Colchester-Essex Network Transportation Study

Alternatives Assessment Meeting Severance Road Corridor + Main Street Colchester Village September 24, 2013









CHITTENDEN COUNTY RPC Communities Planning Together





Tonight's Agenda

- Project Background
- Project Area Overview
- Discussion of Alternatives
- Next Steps



Background & CENTS Study Overview

- Circ Alternatives Task Force convened to identify transportation improvements in the former Circ Highway communities
- CENTS Study is a comprehensive assessment of transportation issues & needs to address mobility, safety, economic development, and environmental quality within the study area
- Detailed scoping-level assessment in 3 specific subareas
- Identify preferred improvement(s) in each sub-area





Existing Conditions: Daily Traffic Volumes





Severance Road

- Bicycle and Pedestrian Safety
 - Currently very little pedestrian activity in corridor due to unsafe conditions
 - Lack of continuous sidewalks
 - Narrow shoulders
- Mill Pond Road Intersection
 Deficiencies
 - Queuing caused by vehicles turning left onto Mill Pond Road from Severance Road
 - Safety risks due to vehicles circumventing left-turning vehicles







Severance Road: Mill Pond Rd Intersection

- Very little delay now and in the future
- Turn lanes are warranted to improve safety and reduce queuing
 - Eastbound left-turn lane
 - Westbound right-turn lane

AM Peak Hour









Severance Road: Review of Alternatives

• Alternative 1: South-side Multi-use Path

- Mill Pond Road Intersection Improvements
- Shoulder Widening
- 10' multi-use path on south side of roadway with 7' green buffer

• Alternative 2: North-side Multi-use Path

- Mill Pond Road Intersection Improvements
- Shoulder Widening
- 10' multi-use path on north side of roadway with 7' green buffer















Special Considerations:

- Potential intrusion into 50-foot Class II wetland buffer west of Claussen's
- Steep slope east of Hidden Oaks Drive

















Special Considerations East of Mill Pond Road:

• Steep slopes near Wall Street and Autumn Woods Lane





Special Considerations West of Mill Pond Road:

• Steep slope near Pheasant Woods





Alternatives Assessment – Evaluation Matrix

		No Build	Alternative 1 South Side Path	Alternative 2 North Side Path
COST	Preliminary Cost Estimate (final design, construction, inspection, contingency)	\$0	Intersection Widening: \$272,250 Shared-Use Path + Shoulder Widening = \$1,829,125 Total = \$2.42M	Intersection Widening: \$272,250 Shared-Use Path + Shoulder Widening = \$1,795,000 Total = \$2.38M
PUPRPOSE & NEED	Bicycle and Pedestrian Safety	Worsen	Improve	Improve
	Intersection Deficiencies	Worsen	Improve	Improve
TOWN CONFORMANCE	Consistency with Town Plan and Community Vision	No Change	Yes	No
IMPACTS	Agricultural Lands	No	No	No
	Archaeological	No	No	No
	Historic Structures/Sites	No	No	No
	Floodplain	No	No	No
	Rare, Threatened & Endangered	No	Yes	Yes
	Right of Way	No	Permanent: X sf Temporary: Y sf	Permanent: X sf Temporary: Y sf
	Relocate Utilities	No	27 Poles	20 Poles
	Public Lands	No	No	No
	Class II Wetlands	No	Potential Buffer Intrusion	No
PERMITS	Act 250	No	No	No
	401 Water Quality	No	No	No
	404 Corps of Engineers Permit	No	No	No
	Stream Alteration	No	No	No
	Conditional Use Determination	No	No	No
	Storm Water Discharge	No	Potential	Potential
	Shoreland Encroachment	No	No	No
	Endangered & Threatened Species	No	Yes	Yes
	VTrans ROW Permit	No	No	No
	State Historic Preservation Office Clearance	No	No	No
	NEPA Category	No	Categorical Exclusion	Categorical Exclusion



Main Street Today in the Village



- Urban minor arterial road
- State route VTrans Maintained
- 35 mph speed limit, 25 mph school zone
- 49.5' Right-of-Way

- 11' Travel lane width
- 1' to 2' shoulder width
- Overland drainage flow and absorption in grass area



Main Street Today in the Village



- Utility & light poles on the north side, east of Village Rd (3' off edge of pavement)
- 4' sidewalk on the north side
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 Drivers veer towards the center of the road to avoid bicyclists in the narrow shoulder

Main Street Today



- Utility & light poles on the south side, west of Village Dr. (~8' off edge of pavement)
 - 4' sidewalk on the north side
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 Considerations for signage, mailboxes in landscaped buffer

Main Street, Mill Pond Road, and East Road Today



- Topography and alignment
- Poor sight distances
- Potential for signal optimization



Main Street Today – What We Heard



- Class 1 town highway more flexibility to make decisions (e.g. speed limit, # crosswalks, traffic calming)
- Trucks Noise and vibrations → Quiet zone and/or times
- Access management and parking
- Signal phasing improvements at Mill Pond/East Rd/Main St intersection
- Attract other residents to the Main Street Village Area

Main St, Mill Pond Rd, and East Rd Today (AM Peak)





Main St, Mill Pond Rd, and East Rd Today (PM Peak)





Main St, Mill Pond Rd, and East Rd in 2030 (PM Peak)





Level of Service/Queue Lengths (PM Peak)

	2030		
	LOS	Delay (seconds)	Queue (feet)
1. No Build, no detection	F	100+	6 ft – 140 ft
2. Optimize signals + Detection, with dedicated left-turn pockets in both directions on VT 2A	Е	64	7 ft – 37 ft

Level of Service (LOS)

• Measure used by traffic engineers to determine the effectiveness of a travel facility, taking into account traffic volumes, road capacity, and congestion/delays.

Delay

• Average total delay – Difference in travel time at a lower speed compared with the travel time at the free-flow speed.

Queue

• Average of all the 2 minute maximum queues modeled. A vehicle is considered queued whenever it is traveling at less than 10 ft/second.



Planning for the future: Adding turn lanes





Main Street Colchester Village: Review of Alternatives

- Alternative 1: Walkable Neighborhood (Operational Improvements)
- Alternative 2: Main Street Character (Operational and Village Character Improvements)
- Alternative 3: Village Destination (Operational, Character, and Traffic Calming Improvements)



Alternative 1 – Walkable Neighborhood



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Alternative 1 – Walkable Neighborhood

Signal timing optimization





Vehicle Detection



Pedestrian Signal and Detection





Alt 1: Walkable Neighborhood – Street Section



Note:

 Utility poles are located on either the south or north side of Main Street, not both. This figure shows how they may be accommodated in both situations.

 All utility poles remain in existing locations.

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Alternative 1 – Walkable Neighborhood





Alternative 2 – Main Street Character





Alternative 2 – Main Street Character

Signal timing optimization

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Permanent mast arms

Vehicle Detection



Pedestrian Signal and Detection





Alt 2: Main Street Character – Street Section



Note:

- Utility poles are located on either the south or north side of Main Street, not both. This figure shows how they may be accommodated in both situations.
- Utility poles on the north side shifted by approximately 1'6" to accommodate bike lane and plow.
- Utility poles on south side remain in existing location.

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Alternative 2 – Main Street Character



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Alternative 3 – Village Destination





Alternative 3 – Village Destination

Signal timing optimization

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Permanent mast arms

Vehicle Detection



Pedestrian Signal and Detection





Alt 3: Village Destination – Street Section



Note:

- Utility poles are located on either the south or north side of Main Street, not both. This figure shows how they may be accommodated in both situations.
- Utility poles on the south side shifted by approximately 5'10" towards the road to accommodate sidewalk and landscaped buffer.
- Utility poles on north side shifted by 1'6" away from the road to accommodate bike lane and plow.

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Alternative 3 – Village Destination



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Alternatives Assessment – Evaluation Matrix

		No Build	Alternative 1 Neighborhood Walkability	Alternative 2 Main Street Character	Alternative 3 Village Destination
COST	Preliminary Cost Estimate (final design, construction, inspection, contingency)	\$0	\$850,000	\$2,990,000	\$3,870,000
PURPOSE &	Traffic Conflicts	No Change	Improve	Improve	Improve
	Walkability	No Change	Improve	Improve	Improve
	Traffic and Noise	No Change	Improve	Improve	Improve
NEED	Village Character	No Change	Potential	Improve	Improve
IMPACTS	Agricultural Lands	No	No	No	No
	Archaeological	No	No	No	No
	Historic Structures/Sites	No	No	No	No
	Floodplain	No	No	No	No
	Rare, Threatened & Endangered	No	No	No	No
	Public Lands	No	No	No	No
10	Utilities	No	No	Yes	Yes
	Wetlands	No	No	No	No
PERMITS	Act 250	No	No	No	No
	401 Water Quality	No	No	No	No
	404 Corps of Engineers Permit	No	No	No	No
	Stream Alteration	No	No	No	No
	Conditional Use Determination	No	No	No	No
	Storm Water Discharge	No	No	Potential	Potential
	Shoreland Encroachment	No	No	No	No
	Endangered & Threatened Species	No	No	No	No
	VTrans ROW Permit	No	Yes	Yes	Yes
	State Historic Preservation Office Clearance	No	No	No	No
	NEPA Category	No	Categorical Exclusion	Categorical Exclusion	Categorical Exclusion



Next Steps

Task	Date(s)	
Project Kick-off Meeting	March 2013	
Existing and Future Conditions Assessment	April - May 2013	
Local Concerns Meeting	June 27, 2013	
Vision and Goals	July 2013	
Improvement Strategies	July 2013	
Scoping Level Assessment	July - November 2013	
Public Meeting #2	September 2013	
Colchester Selectboard 💭	October 22 nd	
Circ Alts Committee	November 21st	
Final CENTS Report	April 2014	

