

Colchester/Riverside/Barrett/ Mill Intersection Study

Transportation Energy
Utilities Committee
January 8, 2019



Introduction

Intersection scoping recommended in 2011 Colchester Avenue Corridor Study

Purpose: Define a safer intersection that enhances mobility and access for all users while contributing to livable and vibrant communities and ensuring efficient operations.

Needs:

1. Improve safety and mobility for all users of the intersection.
2. Simplify the intersection.
3. Enhance the gateway into Burlington.
4. Manage traffic congestion.

Project Summary

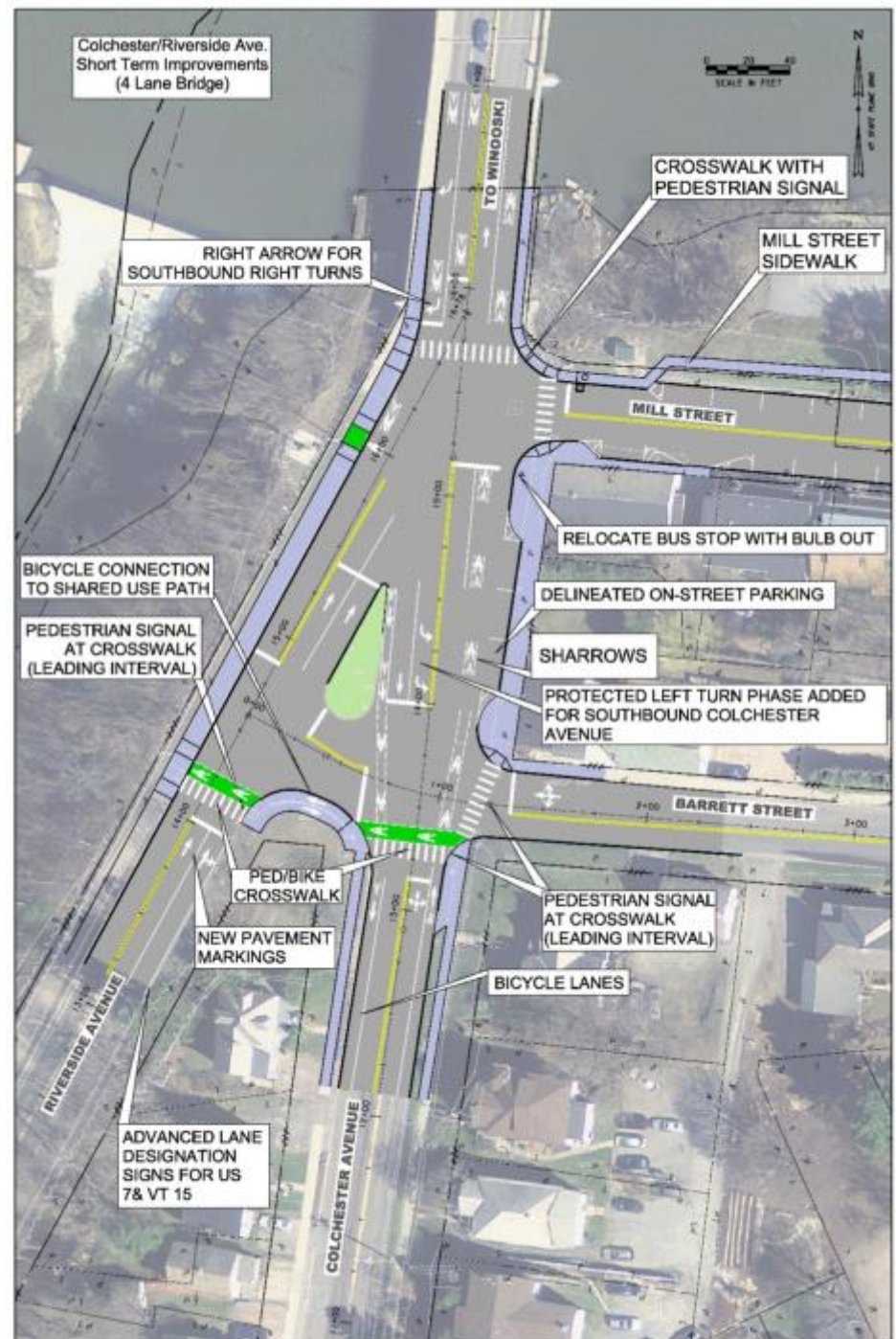
- Committee Considered:
 - 1 Short-Term Alternative (0-3 years)
 - 3 Medium-Term Alternatives (3-10 years)
 - 1 Hybrid Alternative
- Committee Actions:
 - Approved Short-Term Alternative
 - Eliminated 1 Medium-Term Alternative
 - Preferred Medium-Term Alternative 1
- CCRPC Winooski Bridge Study coordination
 - 4-lane configuration

Alternative Review

Short-Term: limited curb relocation and drainage impacts, within right-of-way

Preferred short-term alternative

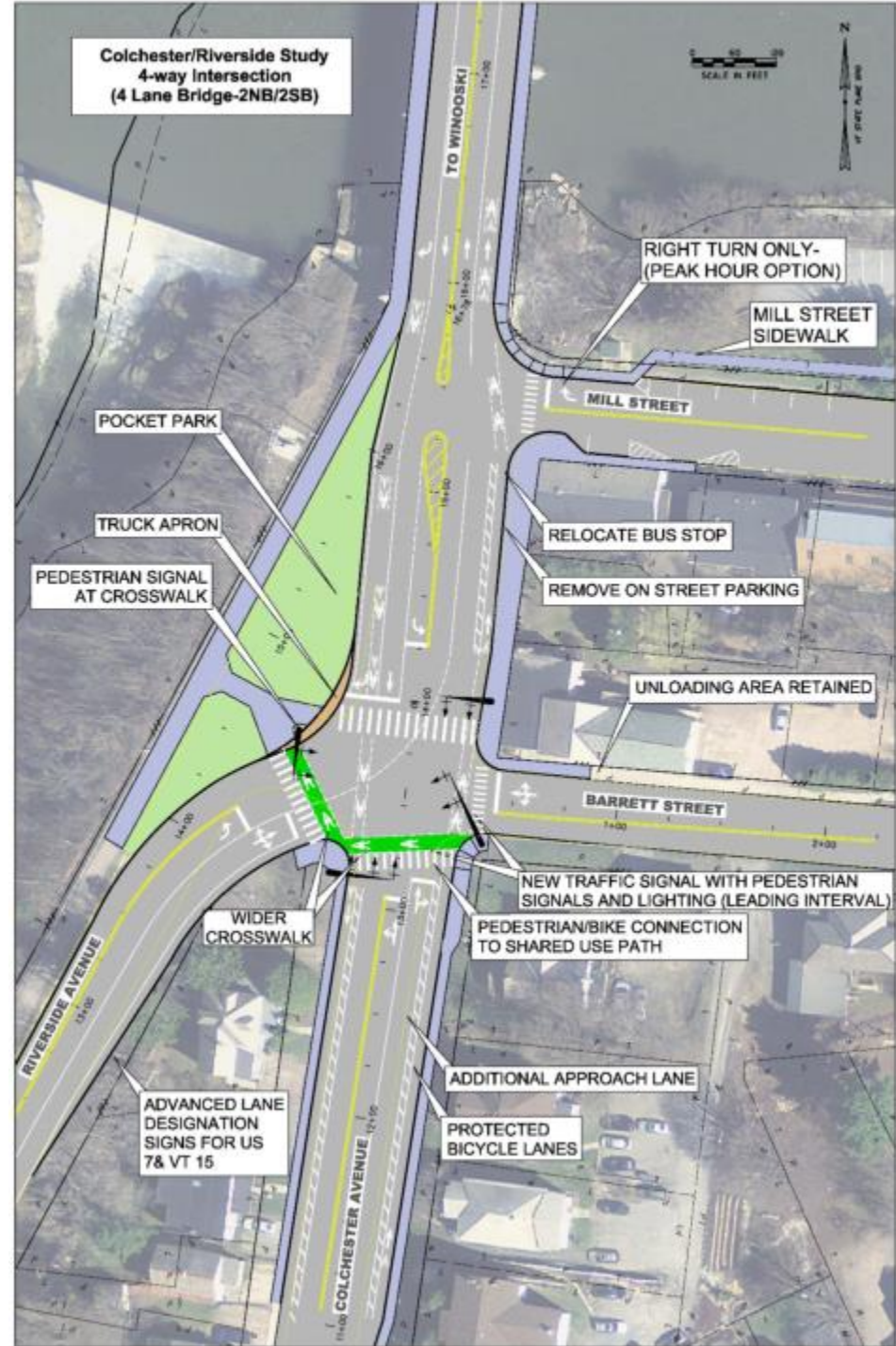
Hybrid: if medium-term alternative is delayed, pursue short-term and an additional northbound lane on Colchester Avenue



Alternative Review

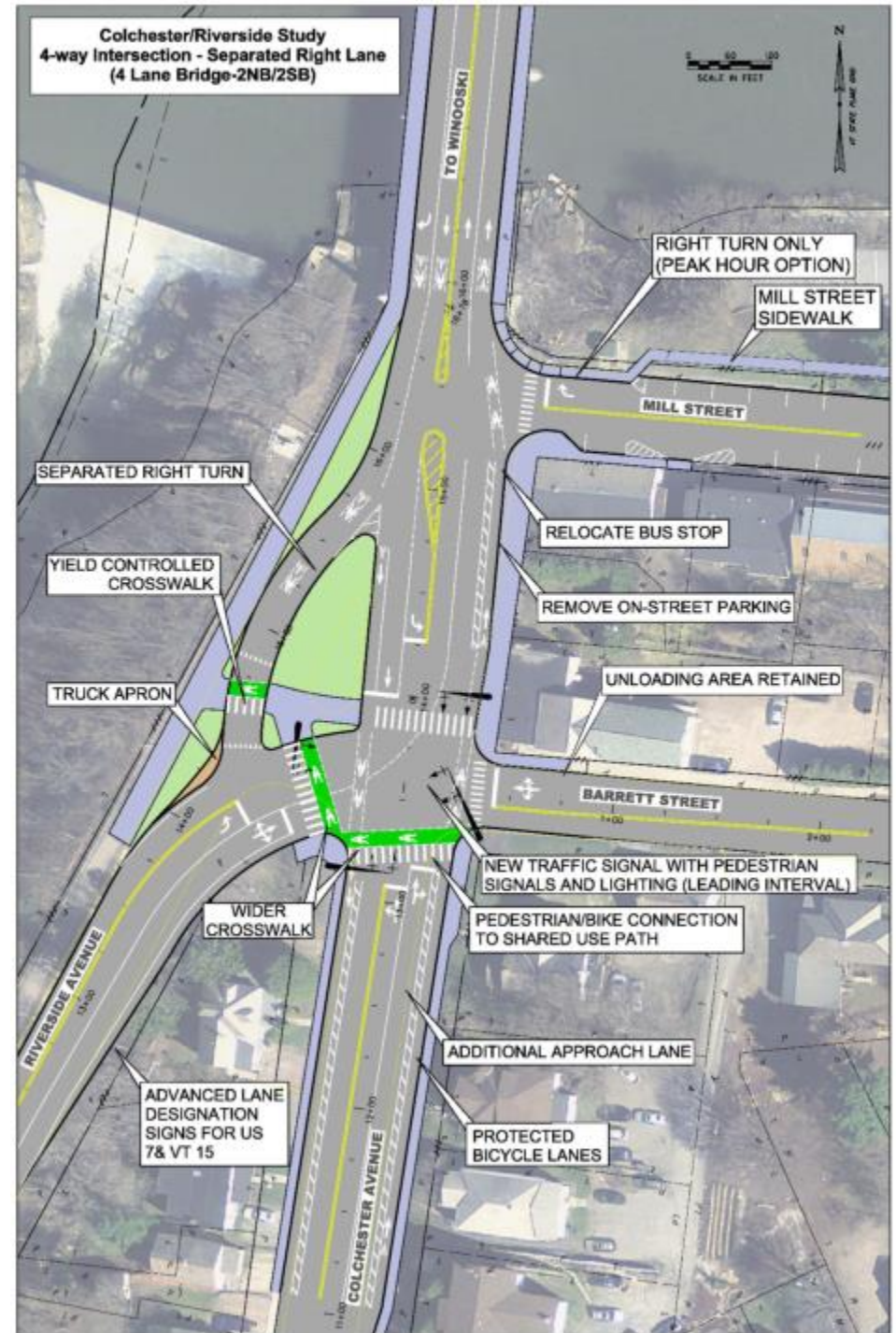
Alternative 1: one signalized 4-way intersection at Colchester Avenue and Barrett Street, unsignalized intersection at Colchester Avenue and Mill Street

Preferred medium-term alternative



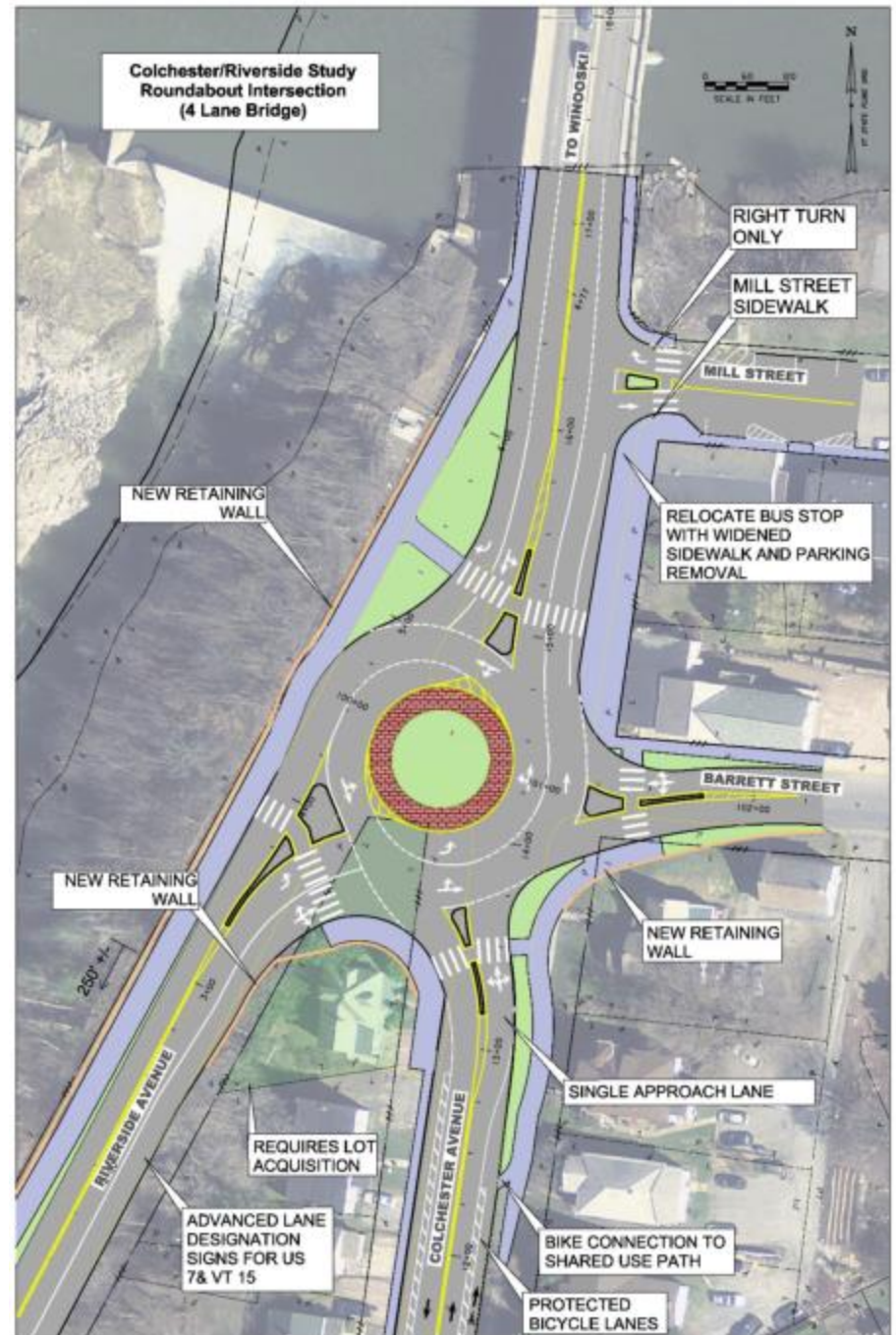
Alternative Review

Alternative 2:
alternative 1 with
separated
southbound right
turn lane from
Colchester Avenue
creating a yield
condition onto
Riverside Avenue



Alternative Review

Alternative 3:
modern roundabout



CRITERIA	No Build	Short Term Improvements	Alternative 1 4 Way Intersection	Alternative 2 4 Way Intersection w/ Separate Right Lane	Alternative 3 Roundabout
Project Costs	\$0	\$875,000	\$3,300,000	\$3,430,000	\$6,700,000
PURPOSE AND NEED					
Improves Pedestrian Safety	No	Some	Better	Better	Best
Provides Safer Bicycle Connectivity Winooski to Burlington	No	Some (allows safer east/west bicyclist movements)	Some (protected bike lanes south of Barrett and south of Mill northbound)	Some (protected bike lanes south of Barrett and south of Mill northbound)	Some (protected bike lanes south of Barrett)
Reduces Potential for Crashes	No	Some	Better	Better	Best
Reduces Intersection Complexity	No	No	Best	Best	Better
Manages Peak Hour Congestion	No	Some	Some	Better	Best
IMPACTS					
ROW Impacts	None	None	Minor (1600 sf)	Minor (1600 sf)	Major (4000 sf/ 1 house)
Historic Resources	None	None	None	None	Major (Removes 4(f) resource)
Stormwater	No change	No Change	Treatment opportunity	Treatment opportunity	Treatment opportunity
Net Change In On-street parking spaces	0	Some (-1 – N. of Barrett St. -2 – S. of Barrett St.)	More (-5 – N. of Barrett St. -2 – S. of Barrett St.)	More (-5 – N. of Barrett St. -2 – S. of Barrett St.)	More (-5 – N. of Barrett St. -2 – S. of Barrett St.)
Aerial Utilities	0	0	Some (3 poles relocated along Colchester Ave)	Some (3 poles relocated along Colchester Ave)	Some (3 poles relocated along Colchester Ave)

Comparison of Alt 1 and 2

Attribute	No Build	Alt 1	Alt 2
Traffic Operations	LOS E 105% OF CAPACITY	LOS E 98% OF CAPACITY	LOS E 99% OF CAPACITY
Crash Reduction	\$0 SAVINGS	\$5.6M SAVINGS	\$7.2M SAVINGS
Pedestrian Experience	NO CHANGE	SIGNAL CONTROL FOR MOST CROSS WALKS (MILL ST EXCEPTED)	SIGNAL CONTROL FOR MOST CROSS WALKS - "YIELD" CONTROL FOR RIVERSIDE
Bicyclist Experience	NO CHANGE	PROTECTED BIKE LANES	PROTECTED BIKE LANES
Intersection Complexity	NO CHANGE	ONE 4-WAY INTERSECTION ONE T-TYPE INTERSECTION	ONE 4-WAY INTERSECTION TWO T-TYPE INTERSECTIONS
Cost	\$0	\$3.3M	\$3.4M
Risk	NONE	MINOR WIDENING	MINOR WIDENING
Disruption	NONE	1.0 TO 1.5 YEARS	1.0 TO 1.5 YEARS

Legend

Much Worse than No Build	Somewhat Worse than No Build	Comparable to No Build	Somewhat Better than No Build	Much Better than No Build
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Cost Comparison

Item	Short Term Improvements	Alternative 1 (4-way, Intersection)	Alternative 2 (4-way, Intersection w/Right Lane)	Alternative 3 (Modern Roundabout)
Construction Costs	\$700,000	\$2,600,000	\$2,700,000	\$4,300,000
Right-of-Way Costs	-	\$50,000	\$50,000	\$700,000
Design Engineering	\$100,000	\$390,000	\$390,000	\$720,000
Construction Engineering	\$70,000	\$260,000	\$260,000	\$480,000
Total Project Costs	\$875,000	\$3,300,000	\$3,430,000	\$6,700,000

Recommendation

To accept the Intersection Scoping Study of Colchester Avenue / Riverside Avenue / Barrett Street / Mill Street and endorse the Advisory Committee's selection of the short-term improvements and Alternative 1 as the preferred alternative to advance for funding and construction; and to recommend the City Council accept and endorse the same through Resolution