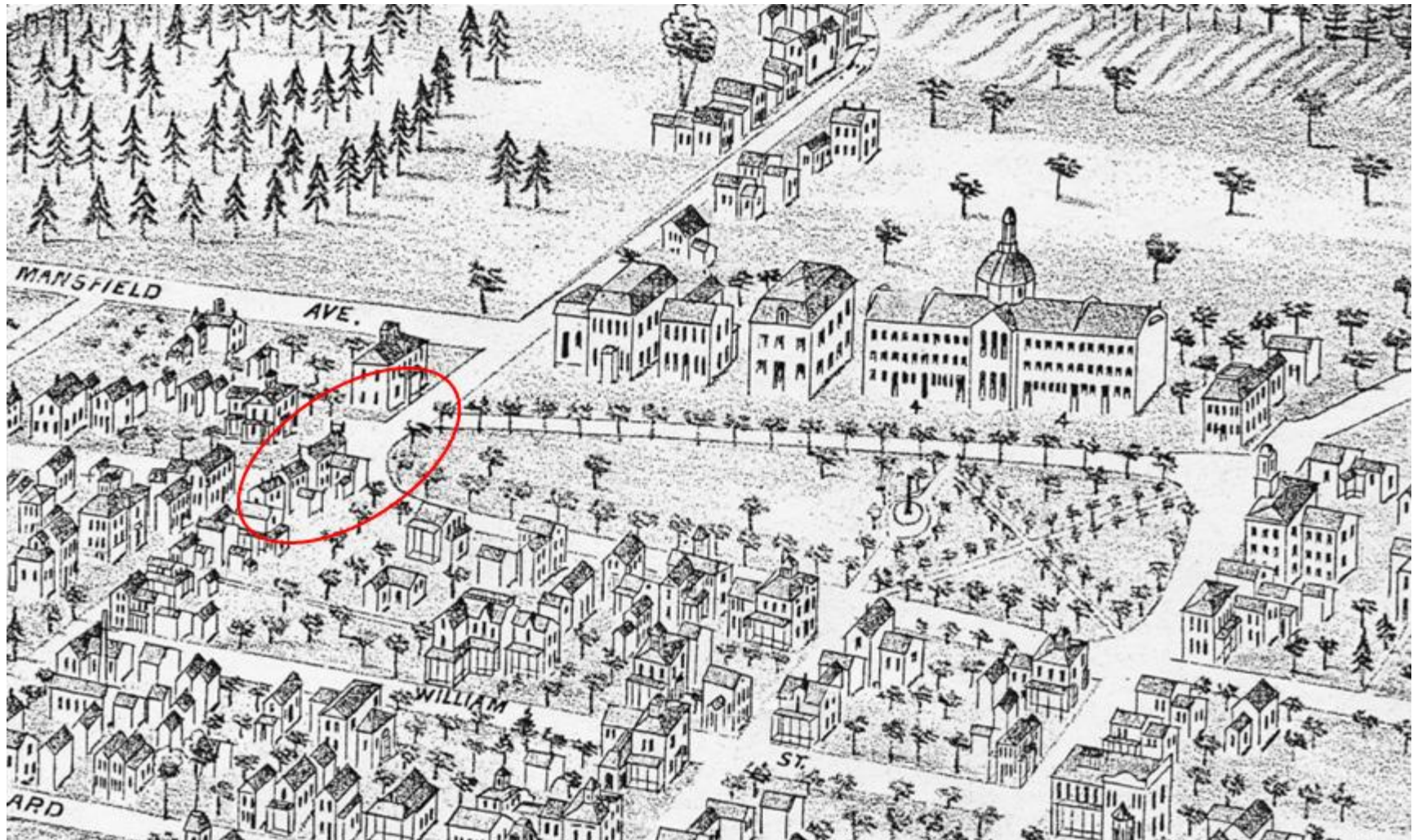


Figure 11. Detail of Meilbek's 1877 *Bird's Eye View of Burlington and Winooski, Vermont*, with the project area intersection circled in red.

## HISTORIC RESOURCES

### University Green National Register Historic District

The proposed project area lies within the northern end of the University Green Historic District, which includes University of Vermont buildings that border the perimeter of the University Green (Figure 12) (NPS, USDI 1975). The University Green Historic District was listed on the National Register of Historic Places on April 14, 1975. The National Register nomination points out that architecturally, the district is unusual for the visual coherence it achieves despite a great diversity in building size and styles. A number of buildings in the district could rest individually on the merits of their design. The area around the Green has served as the primary focus for higher education in Vermont for two centuries and the district is significant as the nucleus of the main campus of the University of Vermont.

The National Register Nomination divides the resources within the district into three visual groups of buildings; the project area falls within the third unit, which includes buildings along South Prospect Street, Pearl Street and Colchester Avenue. This unit is dominated by three large, twentieth-century institutional buildings: Waterman, the DeGoesbriand Hospital and John Dewey Hall. The latter two buildings are situated within the project area; the hospital lies at the corner of South Prospect and Pearl Street, and John Dewey Hall is located at the corner of North Prospect and Colchester Avenue. Two other buildings included in this third visual grouping within the District also fall inside or nearby the project area. One is Lambda Iota Fraternity, which is located at the corner of North Prospect and Pearl streets, and the other is Pearl House, on the north side of Colchester Avenue, immediately east of John Dewey Hall. In addition to the buildings, the north end the University Green, which includes a statue of the Marquis de Lafayette, also lies within the project area.

A brief description of each of these resources is given separately below. Except where specifically referenced, historic information is summarized from the University Green Historic District National Register Nomination form, and from on-line histories included in the *University Green Area Heritage Study*, completed by students in the UVM Historic Preservation Program (NPS, USDI 1975; UVM HP Program 2011). Sanborn Fire Insurance maps were also reviewed for resource histories (Sanborn 1889 – 1950).

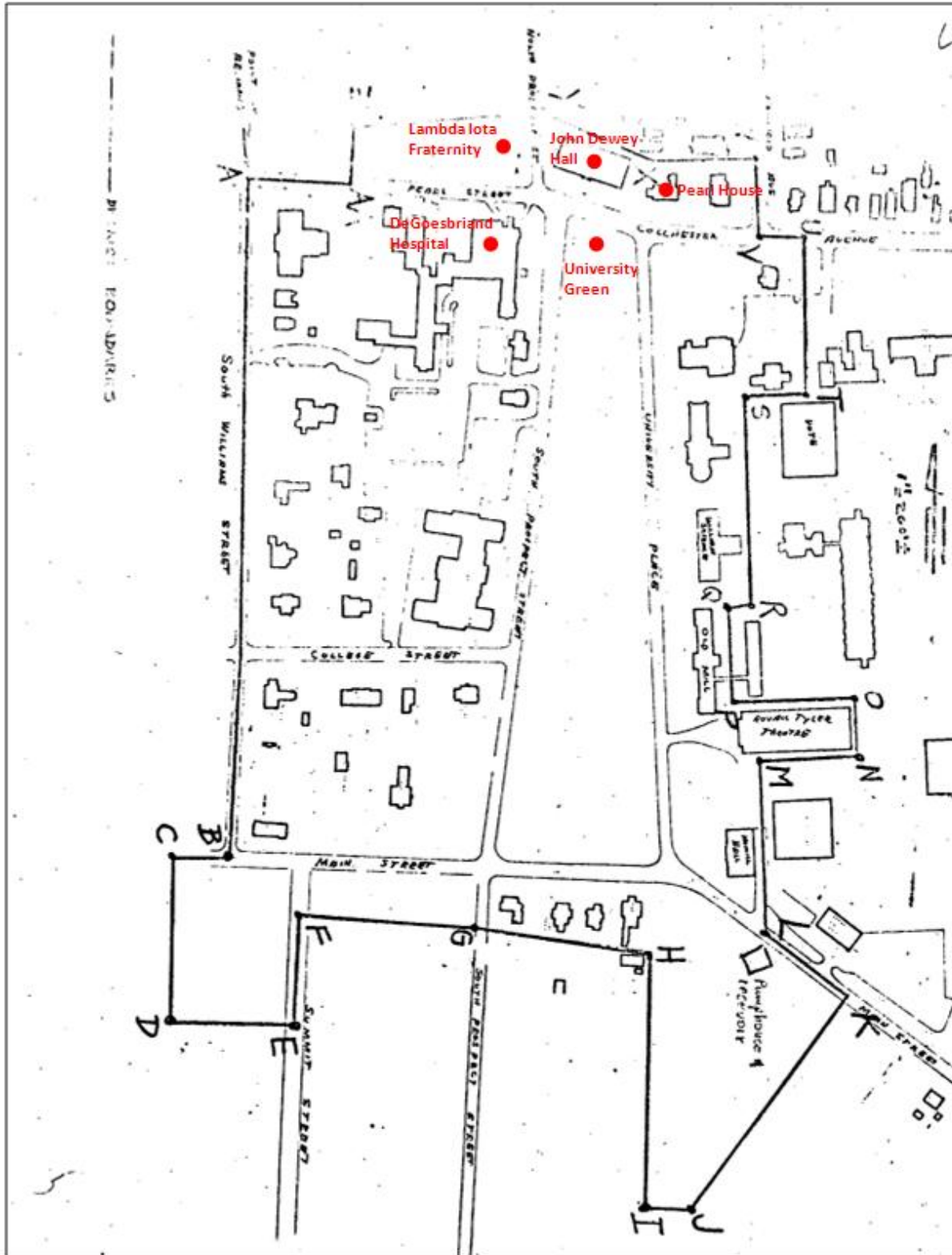


Figure 12. Sketch map of the University Green Historic District with resources within the project area identified in red (NPS, USDI 1975).



*DeGoesbriand Hospital (1 South Prospect)*

Designed by the architectural firm of McGinnis & Walsh, and constructed by the Catholic Diocese of Burlington in 1925, the Bishop DeGoesbriand Hospital building occupies the southwest corner of the intersection of Pearl and South Prospect streets (Figure 13; see Figure 1). It is a 4-story, plus basement, sand-colored brick building embellished with Gothic and Classic Revival stylistic details, such as pinnacles, quoins and Ionic pilasters (Figure 14). Several additions were added to the west (rear) side of the building in the mid-1900s, including the St. John Pavilion, which was completed in 1948, a laundry in 1958, and then a rehabilitation center which was built onto the west side of the St. John Pavilion. The Bishop DeGoesbriand Hospital merged with Mary Fletcher Hospital in 1967 and the two became the Medical Center Hospital of Vermont. Although students from the University of Vermont College of Medicine worked with the hospital since it opened, an official partnership was not established until the 1940s. Today, the university owns the entire complex, having purchased it in 1977. The buildings house medial offices, classrooms for the medical school, the student health center, a pharmacy and medical research laboratories. Fletcher Allen also leases a portion of the complex, which it uses for patient care.



Figure 13. Early twentieth-century postcard of the DeGoesbriand Hospital, facing southwest (UVM Landscape Change Program, image LS20163; courtesy of University of Rokeby Museum).





Figure 14. View southwest of the DeGoesbriand Hospital.

*Lambda Iota Fraternity (440 Pearl Street)*

The Lambda Iota fraternity house sits at the corner of Pearl and North Prospect streets, at the northwest corner of the project area intersection (see Figure 1). The 2 ½-story brick house was constructed by the fraternity in 1913 (Figure 15). It is a Colonial Revival/Neoclassical, temple style building with a full-façade porch supported by simple, classical columns, and side porticos (Figure 16). The entry door is centered on the front façade and has an elaborate, decorative surround with Ionic pilasters. There are paired, exterior chimneys and a Palladian window with balcony on each gable end of the house. The roof is slate covered and the front slope is punctuated by three dormers. During WWI, the house was closed from May 1917 to January 1919. In 1928 a massive fire severely damaged the house requiring major repairs. A second fire in 1940 caused minimal damage. Fifty pilot trainees rented rooms in house during WWII, which required the installation of additional bathroom facilities; however, the building eventually became unlivable during the war because rationing prevented the burning of coal for heat. The lack of heat in the building caused plaster to weaken and paint to peel and by 1954 the house was in very poor condition. A complete interior and exterior renovation was completed at that time. Additional renovations were undertaken in the summer of 2011. The building still functions as a fraternity house today.



Figure 15. Early twentieth-century photograph of the Lambda Iota Fraternity, facing northeast (UVM Landscape Change Program, image LS10188; courtesy of University Archives).



Figure 16. View north of the Lambda Iota Fraternity.

*John Dewey Hall (2 Colchester Avenue)*

Dewey Hall, as it is currently named, was constructed in 1903 as the University of Vermont's third Medical College building (Figure 17). The building replaced an earlier medical building which had been built at the site ca. 1884, but which burned on December 3, 1903. The building that burned was constructed as a replacement for Pomeroy Hall, the university's first medical building, which was in need of repairs and which the Medical College had outgrown. Dewey Hall was designed by Burlington native Walter Ross Baumes Wilcox and built by the Champlain Manufacturing Company. The building is at the corner of Colchester Avenue and North Prospect and occupies the northeast corner of the intersection (see Figure 1). It is a brick building consisting of three floors and a mostly above-ground basement (Figure 18). It was constructed in the Neoclassical style with a central, projecting pavilion that contains a 2-story porch with Ionic columns. Decorative features include full wall height pilasters, a stringcourse with dentils, and contrasting, light-colored masonry elements. The entablature at the roofline has been encapsulated in black fabric. The building was renovated in 1969 to house the Psychology Department and at that time was named John Dewey Hall. It is still the home of the Psychology Department.



Figure 17. View of the Medical College (Dewey Hall) ca. 1905, facing northeast (UVM Landscape Change Program, image LS10114; courtesy of University Archives).





Figure 18. View northwest of John Dewey Hall.

*Pearl House (12 Colchester Avenue)*

Pearl House lies east of the Pearl/Prospect/Colchester intersection, at the terminus of University Place, but is included in this review since exact project boundaries are not currently known (see Figure 1). Constructed ca. 1789, Pearl House may be the oldest frame house in Burlington. It appears to have been occupied as a single-family residence up until about 1895. After that date, the building operated primarily as a boarding house until 1917, at which time it became vacant. By May of 1919, the Sanborn Map lists the property as “to be State Board of Health” (Sanborn 1919). Various State of Vermont health agencies apparently occupied Pearl House up until ca. 1956, though the property is recorded as “University of Vermont, Off’s” on the 1942 Sanborn Map (Sanborn 1942) (Figure 19). From 1956 to 1970, Pearl House became the University of Vermont Medical Building Annex; until 1978, it continued to be used by the university, but was then vacant until 1988. Beginning in 1988, the building was leased to a non-university group, but since 2006 has been occupied by UVM’s Office of Student and Community Relations. The house is a 3-story, 6 x 2 bay wood frame house with clapboard siding, stone foundation and hipped roof (Figure 20). It has a single story porch across the four center bays which does not appear on the building in 1889, but does show by 1892 (Sanborn 1889 and 1892). In Meilbek’s 1877 *Bird’s Eye View of Burlington and Winooski*, the house seems to have a cupola or belvedere-type structure on the roof, and a smaller front porch (see Figure 11).



Figure 19. View north of Pearl House (at right), ca. 1955 (UVM Landscape Change Program, image LS10826; courtesy of University Archives).



Figure 20. View north of Pearl House.



### *University Green and Lafayette Statue*

The north end of the University Green lies within the project area, along the south side of Colchester Avenue, between South Prospect Street and University Place, directly across from Dewey Hall (Figures 21 and 22; see Figure 1). The Green is part of the land originally conveyed to the university by Ira Allen in 1791, though it remained largely unused and overgrown until it was cleared ca. 1799. At some point after Allen's gift, this area fell into private ownership (see Appendix I) and contained three buildings until at least 1830 (see Figure 8). One of these buildings, located at the northeast corner of the current Green, was a store built by 1816 (see Figure 7). All three buildings were removed by ca. 1833 (see Appendix I). The class of 1837 is credited with shaping the Green into a more park-like parcel, with walkways, planted trees, fences and arched gates. By 1893, groves of evergreens were in place and the entire Green was encircled by elm trees. Most of the elms succumbed to Dutch elm disease by 1970.

The Marquis de Lafayette statue was placed on the north end of the University Green in 1921. It was moved to this location from its former location at the center of the Green, in front of Old Mill, where it was installed in 1883 to commemorate General Lafayette's laying of the cornerstone of the Old Mill building in 1825. The statue is a cast bronze piece by artist J. Q. A. Ward; it is mounted on a large granite base (Figure 23). The statue is currently missing its cane. Dense shrubs were recently removed from around the statue, returning it to its original visibility.

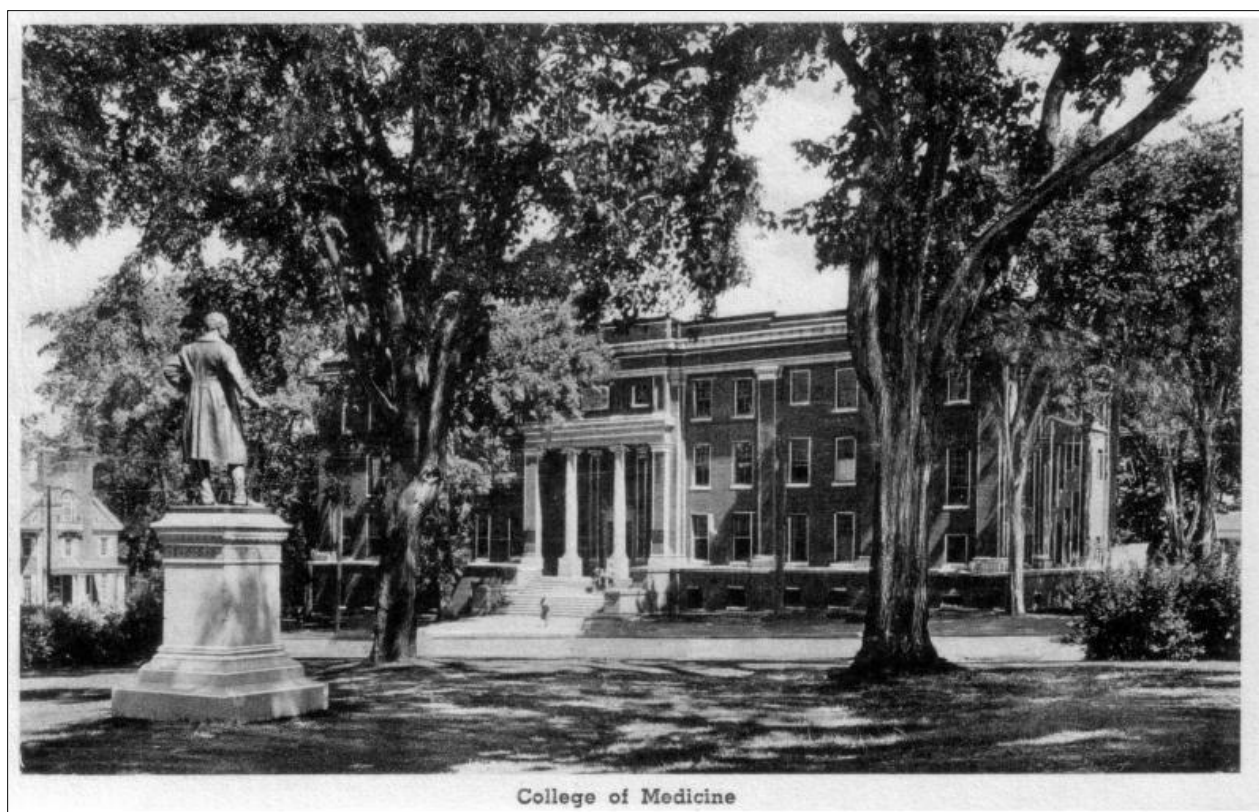


Figure 21. Postcard, view northwest ca. 1926, showing the north end of the University Green, with the statue of Lafayette at left, and John Dewey Hall at center background (UVM Landscape Change Program, image LS09705; courtesy of University Archives).





Figure 22. View southwest of the north end of the University Green, with the Lafayette statue at left, and the DeGoesbriand Hospital building at right background.



Figure 23. View south of the Lafayette statue on the north end of the University Green.

### Statement of Significance

DeGoesbriand Hospital, Lambda Iota Fraternity, John Dewey Hall, Pearl House and the University Green are all contributing resources to the National Register-listed University Green Historic District. All five resources were included in the nomination and added to the register in 1975, and all remain significant, contributing properties. Overall, the University Green Historic District retains its integrity of location, design, setting, workmanship, feeling, and association and it remains eligible for inclusion on the National Register of Historic Places.

### Potential Effects

If road widening or other project work takes place outside of the road Right of Ways and proposes to use property associated with the buildings or the Green, all five historic resources within the project area have the potential to be affected by project work. Other than the University Green, which has the potential to be directly disturbed if project work uses any portion of its parkland, it is unlikely that other resources would be directly impacted by project work. However, indirect effects from project work could possibly affect all resources. Currently, space directly in front of the resources and land adjacent to the roads is already occupied by numerous structures and objects such as sidewalks, hedges, trees, bus shelters, lamp posts, university way-finding signs, road signage, traffic and utility poles, and other items. Moving these items closer to buildings and onto the Green, may cause adverse effect by further impinging on the setting of the resources.

Particularly constricted areas exist along the front facades of John Dewey Hall and DeGoesbriand Hospital, since both buildings have projecting entry ways that reach close to existing sidewalks (Figures 24 and 25). Areas around the Green, Lambda Iota Fraternity, Pearl House and the north side of DeGoesbriand Hospital, have slightly more room adjacent to them and may be able to accommodate some minor project work without causing adverse effect (see Figures 26 – 30). As noted above, relocating existing elements in these areas would have to be accomplished without further, significantly affecting the resources. The Lafayette statue is situated far enough back from the road's edge that it would likely not be affected by project work (Figure 31).





Figure 24. View east showing area between front (south side) of John Dewey Hall and the northern edge of Colchester Avenue; Dewey Hall at left.



Figure 25. View south showing area between front (east side) of DeGoesbriand Hospital and the western edge of South Prospect Street; hospital at left.





Figure 26. View west showing area at northern end of the University Green, along the southern edge of Colchester Avenue.



Figure 27. View south showing area at western edge of the University Green, along the eastern edge of South Prospect Street.





Figure 28. View northeast showing area between north side of DeGoesbriand Hospital and the southern edge of Pearl Street; hospital at right.



Figure 29. View south showing area between south side of Lambda Iota Fraternity and the northern edge of Pearl Street; Lambda Iota at right.





Figure 30. View west showing space between front (south side) of Pearl House and the northern edge of Colchester Avenue; Pearl House at right.



Figure 31. View west across University Place of the north end of the University Green showing the area between the Lafayette statue and the southern edge of Colchester Avenue.



## **SUMMARY AND CONCLUSIONS**

The City of Burlington, through the consulting firm of Resource Systems Group, Inc. (RSG), is conducting a scoping study to investigate potential alternatives for the redesign of the intersection located where Prospect Street crosses over Pearl Street and Colchester Avenue, in Burlington, Chittenden Count, Vermont. At this time, the project is in the early planning stages and there are no plans available for review.

The proposed project area lies within the northern end of the University Green Historic District, which includes the University Green and the University of Vermont buildings that border the perimeter of the Green. The University Green Historic District was listed on the National Register of Historic Places on April 14, 1975. There are five District resources at or nearby the intersection that have the potential to be affected by project work: DeGoesbriand Hospital, Lambda Iota Fraternity, John Dewey Hall, Pearl House, and the University Green, including a statue of the Marquis de Lafayette.

A review of the project area indicates that these five resources within the University Green Historic District have the potential to be affected by project work. Flexibility within the project area is fairly constrained by the closeness of historic buildings to roads, especially in the cases of John Dewey Hall and DeGoesbriand Hospital, and by the many objects and structures that line the roadways within the project area. Some areas, such as at Lambda Iota Fraternity and Pearl House, where buildings are set slightly farther back from the road's edge, may be able to accommodate minor changes without adversely affecting the properties, though even at these locations, there is little room for adding project components or moving existing elements. The same is true for areas that border the University Green. Although the Green has largely unconstrained open space along the road sides, any significant encroachment into or use of this historic resource would likely result in an adverse effect since it derives its significance from being an open parkland.

A final Section 106 review of the project will be needed once project plans have been developed.

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## APPENDIX I: DETAILED PROJECT AREA HISTORY

### *North End of University Green*

The University Green (also known variously in history as the College Green, the College Park, University Park, or the College Common) has not always been open green space. There were once several structures on it, both on its northern and southern ends. Specifically, the area which is now part of the northern end of University Green that is located south of Colchester Avenue and in between South Prospect Street and University Place, had at least three structures on it; one was a store located in the northeast corner built ca. 1814 and two structures (currently of unknown ownership/function), were built between 1816 and 1830 on the east side Prospect Street (one at the corner and one a little to the south of the other).

There is also a possibility of an even earlier structure in this area. In 1801, Ira Allen wrote an open letter published in the local newspaper which read: “Gentlemen, I have observed that you are about to erect buildings on land that have been appropriated for a public Green, to contribute both to convenience, elegance and use of the University of Vermont, Burlington, &c. Permit me to state the facts. When the Corporation of said university struck the stake, for the lands and public buildings, it was agreed to reserve a convenient Door-Yard in front of said buildings, that the remaining public lands to the west should be appropriated to the use of a Green. I then proposed to the Corporation, in the presence of a number of respectable Spectators, that as proprietor or owner of lands to the North of the College Green, to the road leading from the Lake past Mr. Loomis’ to the falls of Onion River should also be added to said Green and no Building erected thereon” (*Vermont Centinel* June 18, 1801). Although it is not certain what structure Allen was referring to, it is noted that “Horace Loomis, one of the early settlers of Burlington, . . . says the first schoolhouse in town ‘was built just east of the convent’ This must have stood on ground now in the park, and was probably built of logs” (*Burlington Free Press* 1893).

Initial research indicates that the north end of the present University Green was owned by Col. Stephen Pearl by ca. 1800 (Anonymous 1832:530). Pearl, formerly a merchant from Pawlet, Vermont, came to Burlington from Grand Isle ca. 1794 and took up residence in a house built by Frederick Saxton at the head of Pearl Street (built ca. 1789 [later owned by; A. Foote [Walling 1857] and then O.S. Wood [Beers 1869], which is still standing on the north side of Colchester Avenue (Pearl House) (Rann 1886:399). It was said that Col. Pearl was “a large portly man, generous and genial to a fault, successful as a farmer, but too free with his goods for a merchant of those days” (Rann 1886:399-400). Pearl’s expansive generosity apparently once included the north end of the green. Beginning ca. 1801 and going to ca. 1814, Pearl occasionally indicated, both in statements made to various individuals and by descriptions of lots of land that he sold that were located on the east and west side of the green, that the area to the south of his house was to be left “open to the public as an addition to the college green” (Anonymous 1832:531-532). In several deeds for lands to the east and west of the land in question, Col. Pearl describes them as being bounded on the “college green” (Anonymous 1832:531; Burlington Land Records [BLR] 2:428; 2:463; 2:545; 5:150; 5:421; and 6:177). Stephen Pearl allowed this area to be “cleared and made smooth by the voluntary labor of students and other individuals” (possibly including “those people of Shelburne and other adjacent towns were invited to assist”), although “aided in one instance by a contribution for

digging out the stumps” between 1801 and 1805 (Anonymous 1832:530-531; *Burlington Free Press* 1893). Col. Pearl also made no protest in 1807 when the town “selectmen laid a road six rods wide upon the west side of the tract in question [now South Prospect Street], and another of the same width on the east side, [now University Place; formerly High Street] “, which subsequently were left “open and unobstructed” (Anonymous 1832:532).

Later in life, however, Stephen Pearl apparently changed his mind about giving away the land and began selling lots on it. On November 12, 1814, Stephen Pearl sold Giles T. Chittenden, a merchant, and Archibald W. Hyde (?-ca. 1847), a lawyer and Collector of Customs, a parcel that was “about six rods [99 ft] east and west, and about ten rods [165 ft] north and south and situated between the two roads” for \$200 (Anonymous 1832:530-2; BLR 5:150). The deed described the land as “beginning at a stake standing N81W one chain and fifty links from the northwest corner of the brick store now occupied by said Chittenden, which said store stand opposite the said Pearl. Thence south two chains and fifty links to a stake. Thence N3E two chains and fifty links to a stake. Thence S81E one chain fifty links to the place of beginning, containing sixty-one rods of land and being part of 100 acre lot no. twenty-two” (BLR 5:150).

Giles T. Chittenden (1769-1819) was a native of Sudbury, Connecticut, and son of Gov. Thomas Chittenden, the first Governor of Vermont (Blow 1997:72). Records suggest that Giles Chittenden came to Burlington “sometime before 1810” (Blow 1997:72). He built a large two story white painted store on the land that he and Hyde bought from Stephen Pearl (on the “northern side of the College Green south of Pearl Street”) ca. 1814 (Rann 1886:413) (Figure 32). Reportedly, it was “an elaborate structure, which those who remember say was decorated with extensive interior galleries” (Rann 1886:413). The general site of this store is indicated on a John Johnson map from 1816 (see Figure 7) as well as on the 1830 Ammi B. Young map of the Village of Burlington (see Figure 8). Chittenden also bought a home on Colchester Avenue in November of 1814 (Blow 1997:72). On August 14, 1816, Giles Chittenden sold the land “lying on the south side of Pearl Street so called and north of the College Green, being the same land that was conveyed to me and A.W. Hide [sic] Esq. by Stephen Pearl and on which my store now stands, with all the store and other buildings thereon standing” along with other parcels to Guy Catlin (Anonymous 1832:532; BLR 6:117). Unfortunately, Chittenden’s “extreme kindness of heart . . . brought about his financial ruin and he finally died within the jail yard of Burlington on the 28<sup>th</sup> of February 1819, (when imprisonment was a punishment for debt in this state). His pecuniary condition was a consequence of his endorsement of a relative who was an active merchant of Burlington and had failed in business” (Blow 1997:72).

Guy Catlin (1782-1853) lived on ‘Catlin Hill’ where the Fletcher Allen medical complex is today (*Burlington Free Press* May 9, 1918). After he acquired the old Chittenden store on the Green, Catlin leased it to other parties, specifically “the firm of Eddy, Munroe & Hooker (prominent merchants and lumbermen)” (Figure 33) (Rann 1886:413, 422-423). Although it was said the store was vacant in 1827, it may have been re-occupied prior to 1832 (Anonymous 1832:532; Rann 1886:413, 422-423).

**FOR SALE,**  
At the Store of  
**G. T. CHITTENDEN,**

**A** COMPLETE assortment of  
J-panned Tea Trays and  
Waiters, of various colours, shapes  
and patterns; snuffer and bread  
trays; curtain pins for drawing  
rooms, the latest invented pat-  
terns; polished steel snuffers, 50  
gross 1 1-8 inches brass but hinges,  
40 dozen 2 1-2 inch brass box  
locks, wrought iron but hinges  
and round bolts, patent brass two-  
light lamps for halls or computing  
rooms, and brass socket castors for  
sofas or bedsteads, and commode  
knobs for bureaux. The above  
goods are offered (wholesale) at the  
present Boston and New York  
prices. by retail, at low prices.  
*Burlington, 3d June, 1813.*

Figure 32. Advertisement for G.T. Chittenden from the *Vermont Centinel* June 3, 1813. This may not refer specifically to the store on the UVM Green, but it does indicate what line of goods Chittenden specialized in.

**NEW STORE.**

**T**HE subscribers respectfully  
inform the public that they  
have commenced business in the  
mercantile line in the white Store  
near the College, formerly occu-  
pied by G. T. Chittenden, Esq.  
where they are now opening and  
offer for sale a choice and gener-  
al assortment of

**DRY GOODS,**  
Groceries, Hardware, and  
Crockery ;

consisting of most articles enquir-  
ed for in a country store. All of  
which will be sold at moderate  
profits for cash, lumber, or pro-  
duce. They also pay cash for mill  
logs, boards and plank, and most  
kinds of lumber.

**EDDY, MUNROE & HOOKER.**  
*Burlington, Nov. 28, 1825.* (143)

Figure 33. Advertisement for Eddy, Munroe & Hooker from the *Vermont Centinel* of December 16, 1825.

Other areas of the northern part of the future University Green appear to have remained open a little longer. This area was occasionally used for large celebrations associated with the Barnard tavern. These included a July 4<sup>th</sup> celebration in 1813 (during the War of 1812) (*Vermont Centinel* July 9, 1813). It is reported that after the close of the exercises, “the procession was again formed to return to Mr. Brainrd’s [Barnard’s] soon after the return of the procession, between 4 and 500 of the company entered a delightful bower, erected by Mr. Barnard on the College Green in a circular form and partook of a dinner which was admitted by all present, exceeded any ever prepared on any pubic occasion in this part of the country” (*Vermont Centinel* July 9, 1813) including “officers of the army and navy at this post” (notably Capt. Hall of the light dragoons and Lt. Churchill of the artillery whose guns punctuated the several toasts made at the end of the meal) (*Vermont Centinel* July 9, 1813). Similarly, according to William D. Farnsworth (1801-?), “in 1816, James Monroe, candidate for president of this nation, made a trip through from Boston to Burlington. Eli Barnard, then a hotel keepers at the corner of Pearl and Prospect Streets, southwest corner, had a good sized pit dug on the north side of the college green, as we used to call it, and just across the street from his hotel, had an ox dressed and well roasted hanging over the fire, with long tables running north and south, well protected from the sun by a covering of green boughs supported by uprights” (quoted in Mayo 1966:101).

On July 4, 1816, Stephen Pearl sold “all that certain piece or parcel of land which is bounded southerly by the College Green [as he then defined the green] northerly by the road leading from Burlington Bay to the lower falls of Onion River, westward by the road which passes along the west side of said College Green and easterly by the road which passes in front of the College and along the east side of said College Green (except such part thereof as the said Stephen Pearl have heretofore deeded Giles Chittenden and Archibald W. Hyde) . . . containing by estimation about one acre and two tenths of an acre of land” to Cornelius P. VanNess for \$300 (Anonymous 1832:532; BLR 5:421). At this time, C.P. VanNess owned a white painted two story house on the east side of the green, which was located “where the Billings Library now stands” [this house was “later occupied by President Marsh and latter still by the late Prof. McKendree Petty [sic]” (see Figure 7) (*Burlington Free Press* May 9, 1918). About 1820, “the selectmen of Burlington laid out and opened a cross road from east to west between said tract deeded by Pearl to Chittenden and Hyde . . . and the tract purchased by Mr. VanNess” (see Figure 8) (Anonymous 1832:532).

Col. Stephen Pearl died “on the 21<sup>st</sup> of November 1816, at the age of sixty-nine years” leaving behind a fair amount of confusion over the legal status of the land that would eventually become the northern part of the University Green (Rann 1886:400). Beginning ca. 1830, the State of Vermont actively sought to evict all of the occupants from both the north and south parts of the Green (including *at least* Guy Catlin and Luther Moore) (State of Vermont 1830). By January of 1831, the State’s case against Guy Catlin for the removal of his structures from what would become the north end of the University Green had reached the Vermont Supreme Court. Catlin had been indicted for a “nuisance in maintaining and continuing a certain store in Burlington’ south side of Pearl Street” on a parcel “a little less than twenty rods wide, from east to west, and more than twenty rods long from north to south” (Anonymous 1832:530). The state argued that the lands, even though there was no deed given to the University or the State of Vermont nor was there a formal recorded declaration made by Stephen Pearl, belonged to the people based on the concept of a “dedication to the public” by Stephen Pearl through a collection of statements and actions (or inactions) attributable to him. In their argument, the State pointed

to Col. Pearl's verbal statements made to several individuals, various deeds, the fact that he allowed others to clear and grade the land and allowed the development of public roads. Together, these actions they said proved that Stephen Pearl intended to leave this place open for use by the public. In his defense, Guy Catlin argued that Stephen Pearl's right "to resume the exclusive possession of the land was not lost, unless it had been occupied with his assent as a public square or college green for the term of fifteen years" (Anonymous 1832:533). Catlin pointed out that from 1816 to 1832, that he and "his tenants had occupied and upheld the store" on the property (Anonymous 1832:532). Catlin also argued that Stephen Pearl had intended to give the land to the college and not to the public at large (Anonymous 1832:533). The high court, however, rejected his arguments. The decision against Catlin probably sealed the fate of other cases in favor of state. It is said that: "a suit at law, brought to establish his title, went against Mr. Moore, and the land was declared to be part of the College Common (*Burlington Free Press* 1893). [Also, part of the land in the southwestern corner may have been sold to UVM in 1830 by Loomis and Moore (BLR 10:122)]. At any rate, it is very likely that all the buildings on the Green (both north and south) were razed or removed as a result of the court's decision.

Soon after the structures were removed, there was a renewed effort made to improve the whole green. In 1834, the local newspaper reported that the students 'attached to the University' and citizens were enclosing the grounds 'in front of the College Edifices' with a "stout wooden fence, of three heavy rails framed into posts" and that "the subscription for enclosing and embellishing the College Common, we learn amount to \$500" (*Vermont Centinel* 1834) (Figure 34). "A history of the class of 1833-37" by James W. Hickok, printed in 1891" indicates this effort was led by Alvi Tabor Twing, "a tall, overgrown man" who was "the most energetic and vigorous personality of the class" (Lindsay 1956:172). Twing was born on February 9, 1812 in Topsham, Vermont, but was apprenticed to a blacksmith in Newbury, Vermont, named Peabody Webster Ladd (1805-1891) in 1828, who "finding him anxious to obtain an education, . . . cancelled his indentures, and helped him through college" (Wells 1902:613). Eventually, he became an Episcopal minister and served as the "Superintendent of Missions" for that church (Wells 1902:613).

Until Twing and his classmates came along, the University Green had been largely "neglected and disreputable" (Lindsay 1956:172). Reportedly, "for two months" Twing "and his associates busied themselves in grading the grounds, filling the cellars at either end, removing debris, and planting elm trees around the entire park" (*Burlington Free Press* 1893). In this work, it was reported that "the students set their hands to the work with a will, wielding plow and scraper with a skill and energy born of their farm training" (*Burlington Free Press* 1893). It is also said that Twing, "having come from a blacksmith shop, . . . he made the iron turnstiles for the entrance of each walk and two arched gates in the fence erected at that time" (Lindsay 1956:172). "A document dated October 28, 1836, indicates that the sum of \$705 had been 'expended by the committee of young men who undertook the improvement of the publick common near the college.' They had raised \$520 but needed \$185 to pay the mechanics and to repay money borrowed" (Lindsay 1956:172).

Based on documentary evidence, it is believed that the filling of the cellar holes on the Green in the 1830s did not completely obliterate these historical features. As late as 1918, it was noted that on the south part of the green a "cellar and old well may be seen in outline, now, directly opposite Dean Votey's residence" also that "old cellar outlines" were also visible "at the



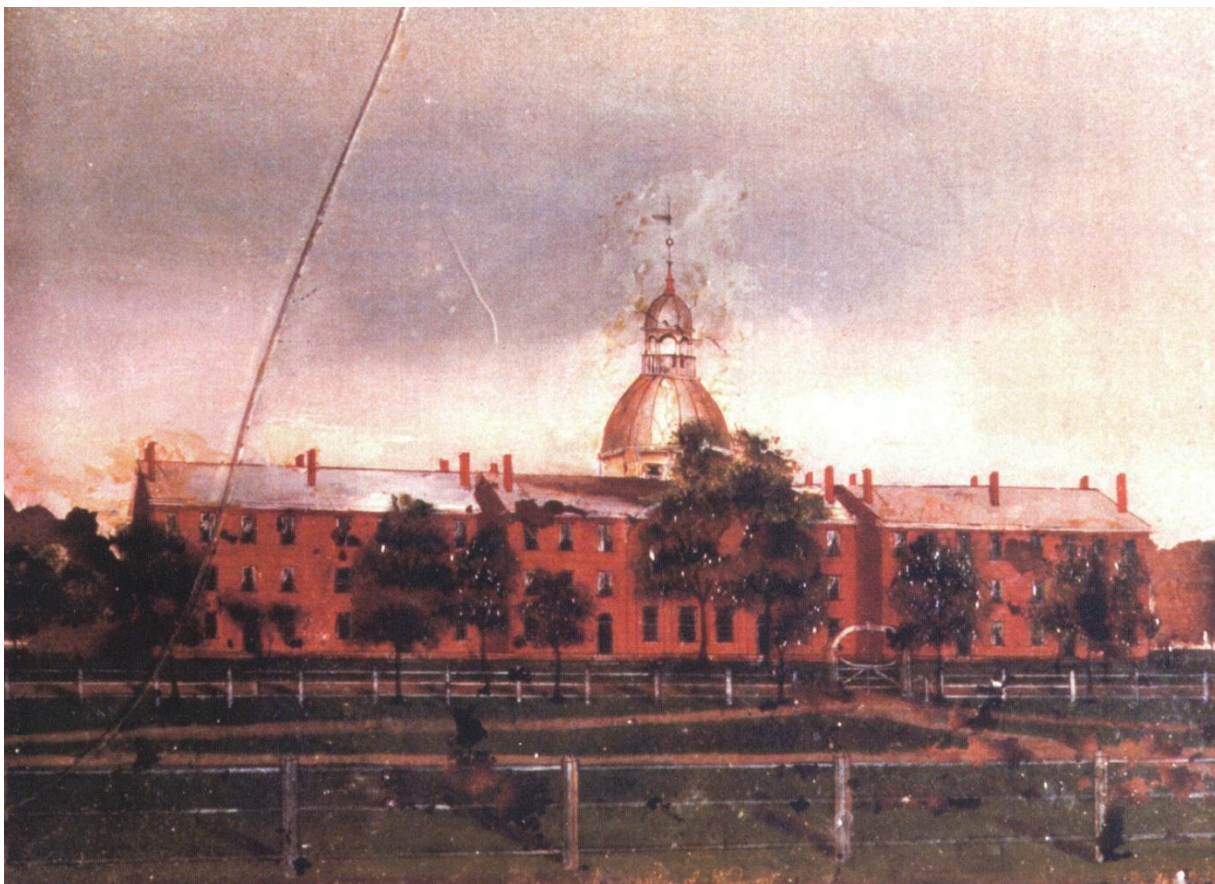


Figure 34. The University of Vermont ca. 1834-1846 (a reverse glass painting, reproduced in Baker, Hathaway, and Frink 2002 Vol. I:98). These three buildings replaced the first college building, which burned down on May 24, 1824. In 1846, these three structures were united to form the basis of present day 'Old Mill' (*Burlington Free Press* May 9, 1918). Note some of the improvements made to the University Green in the early 1830s. The fence was removed ca. 1874.

extreme north end of the campus [Green]" indicating "that buildings stood on each corner" (*Burlington Free Press* May 9, 1918). This assumption of limited disturbance for the sites on the green appears to have held true at the partially excavated Hurlburt-Moore site (VT-CH-676) located on the southeast part of the University Green in 1993. Although, this site was covered by post occupational fills, a house foundation and a stone lined well were identified (Baker, Hathaway, and Frink 2002 Vol. I:40-41). In addition, significant number of early 19<sup>th</sup> century artifacts were recovered (Baker, Hathaway, and Frink 2002 Vol. I:40-41).

The University Green was used for some light agricultural purposes, even after the fence went up. Oscar F. Dana noted "just in front of the College is a Green which the students enclosed a year or two since, about 7 acres, with a fine white fence & cedar posts. Last year, the faculty sold the grass on it for \$15. The boys in the College were mad, and when the man attempted to mow it a second time, they went into the field as a body and caught the grass that was raked up and strewed it all around again, and would not let it be touched. This year the faculty have sold it for \$50, which is about its value, as it is the heaviest piece of grass in town

by all odds” (Lindsay 1956:173). This event probably took place in south part of green claimed by Luther Moore “he cut the grass upon it, and had a load of the hay upon a wagon, to remove it, when the students rooming in the college, not relishing what they considered an encroachment on the green appeared suddenly on the scene, upset the wagon, and scattered the hay to the four winds (*Burlington Free Press* 1893). “At an earlier day, the common was used as pasture for a few sheep owned by some neighboring farmer, till one summer morning, the flock was discovered to have sunk into the ground: The students had during the night dug holes and buried the sheep leaving only their heads above ground. The sight and sound of a number of bleating heads sticking out of the ground, apparently without bodies, drew many spectators to the spot and occasioned no little merriment” (*Burlington Free Press* 1893).

Overall, the UVM Green has remained relatively unchanged since the 1830s. In 1886, it was noted that the “College Park, of many acres, beautifully crowns the hill. Not very much is done artificially, but the trees are of good growth and are prettily grouped” (Rann 1886:511). Since the late 1800s there have been some changes, including the addition of a fountain, statues and some monuments, the construction of various walkways (most recently concrete ones), landscaping including some tree plantings, and the installation of buried services/utilities.

#### *DeGoesbriand Hospital (Fletcher Allen Health Care / University Health Center) Area*

The area at the corner of South Prospect and Pearl streets (now occupied by the DeGoesbriand Hospital building (Fletcher Allen Health Care and the University Health Center), was originally the site of ‘The Green Mountain House,’ a tavern, built ca. 1789 by Eli Barnard (but which was more commonly known as Barnard’s Tavern) (*Burlington Free Press* May 9, 1918; *Burlington Free Press* 1893). It was run “for many years” by Eli Barnard, “an inventive man, who was ever trying to invent what would now be called a ‘Keely’ motor” (*Burlington Free Press* 1893; Rann 1886:412, 423). “It was afterwards owned by Lewis Higbee for a considerable period” (*Burlington Free Press* 1893). This establishment was destroyed in October of 1838 during a rash of suspicious fires that plagued the city of Burlington ca. 1838-1839 (*Burlington Free Press* July 12, 1839). At the time it was said ‘that this was a set fire there has never been much doubt, but by whom, has not been ascertained’ (*Burlington Free Press* July 12, 1839). The fire occurred on a “Saturday night a little past the middle of the night” and the building “was wholly consumed, with the barns extending west along Pearl Street” (*Burlington Free Press* July 12, 1839; *Burlington Free Press* 1893). Afterwards, “a company of gentlemen, of whom E.C. Loomis was one . . . bought the property and built the Pearl Street House this was opened in 1840, being kept by the late J.S. Peirce and subsequently by the late Warren Root” (*Burlington Free Press* 1893).

By the 1840s and 1850s, much of the business interests as well as the taverns and hotels of Burlington were centered to the west, closer to the lake and railroads. This trend may have contributed to the eventual closure of the Pearl Street House. On March 27, 1854, the Catholic diocese under Bishop Lois de Goesbriand (1816-1899) “purchased the old Pearl Street House Property” and had the building remodeled as “an asylum for orphans” (Byrne et.al 1899:472). “Some will still remember the old sign [for the Pearl Street House] that hung over the door even after it became a Catholic school” (*Burlington Free Press* May 9, 1918). “The Sisters of Providence, of Montreal, were invited to take charge of the institution. The first two to arrive in 1854 were Sisters Teresa and Catherine. The asylum soon began to fill with orphans from all

parts of the state” (Byrne et.al 1899:472). In 1855, it was reported “the one [catholic school] is on College Hill in [Burlington] “it is under the charge of the “sisters of Providence” seven in number. They have a day school of between one and two hundred scholars. They have also under their charge an Orphan Asylum numbering thirty children” (*Vermont Phoenix* June 16, 1855). Henry C. Petty, noted that “on the southwest corner of Pearl and Prospect streets stood the nunnery, a place of so many mysteries that I was never found passing its walls by night” (*Burlington Free Press* June 26, 1913). On Walling’s 1857 map this structure is labeled as a ‘Convent’ and on Beers’ 1869 map, as the ‘Burlington Providence Orphan Asylum & Hospital’ (see Figures 9 and 10). “The Sisters and orphans remained here until [December] 1883, when the facilities for housing a large number of orphans were perceptibly too limited” (Byrne et.al 1899:472).

After the new orphanage was built on North Avenue, the old building at the corner of Prospect and Pearl streets was briefly converted into a men’s college. Bishop de Goesbriand “had long cherished the idea of having a local classical college for the education of boys for the priesthood . . . In 1884 it was announced that a college would be opened in September for young men desirous of procuring a classical education. Rev. D.J. O’Sullivan and a corps of professors were placed in charge of the new institution” as St. Joseph’s College, which had “an existence of six or seven years” (Blow 1991:167; Byrne et.al 1899:474). It is on Hopkins’ 1890 map as ‘St. Josephs’ College’ (Figure 35). The building was razed between 1900 and 1906 and the site was kept as open space until the construction of the present building, which was originally the “Bishop DeGoesbriand Memorial Hospital,” built between 1923 and 1925 (Blow 1991:167; *Burlington Free Press* May 9, 1918; Sanborn Mapping Company 1900, 1906, 1919 and 1926).

### *Lambda Iota Fraternity Area*

The area at the corner of Prospect and Pearl streets, now occupied by the Lambda Iota Fraternity, was formerly the site of Adolphus Walbridge’s Tavern (Rann 1886:412). Walbridge (1767-1838) was a native of Northfield, Massachusetts; he appears to have sold the tavern property ca. 1815 and moved to New York (Figure 36) (U.S. Census 1870). Subsequently, Luther Moore built a new residence on the property and “lived there some time. Luther Moore” carried on his business of harness-making in a brick building west of his dwelling” (Rann 1886:422-423). He died in Washington D.C.” (*Burlington Free Press* June 26, 1913; Rann 1886:412). This house was later owned and occupied by William R. Vilas and his family (*Burlington Free Press* 1893). The Vilas house was torn down between 1906 and 1912 and the present Lambda Iota Fraternity building was constructed ca. 1912 (*Burlington Free Press* December 12, 1912; Sanborn Mapping Company 1906 and 1912).

### *John Dewey Hall Area*

The area at the corner of Pearl and North Prospect streets presently occupied by UVM’s John Dewey Hall, was originally the site of Col. James I. Sawyer’s (?-1827) frame house and store (Rann 1886:413). The store was located “on the corner” just west of the house (*Burlington Free Press* 1893; Rann 1886:422-423). This property was later (by 1816) the site of a large brick store (on the corner) and an elaborate residence built by Harry Bradley [to the east] (Anonymous 1917:3; *Burlington Free Press* 1893; *Burlington Free Press* May 9, 1918; Rann 1886:422-423). Harry Bradley, the “eldest son and third child of Lemuel and Mercy

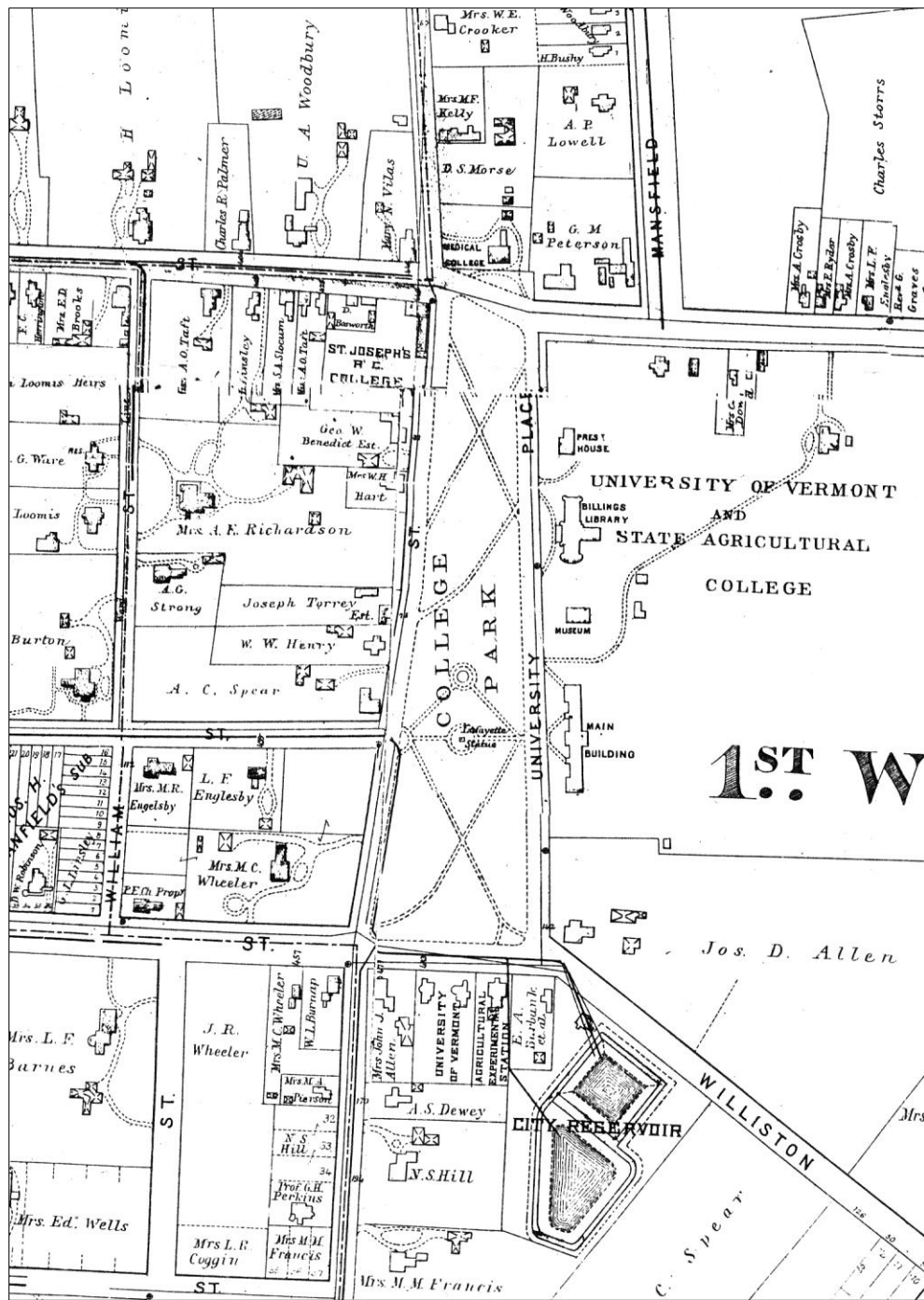


Figure 35. Detail of the Map of the City of Burlington, Vermont, by G. M. Hopkins (1890).

**FOR SALE.**

**A** valuable situation on the North side of Pearl Street, opposite Barnard's Tavern in Burlington, is offered for sale at a bargain. It is that well known and excellent stand for a Tavern heretofore occupied by the subscriber,—consisting of one acre of excellent land, on which are a number of fine fruit trees, with a commodious and convenient dwelling house, barn and out houses, with a brick office on the premises. Possession will be given on the first of April next. If not sold at that time, they will be offered for lease. Also for sale forty three acres of well timbered Land, one mile east of the College on the Turnpike leading to Williston; and one hundred acres of Land in the town of Stowe. Further particulars may be had by enquiring of Timothy Follet, Esq. near the premises, or of the subscriber in Schaghtecooke N. Y.

**ADOLPHUS WALBRIDGE.**  
*Burlington, Feb. 16, 1815.* 7

Figure 36. Advertisement for the sale of Walbridge's tavern from the *Vermont Centinel* of February 24, 1815.

Bradley was born at Sunderland, Vt., March 23, 1793. His father died when he was but seven years of age leaving a young and helpless family. At the age of fourteen he came to Burlington and commenced work under Horace Loomis to learn the business of tanner and currier" (Rann 1886:436). Eventually, he became involved in a store, banking, railroads, and the lumber trade (Rann 1886:436; Walling 1857).

After Bradley died on April 7, 1857, the mansion passed to the ownership of Gov. Levi Underwood (a lawyer born ca. 1822) (Anonymous 1917:3; Beers 1869; Rann 1886:436; Wainwright 1862). The store on the corner was razed/removed between 1857 and 1862, most likely to improve the grounds of the house (Walling 1857 and Wainwright 1862). Henry C. Petty noted that the Governor Underwood mansion was "the finest home on the College Green" (*Burlington Free Press* June 26, 1913). In 1883, it was reported that John P. Howard, a noted Burlington philanthropist and friend of the University, had "been looking over the old Gov. Underwood mansion at the head of College Park with a view of purchasing the same for a new medical college" (*St. Albans Daily Messenger* September 26, 1883). Howard bought the

mansion and converted “a portion of the old mansion” into a new medical school building that opened in March of 1884 (*St. Albans Daily Messenger* March 3, 1884). This building was “consumed by fire in 1903” and replaced by Dewey Hall, which was completed in 1905 (*Burlington Free Press* May 9, 1918). Also in this general area along present day Colchester Avenue, “James Platt once lived in one of the small houses long since taken down, between Mr. Bradley’s cottage and the house of Col. Pearl, and had a shoe shop in the other” (*Burlington Free Press* 1893).



**Archaeological Resources Assessment for the proposed Pearl Street/Prospect  
Street/Colchester Avenue Intersection Scoping Study, Burlington, Chittenden County,  
Vermont**

**Submitted to:**

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**Report No. 703**

**October 10, 2012**

# **Archaeological Resources Assessment for the proposed Pearl Street/Prospect Street/Colchester Avenue Intersection Scoping Study, Burlington, Chittenden County, Vermont**

## **Project Description**

The City of Burlington, with the assistance of Resource Systems Group, Inc., proposes the Pearl Street/Prospect Street/Colchester Avenue Intersection Scoping Study in Burlington, Chittenden County, Vermont (Figure 1). The proposed project will look into alternatives to the existing Pearl and Prospect Street intersection in Burlington, Vermont. A previous corridor study recommended that “the South Prospect Street approach to Colchester Avenue would be relocated to the west to be re-aligned with North Prospect Street. No other lane changes are currently suggested. Traffic analyses conducted for this plan indicated little benefit from by adding an exclusive left-turn lane on the Pearl Street approach. The additional lane should be re-evaluated as part of the scoping and design process for this intersection. The re-alignment would create more green space adjacent to the UVM Green but would also place the roadway and sidewalk closer to the UHC building on the northwest corner” (Figure 2). A roundabout alternative is also under consideration.

The University of Vermont Consulting Archaeology Program (UVM CAP) conducted an Archaeological Resources Assessment (ARA) of the APE for the proposed Intersection improvement project and no portion of the proposed Area of Potential Effects (APE) is archaeologically sensitive due to previous disturbances throughout. As a result, no additional archaeological work is recommended.

## **Study Goal**

The goal of an ARA (or “review”) is to identify portions of a specific project’s APE that have the potential for containing precontact and/or historic sites. An ARA is to be accomplished through a “background search” and a “field inspection” of the project area. For this study, reference materials were reviewed following established guidelines. Resources examined included the National Register of Historic Places (NRHP) files; the Historic Sites and Structures Survey; and the USGS master archaeological maps that accompany the Vermont Archaeological Inventory (VAI). Relevant town histories and nineteenth-century maps also were consulted. Based on the background research, general contexts were derived for precontact and historic resources in the study area.

## **Archaeological Site Potential**

No precontact or historic period sites are known from within, or adjacent to the proposed project parcel. The closest archaeological sites are historic period sites, located 450 m to the south, along Main Street in Burlington (see Figure 1). These sites, VT-CH-165 (the Wheeler Site), VT-CH-676 (the Hurlburt-Moore Site), VT-CH-677 (the Shequin Site), VT-CH-678 (the Burbank homestead), and VT-CH-684 (the Barnes-Buckham site), represent the remains of several historic period residences, taverns, or parts thereof. All of these sites are either capped by sod or gravel, disturbed by University of Vermont buildings, or, as in the case of VT-CH-678, can no longer be identified from remains.

To the northeast of the project area, precontact Native American site VT-CH-789, represents the remains of a small, temporary campsite, where 9 quartzite flakes were recovered on a high delta above the Winooski River. In the region of the Winooski River, near the Winooski Falls, numerous sites have been identified. The Winooski Falls represented a break-of-bulk location for transportation up and down river, since the falls had to be portaged, and therefore numerous temporary and longer-termed settlements are associated with the floodplain and adjacent terraces near the falls.

Within the APE of the proposed project, the historic period 1858 Walling's (Figure 3) and 1873 Beer's (Figure 4) maps indicate that the area was developed early on. It appears that many of the structures dating to the 1858 Wallings map still exist along the proposed alignment. In addition, the UVM campus green appears to be intact. A more specific historic standing structures review of the project area is available in a separate report. The University Green Historic District was listed on the national Register of Historic Places in 1974. This historic district includes the entire APE of the proposed project (Figure 5)

### **Desk Review**

As part of the desk review, the UVM CAP utilized the Vermont Division of Historic Preservation's (VDHP) predictive model for identifying precontact Native American archaeological sites. The Pearl and Prospect Sidewalk Improvement project scores 12 the Predictive Model, due to its location at a major drainage divide (12) between the head of draw of a major tributary of the Winooski River to the northeast and the drainages that enter into Lake Champlain to the west. In addition to the paper-based predictive model, the desk review uses a Geographical Information System (GIS) developed jointly by the UVM CAP, and its consultant Earth Analytic, Inc., which operationalizes the paper-based model. It does this by applying the VDHP's sensitivity criteria to all lands within the State of Vermont. In these maps, archaeological sensitivity is depicted by the presence of one or more overlapping factors, or types of archaeological sensitivity (i.e. proximity to water, etc.). The proposed Pearl and Prospect Sidewalk Improvement project is located along an area that exhibits one overlapping sensitivity factor, which is Level Terrain (see Figure 1).

### **Field Inspection**

A field inspection of the project area was carried out on October 9, 2012 by Dr. Charles Knight, Assistant Director of the UVM CAP. Knight walked the entire street upgrade area and took soil core samples throughout. On the UVM Green, southeast of the intersection of Pearl and Prospect Streets (Figure 6), impenetrable gravels were encountered at approximately 1 foot below the surface, indicating that the extensive landscaping of the area, the sidewalk construction, the road construction, and buried electric cables have all disturbed the landform within the APE. To the southwest of that intersection, on the grounds of the former asylum, several feet of loose sands were encountered (Figure 7). The sands were undifferentiated and no plowzone or intact A Horizon was identified, suggesting that the sands were the result of fill, likely associated with the construction of the historic convent and then asylum building. The northeast and northwest quadrants of the Pearl and Prospect Street intersection have been disturbed by the construction of the large buildings on those properties.

### **Conclusions**

The City of Burlington proposes to upgrade the intersection of Pearl and Prospect Street via the Pearl Street/Prospect Street/Colchester Avenue Intersection Scoping Study in Burlington, Chittenden County, Vermont. The green spaces to the south of the intersection has been disturbed throughout the southeast quadrant, on the UVM Green, while deep, undifferentiated sands were found in all of the soil probes in the southwest quadrant. To the north of the intersection, the construction of buildings and all their utilities has disturbed the ground area throughout. As a result, the proposed project will not impact intact soils. All areas of the proposed project's APE were disturbed at some point in the historic past and therefore are not sensitive for archaeological resources. Therefore, the proposed project will not affect culturally significant areas and no additional archaeological work is recommended.

Thank you for working with us on this project. Please let me know if you have any questions or comments.

Charles Knight, Ph.D.  
Assistant Director

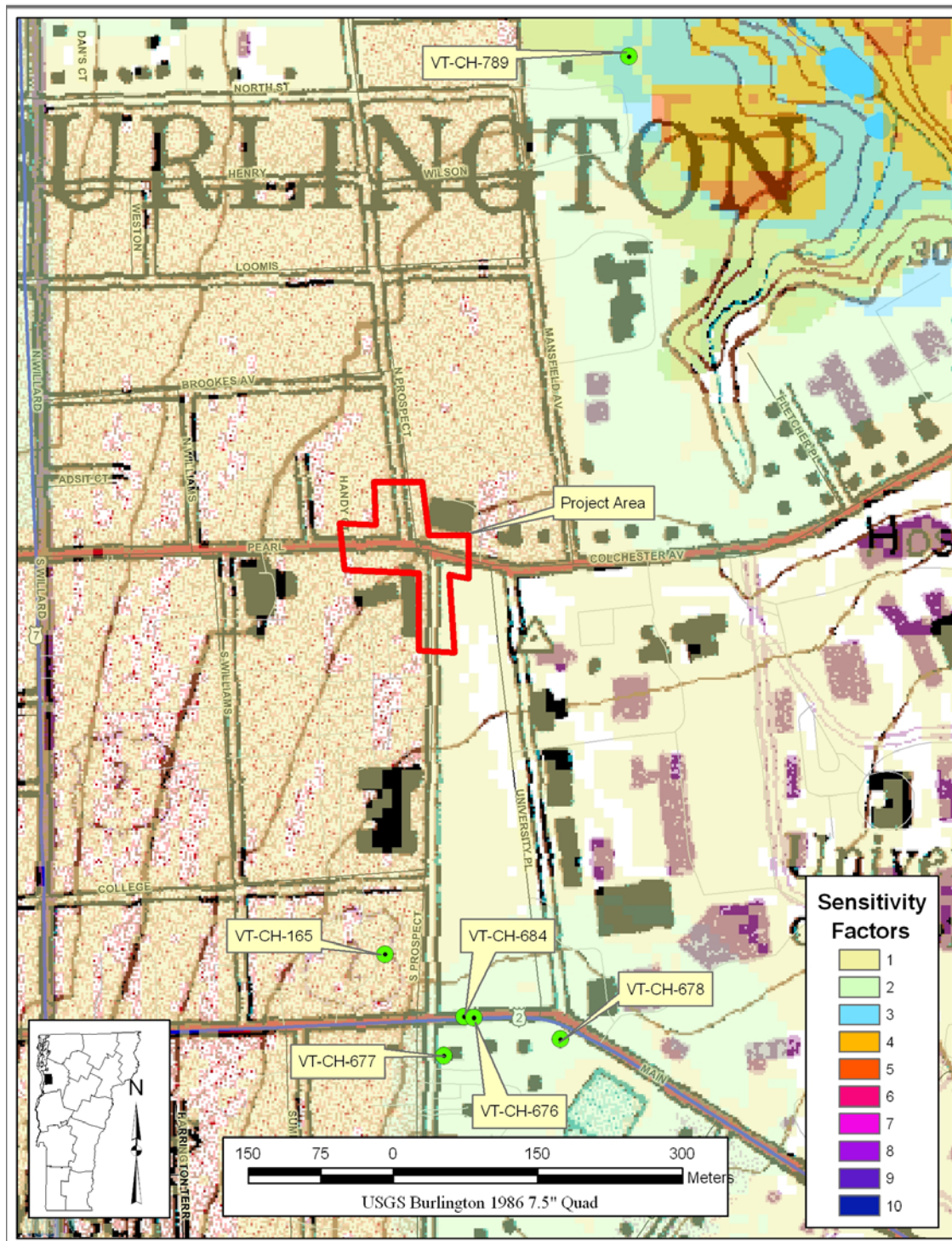


Figure 1. Map showing the location of the proposed Pearl Street/Prospect Street/Colchester Avenue Intersection Scoping Study, in relation to archaeological sensitivity factors, Burlington, Chittenden County, Vermont.





Figure 2. Aerial photograph showing the limits of the proposed Pearl Street/Prospect Street/Colchester Avenue Intersection Scoping Study, Burlington, Chittenden County, Vermont.



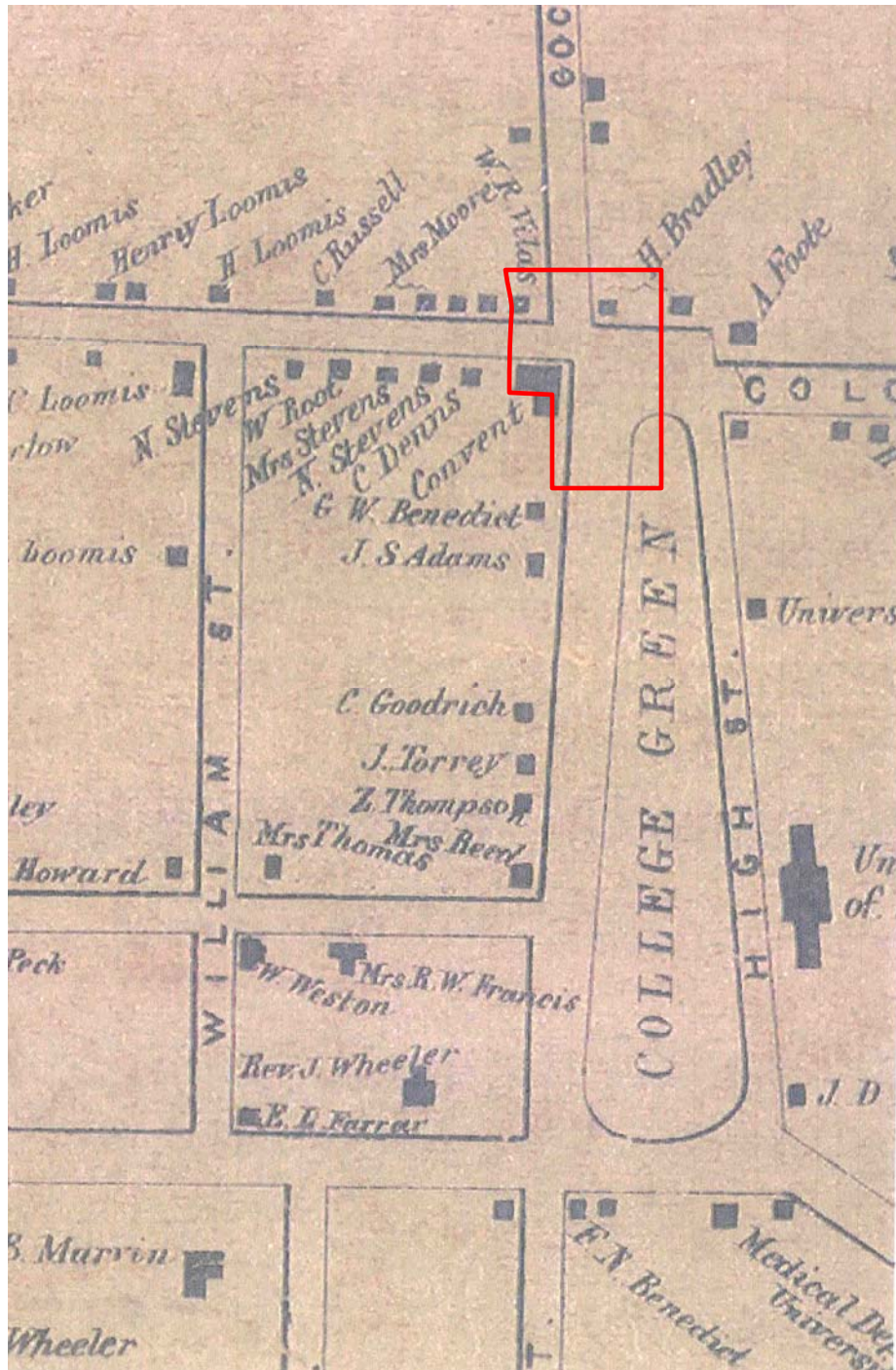


Figure 3. Historic 1858 Walling Map depicting the general location of the proposed Pearl Street/Prospect Street/Colchester Avenue Intersection Scoping Study, Burlington, Chittenden County, Vermont.

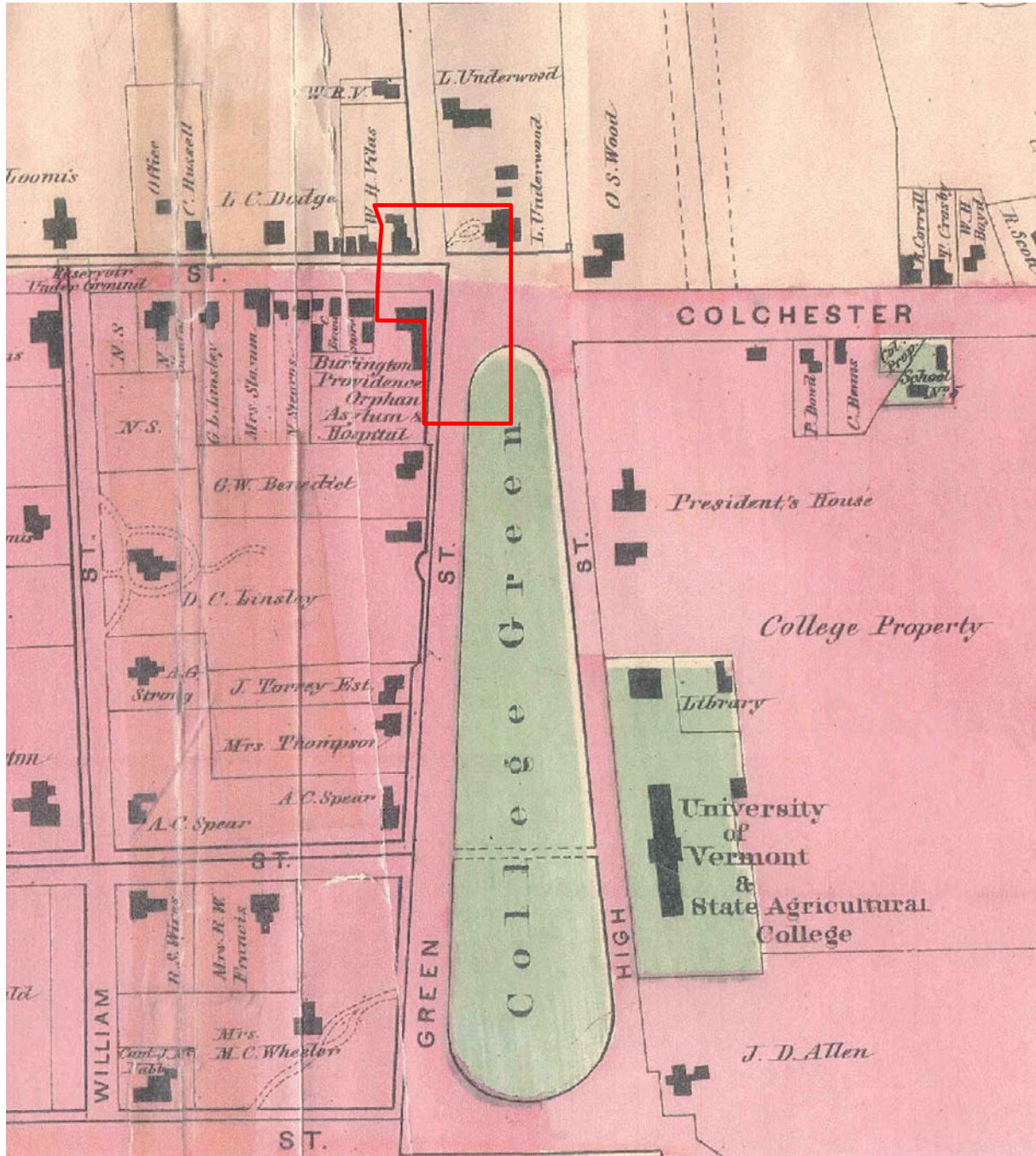


Figure 4. Historic 1873 Beers Atlas depicting the general location of the proposed Pearl Street/Prospect Street/Colchester Avenue Intersection Scoping Study, Burlington, Chittenden County, Vermont.



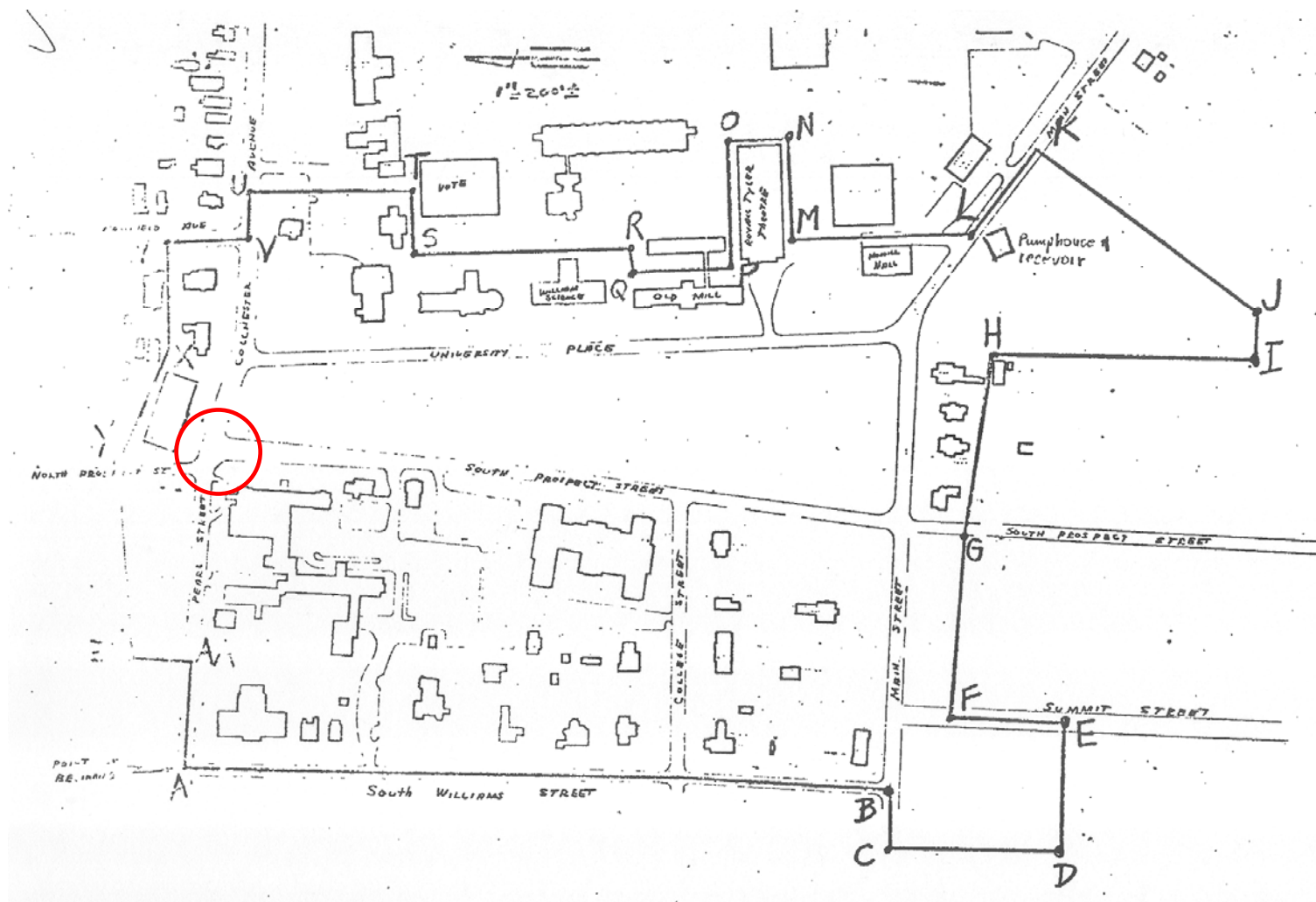


Figure 5. Schematic diagram showing the limits of the UVM Green historic District, which includes the APE of the proposed Pearl Street/Prospect Street/Colchester Avenue Intersection Scoping Study, Burlington, Chittenden County, Vermont.



a



b

Figure 6. Photograph (a) looking north at southeast quadrant of the Pearl and Prospect Intersection, and (b) looking northwest at the southwest and southeast quadrants of the Pearl and Prospect Intersection.





a



b

Figure 7. Photograph (a) looking north at southwest quadrant of the Pearl and Prospect Intersection within the hedge row, and (b) looking north at the southwest quadrant of the Pearl and Prospect Intersection outside of the hedge row.



The University of Vermont

December 6, 2012

David Saladino, P.E.  
Director  
Resource Systems Group, Inc.  
55 Railroad Row  
White River Junction, VT 05001

**RE: Addendum to the Archaeological Resources Assessment for the Proposed Pearl Street, Prospect Street and Colchester Avenue Intersection Scoping Study, Burlington, Chittenden County, Vermont**

Dear David,

Additional historic research conducted during the Historic Resources Review of the proposed Pearl Street, Prospect Street and Colchester Avenue Intersection Scoping Study, located in Burlington, Chittenden County, Vermont, has identified the potential for an archaeologically sensitive area within the project's Area of Potential Effects (APE). This area, located at the north end of the University Green, is considered archaeologically sensitive for historic cultural resources, based on review of maps dating from 1816 and 1830, and other historic documentation. This finding is an addendum to the initial Archaeological Resources Assessment conducted in October 2012 (Knight 2012); at that time, the area was identified as not sensitive, however, based on the new research, it is now considered sensitive. A brief summary of the history of this area is provided below; a detailed history of this portion of the Green and the former buildings located there, along with references, is presented in Appendix I of the Historic Resources Review report for this project (Quinn and Kenny 2012).

The larger area around the head of Pearl Street and on 'College Hill' in the City of Burlington was essentially a small hamlet, which was settled in the late 1780s and flourished into the 1830s, after which it developed as part of the University of Vermont. It was one of the four early centers of Burlington that would, in time, grow and fuse together into the city seen today. Specifically, the area which is now part of the northern end of University Green that is located south of Colchester Avenue and in between South Prospect Street and University Place, had at least three structures on it; one was a store located in the northeast corner built ca. 1814 and two structures (currently of unknown ownership/function), were built between 1816 and 1830 on the east side Prospect Street (Figures 1 and 2). Ownership history of these properties is extremely complicated but ended with a ca. 1830 court decision which declared that the entire area was part of the "College Common". As a result of this decision, all three buildings were very likely removed or razed by 1833.

**CONSULTING ARCHAEOLOGY PROGRAM**

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Soon after the structures were removed, an effort was made to improve the whole green. This effort included filling cellars holes at either end of the Green. Based on documentary evidence, it is believed that the filling of the cellar holes on the Green in the 1830s did not completely obliterate these historical features. As late as 1918, it was noted that on the south part of the Green a cellar and old well could be seen in outline, and that old cellar outlines were also visible at the extreme north end of the Green. This assumption of limited disturbance for the sites on the green appears to have held true at the partially excavated Hurlburt-Moore site (VT-CH-676) located on the southeast part of the University Green in 1993. Although, this site was covered by post occupational fills, a house foundation and a stone lined well were identified, and a significant number of early 19<sup>th</sup> century artifacts were recovered (Baker, Hathaway, and Frink 2002 Vol. I:40-41).

Since the late 1880s, various elements, such as a fountain, statutes and monuments have been added to the Green, walkways (most recently concrete ones) have been reconstructed, landscaping has taken place, and buried services/utilities have been installed. Otherwise, the University Green has remained relatively unchanged.

### **Conclusions**

The three former building sites located on the north end of the University Green may contain valuable archaeological data relating to Burlington's early history. All three sites were established before 1830 and were occupied for a relatively short time (ca. 1814 – 1832). The cellar holes/foundations related to the buildings were filled in the 1800s without the use of mechanical equipment such as bulldozers, and since that time they have remained on land that has been largely protected from later 19<sup>th</sup> and 20<sup>th</sup> century redevelopment. Very few sites from the early 1800s of Burlington likely survive, so these sites have the potential to yield information important to Burlington's history, and more specifically, important to the history of this former city center. The north end of the University Green is therefore considered archaeologically sensitive for historic cultural resources (Figure 3). In fact, the entire Green is considered archaeologically sensitive for historic cultural resources. If proposed project work extends into any portion of the University Green, a Phase I archaeological survey is recommended.

Thank you for working with us on this project. Please contact us with any questions or comments.

Catherine A. Quinn, M.S.  
Historic Preservation Specialist

A handwritten signature in dark ink, appearing to read 'Charles Knight', with a stylized flourish at the end.

Charles Knight, Ph.D.  
Assistant Director



Figure 1. Detail of a John Johnson map *Burlington, Vermont, Northeast of College Green, July 1, 1816* showing the “Chittenden Store”, located on the current north end of the University Green, within the project area.



Figure 2. Detail of Ammi B. Young's *Map of Burlington Village* (1830) showing three buildings located on the current north end of the University Green, within the project area.

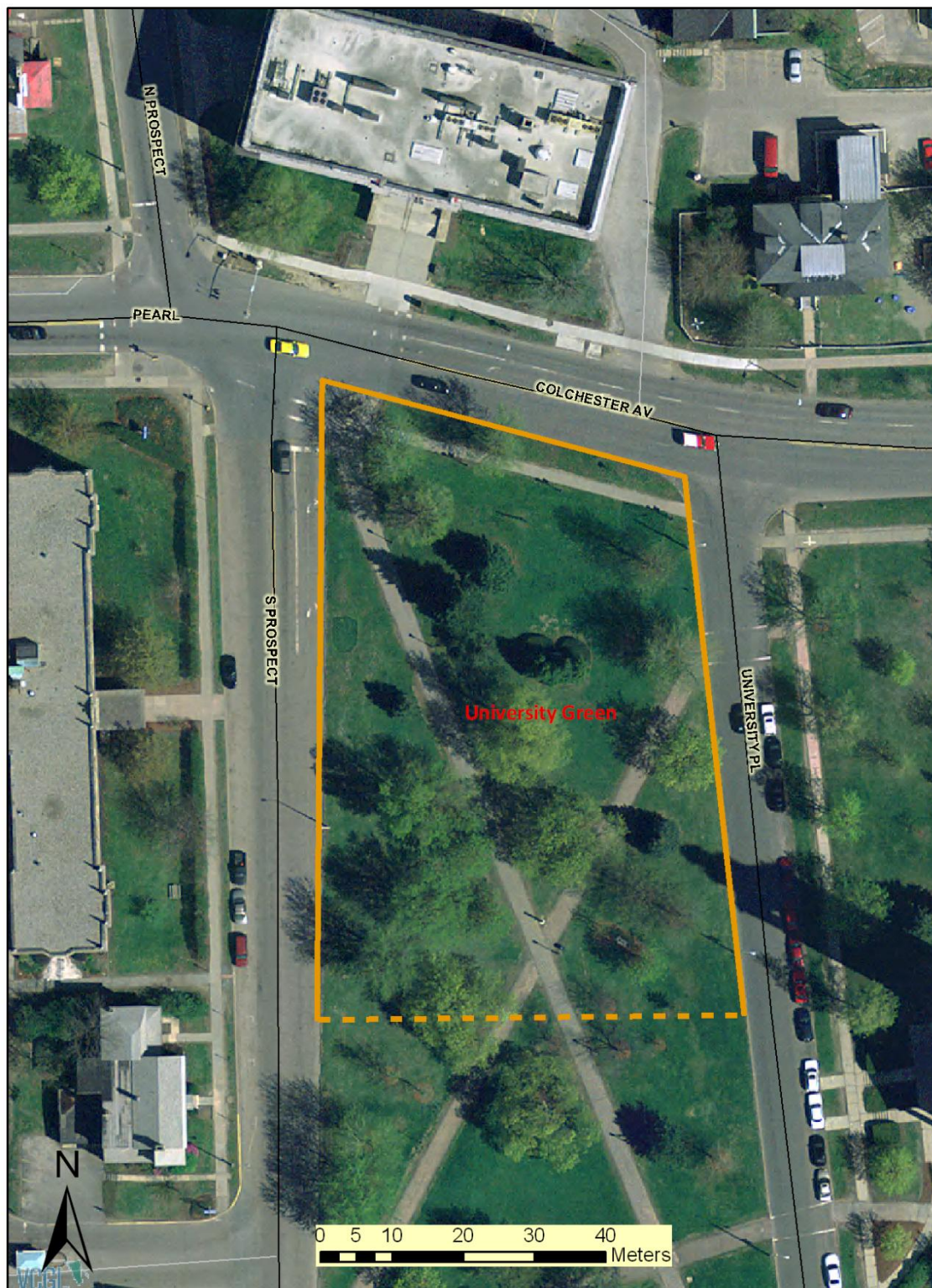


Figure 3. Map showing the archaeologically sensitive area at the north end of the University Green. (Note that the entire Green is considered archaeologically sensitive and boundaries shown are based on currently estimated project boundaries).



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Baker, Charity M., Allen Hathaway and Douglas S. Frink

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Johnson, John

- 1816 *Burlington, Vermont, Northeast of College Green July 1, 1816*. Manuscript on File: The John Johnson Papers Maps and Surveys: Map 25A, Oversized Folder 1. University of Vermont, Special Collections, Burlington, Vermont.

Knight, Charles,

- 2012 *Archaeological Resources Assessment for the proposed Pearl Street/Prospect Street/Colchester Avenue Intersection Scoping Study, Burlington, Chittenden County, Vermont*. Prepared for Resource Systems Group, Inc., White River Junction, Vermont.

Quinn, Catherine and Kate Kenny

- 2012 *Historic Resources Review for the Pearl Street, Prospect Street and Colchester Avenue Intersection Scoping Study, Burlington, Chittenden County, Vermont*. Prepared for Resource Systems Group, Inc., White River Junction, Vermont.

Young, Ammi B.

- 1830 *Plan of Burlington Village*. Pendleton, New York, New York. Manuscript on File University of Vermont Special Collections, Burlington, Vermont.



## **APPENDIX C**

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### **Intersection Pilot Study Report**



# PEARL ST / PROSPECT ST / COLCHESTER AVE PILOT PROJECT

## IMPLEMENTATION ASSESSMENT



JANUARY 2014



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### PREPARED FOR:

CHITTENDEN COUNTY REGIONAL PLANNING  
COMMISSION AND  
THE CITY OF BURLINGTON, VERMONT

PEARL ST/PROSPECT ST/ COLCHESTER AVE PILOT IMPLEMENTATION ASSESSMENT

PREPARED FOR:



CHITTENDEN COUNTY REGIONAL PLANNING COMMISSION  
CITY OF BURLINGTON

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## 1.0 BACKGROUND

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An intersection Scoping Study was initiated in June 2012 to identify potential operational and safety improvements to the Pearl Street/Prospect Street/Colchester Avenue intersection in Burlington, Vermont. This Scoping Study effort grew out of a recommendation from the *Colchester Avenue Corridor Study* (October 2011) to investigate opportunities to align the north and south Prospect Street approaches.

During the course of the Alternatives Assessment phase of the Scoping Study (December 2012), the project Steering Committee<sup>1</sup> identified the potential to test the effectiveness of relatively low-cost safety improvements at the intersection through the implementation of a short-term pilot project. Following the initial Steering Committee discussion, the consultant team worked with the CCRPC, and City staff to refine the details of the pilot project. The pilot project was presented for discussion and comment to the Burlington Public Works Commission (March, April, May 2013); and the project's Steering Committee (April 2013).



Key events and timeline associated with the pilot implementation are listed below:

- **June 2013:** Public presentation of Pilot Improvements at the Ward 1 Neighborhood Planning Assembly (NPA) meeting.
- **June 2013:** Burlington Public Works Commission approves the pilot project concept and temporarily removes 18 parking spaces adjacent to the intersection and prohibits eastbound left turns.
- **July-August 2013:** Pre-launch public outreach including variable message signs, windshield flyers, press releases, Front Porch Forum postings and e-mail blasts. An on-line survey was launched immediately after the intersection changes.
- **August 1, 2013:** Pilot striping and signage improvements implemented by DPW
- **August 9, 2013:** Pilot signal timing and phasing changes implemented by DPW
- **September:** Pearl Street paving project (interim pilot striping replaced on 10/3/13)
- **October 16, 2013:** Turning movement counts and queue observations conducted to measure pilot performance.

---

<sup>1</sup> The Steering Committee included representatives from: the Burlington City Council; Burlington Department of Public Works; Ward 1 NPA; the Chittenden County Transportation Authority (CCTA); the Campus Area Transportation Management Association (CATMA); the University of Vermont (UVM); Local Motion; and Fletcher Allen Health Care (FHAC).

- An exclusive northbound left-turn lane (South Prospect approach);
- Removal of 18 parking spaces close to the intersection;
- Changes to the pavement striping as indicated in Figure 1;
- New signal head, timing and phasing plan—implement split phasing for the south and north Prospect Street approaches and add an east-west leading pedestrian phase;
- New “No Turn on Red” LED and static signs; and
- Prohibition of left turns from Pearl Street onto North Prospect Street.

**REMOVE APPROXIMATELY 200' (8 SPACES) OF WESTBOUND PARKING**

**"NO TURN ON RED" R10-11A SIGN (FACING NORTH)**

**4" WHITE LINE EXTENSION**

**"NO TURN ON RED" R3-1 LED SIGN (ON NEW PEDESTAL)**

**"NO TURN ON RED" R10-11A SIGN**

**NEW 4" YELLOW CENTERLINE AND 4" WHITE EDGELINE STRIPING**

**+/-6' SHOULDER**

**REMOVAL OF EXISTING CENTERLINE AND ANY EXISTING EDGELINE/PARKING STRIPING**

**"NO TURN ON RED" R3-1 LED SIGN (ON NEW PEDESTAL)**

**NEW LEFT TURN ARROW SIGNAL HEAD**

**ADD A LEFT TURN LANE**

**REMOVE OF EXISTING CENTERLINE AND EDGELINE/PARKING STRIPING FOR 245'**

**NEW NO LEFT TURN SIGN (R3-2) INSTALLED ON SIGNAL MAST ARM (FACING WEST)**

**REMOVE ONLY 10 SPACES OF SOUTHBOUND PARKING**

**NEW 4" YELLOW CENTERLINE AND 4" WHITE LANE AND EDGELINE STRIPING**

**PRESERVE THE SOUTHERNMOST 3 PARKING SPACES**

LOCAL PHASES	1	2	3	4	5	6	7	8	PED
PROGRAMMING	4	20	-	6	-	20	-	6	
STARTING GREEN	2	4	-	3	-	3	-	3	
VEHICLE EXTENSION	2	4	-	3	-	3	-	3	
YELLOW	3	4	-	4	-	4	-	4	
ALL RED	1	1	-	1	-	1	-	1	
MAX GREEN (10:00-9:00 AM)	10	38	-	11	-	52	-	20	
MAX GREEN (15:00-18:00 PM)	7	49	-	20	-	60	-	13	
WALK	10	-	-	-	-	-	-	6	
FLASHING DON'T WALK	15	-	-	-	-	-	-	10	
RECALL	N	N	-	N	-	N	-	N	

PHASE	PHASE ON CLEAR TO ALL OTHERS	PHASE ON CLEAR TO ALL OTHERS	PHASE ON CLEAR TO ALL OTHERS	PHASE ON CLEAR TO ALL OTHERS
1	W W W W W W W W W W	W W W W W W W W W W	W W W W W W W W W W	W W W W W W W W W W
2	W W W W W W W W W W	W W W W W W W W W W	W W W W W W W W W W	W W W W W W W W W W
3	W W W W W W W W W W	W W W W W W W W W W	W W W W W W W W W W	W W W W W W W W W W
4	W W W W W W W W W W	W W W W W W W W W W	W W W W W W W W W W	W W W W W W W W W W
5	W W W W W W W W W W	W W W W W W W W W W	W W W W W W W W W W	W W W W W W W W W W
6	W W W W W W W W W W	W W W W W W W W W W	W W W W W W W W W W	W W W W W W W W W W
7	W W W W W W W W W W	W W W W W W W W W W	W W W W W W W W W W	W W W W W W W W W W
8	W W W W W W W W W W	W W W W W W W W W W	W W W W W W W W W W	W W W W W W W W W W
PED	W W W W W W W W W W	W W W W W W W W W W	W W W W W W W W W W	W W W W W W W W W W



## 2.0 ASSESSMENT OF PILOT PERFORMANCE

The effectiveness of the pilot project improvements was evaluated across a number of dimensions to ensure that the full range of benefits and deficiencies were accounted for. A summary of this evaluation is presented in Figure 2.

FIGURE 2: SUMMARY OF INTERSECTION PILOT PERFORMANCE

METRIC	PRE-PILOT	PILOT	CHANGE	NOTES
<b>Peak Hour Traffic Volume</b> <sup>2</sup>	2,229 (AM) 2,618 (PM)	2,078 (AM) 2,551 (PM)	-7% (AM) -3% (PM)	VTrans continuous counter on VT 127 in Burlington recorded a 2% reduction from September 2012 – September 2013
<b>Average Maximum Queue Length – All Approaches (# cars)</b> <sup>3</sup>	15 (AM) 30 (PM)	30 (AM) 44 (PM)	+48% (AM) +46% (PM)	Primary increases occurred on Pearl Street approach (increase from 4 to 7 cars in AM and from 14 to 24 cars in PM)
<b>PM Peak Cycle Length</b>	133 seconds	120 seconds	-10%	Shorter wait times for pedestrians.
<b>PM Peak Average Vehicle Delay</b> <sup>4</sup>	71 seconds	85 seconds	+20%	Optimized timing and removal of EB left turn increased intersection capacity.
<b>Vehicle Crashes</b> <sup>5</sup>	2 / year	0	-100%	Intersection currently #25 on HCL list.
<b>Vehicle Conflict Points</b>	32	26	-19%	The removal of the EB left-turn removed six potential conflict points.
<b>On-Street Parking Spaces Adjacent to Intersection</b>	21	3	-86%	10 spaces removed on S. Prospect to accommodate NB left-turn lane. 8 spaces removed on Pearl to accommodate bike shoulders.
<b>Leading Pedestrian Interval for East-West Pedestrians</b>	0 seconds	6 seconds	↑	Leading pedestrian interval added as part of pilot.
<b>Shoulder Width on Pearl Street</b>	2-3 feet (unmarked)	±6 feet	+100%	Shoulders widened and striped and on-street parking removed to improve bicyclist safety.

<sup>2</sup> Pre-pilot traffic counts conducted on October 23, 2012. Pilot phase traffic counts conducted on October 16, 2013

<sup>3</sup> Pre-pilot queue counts conducted on October 23, 2012. Pilot phase queue counts conducted on October 16, 2013

<sup>4</sup> Pilot phase volume/capacity ratio calculated using October 2012 (i.e. pre-pilot) traffic volumes.

<sup>5</sup> Pre-pilot crashes represent the average number of crashes occurring at the intersection between August and October from 2008 – 2012. The lack of crashes during the Pilot phase (August-October 2013) was based on information provided by the Burlington Police Department and verified by VTrans.

### 3.0 SUMMARY OF PUBLIC INPUT

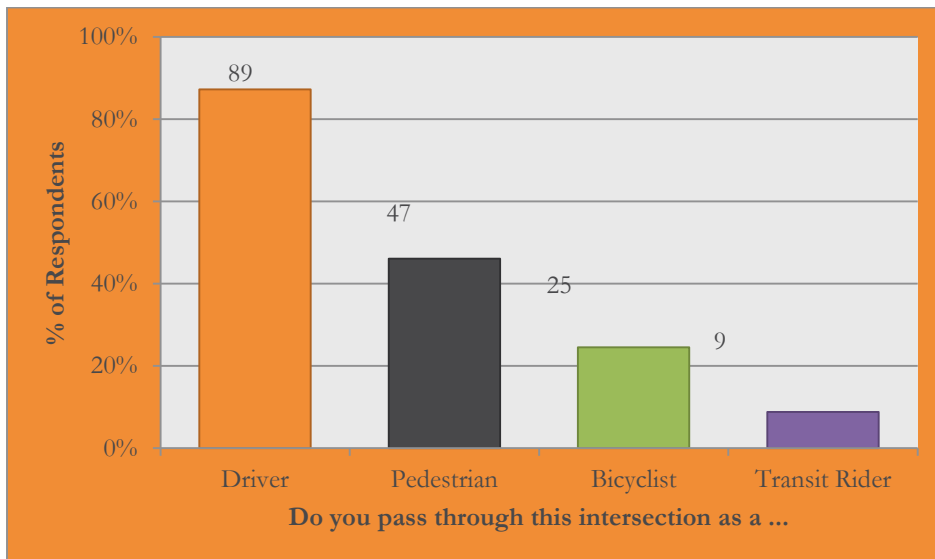
The City of Burlington created an online web survey to solicit feedback from members of the community on the Pearl St/Prospect St/Colchester Ave pilot project. The online survey was made available on August 26, 2013, just as the pilot improvements were implemented and ran through the end of November 2013.

**FIGURE 3: CITY OF BURLINGTON ONLINE WEB SURVEY FORM**

The screenshot shows a web survey form titled "Pearl St / Prospect St / Colchester Ave Intersection Survey" with "Page One" indicated. Question 1 asks, "1. Do you pass through this intersection as a:" and lists four options with checkboxes: Pedestrian, Bicyclist, Driver, and Transit Rider. Question 2 asks, "2. Overall, are the changes to the intersection beneficial or problematic?\*" and lists three radio button options: "More benefits than problems", "More problems than benefits", and "No impact". A "Next" button is located at the bottom right of the form.

A total of 102 people completed this online survey. The survey respondents represent users of a variety of travel modes. Not surprisingly, a large majority of respondents had traveled through the intersection as a driver, and slightly less than half traveled as pedestrians, as shown in the figure below.

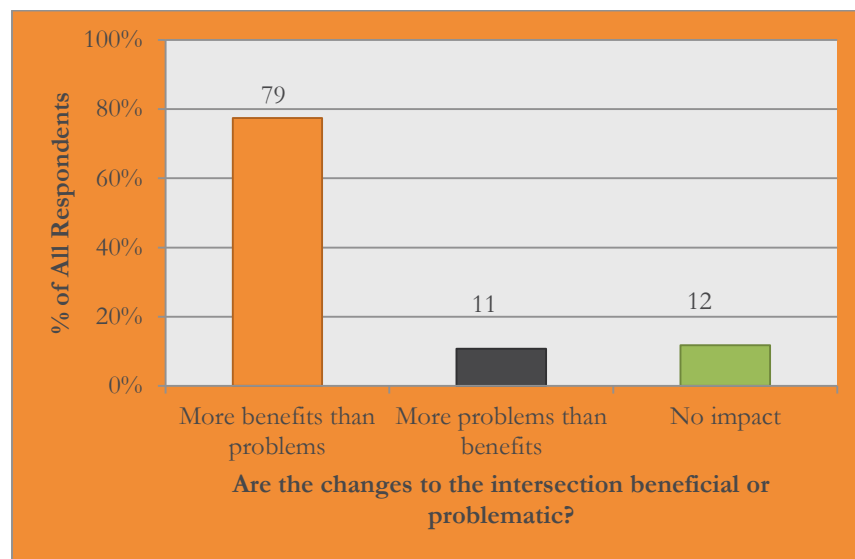
**FIGURE 4: TRAVEL MODES OF SURVEY RESPONDENTS**



Slightly less than half (44%) had experienced the intersection only as a driver, and 8% had traveled through the intersection only on foot. However, the majority of the other respondents had experienced the intersection in multiple ways at different times.

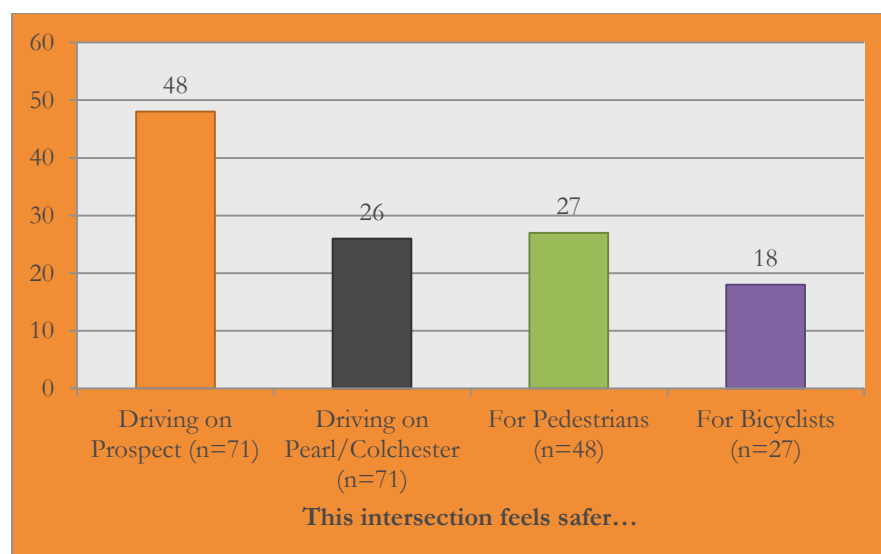
Across all types of respondents, the majority said the changes to the intersection provided more benefits than problems, as shown in the figure below:

**FIGURE 5: OVERALL PERCEPTION OF INTERSECTION CHANGES**



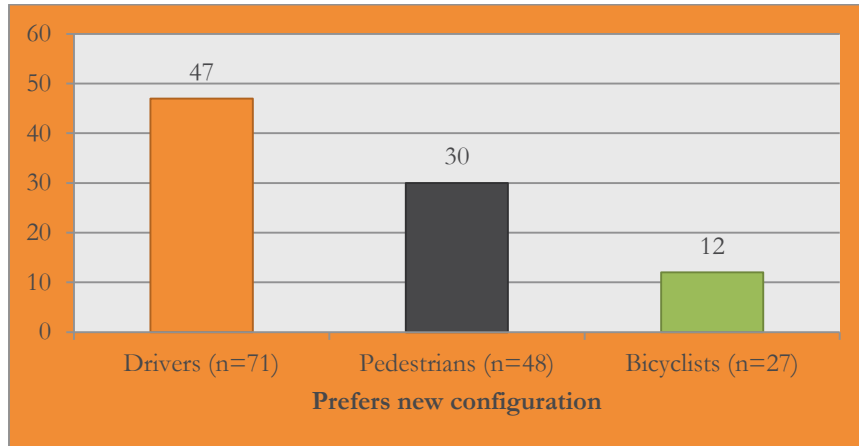
The survey asked respondents additional questions specific to the travel mode(s) they used. Each mode group was asked if the intersection felt safer with the new configuration. As shown below, the majority of *drivers* (68%) said the intersection felt safer when traveling on Prospect Street, while less than half (37%) said it felt safer on Pearl Street/Colchester Avenue. About half (56%) of the pedestrian respondents felt the intersection was safer, and about two-thirds (67%) of bicycling respondents felt it was safer.

**FIGURE 6: PERCEPTION OF INTERSECTION SAFETY CHANGES**



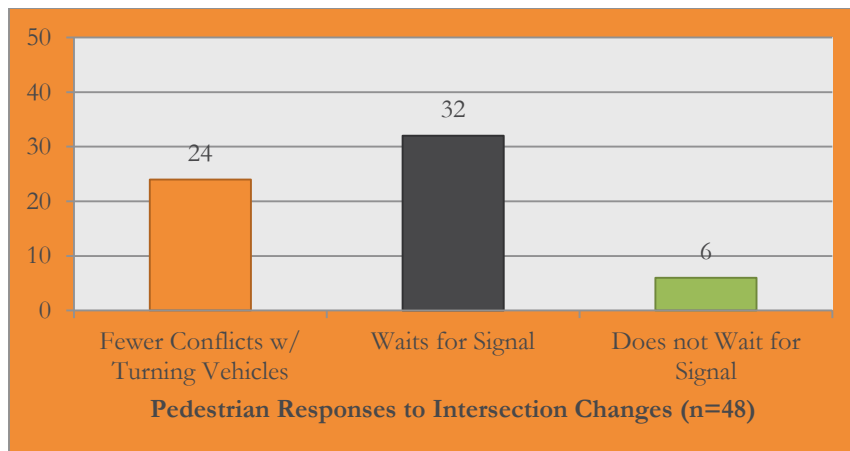
Overall, a majority of driving (66%) and pedestrian (63%) respondents preferred the new intersection configuration, while less than half of bicycling respondents (44%) preferred the new configuration.

**FIGURE 7: PREFERENCE FOR NEW INTERSECTION CONFIGURATION**



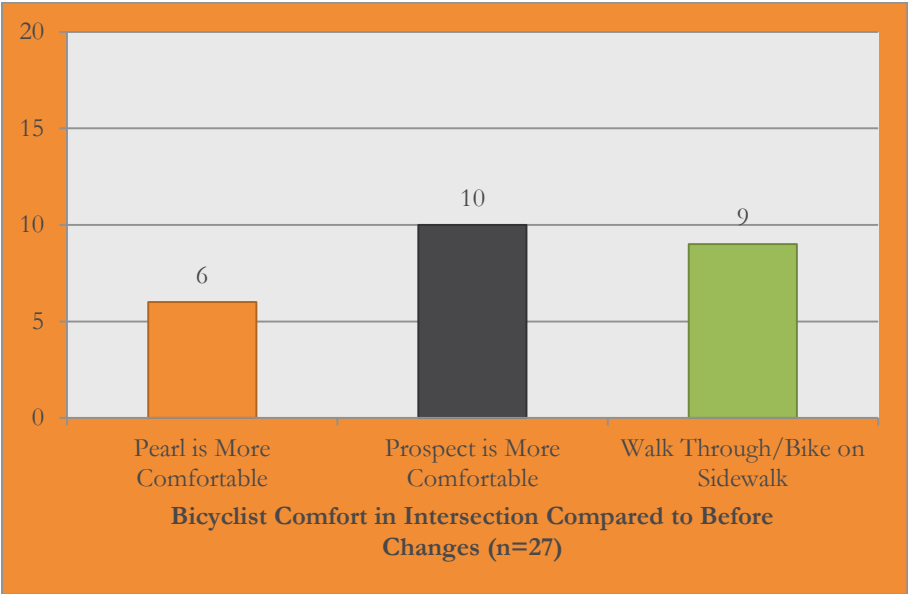
Half of the pedestrian respondents (50%) said they perceived fewer conflicts with right-turning vehicles, and two-thirds (67%) said they understood and would wait for the pedestrian signal before crossing:

**FIGURE 8: OTHER PEDESTRIAN RESPONSES TO INTERSECTION CHANGES**



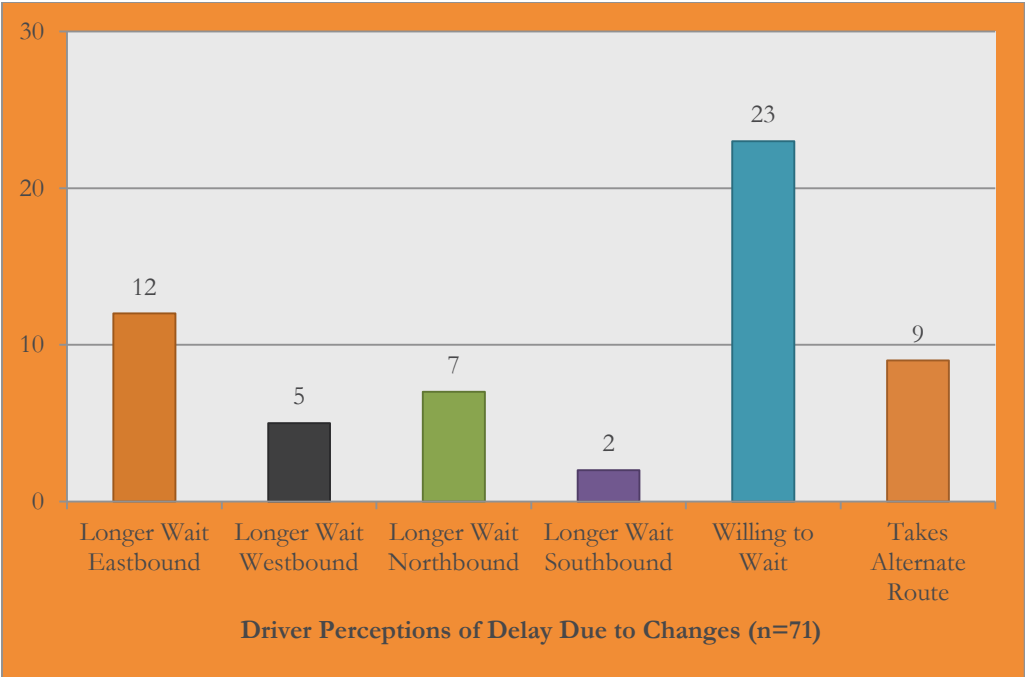
In contrast to pedestrians' perception that the intersection felt safer, only 44% of bicycling respondents said they felt more comfortable traveling through the intersection. About one-quarter (22%) of bicyclists said, that Prospect Street felt more comfortable. At the same time, one-third (33%) said that they always walked their bike through the intersection or rode on the sidewalk.

FIGURE 9: BICYCLIST PERCEPTION OF COMFORT WITH INTERSECTION CHANGES



Few respondents who drove through the intersection said they perceived a greater delay due to the changes in any particular direction. Seventeen percent (17%) of respondents noted a perceived increase in delay in the eastbound direction on Pearl Street. More people (32%) acknowledged a delay in general, but said they were willing to wait because the changes made the intersection safer overall. Additionally, a few respondents (13%) said they had begun taking an alternate route due to an increased wait time.

FIGURE 10: DRIVER PERCEPTIONS OF DELAY WITH INTERSECTION CHANGES





Lastly, the survey allowed all respondents to provide additional comments. Slightly less than half (49 people) provided additional thoughts and suggestions in this section. This included a mix of reactions, though more of the comments (about half) had a positive tone.

Several people mentioned things they liked about the new configuration, including:

- The wider shoulder on Pearl Street
- Safer, less ambiguous traffic patterns
- Reduced conflict with left-turning traffic
- Restricted right turns improve the pedestrian crossing experience

People also mentioned things they did not like, including:

- Reduced vehicle parking capacity
- Difficulty of left turns from Colchester Ave
- Lack of space to maneuver on South Prospect Street due to narrower shoulders and more lanes for northbound traffic
- Traffic delays and backups along Pearl Street/Colchester Avenue, in part due to lane reduction on Pearl, split signal phasing, and uncoordinated signal timings along Colchester Avenue.

Finally, some people provided suggestions about how to make additional improvements to the intersection and the surrounding area:

- Full bike lanes on all streets through this intersection
- A roundabout (or mini-roundabout) in this intersection
- Restrictions of or improvements for left turns onto or from Colchester Avenue
- Widening of North Prospect Street
- Improved access to the crosswalk button on the northeast corner
- Additional instructions (such as signs or street markings) to clarify the correct movements to pedestrians and drivers (such as a “straight-ahead” arrow in the center northbound lane)

Overall, the input provided in this survey suggests that, while certain aspects of the intersection have caused some frustration and delays, the intersection feels safer for pedestrians and drivers.

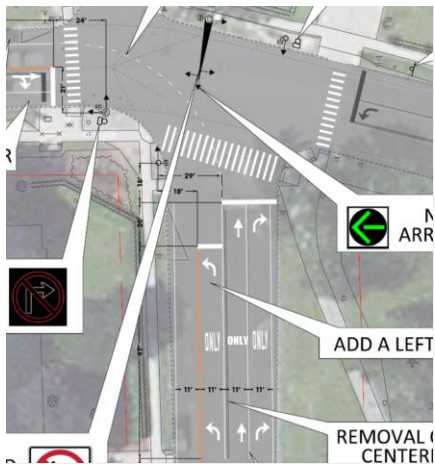
## 4.0 ADDITIONAL OBSERVATIONS AND RECOMMENDATIONS

The following input and recommendations were provided by project team members during the pilot evaluation period:

- Relocate the “No Left Turn” sign on the signal mast arm closer to the center of the eastbound approach lane (see photo below);



- Reconsider CCTA’s sheltered bus stop on Pearl Street west of the intersection;
- Enhance signal coordination with the Mansfield Avenue and Mary Fletcher Drive signals;
- Improve lighting at the southwest corner of the intersection (in front of UHC); and
- Add pavement markings in the through lane at the South Prospect approach—two straight arrows and the word “ONLY.” See figure below.



## **5.0 PILOT PROJECT DECISION**

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The Project Steering Committee met on January 22, 2014, to review the Intersection Pilot Assessment Report and summary of public input on the pilot improvements. After discussion, the Steering Committee unanimously agreed to recommend to the Public Works Commission that the pilot improvements be made permanent by approving removal of on-street parking (18 spaces) adjacent to the intersection and restricting eastbound left turns (from Pearl St onto North Prospect St) permanently.

On February 19, 2014, the Public Works Commission reviewed the Steering Committee's recommendation, pilot project assessment and public input and voted unanimously to accept the pilot improvements as permanent changes at the Pearl St/Prospect St/Colchester Ave intersection. Specifically the Public Works Commission approved:

- Prohibition of parking on the north side of Pearl Street between Prospect Street and Handy Court,
- Prohibition of parking on the west side of South Prospect Street for 10 spaces immediately south of the intersection
- Prohibition of left turns from Pearl Street onto North Prospect Street.

## **APPENDIX D**

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### **Burlington City Council Resolution**



## Resolution Relating to

COLCHESTER AVENUE/PEARL STREET/PROSPECT STREET  
INTERSECTION SCOPING PLAN

## RESOLUTION 4.09

Sponsor(s): Councilors Tracy & Bushor

Introduced: 06/23/14

Referred to: \_\_\_\_\_

Action: adopted

Date: 06/23/14

Signed by Mayor: 07/02/14

## CITY OF BURLINGTON

In the year Two Thousand Fourteen .....

Resolved by the City Council of the City of Burlington, as follows:

1 That WHEREAS, Colchester Avenue is a major arterial that connects Burlington with areas to the north and  
2 east and provides access to the Hill institutions, area neighborhoods and residences, and businesses along the  
3 corridor; and

4 WHEREAS, the Colchester Avenue Task Force (hereafter Task Force) was created by the City  
5 Council in 2004, facilitated by the Campus Area Transportation Management Association (CATMA), and  
6 included Ward 1 NPA members and City Councilors, Burlington Planning & Zoning, Burlington Police  
7 Department, Burlington Public Works, Burlington Electric Department, City of Winooski, Chittenden County  
8 Transportation Authority (CCTA), Local Motion, American Red Cross, Fletcher Allen Health Care,  
9 University of Vermont Administration, University of Vermont Student Body, and CATMA; and

10 WHEREAS, in 2006 the Task Force published a list of objectives and recommendations for short-term  
11 and long-term goals to improve Colchester Avenue, including pedestrian and vehicle circulation, transit,  
12 bicycling, safety and lighting, signage, and aesthetics; and

13 WHEREAS, in 2008 the Transportation, Energy and Utilities Committee authorized a corridor study of  
14 Colchester Avenue through the Chittenden County Metropolitan Planning Organization (now Chittenden  
15 County Regional Planning Commission, CCRPC); and

16 WHEREAS, the Colchester Avenue Corridor Plan's vision for Colchester Avenue was built from the  
17 following objectives developed by the Task Force in 2006 and the Burlington Transportation Plan:

18 *Colchester Avenue will evolve into a "Complete Streets" corridor that promotes safe,*  
19 *comfortable, and convenient travel for all users – including motorists, pedestrians, bicyclists,*  
20 *and public transportation riders.*

21  
22 *Mobility of through traffic will be balanced with accessibility to neighborhoods and local*  
23 *businesses as well as the Institutions on the "Hill."*

24  
25 *The corridor will develop into an attractive public space through streetscape and site design*  
26 *features. It will become more livable and desirable and will serve as a welcoming gateway to*  
27 *Burlington; and*  
28



WHEREAS, the Colchester Avenue Corridor Plan recommends, among other improvements, further evaluation for the intersection of Prospect Street / Pearl Street to realign the intersection, create more greenspace adjacent to the UVM Green, and place the roadway and sidewalk closer to the UHC building at the southwest corner; and

WHEREAS, in 2011 the City Council, by resolution, directed the Department of Public Works (DPW) to evaluate the individual recommendations of the Colchester Avenue Corridor Plan and present findings and recommendations as soon as possible to the TEUC, Public Works Commission, and then to the City Council, such work to be done in cooperation with the Colchester Avenue Task Force and area residents and businesses; and

WHEREAS, in 2012 the CCRPC advanced a scoping study of the intersection of Colchester Avenue / Pearl Street / Prospect Street at the request of DPW (hereafter called Scoping Study); and

WHEREAS, a Steering Committee was established to include the University of Vermont, Fletcher Allen Health Care, CATMA, CCTA, Local Motion, Burlington City Council, Ward 1 Neighborhood Planning Assembly, and Burlington DPW; and

WHEREAS, the Scoping Study's purpose and need was articulated, with input from the Steering Committee and public meetings, as:

*The purpose of the Prospect Street/Pearl Street/Colchester Avenue intersection Scoping Study is to identify a preferred alternative improvement plan that enhances mobility and safety for all modes through the intersection.*

*Improvements at the Prospect Street/Pearl Street/Colchester Avenue intersection are needed for the following reasons:*

- *Peak period traffic congestion: The intersection currently experiences recurring congestion, delays, and extended vehicle queuing during peak periods due to relatively heavy vehicle demand, heavy pedestrian crossing demand, and confusion/inefficiencies created by the offset north and south approaches.*
- *High Crash Location: The most recent VTrans High Crash Location (HCL) report (2006-2010 data) lists the Pearl Street/Prospect Street/Colchester Avenue intersection as the #25-ranked HCL intersection (among 659 identified HCLs) in the state.*
- *Inadequate accommodations for bicyclists and walkers: Situated immediately adjacent to the UVM Green and between the campus and residential housing to the north, this intersection experiences a relatively high volume of pedestrians and bicyclists. Despite this high activity, the intersection has several identified deficiencies including no advanced pedestrian phase for east-west pedestrians, lack of delineated shoulders on three approaches, and a skewed crosswalk across the North Prospect Street approach.*
- *Offset north-south approach alignment: The North and South Prospect Street intersections are offset by approximately 70 feet. As the north- and southbound approaches currently run together under concurrent phasing, there are often situations where vehicles become trapped in*

*the center of the intersection waiting to turn left and being unable to see beyond the opposing car to see any oncoming conflicting traffic. This inefficiency decreases the overall capacity at which the intersection operates. The offset intersection also makes right-turns-on-red very difficult for westbound traffic.; and*

WHEREAS, a local concerns meeting for the general public was held in 2012; and

WHEREAS, conceptual alternatives were developed in 2013 and the Steering Committee endorsed a pilot project to test one alternative as a short-term solution and possible long-term alternative; and

WHEREAS, upon review of the pilot project performance metrics, the public comments, and general observations, the Steering Committee recommended the pilot improvements be made permanent; and

WHEREAS, the Public Works Commission approved the traffic regulations that will effectuate the pilot treatments as a permanent configuration; and

WHEREAS, three final alternatives were reviewed by the Steering Committee:

Alternative 1: North-South Approach Alignment of Prospect Street

*1A: concurrent phasing for Prospect Street approaches*

*1B: split phasing for Prospect Street approaches*

Alternative 2: North-South Approach Alignment with Turn Lanes

*2A: concurrent phasing for Prospect Street approaches*

*2B: split phasing for Prospect Street approaches*

Alternative 3: Roundabout / Mini-Roundabout with a double lane for northbound and eastbound traffic due to high right-turn volumes; a single-lane is sufficient for southbound and westbound traffic; and

WHEREAS, each alternative was evaluated for impacts to traffic performance and evaluated for its ability to satisfy the purpose and need, impact on parking, impact on the right-of-way, impact on trees, impact on cultural/environmental resources, and permitting needs; and

WHEREAS, the Steering Committee recommended Alternative 1, revisiting split phasing during final design and construction, which includes:

1. Two northbound approach lanes on South Prospect (Through/Left and Right)
2. No parking on Pearl Street and South Prospect in front of UHC
3. Prohibited left turns from Pearl Street to North Prospect
4. Wide shoulders on Pearl Street approach
5. Bike box pavement markings for through lanes on Pearl Street
6. An opportunity to extend bicycle lanes along South Prospect Street; and

WHEREAS, the Transportation, Energy, and Utilities Committee recommended the Steering Committee recommendation;

NOW, THEREFORE, BE IT RESOLVED that the City Council endorses the purpose and need of the Pearl Street / Prospect Street/ Colchester Avenue Scoping Report and directs the Department of Public Works to pursue Alternative 1.

lb/EMB /Resolutions 2014/DPW – Colchester Ave., Pearl St., Prospect St. Intersection Scoping Plan  
6/17/14



\* \* \* \* \*

ORIGINAL

DISTRIBUTION:

I hereby certify that this resolution  
has been sent to the following  
department(s) on

DPW-Nicole Losch

RESOLUTION RELATING TO

Colchester Avenue/Pearl Street/Prospect Street

Intersection Scoping Plan

Adopted by the City Council

June 23, 2014

Clerk

Approved July 2, 2014

Mayor

Attest:

Lori Olberg  
Licensing, Voting and Records Coordinator

Vol. .... Page .....

\* \* \* \* \*