Colchester/Riverside/Barrett/ Mill Intersection Study

PAC Meeting #4
November 10, 2016

Chittenden County RPC

Burlington, VT Public Works

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Tonight's Agenda

- Review Plan Changes
- Compare Alternatives
- Choose Preferred Alternative

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Short-Term Plan Changes

- Add Sharrows to Colchester Avenue
- Redesign Colchester Avenue Pedestrian Crossing North of Mill Street

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Colchester/Riverside Ave.
Short Term Improvements
(4 Lane Bridge)

N

0 20 40
SCALE IN FEET

VT STATE PLANE GRID

CROSSWALK WITH PEDESTRIAN SIGNAL

MILL STREET SIDEWALK

RIGHT ARROW FOR SOUTHBOUND RIGHT TURNS

TO WINOOSKI

MILL STREET

RELOCATE BUS STOP WITH BULB OUT

BICYCLE CONNECTION TO SHARED USE PATH

DELINEATED ON-STREET PARKING

PEDESTRIAN SIGNAL AT CROSSWALK (LEADING INTERVAL)

SHARROWS

PROTECTED LEFT TURN PHASE ADDED FOR SOUTHBOUND COLCHESTER AVENUE

HANDICAP RAMP

BARRETT STREET

PED/BIKE CROSSWALK

PEDESTRIAN SIGNAL AT CROSSWALK (LEADING INTERVAL)

NEW PAVEMENT MARKINGS

BICYCLE LANES

RIVERSIDE AVENUE

COLCHESTER AVENUE

ADVANCED LANE DESIGNATION SIGNS FOR US 7& VT 15

Alternative 1 Plan Changes

- Maintain 4-Lane Bridge
- Add Sharrows to Colchester Avenue
- Add Truck Apron to Riverside Avenue
- Extend Protected Bike Lane North of Barrett Street/Remove Parking

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Colchester/Riverside Study
4-way Intersection
(4 Lane Bridge-2NB/2SB)

N

VT STATE PLANE GRID

0 60 120

SCALE IN FEET

TO WINOOSKI

RIGHT TURN ONLY-
(PEAK HOUR OPTION)

MILL STREET SIDEWALK

MILL STREET

POCKET PARK

TRUCK APRON

PEDESTRIAN SIGNAL
AT CROSSWALK

RELOCATE BUS STOP WITH BULB OUT

UNLOADING AREA RETAINED

BARRETT STREET

NEW TRAFFIC SIGNAL WITH PEDESTRIAN
SIGNALS AND LIGHTING (LEADING INTERVAL)

WIDER
CROSSWALK

PEDESTRIAN/BIKE CONNECTION
TO SHARED USE PATH

ADDITIONAL APPROACH LANE

ADVANCED LANE
DESIGNATION
SIGNS FOR US
7& VT 15

PROTECTED
BICYCLE LANES

RIVERSIDE AVENUE

COLCHESTER AVENUE

Alternative 2 Plan Changes

- Maintain 4-Lane Bridge
- Add Sharrows to Colchester Avenue
- Extend Protected Bike Lane North of Barrett Street/Remove Parking

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Colchester/Riverside Study
4-way Intersection - Separated Right Lane
(4 Lane Bridge-2NB/2SB)

N

VT STATE PLANE GRID

0 60 120
SCALE IN FEET

TO WINOOSKI

RIGHT TURN ONLY
(PEAK HOUR OPTION)

MILL STREET
SIDEWALK

MILL STREET

SEPARATED RIGHT TURN

YIELD CONTROLLED
CROSSWALK

RELOCATE BUS STOP

ON-STREET PARKING

TRUCK APRON

UNLOADING AREA RETAINED

BARRETT STREET

NEW TRAFFIC SIGNAL WITH PEDESTRIAN
SIGNALS AND LIGHTING (LEADING INTERVAL)

WIDER
CROSSWALK

PEDESTRIAN/BIKE CONNECTION
TO SHARED USE PATH

RIVERSIDE AVENUE

ADDITIONAL APPROACH LANE

ADVANCED LANE
DESIGNATION
SIGNS FOR US
7& VT 15

PROTECTED
BICYCLE LANES

COLCHESTER AVENUE

Alternative 3 Plan Changes

- Maintain 4-Lane Bridge

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Colchester/Riverside Study
Roundabout Intersection
(4 Lane Bridge)

N

VT STATE PLANE GRID

0 60 120

SCALE IN FEET

TO WINOOSKI

RIGHT TURN ONLY

MILL STREET SIDEWALK

MILL STREET

NEW RETAINING WALL

RELOCATE BUS STOP WITH WIDENED SIDEWALK AND PARKING REMOVAL

BARRETT STREET

NEW RETAINING WALL

250' +/-

NEW RETAINING WALL

SINGLE APPROACH LANE

REQUIRES LOT ACQUISITION

ADVANCED LANE DESIGNATION SIGNS FOR US 7& VT 15

BIKE CONNECTION TO SHARED USE PATH

PROTECTED BICYCLE LANES

RIVERSIDE AVENUE

COLCHESTER AVENUE

18+00 17+00 16+00 15+00 14+00 13+00 12+00 11+00 10+00 9+00 8+00 7+00 6+00 5+00 4+00 3+00 2+00 1+00

New Alternative: Mid-Range

- Implement Bike/Pedestrian/Signage Improvements from Short-Range Plan
- Add Northbound Lane on Colchester Avenue from Alternative 1 Plan

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Colchester/Riverside Study
4-way Intersection
(4 Lane Bridge-2NB/2SB)

N

VT STATE PLANE GRID

0 60 120

SCALE IN FEET

TO WINOOSKI

RIGHT TURN ONLY-
(PEAK HOUR OPTION)

MILL STREET
SIDEWALK

MILL STREET

POCKET PARK

TRUCK APRON

PEDESTRIAN SIGNAL
AT CROSSWALK

RELOCATE BUS STOP WITH BULB OUT

UNLOADING AREA RETAINED

BARRETT STREET

NEW TRAFFIC SIGNAL WITH PEDESTRIAN
SIGNALS AND LIGHTING (LEADING INTERVAL)

WIDER
CROSSWALK

PEDESTRIAN/BIKE CONNECTION
TO SHARED USE PATH

ADDITIONAL APPROACH LANE

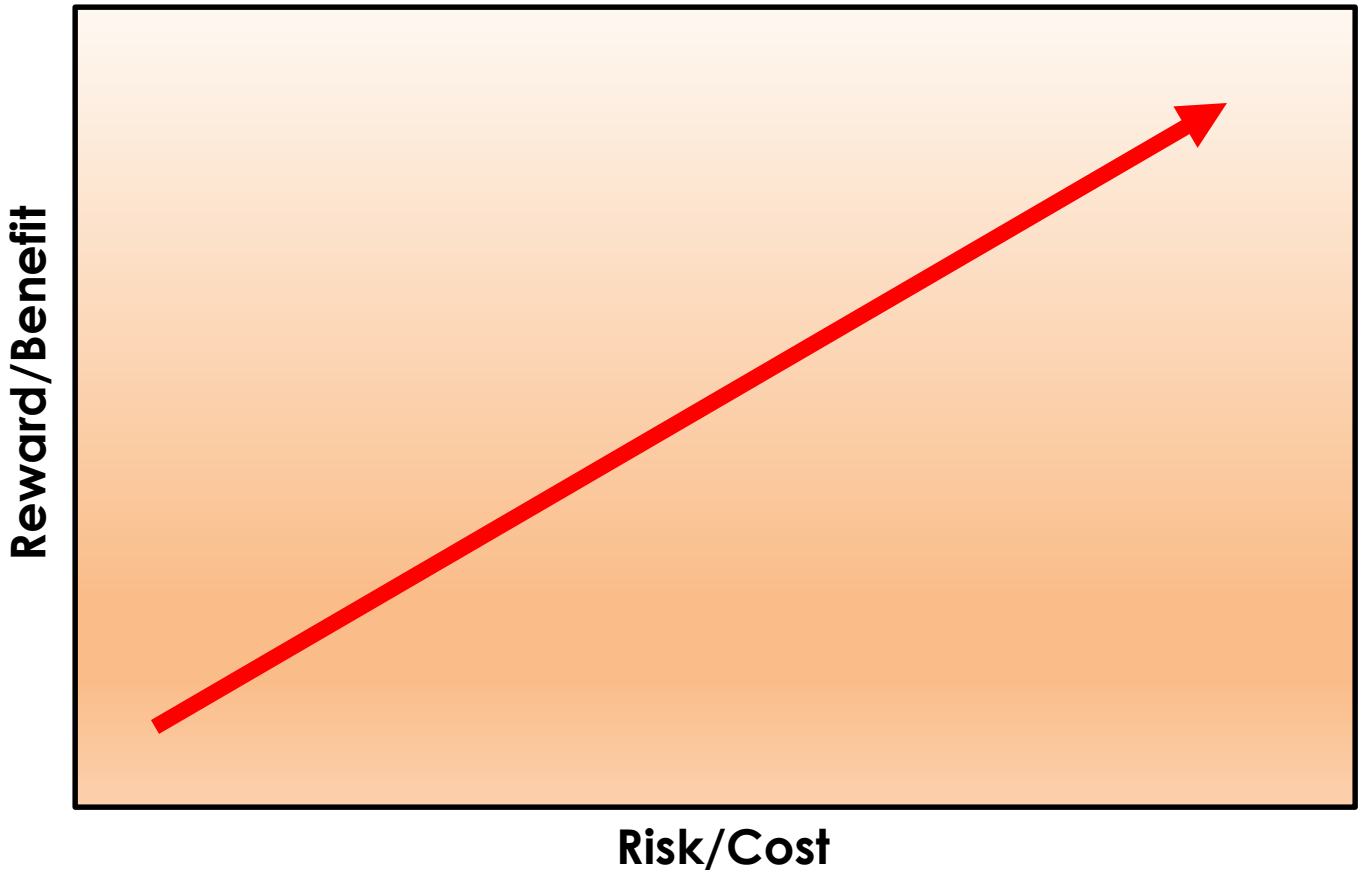
ADVANCED LANE
DESIGNATION
SIGNS FOR US
7& VT 15

PROTECTED
BICYCLE LANES

RIVERSIDE AVENUE

COLCHESTER AVENUE

Decision Framework



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Comparison of Alternatives

Attribute	No Build	Short-Range	Mid-Range	Alt 1	Alt 2	Alt 3
Traffic Operations	LOS E	LOS E	LOS D	LOS E	LOS E	LOS C (Estimated)
Crash Reduction	$0 SAVINGS	$2.5 M SAVINGS	$2.5M SAVINGS	$5.6M SAVINGS	$7.2M SAVINGS	$9.3M SAVINGS
Pedestrian Experience	NO CHANGE	PED SIGNALS TRAFFIC STOPS	PED SIGNALS TRAFFIC STOPS	PED SIGNALS TRAFFIC STOPS	PED SIGNALS TRAFFIC STOPS	TRAFFIC YIELDS
Bicyclist Experience	NO CHANGE	BIKE LANES	PROTECTED BIKE LANES	PROTECTED BIKE LANES	PROTECTED BIKE LANES	BIKES MERGE WITH TRAFFIC
Intersection Complexity	NO CHANGE	NO CHANGE	NO CHANGE	ONE 4-WAY INT ONE T-TYPE INT	ONE 4-WAY INT TWO T-TYPE INT	ROUNDABOUT WITH 2-LANE ELEMENTS
Cost	$0	$500,000	$1.5M	$3.3M	$3.4M	$6.7M
Risk	NONE	EXISTING "FOOTPRINT"	MINOR WIDENING	MINOR WIDENING	MINOR WIDENING	HISTORIC PROPERTY IMPACTS
Disruption	NONE	LESS THAN ONE YEAR	UP TO ONE YEAR	1.0 TO 1.5 YEARS	1.0 TO 1.5 YEARS	2.0 TO 2.5 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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Purpose and Need Compliance

Category	No Build	Short Range	Mid Range	Alt 1	Alt 2	Alt 3
Enhance Pedestrian Safety		◆	◆	◆	◆	◆
Safer Bike Connection to Winooski			◆	◆	◆	◆
Reduce Crashes		◆	◆	◆	◆	◆
Address Complexity				◆	◆	◆
Formalize On-Street Parking		◆	◆	◆	◆	◆
Manage Congestion			◆	◆	◆	◆
Satisfies Purpose and Need Statement	No	Partially	Partially	Yes	Yes	Yes

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Discussion and Selection of Preferred Alternative

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