

# North Avenue Corridor Study

Transportation, Energy & Utilities Committee

April 30, 2014



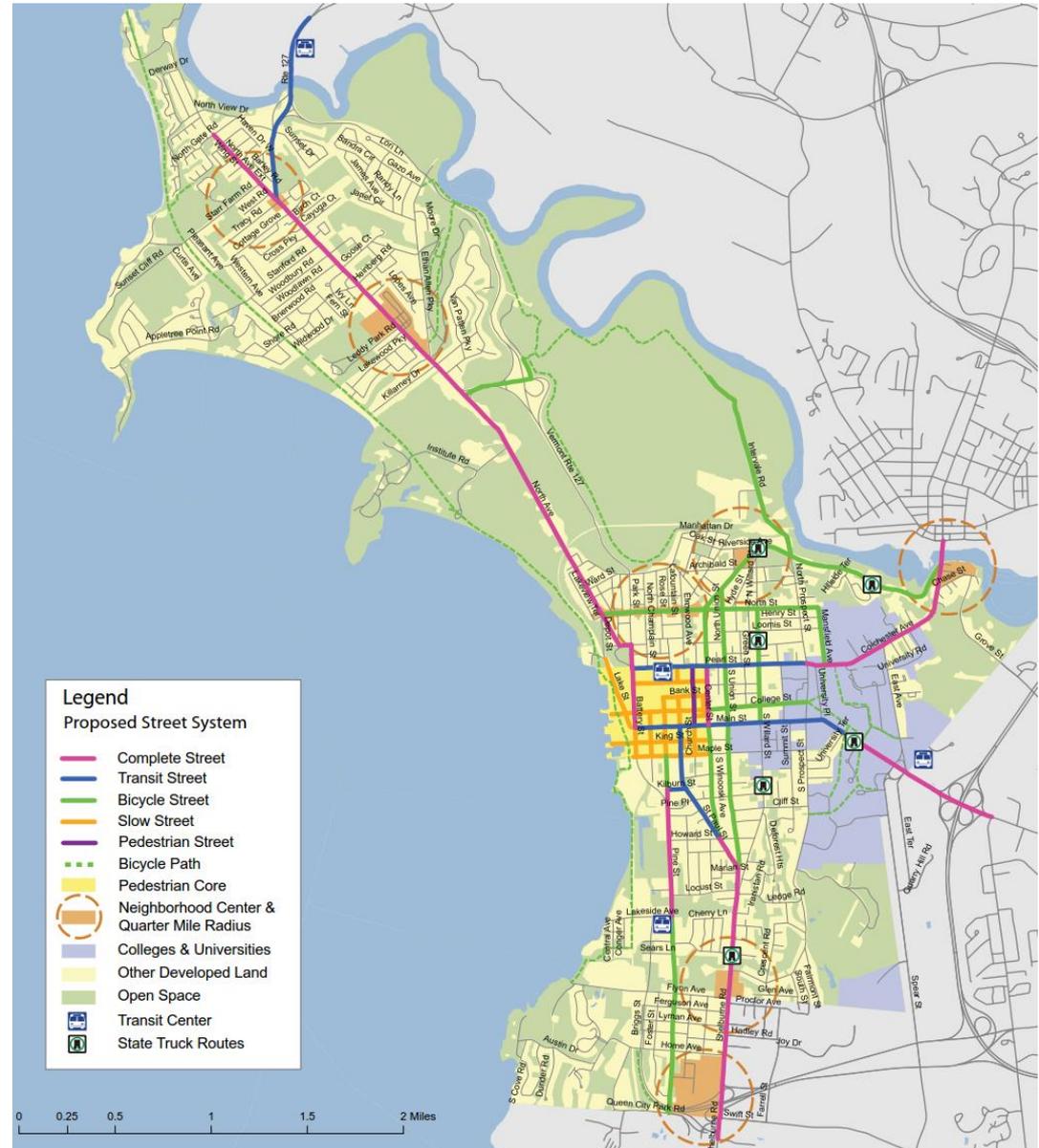
**PARSONS  
BRINCKERHOFF**

# Agenda

- **Corridor Study initiation**
- **North Ave Study Goal**
- **What Are Complete Streets?**
- **Study Process, Schedule and Work To-date**
- **Preliminary Corridor Strategies**
- **Next Steps**
  - **Public Workshop #3: May 20<sup>th</sup>, 7:00 PM at St. Mark's Church**

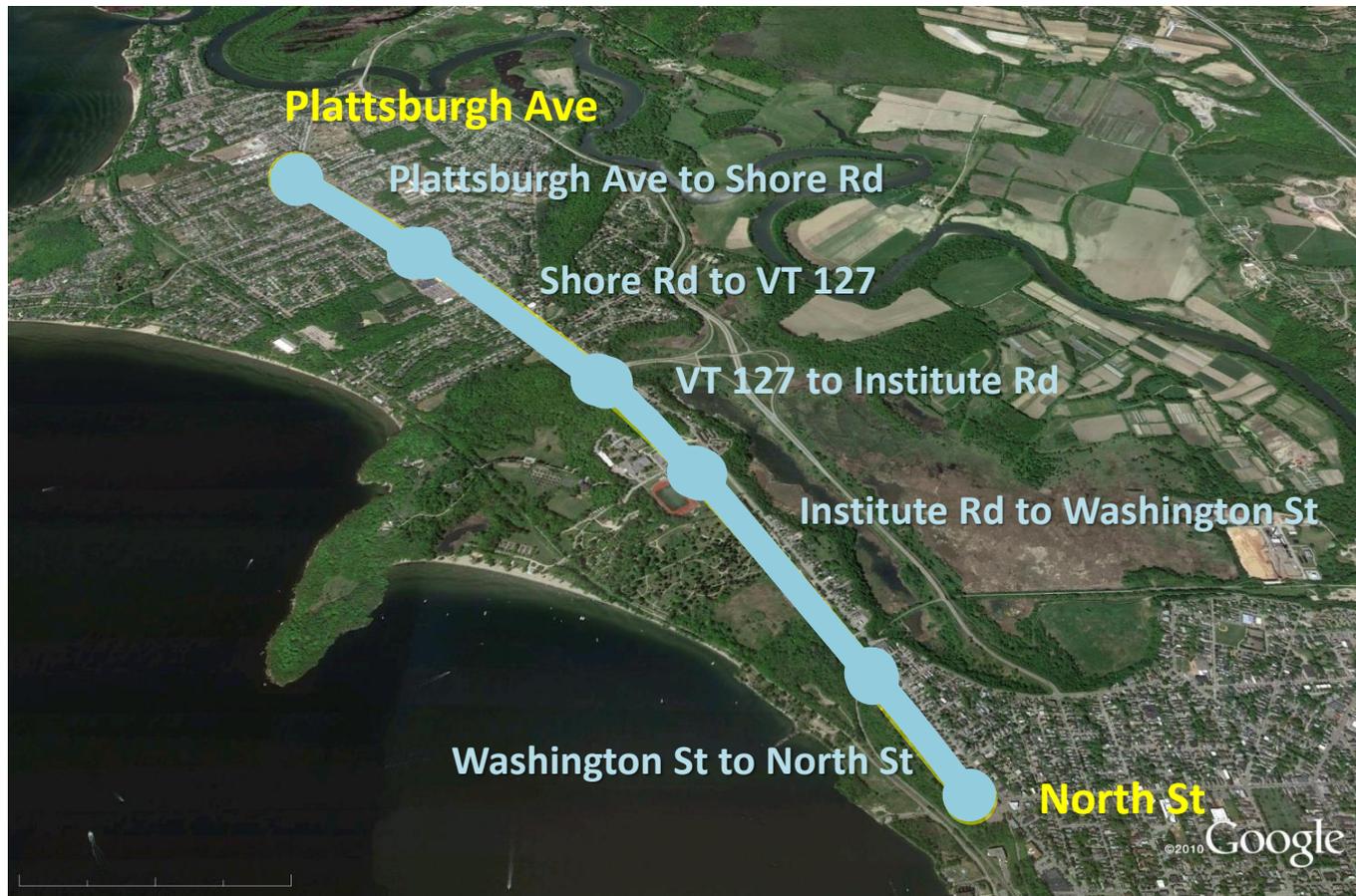
# Corridor Studies in Burlington

- 2011  
Transportation  
Plan



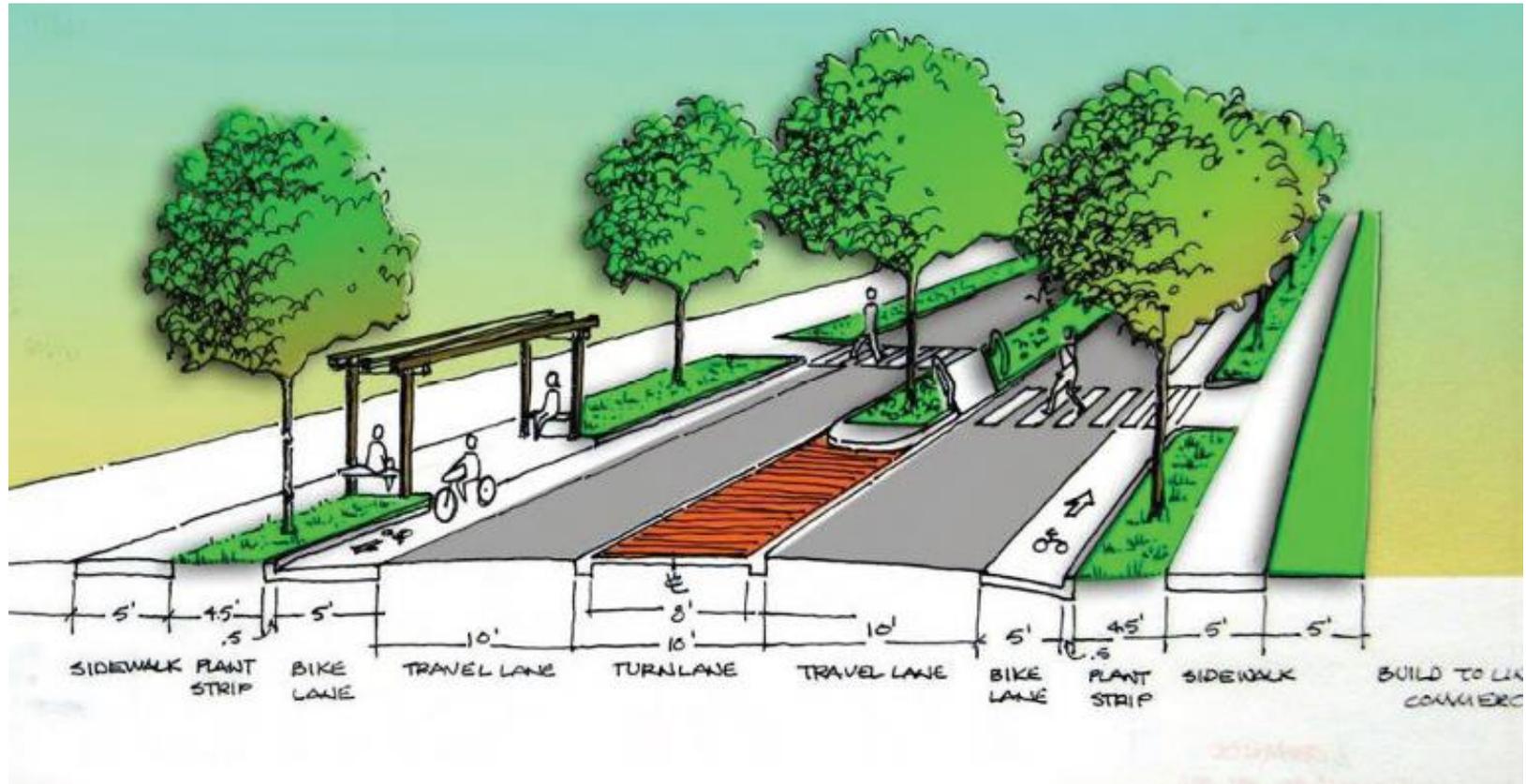
# Corridor Study Goal

The study will evaluate North Avenue from a “**Complete Streets**” perspective and develop recommendations for remaking the corridor to accommodate all users.



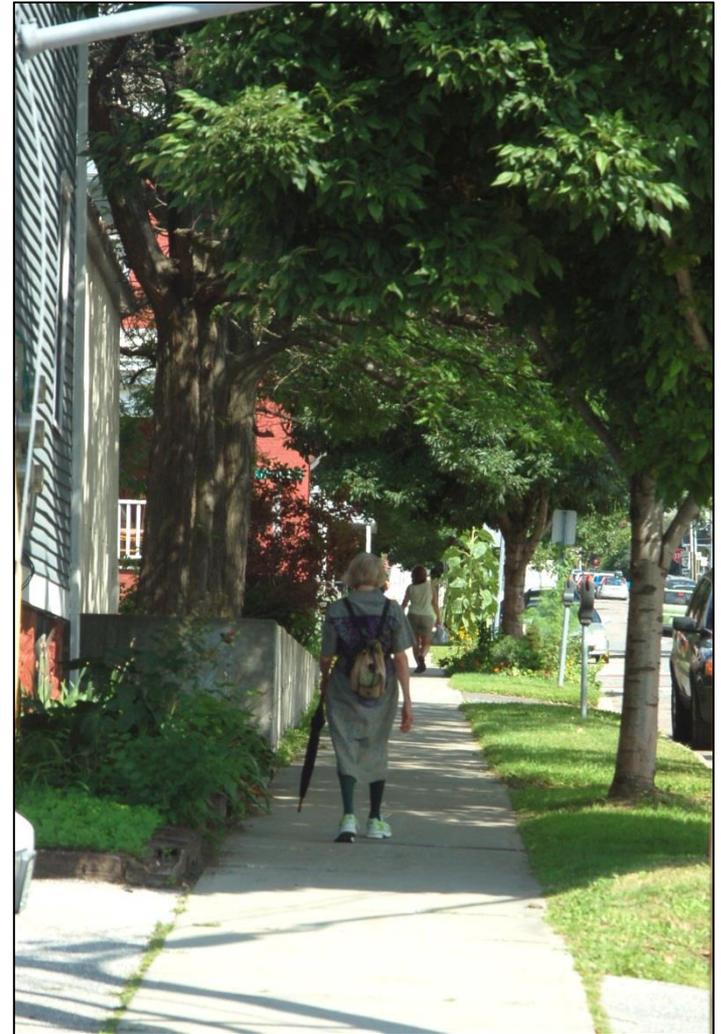
# What Are Complete Streets?

Streets designed to safely accommodate all users regardless of age, ability or modal preference - pedestrians, bicyclists, motorists, and bus riders



# Why Complete Streets?

- Provide **greater mobility, accessibility and opportunity** to those without a car.
- Offer a choice for **less costly and environmentally sound** modes of transportation.
- Active travel (walking and bicycling) can **improve health** and provide needed daily exercise.

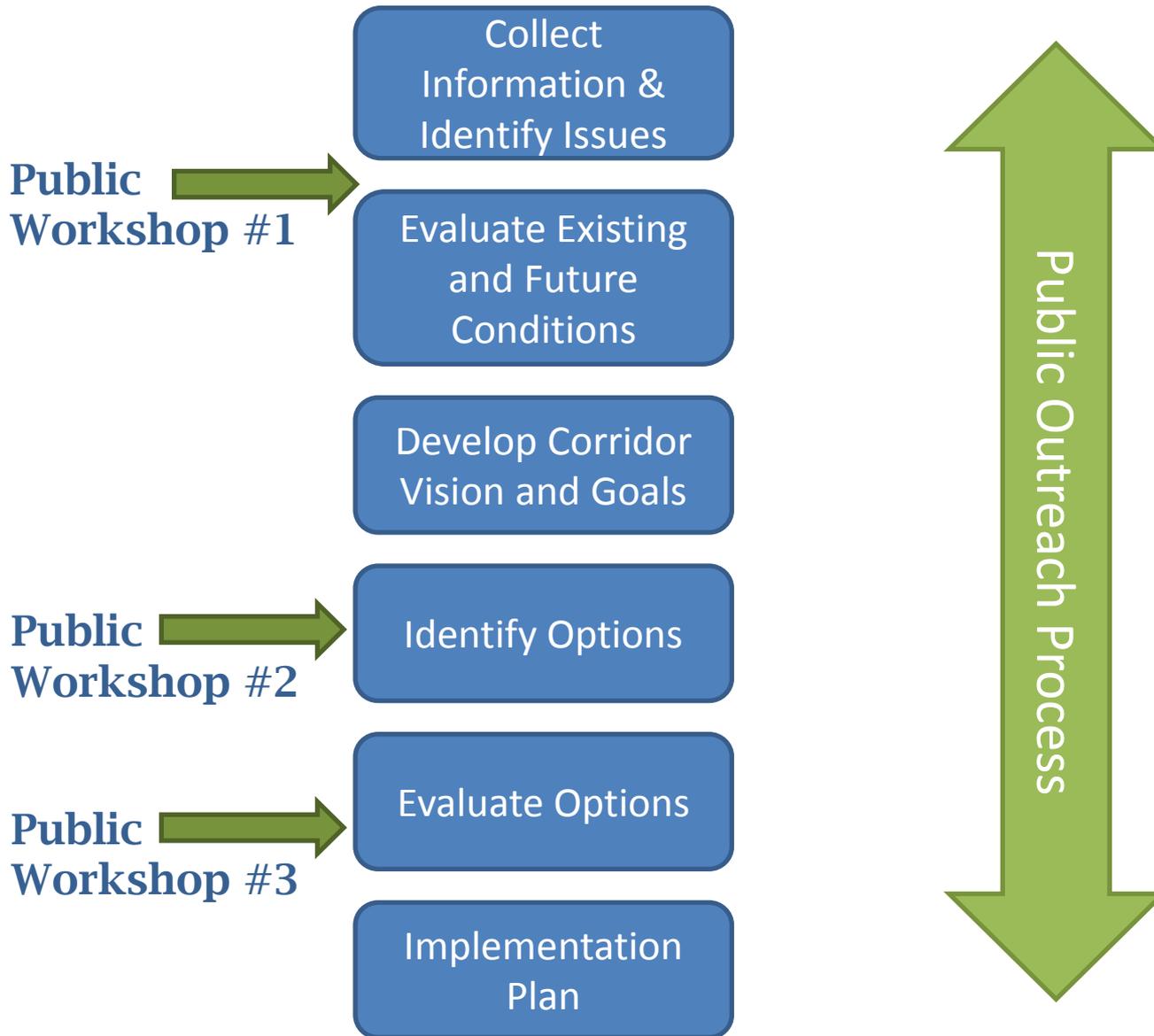


# 2011 Complete Streets Legislation

- Effort to pass H. 198 was led by AARP and many other state organizations.
- Act 34 went into effect July 1, 2011
- “. . . purpose . . . is to ensure that the needs of all users of Vermont’s transportation system—including motorists, bicyclists, public transportation users, and pedestrians of all ages and abilities...”



# North Ave Study Process

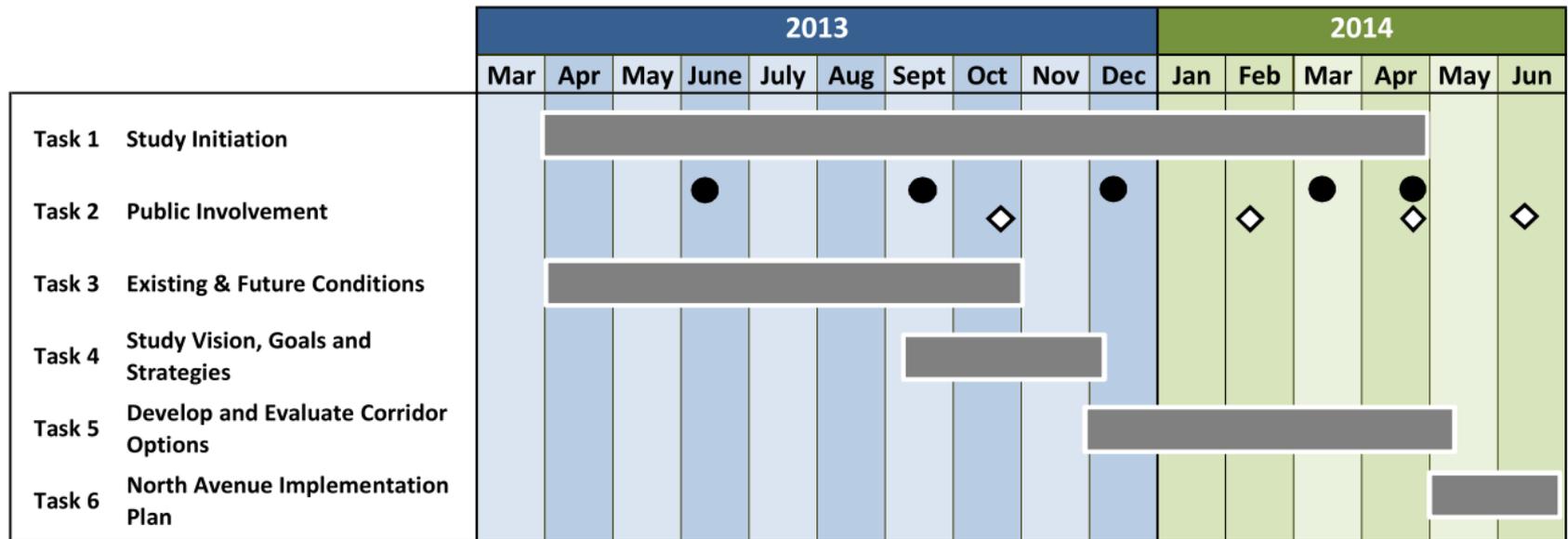


# Advisory Committee

## Participants

- Burlington City Council
- Burlington School District
- City of Burlington Departments
- CCRPC
- CCTA
- AARP
- NPA Reps from Wards 3, 4 and 7
- Livable Communities
- Local Motion

# Study Schedule



## KEY



**Public Meetings/Workshop**

- 1 Overview, existing & future conditions, issues
- 2 Concepts workshop
- 3 Select preferred alt(s)
- 4 Final recommendations



**Advisory Committee Meeting**

- 1 Study overview/process
- 2 Existing & future conditions, vision & goals
- 3 Finalize vision & goals, initial concepts
- 4 Refine concepts, preliminary preferred alts
- 5 Recommendations

# Vision Statement for North Avenue

North Avenue will continue to serve as the primary transportation corridor connecting Burlington's New North End with the rest of the City.

As the North End's "Main Street," North Avenue will provide for safe, inviting, and convenient travel for all users of all ages and abilities—including motorists, pedestrians, bicyclists, and public transportation riders.

The need to move people through the corridor will be balanced with the need to provide access to homes, businesses, and local institutions.

The corridor will develop into an attractive public space through creative streetscape, signage, and other site design features.

The corridor will become more livable and desirable by promoting social interaction, public health, economic development and environmentally sustainable initiatives.

# Goals for North Avenue

- **Remake the North Ave corridor into a “Complete Street” that accommodates the safe and efficient travel for all users of all abilities and provides transportation choices.**
- **Improve safety for all users.**
- **Provide a range of convenient and efficient travel options and improve multimodal connections.**
- **Develop strategies that support vibrant and livable neighborhoods in the New North End; enhance the quality of life of residents and visitors; and support sustainable economic growth.**

# Corridor Conditions

# Corridor Conditions

- Consider issues from the perspective of bicyclists, motorists, bus riders and walkers.
- 5 distinct corridor segments.



# Shore Rd to Plattsburg Ave



## Legend

- Traffic Signal
- Southbound Bus Stop
- Northbound Bus Stop
- Bike Lane
- Paved Multi Use Trail
- Unpaved Multi Use Path

## Plattsburg Ave to Shore Rd

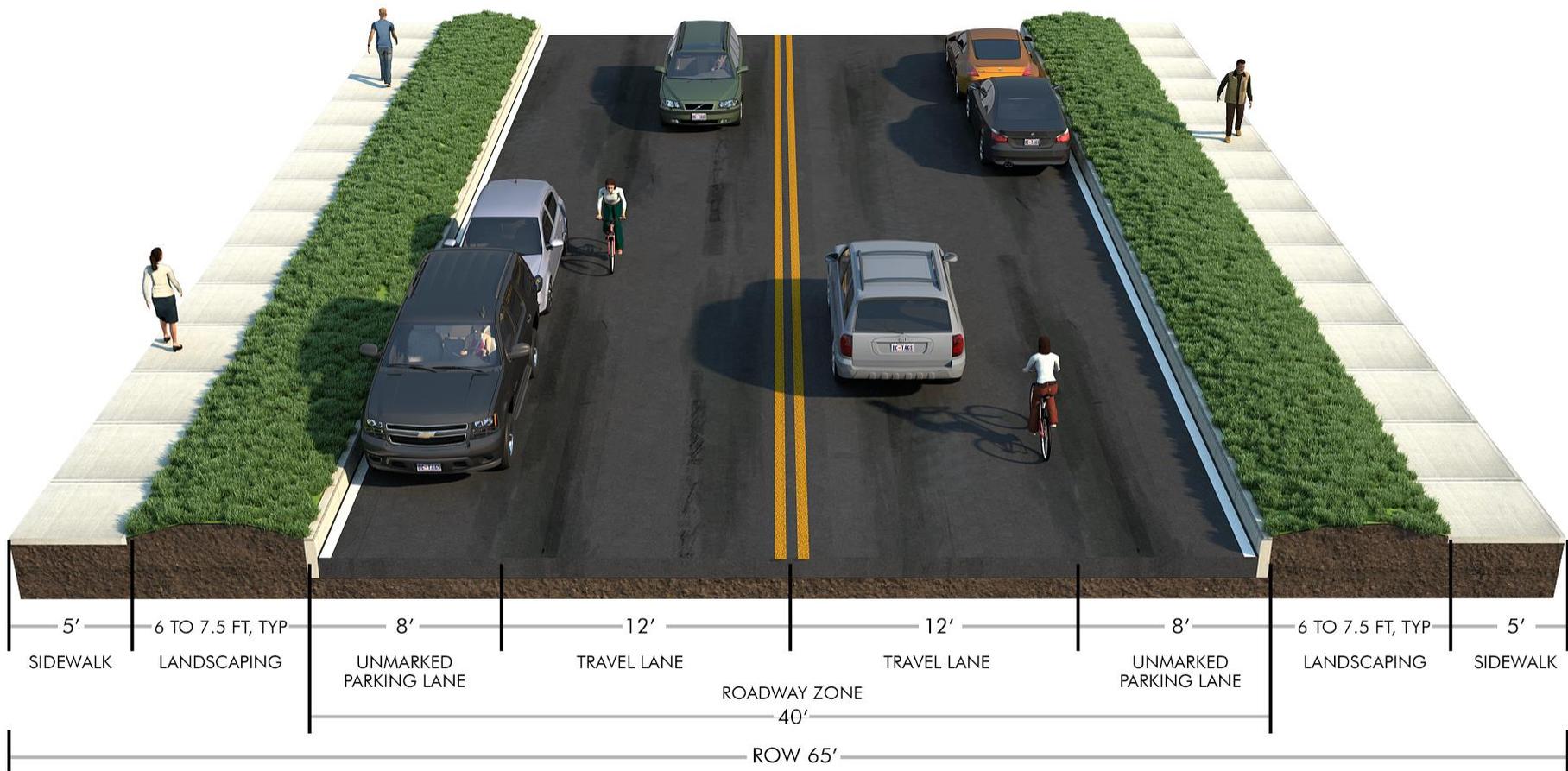
Updated: September 13, 2013



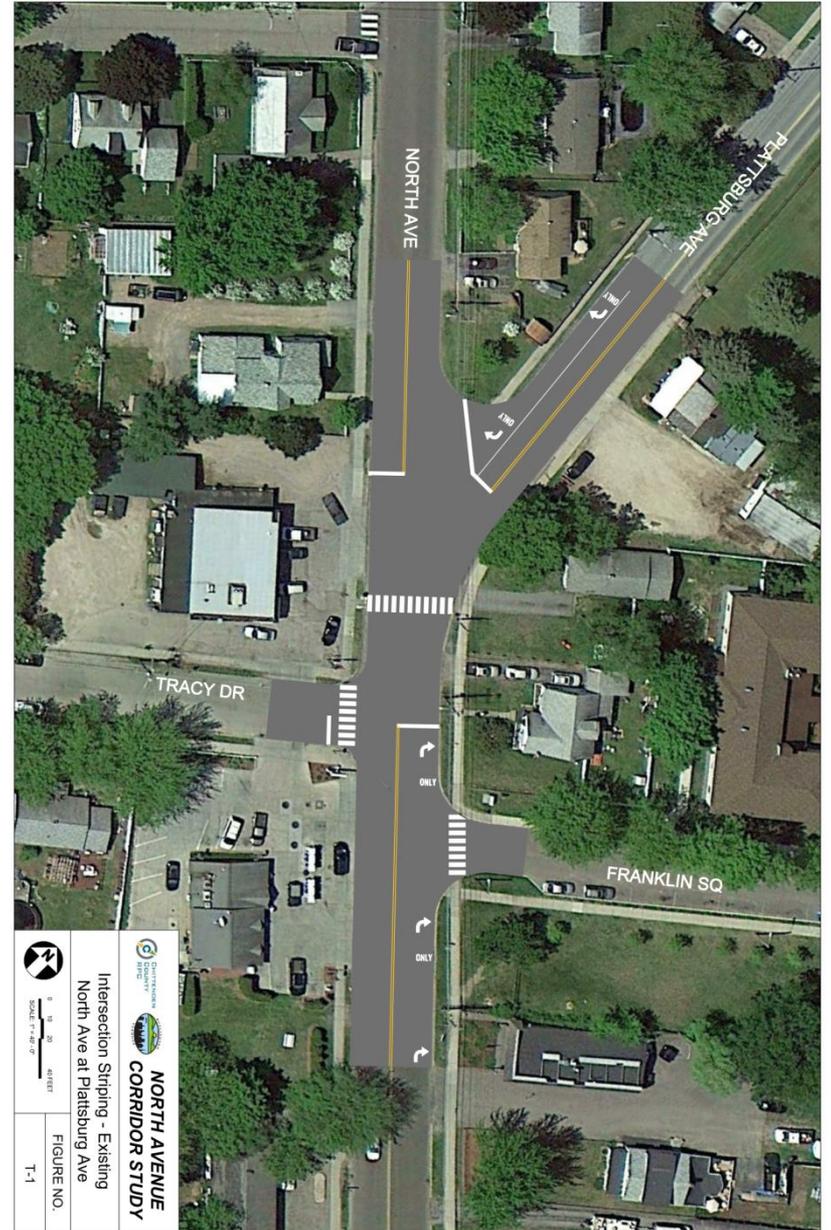
Data Source: Local Motion (2013), GoogleEarth (2012), VTrans  
 Aerial Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community



# Shore Rd to Plattsburg Ave



# Plattsburg Ave Intersection



# Plattsburgh Ave to Shore Rd

## Physical Characteristics

- 40' curb to curb width  
65' R.O.W. (corridor-wide)
- One travel lane in each direction
- On-street parking
- Sidewalks with landscape strip
- No bicycle accommodations
- Traffic signals at Plattsburg Ave, Woodbury Rd and Shore Rd.

## Traffic

- 10,800 AADT

## Land Use

- Single-family residential, multi-family, scattered retail, institutional.

## *Observations*

- *Few opportunities to cross North Avenue (corridor-wide issue)*
- *Many school children walking to/from school*
- *ADA curb ramps are present but outdated (corridor-wide issue)*
- *Wide travel way – unclear where on-street parking is allowed*
- *Frequent driveways (corridor-wide issue)*
- *Several offset intersections*

# Corridor Issues – General

- **Few opportunities to safely cross North Avenue**
- **Outdated curb ramps and poor sidewalk conditions**
- **Missing pedestrian crossings** at certain intersection approaches
- **Lack of audible countdown pedestrian signals**
- **Frequent driveways** along certain corridor segments
- Several **offset/skewed intersections** (Ethan Allen Parkway, Shore/Heineberg, Plattsburg Ave) – difficult to navigate as a cyclist or pedestrian
- **Missing/substandard bicycle facilities** in certain corridor segments
- **Safety issues for all modes**
- Wide travel way from **Plattsburg Ave to Shore Rd – unclear where on-street parking is allowed**

# Corridor Issues – Specific Segments

- **Plattsburgh to Shore:**
  - *No bicycle facilities*
  - *Wide travel way – unclear where parking is allowed*
- **Shore Road to VT 127:**
  - *Left turns frequently block through lanes*
  - *Travel lanes are relatively narrow*
- **VT 127 to Institute Rd**
  - *No provision for southbound bicyclists*
  - *Bike lane discontinuity at Institute Road*
- **Institute Rd to Washington St**
  - *High vehicle speeds*
- **Washington St to North St**
  - *Northbound bike lane is narrow*
  - *Narrowest road width (curb to curb) of any segment along the corridor*

**Improvement Options  
Public Workshop #2  
February 20, 2014**

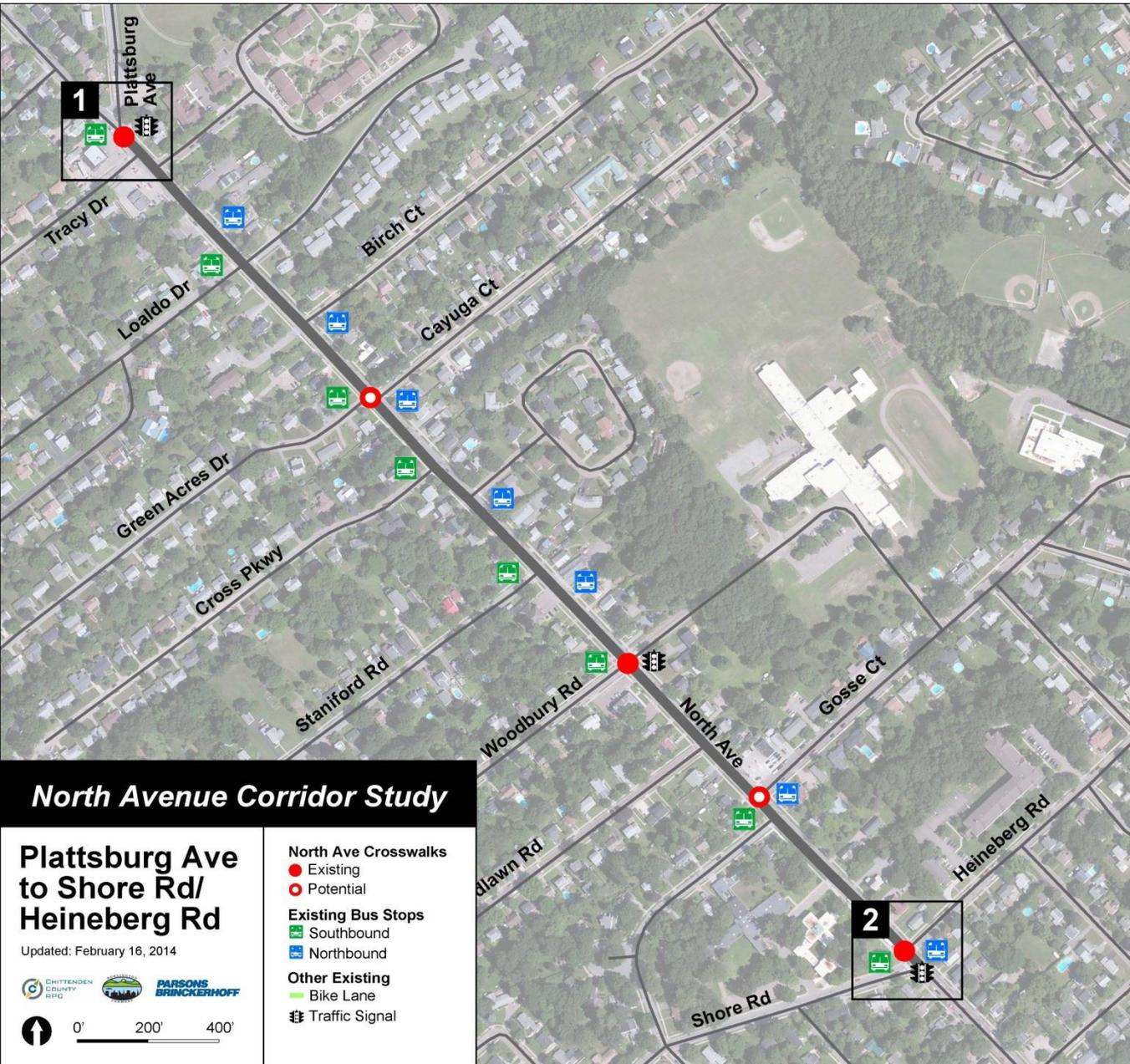
# Initial Universe of Improvement Options

- **Intersection treatments** at Institute Rd, VT 127, Ethan Allan Pkwy, Shore Rd/Heineberg Rd, and Plattsburg Ave
  - Roundabouts, signalized intersections with improvements, re-alignment
  - Improved pedestrian and bicycle travel through intersections
  - Eliminate high speed right turns
- **Rightsize the corridor** between VT 127 and Shore Rd/Heineberg Rd intersection
  - One travel lane each direction, a center left turn lane & designated bike facilities
- **Selective elimination of on-street parking** for some corridor segments

# Initial Universe of Improvement Options

- Configuration of **bicycle accommodations** for short and long term
  - Sharrows or designated bike lanes (in combination with rightsizing and selective parking elimination)
  - One or two-way cycle tracks or buffered bike lanes
- **Improvements to pedestrian facilities**
  - Add pedestrian crossings at signalized intersection approaches
  - Add mid-block crossings at high activity areas
  - Add audible countdown signals
  - Consider gateway treatments and raised crossings

# Plattsburg Ave to Shore Rd



## North Avenue Corridor Study

### Plattsburg Ave to Shore Rd/ Heineberg Rd

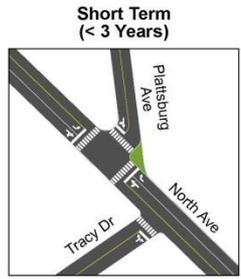
Updated: February 16, 2014



- North Ave Crosswalks**
- Existing
- Potential
- Existing Bus Stops**
- Southbound
- Northbound
- Other Existing**
- Bike Lane
- Traffic Signal



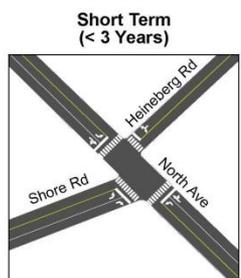
## 1 Plattsburg Avenue Intersection Options



Minor realignment (shown above) with bulb out.  
West and north crosswalks.  
Pedestrian-actuated signals.  
Bike treatments (shown on cross section diagrams).  
Resolve Tracy Dr alignment.  
Resolve market access.

**Short-term treatments +**  
Roundabout (shown above, requires additional property) or mini-roundabout.  
Gateway treatments.

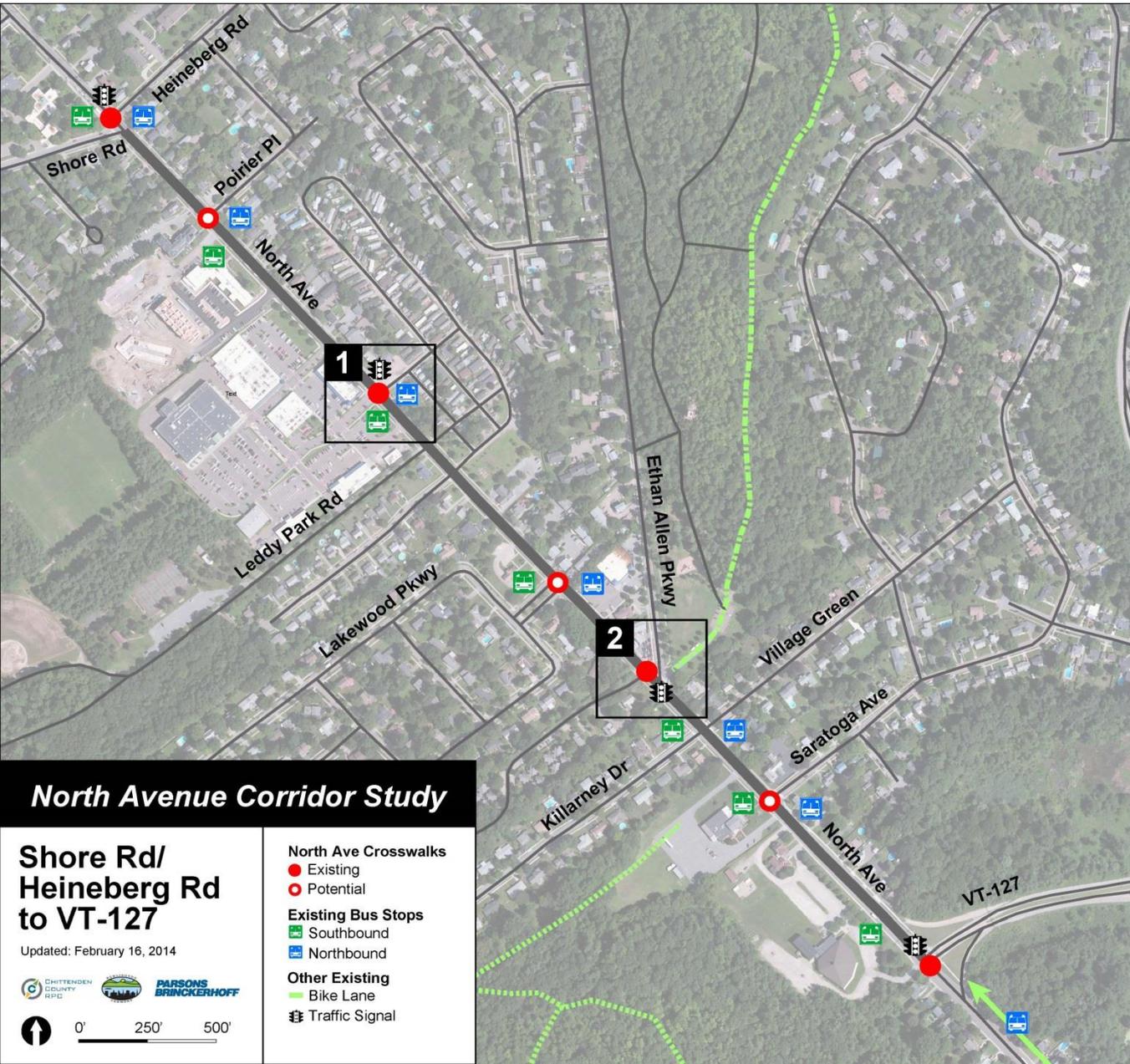
## 2 Shore Road/Heineberg Road Intersection Options



Rightsize corridor (shown above).  
South crosswalk.  
Audible walk signals and longer crossing times for seniors.  
Bike box or two-stage turn box.  
Bike treatments (shown on cross section diagrams).  
Investigate No Right Turn on Red.  
Investigate split phasing.

**Short-term treatments +**  
Realignment (shown above, requires additional property)

# Shore Rd to VT 127 Segment



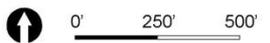
## North Avenue Corridor Study

### Shore Rd/ Heineberg Rd to VT-127

Updated: February 16, 2014

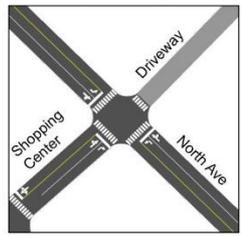


- North Ave Crosswalks**
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- Existing Bus Stops**
- 🚌 Southbound
- 🚌 Northbound
- Other Existing**
- 🚲 Bike Lane
- 🚦 Traffic Signal



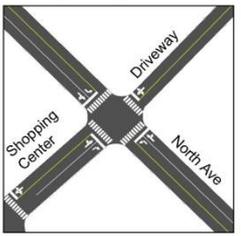
## 1 Ethan Allen Shopping Center Intersection Options

**Short Term (< 3 Years)**



Rightsize corridor (shown above).  
Investigate *No Right Turn on Red*.  
South and east crosswalk.  
Audible walk signals and longer crossing times for seniors.  
Bike treatments (shown on cross section diagrams).

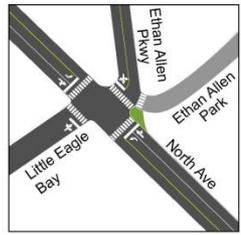
**Mid (< 7 Years) or Long Term (> 10 Years)**



**Short-term treatments +**  
Normalize mobile home driveway into true street (shown above).  
Better define access to Bamboo Hut with curbs and driveways.

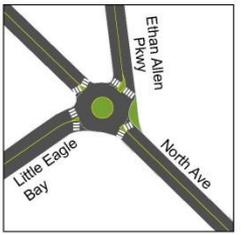
## 2 Ethan Allen Parkway Intersection Options

**Short Term (< 3 Years)**

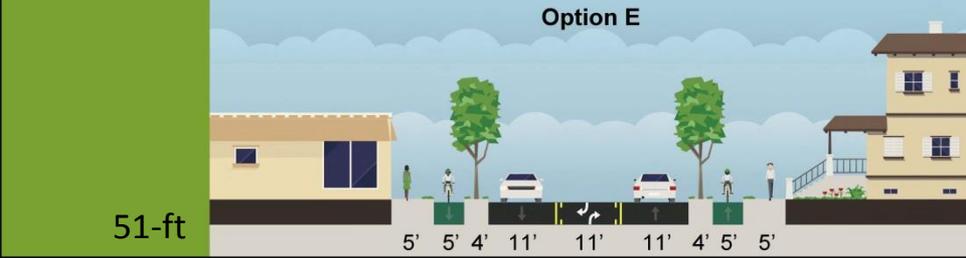
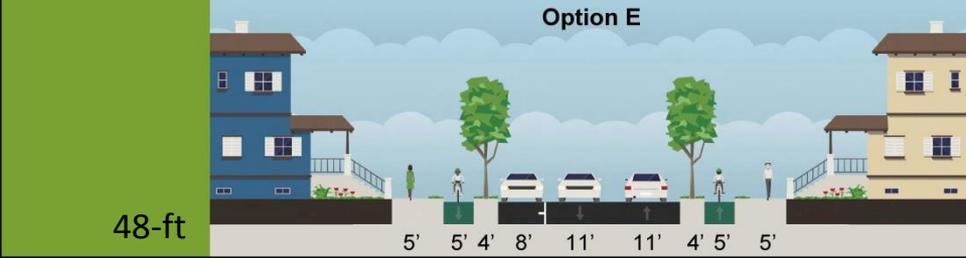
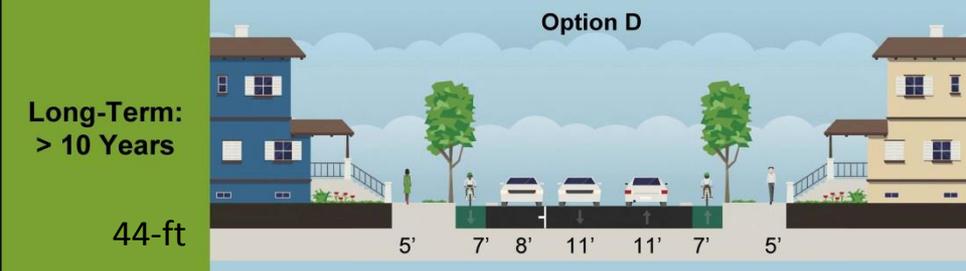
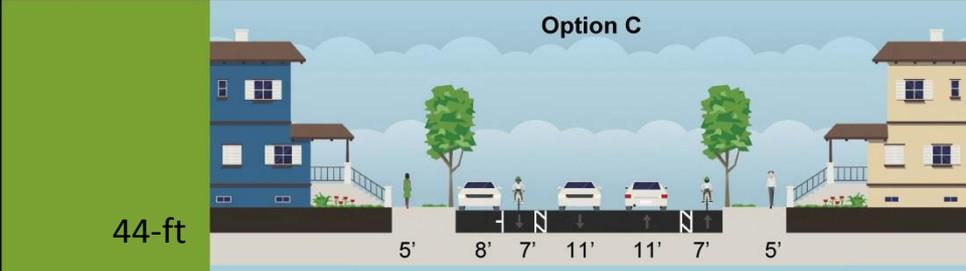
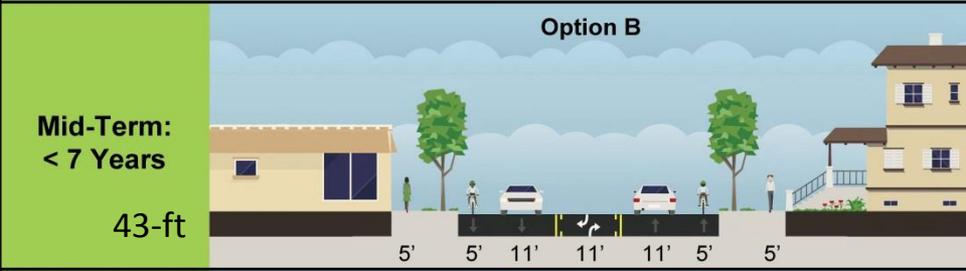
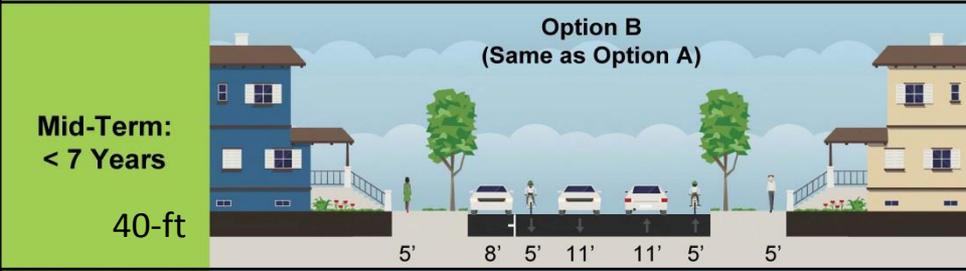


Rightsize corridor + minor realignment (shown above) with bulb out.  
South, west, and Ethan Allen Park entrance crosswalks.  
Bike treatments (shown on cross section diagrams).  
Expand signal to include Little Eagle Bay.

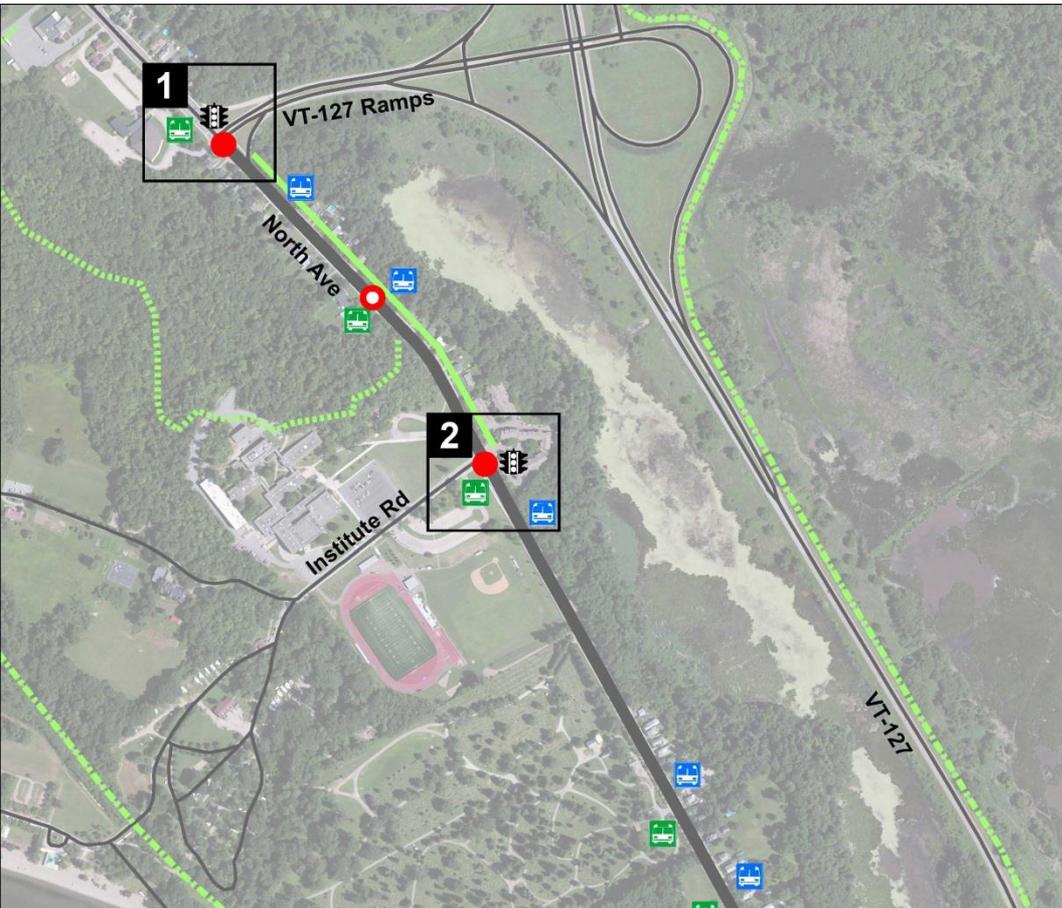
**Mid (< 7 Years) or Long Term (> 10 Years)**



**Short-term treatments +**  
Roundabout (shown above, requires additional property).  
Resolve driveway access on west side of intersection.  
Relocate Ethan Allen Park entrance.



# VT 127 to Washington St



## North Avenue Corridor Study

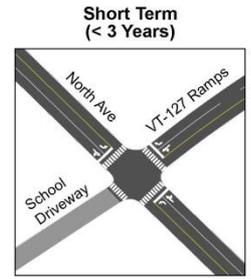
### VT-127 to Washington St/ Berry St

Updated: February 16, 2014

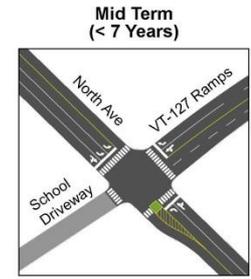
- North Ave Crosswalks**
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- Other Existing**
- 🚲 Bike Lane
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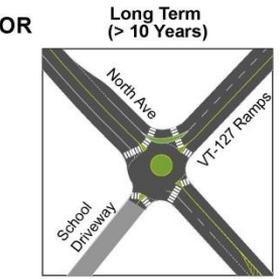
## 1 VT-127 Ramps Intersection Options



Rightsize corridor + removal of northbound high-speed right turn ramp (shown above).  
Remove gantry north of the intersection.  
West and north crosswalks.  
Bike treatments (shown on cross section diagrams).

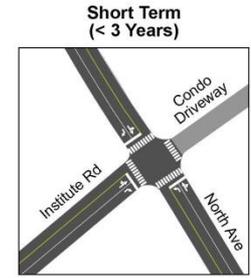


**Short-term treatments +**  
Signalized intersection with dual southbound left-turn lanes (shown above).

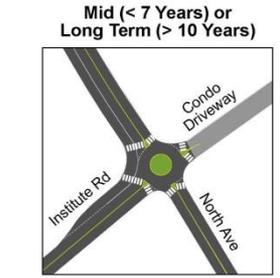


**Short-term treatments +**  
Roundabout (shown above, requires additional property).

## 2 Institute Road Intersection Options



Reduce bus pull-out size south of intersection.  
Enlarge shelters.  
North and east crosswalks.  
Fix broken detection.  
Shared bicycle/vehicle right-turn lane.  
Bike treatments (shown on cross section diagrams).  
Investigate No Right Turn on Red.



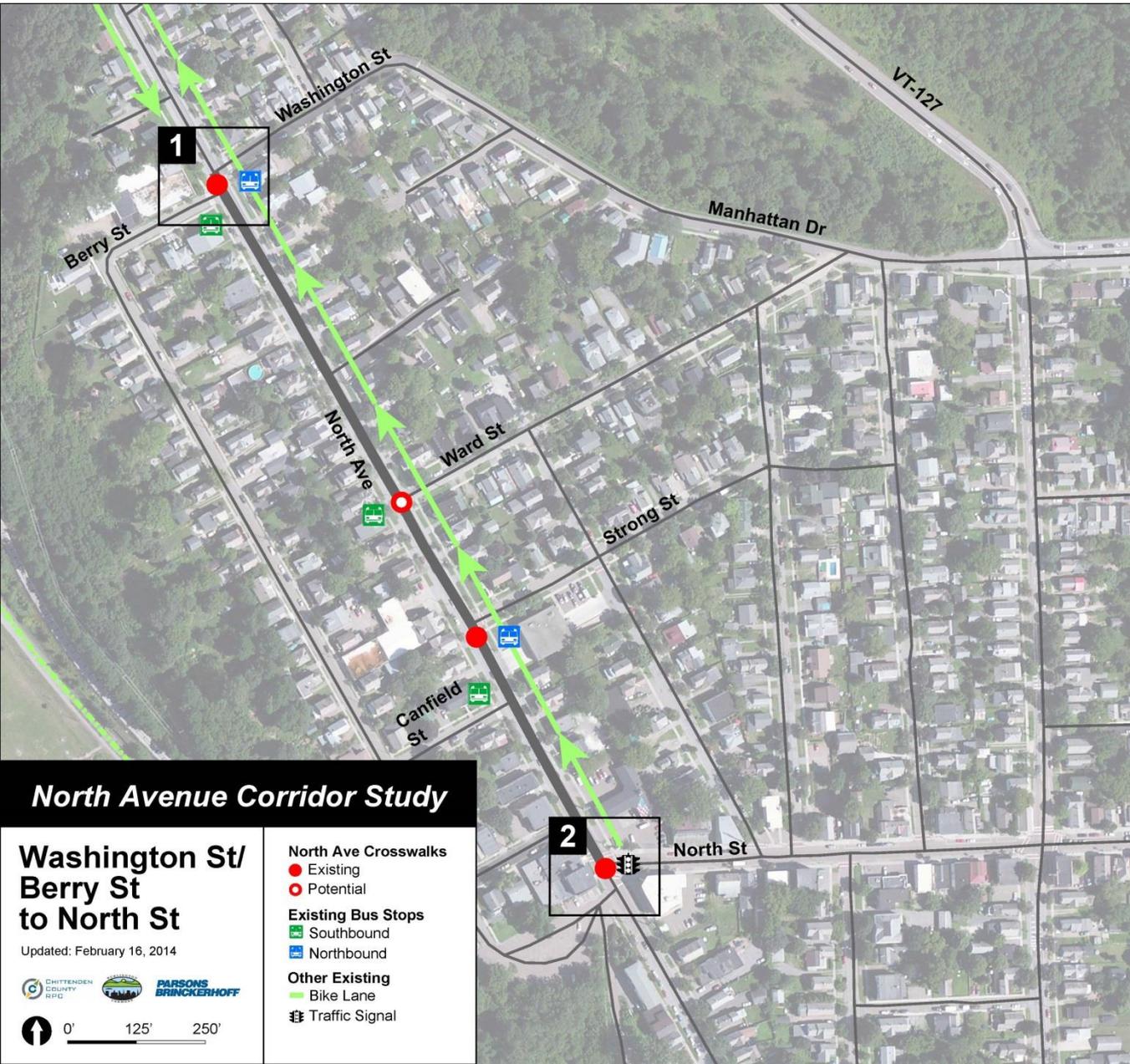
**Short-term treatments +**  
Roundabout (shown above, requires additional property).  
Move northbound bus stop to far side of intersection.

# North Avenue Corridor Study VT-127 to Washington St/Berry St



	VT-127 to Institute Rd	Institute Rd to Washington St/Berry St
<b>Short-Term: &lt; 3 Years</b>	<b>Option A: (Within Existing Curbs)</b>  40-ft 5' 8' 5' 11' 11' 5' 5'	<b>Option A: (Within Existing Curbs)</b>  35-ft 5' 5.5' 12' 12' 5.5' 5'
<b>Mid-Term: &lt; 7 Years</b>	<b>Option B (Same as Option A)</b>  40-ft 5' 8' 5' 11' 11' 5' 5'	<b>Option B: (Same as Option A)</b>  35-ft 5' 5.5' 12' 12' 5.5' 5'
<b>Long-Term: &gt; 10 Years</b>	<b>Option C</b>  44-ft 5' 8' 7' 11' 11' 7' 5'	<b>Option C</b>  35-ft 5' 6.5' 11' 11' 6.5' 5'
	<b>Option D</b>  44-ft 5' 7' 8' 11' 11' 7' 5'	<b>Option D</b>  36-ft 5' 7' 11' 11' 7' 5'
	<b>Option E</b>  48-ft 5' 5' 4' 8' 11' 11' 4' 5' 5'	<b>Option E</b>  40-ft 5' 5' 4' 11' 11' 4' 5' 5'

# Washington St to North St



## North Avenue Corridor Study

### Washington St/ Berry St to North St

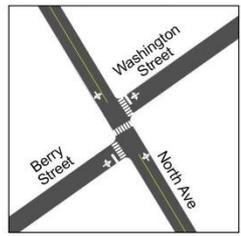
Updated: February 16, 2014

- North Ave Crosswalks**
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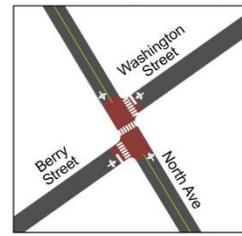
## 1 Washington Street/Berry Street Intersection Options

**Short Term (< 3 Years)**



Rapid flash beacon for crosswalk.  
Bike treatments (shown on cross section diagrams).

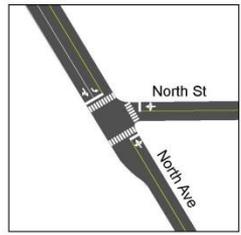
**Mid (< 7 Years) or Long Term (> 10 Years)**



**Short-term treatments +**  
Raised intersection (shown above).

## 2 North Street Intersection Options

**Short Term (< 3 Years)**



Realign crosswalks (shown above) to shorten distances.  
Investigate protected/permitted southbound left turns or split phasing signal/removal of turn lane.

**Mid (< 7 Years) or Long Term (> 10 Years)**



**Short-term treatments +**  
Gateway treatments.

Investigate **No Right Turn on Red**.  
Bike treatments (shown on cross section diagrams).

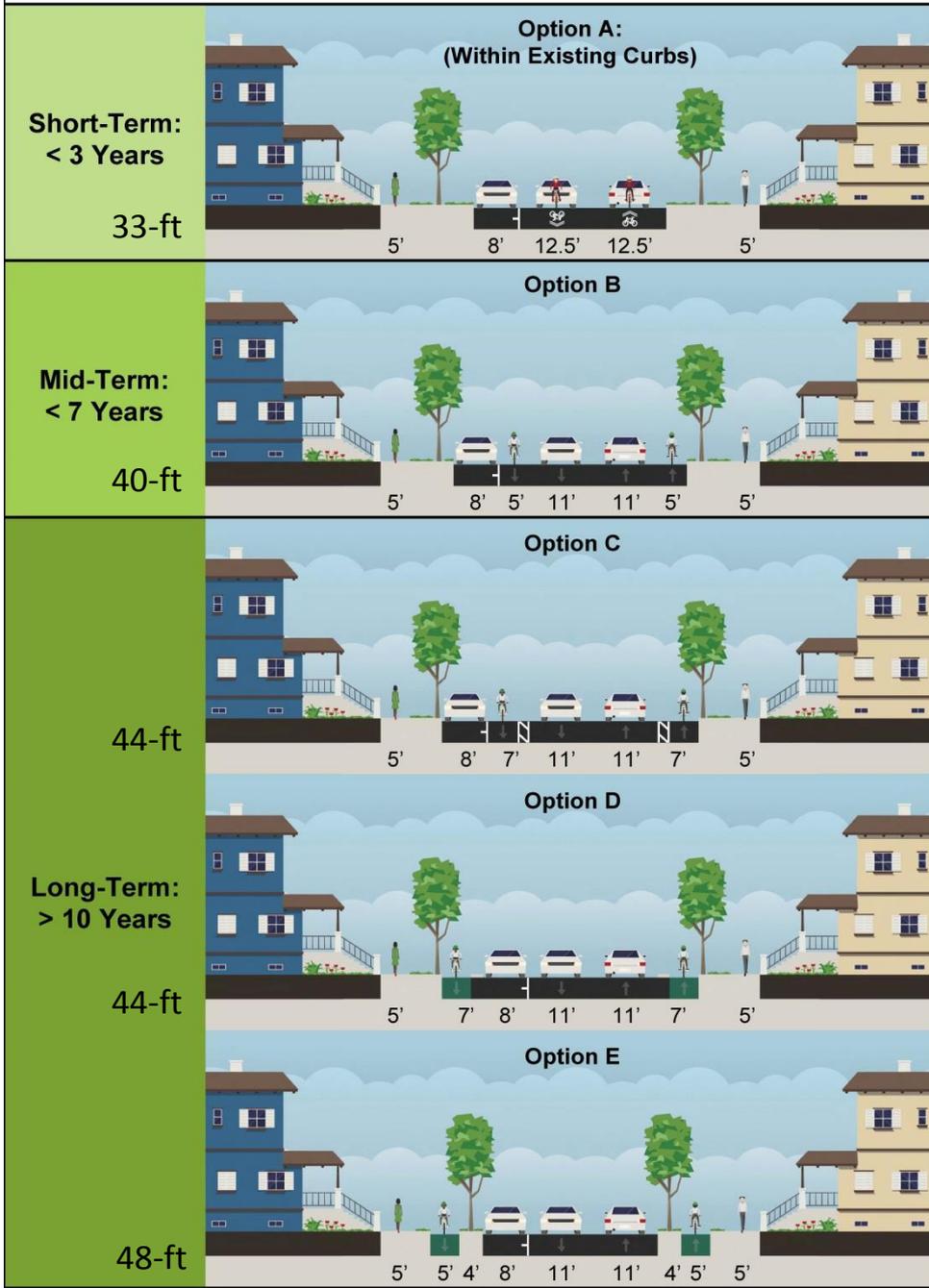
**North Avenue Corridor Study**  
**Washington St/Berry St to North St**



CHITTENDEN  
 COUNTY  
 RPC



PARSONS  
 BRINCKERHOFF



# Next Steps

- **Analyze transportation improvement options to address identified issues and meet corridor vision and goals**
  - All modes
  - Short, Medium, Long Term
- **North Ave Public Workshop #3:**
  - Tuesday, May 20<sup>th</sup> at 7:00pm, St. Mark's Church Family Center (1251 North Avenue)

***Thank You!***