

North Avenue Corridor Study

Advisory Committee
Meeting #6
July 1, 2014



**PARSONS
BRINCKERHOFF**

Agenda

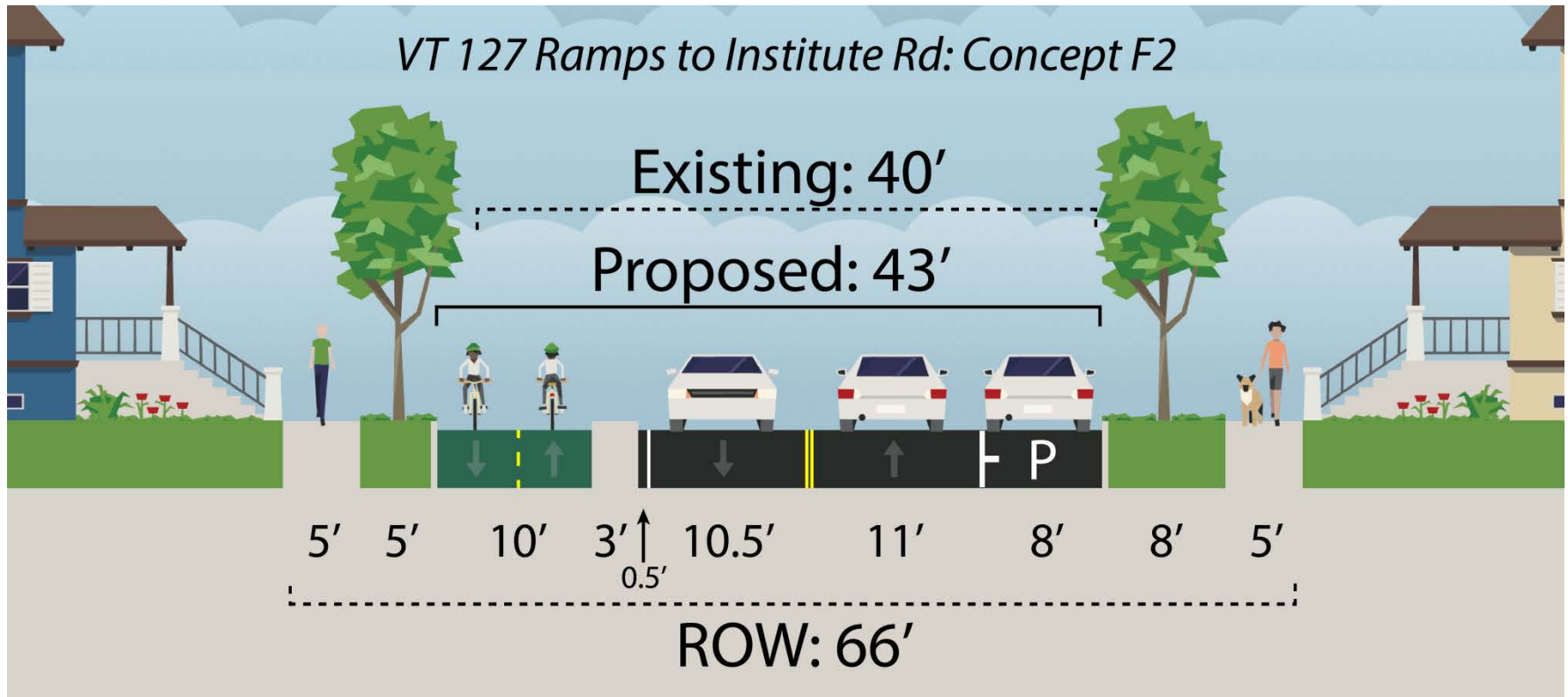
- Concept Revisions based on Advisory Committee feedback
- Review of New Concept Scoring & Costs
- Concept Discussion/Questions
- Voting:
 - Short/Medium/Long-Term Concepts
 - Cross-sections
 - Intersections

Revisions based on Advisory Committee Comments

- Added Long-term Concept F2
- 3-lane pilot project between Shore Rd & VT-127
 - Planning in the short term
 - Implementation remains in the medium term
- “Enhanced” buffered bike lane between Institute Rd & Washington St
 - *Use of pavement markings (based on NACTO guidance) in the buffer space to enhance visibility of the bike lane*

NEW Long-Term Concept for Cross Sections

Concept F2: On-Street Two-Way Cycle Track (SB Side)



Raised vs. On-Street Two-Way Cycle Track: Pros and Cons

Raised Two-Way Cycle Track:

Pros:

- Consistent 12' cycle track
- Separation:
 - Wider (5' – 10')
 - Raised, landscaped separation = less stressful for cyclists
- Visibility of cyclists: More visible for drivers exiting driveways/side streets
- Greater potential for social interaction with sidewalk

Cons:

- Higher Costs:
 - Requires movement of both curbs
 - All utilities impacted/buried
 - Curb separation with landscaping
- Greater potential for cycle track/sidewalk conflicts

On-Street Two-Way Cycle Track:

Pros:

- Visibility of cyclists: More visible for drivers entering driveways/side streets
- Lower expense:
 - Requires movement of west curb only north of Washington
 - Fewer utility impacts/burial
- Reduced potential for cycle track/sidewalk conflicts

Cons:

- Narrower, varying width of cycle track (9'–12')
- Separation:
 - Narrower (consistent 3')
 - On-street = more stressful for cyclists
- Requires full reconstruction south of Washington because of limited ROW

Raised vs. On-Street Two-Way Cycle Track: Shared Traits

- **At bus stops, both concepts...**
 - Require raised cycle track behind SB bus stops
 - Require cycle track/sidewalk delineation to some degree (e.g. special pavers)
- **South of Washington St, both concepts...**
 - Require full reconstruction (i.e. curbs moved on both sides of street) because of limited ROW

Scoring

- Scores range from 1 to 5, **higher is better**
- Scores are **relative to existing conditions**:

1 point	Much worse than existing conditions
2 points	Worse than existing conditions
3 points	Approximately the same as existing conditions
4 points	Better than existing conditions
5 points	Much better than existing conditions

- Results are **averages** of scoring criteria:
 - Subtotals are averages for a **limited number of criteria** grouped by study goals
 - Final score is an average across **all criteria**

Cross Section Evaluation Results – Long Term

Concept	Config.	<i>Burlington Complete Streets Consistency</i>	Improves Safety for All Users	Improves Multimodal Connectivity	ROW Impacts	Maintain- ability	Final Score
Concept B: 5' Minimum Bike Lanes	3 Lanes	5.0	4.2	4.3	2.5	3.5	3.9
	4 Lanes	5.0	3.5	3.7	2.0	3.0	3.4
Concept C: Buffered Bike Lanes	3 Lanes	5.0	4.3	4.3	2.5	3.5	4.0
	4 Lanes	5.0	3.5	3.7	2.0	2.5	3.3
Concept D: On-Street One-Way Cycle Tracks	3 Lanes	5.0	4.8	4.3	2.5	4.0	4.3
	4 Lanes	5.0	4.0	3.7	2.0	3.0	3.6
Concept E: Raised One-Way Cycle Tracks	3 Lanes	5.0	5.0	4.3	2.5	4.5	4.4
	4 Lanes	5.0	4.2	3.7	2.0	3.0	3.6
Concept F1: Raised Two-Way Cycle Track (SB)	3 Lanes	5.0	5.0	4.7	2.5	4.5	4.5
Concept F2: On-Street Two-Way Cycle Track (SB)	3 lanes	5.0	5.0	4.7	2.5	4.0	4.4

High-Level Cross Section Cost Estimates

High-Level Cross Section Cost Estimates

Note: Utility burial assumed for all concepts where curb line moved (Concepts B – F)

Concept	Timeline	Estimated Costs	
		Low	High
Concept A: Within Existing Width (4 lane)	Short term	\$139,000	\$169,000
Concept A: Within Existing Width (3 lane)	Medium term	\$203,000	\$243,000
Concept B: 5' Minimum Bike Lanes	Long term	\$2,928,000	\$2,973,000
Concept C: Buffered Bike Lanes	Long term	\$5,523,000	\$5,568,000
Concept D: On-Street One-Way Cycle Tracks	Long term	\$7,479,000	\$7,787,000
Concept E: Raised One-Way Cycle Tracks	Long term	\$12,945,000	
Concept F1: Raised Two-Way Cycle Track	Long term	\$12,945,000	
Concept F2: On-Street Two-Way Cycle Track	Long term	\$4,153,000	\$4,407,000

Voting on Concepts

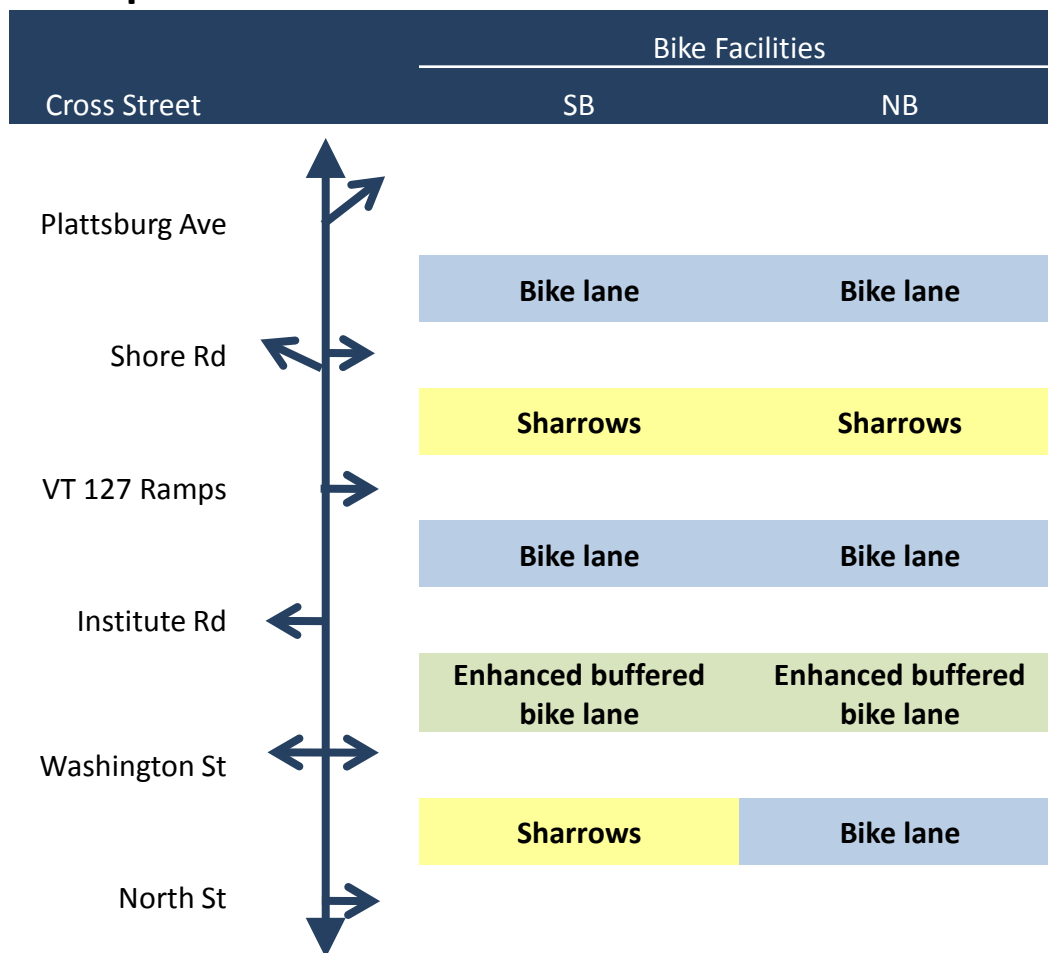
Preferred Short-Term Cross-section

- Study Team's assessment is that only Concept A is a viable/implementable short-term option
 - The Advisory Committee could decide to endorse another short-term cross-section
 - The City Council will consider the recommendations and will ultimately decide on the North Ave concepts

Voting on Short-Term Cross-Section

- Do you support A1 as the short-term cross-section? Yes ____ No ____
- Do you support another short-term cross-section? Yes ____ No ____
- Describe the other Concept: _____

Concept A1



Voting on Short-Term Intersection Concepts

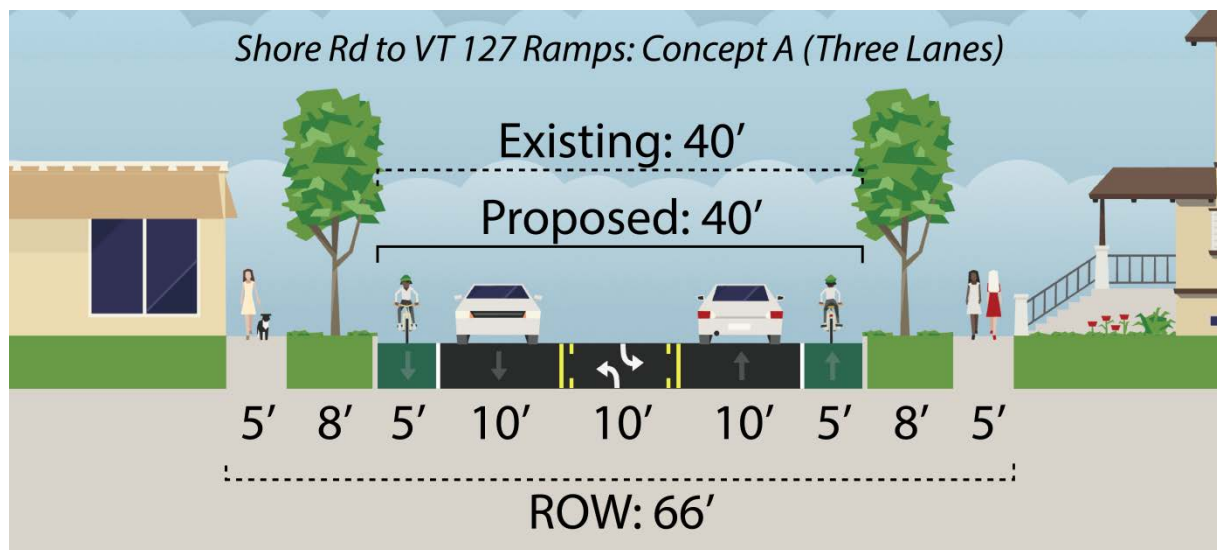
Do you support the following intersection improvements?

- All intersections:
 - ADA curb ramps and crosswalks on all approaches **Yes** ____ **No** ____
 - Audible, pedestrian **countdown** timers with 5-second (push-button) **leading pedestrian intervals** (LPI) **Yes** ____ **No** ____
 - Bicycle facilities (where provided) **maintained through intersection** **Yes** ____ **No** ____

Voting on Medium-Term Cross-Section

Concept A Pilot Project:

Implementation of a 4 to 3 lane conversion between Shore Rd and VT 127



- Do you support implementation of a pilot project of a 4 to 3 lane conversion between Shore Road and VT -127 and bike lanes in each direction as the medium-term cross-section? Yes____ No____
- Do you support another medium-term cross-section? Yes____ No____
- Describe the other Concept: _____

Voting on Long-Term Cross Sections

Select one long-term cross-section concept from the list below

Concept	Final Evaluation Score	
	3-Lane Segment 2	4-Lane Segment 2
Concept B: 5' Minimum Bike Lanes	3.9	3.4
Concept C: Buffered Bike Lanes	4.0	3.3
Concept D: On-Street One-Way Cycle Tracks	4.3	3.6
Concept E: Raised One-Way Cycle Tracks	4.4	3.6
Concept F1: Raised Two-Way Cycle Track	4.5	N/A
Concept F2: On-Street Two-Way Cycle Track	4.4	N/A

Voting on Preferred Intersection Concepts

Plattsburg Avenue

Concept	Timeline	Final Score	Committee Vote	
Concept 1: <ul style="list-style-type: none"> • <i>High-speed right eliminated</i> • <i>Exclusive pedestrian phase at south crosswalk</i> 	Medium term	3.5	Yes?	No?
Concept 2: <ul style="list-style-type: none"> • <i>High-speed right eliminated</i> • <i>Right-turn lane eliminated</i> 	Long term	4.0	Choose either Concept 1, 2 or 3 as the long-term option	
Concept 3: <ul style="list-style-type: none"> • <i>Mini-roundabout</i> • <i>High-speed right eliminated</i> • <i>Right-turn lane eliminated</i> 	Long term	3.5		

Intersection Evaluation Results

Shore Road/Heineberg Road

Concept	Config.	Timeline	Final Score	Committee Vote*	
Concept 1: <ul style="list-style-type: none"> • Pedestrian crossing times long enough for seniors • No right on red • Split phasing 	4 Lanes	Short term	3.0	Yes?	No?
	3 Lanes	Medium term	3.3	Choose Concept 1 or 2 as medium-term option	
Concept 2: <ul style="list-style-type: none"> • Pedestrian crossing times long enough for seniors • No right on red • Shore Rd realignment 	3 Lanes	Medium term	3.8		
	4 Lanes	Medium term	3.5		

* Please vote on intersection concepts not North Avenue's cross-section (# of lanes)

Voting on Preferred Intersection Concepts

Ethan Allen Shopping Center

Concept	Config.	Timeline	Final Score	Committee Vote*	
Concept 1: <ul style="list-style-type: none"> • Pedestrian crossing times long enough for seniors • No right on red 	4 Lanes	Short term	2.6	Yes?	No?
	3 Lanes	Medium term	3.1	Yes?	No?
Concept 2: <ul style="list-style-type: none"> • Pedestrian crossing times long enough for seniors • No right on red • Farrington's Mobile Home Park private drive reconstruction • Bamboo Hut sidewalk and curb reconstruction 	3 Lanes	Long term	3.4	Choose either Concept 1 or 2 as long-term option	
	4 Lanes	Long term	2.8		

* Please vote on intersection concepts not North Avenue's cross-section (# of lanes)

Voting on Preferred Intersection Concepts

Ethan Allen Parkway

Concept	Config.	Timeline	Final Score	Committee Vote*	
Concept 1: <ul style="list-style-type: none">• Signalized Intersection with <i>Little Eagle Bay</i> included in signal• High-speed NB right turn lane eliminated• Relocate park entrance and add curb extension to further slow right turns	3 Lanes	Medium term	3.0	Yes?	No?
	4 Lanes	Medium term	2.9		
Concept 2: <ul style="list-style-type: none">• Roundabout with dual SB approach lanes and NB right-turn lane, no flare on approaches• Relocate park entrance	3 Lanes	Long term	2.1	Choose Concept 1 or 2	
	4 Lanes	Long term	2.0		

* Please vote on intersection concepts not North Avenue's cross-section (# of lanes)

Voting on Preferred Intersection Concepts

VT 127 Ramps

Concept	Config.	Timeline	Final Score	Committee Vote*	
Concept 1: • <i>Remove high-speed NB and WB right turn lanes</i>	4 Lanes	Short term	3.5	Yes?	No?
	3 Lanes	Medium term	3.9		
Concept 2: • <i>Remove high-speed NB and WB right-turn lanes</i> • <i>Dual SB left-turn lanes</i>	3 Lanes	Long term	3.8	Choose either Concept 1, 2 or 3 as long-term option	
	4 Lanes	Long term	3.5		
Concept 3: • <i>Remove high-speed NB right-turn lane</i> • <i>Roundabout with dual SB approach lanes, a WB right-turn bypass lane, and no flare on approaches</i>	3 Lanes	Long term	3.0		
	4 Lanes	Long term	2.9		

* Please vote on intersection concepts not North Avenue's cross-section (# of lanes)

Voting on Preferred Intersection Concepts

Institute Rd

Concept	Timeline	Final Score	Committee Vote	
Concept 1: <ul style="list-style-type: none"> • <i>Signalized intersection with no right turn on red</i> • <i>Reduce intersection footprint</i> • <i>Relocate NB bus stop to far side</i> • <i>Resolve bus driveway access</i> 	Short term	3.4	Yes?	No?
Concept 2: <ul style="list-style-type: none"> • <i>Roundabout with SB right-turn bypass and no flare on approaches</i> • <i>Resolve bus driveway access</i> 	Long term	3.4	Choose either Concept 1 or 2 as long-term option	

Voting on Preferred Intersection Concepts

Washington St

Concept	Timeline	Final Score	Committee Vote	
• <i>Raised Intersection</i>	Medium Term	---	Yes?	No?

North St

Concept	Timeline	Final Score	Committee Vote	
<ul style="list-style-type: none">• <i>No right on red</i>• <i>Parking lot right in, right out or curb cut removal.</i>• <i>South crosswalk realignment and pedestrian refuge</i>• <i>North crosswalk realignment to be located adjacent to push button</i>• <i>Protected/permitted SB left turns</i>	Medium Term	3.3	Yes?	No?

Preferred Pedestrian Crossing Locations

- **Choose 3 to 5 high priority pedestrian crossings** (see list below and map handout for locations):
 - Gosse Ct
 - Green Acres Dr / Cayuga Ct
 - Loaldo Dr
 - Saratoga Ave
 - Killarney Dr / Village Green Dr
 - Lakewood Pkwy
 - Poirier Pl
 - Burlington College
 - Ward St

Next Steps

- Draft implementation plan
 - Advisory Committee Review (e-mail)
- Draft report
- TEUC Meeting (July)
- City council meeting—acceptance of the plan (August/September)
- Final report (September)

Thank you!