











Third Sector Associates







Public Workshop #2 Draft Alternatives

Burlington's Old North End Community Center 5:30pm-8:00pm June 4, 2019

Study Area



What is this study?

A comprehensive transportation study of the entire Winooski Avenue corridor, developing multimodal improvement strategies that address safety, capacity, and connectivity.

Final deliverable: An actionable implementation plan with near-term and longer-term recommendations.



Why Are We Studying Winooski Avenue?

- Heavily used corridor featuring diverse land uses, but a **comprehensive corridor study has not yet been conducted**.
- A geographic gateway to the City but does not feel that way.
- Multimodal facilities are inconsistent and not intuitive to use.
- Seven of the 20 priority intersections identified in planBTV Walk Bike are along Winooski Avenue.
- 16% of bicycle crashes and 17% of pedestrian crashes in the City in the past five years were along Winooski Avenue. Six VTrans High Crash Locations occur along the corridor – 4 intersections and 2 segments.
- Earlier transportation plans identified that reconnecting Pine St, St. Paul would create additional **opportunities for changes** to Winooski Avenue.
- **planBTV Walk Bike** calls for protected bike lane(s) the entire length of the corridor in its 5-year action plan, but a course of action and a holistic understanding of how to approach that goal have not yet been investigated.



Corridor Vision

- Traveling along and across Winooski Avenue will be safe, inviting, and convenient for people of all ages and abilities using any mode of transportation.
- Walking and bicycling will be viable and enjoyable ways to travel this corridor. Improvements will encourage active travel and alternatives to personal vehicle use.
- Businesses along and near Winooski Avenue will flourish with an activated streetscape and convenient access.
- The mobility and parking needs of property owners, residents and businesses will be balanced with the mobility and parking needs of the greater transportation system.
- The street can adapt to changes to the transportation system and land use.



Study Process

- 1. Existing Conditions and Corridor Vision
 - Public Meeting #1 September 5, 2018
- 2. Alternatives Development
 - Public Meeting #2 Today
- 3. Alternatives Refinement and Evaluation

Fall 2019

- Public Meeting #3
- 4. Draft Report and Implementation Plan Winter 2019
 - Public Meeting #4 (with City Council)
- 5. Final Report and Implementation Plan Winter/Spring 2019/2020





How Did We Get Here?

Past Studies & Plans

Past Studies and Plans

PLANS:



Great Streets Downtown Standards

- GMT NextGen Plan
- PlanBTV Walk Bike



C CHITTENDEN SCUNTY RPC





VTrans On-Road Bicycle Plan



PlanBTV Downtown & Waterfront

STUDIES:

- Winooski-Howard-St. Paul Intersection Scoping Study (2018)
- Winooski Ave Circulation Study Technical Assessment (2017)
- N. Winooski Ave & Archibald Street Intersection: Pedestrian Safety and Mobility Evaluation (2011)
- South Winooski Ave Lane Reduction (2002)
- Downtown One-Way to Two-Way Memo (2000)



Burlington Transportation Plan

- 2011
- Winooski Ave is a continuous bicycle route
- Complete
 Street through
 downtown



Downtown & Waterfront

 2014 Downtown Master Plan

olan

- Winooski Ave is a "Gateway Complete St" through downtown
- Planned circulation changes with mall redevelopment

HT

CONNECTIVITY MAP

The master plan transit network is designed to enhance walkability and bikeability within downtown and promote connectivity between Burlington's core and the Lake Champlain waterfront. This is achieved through increased network connectivity, streetscape improvements and by strategically locating a periphery network of parking structures to encourage people to "park once" and walk to multiple destinations within the core and along the waterfront.



planBTV Walk Bike (2017)



- 7 of the 20 priority intersections are located along Winooski Ave
- South Winooski through downtown was #1 concern resulting from issue identification and ranking at public meeting



planBTV Walk Bike (2017)



 Proposed long-term network: protected bike lanes (low-stress) on the entire corridor to improve connectivity



Winooski Ave Circulation Study Technical Assessment (2017)



- 5 traffic circulation scenarios
- Scenario #1 Complete Street on Winooski Ave has least impact on traffic, has two-way vehicle traffic, and two-way bicycle facilities entire corridor
 - 4-to-3 lane conversion Pearl to Main
 - Changes to on-street parking likely; must consider tradeoffs

Other scenarios that were reviewed:

- #2 Two-way flow on North Winooski Ave
- **#3** Two-way flow on all of Winooski Ave; Union Street as primary bicycle corridor
- #4 One-way pair with Union Street: Counter-Clockwise Flow
- **#5** One-way pair with Union Street: Clockwise Flow





Existing Conditions Overview

Safety: Crash History

All Crashes – Past 5 years

Crashes along Winooski Ave account for ____ in Burlington

- 10% of all crashes
- 9% of injury crashes
- 16% of bicycle crashes
- 17% of ped crashes



4% of motor vehicle crashes resulted in injury

96% of pedestrian crashes resulted in injury

70% of bicycle crashes resulted in injury

UMMIT



2013-2017 data (5 years) Source: VTrans Crash Data Tool

Street Uses and Users

- Driving
- Parking
- Walking
- Bicycling
- Riding Transit
- Integrated Modes
- Bike parking, green space, street trees, sidewalk seating, public art



Driving



Vehicle Level of Service

- LOS is at intersections
- Based on average of motorists' delay during peak hour of average day
- Aim for "D" in urban areas

Note: the data in this map is an updated version of the map in the 8/31/18 draft of the existing conditions report

Data source: Microsimulation analysis performed by RSG



Parking



Parking





Walking



Pedestrian Volumes (Weekdays 6am-6pm)



Pedestrian Level of Service

Metrics:

- Buffer width
- # of travel lanes
- Street trees
- Adjacent land uses
- Sidewalk width
- Long curb cuts



Source: RSG RSG draft methodology

Bicycling



Bicycle Level of Traffic Stress

- **LTS 1:** Bike paths, protected bike lanes, and greenways
- LTS 2: Bike lanes and buffered bike lanes on lower-volume streets
 - **LTS 3:** Bike lanes and buffered bike lanes on higher-volume streets <u>or</u> shared lane markings
 - **LTS 4:** No designated bike facilities or markings on higher-volume streets



Source: RSG City of Burlington draft methodology

Riding Transit



Bus Stop Demand



Data source: GMT

All Together Now





What have we heard

What have we heard?

- Complete Street vision of multimodal corridor
- Bold mode share targets
- Route to heart of the city requires mobility
- Diverse adjacent land use and key BTV destinations along corridor requires <u>access</u>
- Significant safety deficiencies
- Inconsistent and inadequate facilities
- Challenging parking demands and short-term loading zones for businesses
- Opportunities to re-evaluate lane configurations



WikiMaps, Tabling, Public Meeting #1

Riverside Ave to North St

North St to Pearl St Pearl St to Main St

Pedestrian & Streetscape Improvements

2 N Winooski/Archibald intersection - takes forever to cross as a pedestrian

Archibald St intersection is too big, improve with rain gardens or bump outs

Make "diagonal" crossings at N Winooski/Pearl St or grid entire intersection

"Soul-killing parking lot, derelict motel, please do better!" at S Winooski/Main St

Pedestrian crossing is not good at Spruce St intersection - steep angle and slippery

Improve lighting from 5 Winooski from King St to Adams St (trees block out light)

Howard St intersection - long wait times, confusing to know when bikes and peds should cross

Old North End Variety Store has underutilized parking lot - add parklet?

Utility poles on both sides of street - unattractive

Ped signals would help at 5 Winooski/Howard intersection

King St intersection - add rain gardens or bump outs

Howard St intersection - too big, needs bump outs

Improve lighting, especially on bike lanes

Less tobacco use at N Winooski and Pearl

More space for people, less space for parked vehicles

Extend the one way traffic and prioritize bus flow

5 Light rail/street cars or elevated line N-S and E-W

Bus stop on Winooski Ave near Buell St is in a bad spot

Pearl St intersection - relocate bus stop on NW side of intersection

Exclusive pedestrian phase at 5 Winooski/Howard intersection

Howard St intersection - No pedestrian route crossing Winooski Ave

Only pedestrian crossing light is at Bank St

Parking garage intersection is dangerous

Good sidewalks

Clearer signage

More crossings

Ticket jay walkers

Better Transit

More trees

Too many distractions

2 Underutilized parking lot @ North End Studios - use as parking for businesses?

Sight distance turning right from Hyde St to Riverside Ave - many near misses with pedestrians

Pearl St intersection - pedestrian light doesn't work (E/W walk signal shows red during ped phase)

Main St to Howard St

General/Entire Corridor

Better Bicycle Infrastructure

- 5 No safe transition from bike path to street Bicyles are often travelling in both directions even though it's one way Sharrows are not suitable for this segment; need real bike lanes Need a bike box for bicycles turning onto Decatur from Winooski Ave
- 2 Weight sensors do not work for cicylists at light @ Riverside Riverside Ave intersection - difficult for bikers and walkers to cross Riverside Ave intersection - better markings for bicycles and cars Almost hit by a door in the bike lane
- Add two-way separated bike lane to terminus of Winooski Ave 2 Don't drop the bike lane at Pearl Street Like the hike hox at Winooski/North St
- 2 Door zone bike lane is scarv to bike in Bike lanes borth ways through this section North St intersection - bike lane markings/car markings are not clear North St intersection - serious danger for right-hooks 2 Remove parking on N Winooski Ave and add bike lanes
- Leave car traffic one-way, remove parking and add bike lanes Pearl St intersection - add bike signal or bike box Pearl St intersection - confusing for bikes and drivers Make a place for bicyles that is not the sidewalk (or the street in traffic) Extend the one way traffic and prioritize bus flow
- At Pearl/Winooski markings for bicycles turning onto Pearl from Winooski Ave
- More bike racks everywhere
- Bike crossing at Bank/Winooski Add a protected bike lane
- Good section but needs protected bike lane
- Need bike lanes around Edmunds and Champlain College
- Signage for bikes turning against traffic
- Like the two way bike lanes (contra flow)
- Bicylce lanes should be protected
- Main St intersection add bike box or bike signal
- King St intersection hard for bicycles because of grade, but a common route Abrupt ending to NB bike lane at Maple St - only way to go is up Maple St (very steep) Continue bike lanes from Maple to Main Cars often stop in the bike lanes and block them Cyclists shouldn't have to stop at stop signs through this section Difficult to bike up Howard St and take a left onto bike lane on S Winooski Maintaining bike lanes - potholes are dangerous Adopt new bike lanes from the ONE All bicyclists should be on the street, not sidewalks, if over the age of 12 Bike path to bike lane connection Enforce 4 ft passing law Create a good module for bike safety and education Make bicycle and car safety compulsory in schools Make a nearby road a bicycle thoroughfare (bikes only)
- Connect the bike lanes in the north end and south end
- Remove parking and add more bicycle facilities
- Want to see more changes like the ones on Pearl St at Willard
- 6 Add protected bike lanes along the entire corridor

Improve the Traffic Circulation

- Need a simple way out of the old north end (from N Winooski)
- 2 North St/Winooski Ave intersection has poor visibility + confusing traffic pattern Pearl St & Winooski intersection is very important route for cars getting from center of town to ONE Grant St to Pearl St should be two way
- 3 Consider two way traffic for all forms of transportation Pearl St intersection - consider a roundabout Many conflics along this segment
- 9 City Market: priority, access, safety, flow issues Extend the one way traffic and prioritize bus flow Make this segment 3 lanes: 2 SB lanes (one transit only) and 1 NB lane Set cross turn rules to not allow favoring peak traffic times - eg no left turns 7-9AM
- 6 Rethink traffic circulation in this section (road diet?) No left turn in or out from City Market
- 2 Parking garage intersection is dangerous
- Enter & exit City Market from Union St Only College St intersection - left green arrow from Winooski Ave onto College St
- Delivery trucks block the road near College St intersection
- Crossing area near the co-op turn in
- Main St intersection roundabout
- Stop signs are annoving for all users what about mini roundabouts? Main St/Winooski Ave intersection - cars run this red light often
- Almost impossible to turn left onto Winooski Ave from Main St eastbound
- Main St intersection congested and dangerous for everybody
- Why is there two-way traffic Maple to Main?
- Eliminate one way streets
- Corridor should be continuous

Traffic Calming

- 2 N Winooski/Unionr intersection: Union to Winooski acts as a yield instead of stop
- 2 Need to slow down traffic from Pearl to Main this is downtown Observe lots of speeding
 - Adams St to Spruce St is a speedway for cars Slow traffic down Make the speed limit 15 mph Red light and speed cameras Speed humps

This list aggregates comments from out City Market outreach, the public meeting, and the Wikiman Bolded comments were mentioned multiple times



Like the public art near North St

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Improve the park at Riverside Ave

















Initial Evaluation Criteria

- So Bicycle Level of Stress
- ℜ Pedestrian Quality of Service
- Transit Quality of Service
- Vehicle Congestion
- Safety for all Users
- P Change in Parking Spaces
- Street Trees Impacted
- M Change in Green Strip Width
- Curb Changes
- 🗴 Cost
- ➡ Loading Zones
- Neighborhood Access
- Stormwater Opportunities



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Keep the Feedback Coming!

Public Comment Period open through the summer

Visit the project webpage for all resources: <u>tiny.cc/WinooskiAveStudy</u>

- Email the project team (bdavis@ccrpcvt.org)
- ✓ Share with your network
- ✓ Sign up for project email list





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