



To: Town of Southbridge

Date: September 27, 2018

Memorandum

Project #: 11672.02

From: Nicolas H. Bosonetto, PE

Re: LaRochelle Way & Hook Street Conceptual Plan

VHB and the Town of Southbridge are currently in the process of designing improvements to LaRochelle Way and Hook Street in the downtown area. The engineering design is being funded by the Town of Southbridge and the construction of the project will be paid by State and Federal funds through the CMMPO TIP, and is currently scheduled for federal fiscal year (FFY) 2023 for an amount of \$5,220,000 which includes contingencies and cost escalations.

Starting in 2011, VHB conducted a Downtown Circulation Study that analyzed traffic congestion and safety within downtown Southbridge. The study identified the realignment of LaRochelle Way, Foster Street and Hook Street as potential projects. After feedback from the Town of Southbridge RDA and Traffic Commission in 2012, VHB followed up with preliminary design of Concept Plan A in 2014 and with a Road Safety Audit of the study intersections in 2016.

The original Concept Plan A consisted of realigning LaRochelle Way to become the main through street connecting Hamilton Street and Central Street. A short connection between Foster Street and Central Street would be constructed over the abandoned railroad line to create a new signalized intersection with LaRochelle Way at Central Street. The intersection of Hamilton Street and LaRochelle Way would become a mini-roundabout. In the original 2014 concept Hook Street and Foster Street were to become dead-end streets at their current intersection with Central Street.

VHB commenced engineering design in early 2018. Updated traffic counts and base survey were acquired for the project area. Design criteria were also updated based on new methodologies and standards in roundabout design and complete streets requirements which have been instituted by MassDOT in the last several years. The design, based on the 2014 Concept Plan A, has several impacts to private property:

- 1) Country Farms Convenience Store
  - (1) Elimination of main driveway entrance with one small remaining driveway entrance.
  - (2) Truck deliveries would become very difficult.
  - (3) Loss of approximately three parking spaces (33% of total).
- 2) Auto Parts Plaza
  - (1) Elimination of Hook Street driveway, reconfiguration of Central Street access.
  - (2) Loss of parking.
  - (3) Loss of signage.
- 3) Morrill Monuments
  - (4) Loss of side yard where monuments are stored.
  - (5) Loss of loading area for tractor trailers (Commonwealth property).
- 4) Foster Street Books and Beans Building
  - (6) Driveway access is difficult and complicated.
  - (7) Driveway is within physical are of intersection.
  - (8) Loss of parking and driveways.

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- 5) RMV
  - (9) Loss of parking (-40 on LaRochelle Way including handicap parking under both concepts)
  - (10) Loss of driveway.
- 6) Ortiz Mini-Mart
  - (11) Reconfigured parking (may lose spaces).
  - (12) Reconfigured driveway entrance.

These impacts would require approximately 10 permanent easements on seven parcels. After meeting with the Town in June 2018, VHB developed Concept Plan B to minimize as many of these impacts as possible and to update the concept with the newest engineering guidelines. The following changes are proposed:

- A. Provide right-in/right-out driveways to Country Farms convenience store. These driveways will be directly adjacent to the proposed mini-roundabout and form the 4<sup>th</sup> leg to the roundabout. These driveways would allow delivery trucks to access the store and pull through to exit the site. All parking spaces would be preserved, however on-site circulation would remain tight.
- B. Provide a diagonal bike path crossing at new signalized intersection. Pedestrian phase would be exclusive to allow this movement. This realignment eliminates impact to Morrill Funeral Home and corner of auto parts plaza parking and signage. VHB will coordinate the design of the bike path and crossing with MassDOT Complete Streets engineer.
- C. Provide one major driveway for the Books and Beans building.
- D. The roundabout at Hamilton Street and LaRochelle Way has been reconfigured to accommodate truck turning movements, to increase pedestrian safety, and to provide full access to the municipal parking lot driveway.
- E. The exclusive right turn lane for southbound Central Street traffic turning onto LaRochelle Way is eliminated in Concept B. The elimination of this turn lane eliminates impacts to the Ortiz Market property and the abandoned RR property. It also eliminates the conflict with the bike lane. In lieu of the right turn lane, it is recommended that Hook Street become a right-in only through the use of an island and signage. Two on-street parking spaces would be added on Hook Street. The dead end on Hook Street is eliminated since it would be difficult to plow and a turn-around is not provided. The traffic analysis shows little difference in approach or intersection LOS or queue by removing the right turn lane for Central Street southbound approach. (see Table 1 and 2 below)

In order to proceed through the design process, VHB wishes to obtain feedback from the Town of Southbridge on the suggested modifications to the conceptual plan.

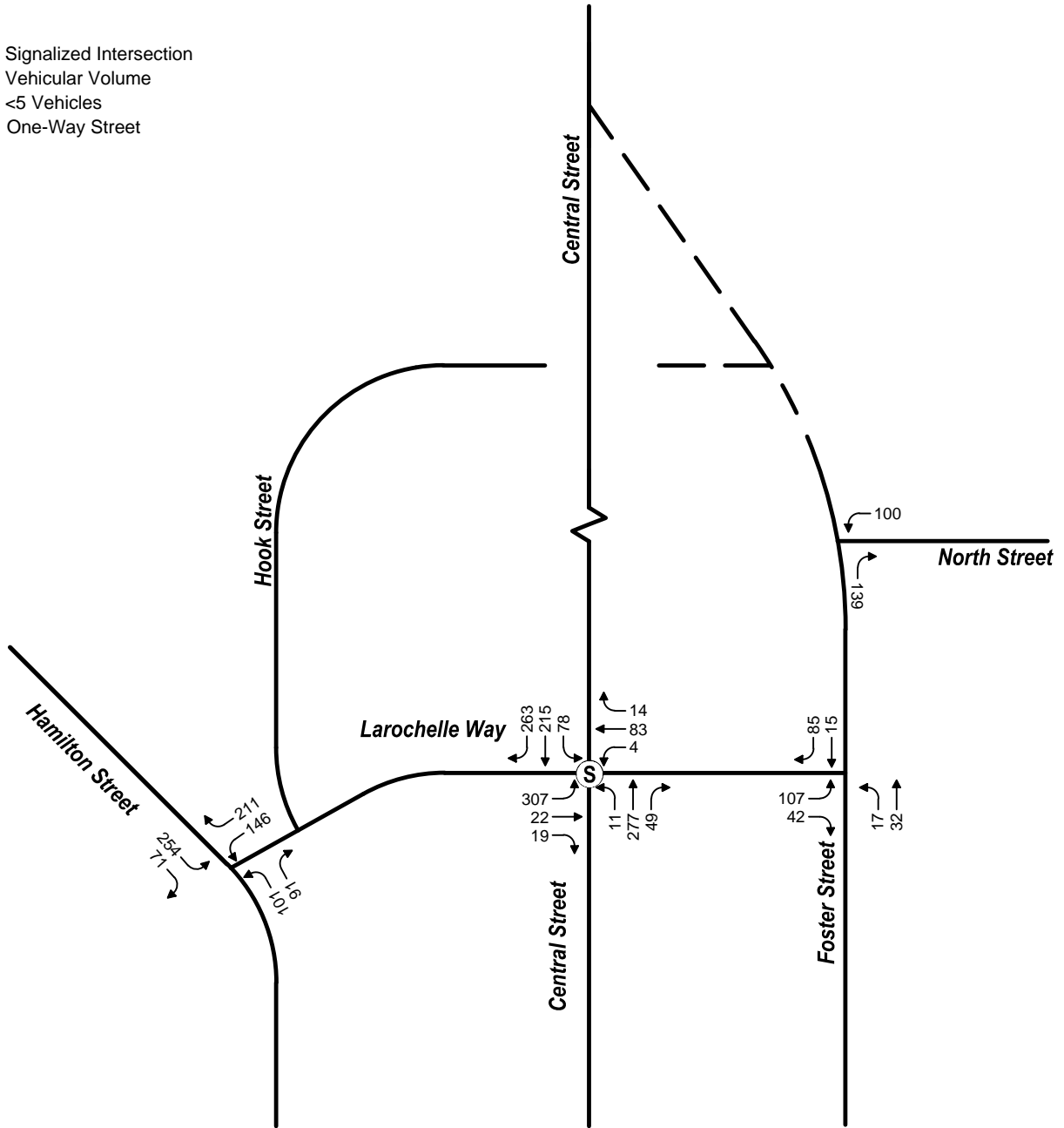
Table 1: Alternative A Capacity Analysis

		2028 – Future Geometry Alternative A				
	Movement	v/c <sup>1</sup>	Delay <sup>2</sup>	LOS <sup>3</sup>	50th Queue <sup>4</sup>	95th Queue <sup>5</sup>
<b>Weekday Evening</b>						
LaRochelle Way	EB L	0.88	39	D	100	#363
	EB T/R	0.14	16	B	16	72
	WB R	0.06	28	C	0	25
	WB L/T	0.66	39	D	43	#173
Central Street	NB L/T/R	0.47	16	B	69	240
	SB L/T	0.81	26	C	132	#492
	SB R	0.48	16	B	48	218
<b>OVERALL</b>		<b>0.84</b>	<b>25</b>	<b>C</b>		

Table 2: Alternative B Capacity Analysis

		2028 – Future Geometry Alternative B				
	Movement	v/c <sup>1</sup>	Delay <sup>2</sup>	LOS <sup>3</sup>	50th Queue <sup>4</sup>	95th Queue <sup>5</sup>
<b>Weekday Evening</b>						
LaRochelle Way	EB L	0.90	44	D	117	#352
	EB T/R	0.14	18	B	19	71
	WB R	0.06	31	C	0	25
	WB L/T	0.72	47	D	48	#173
Central Street	NB L/T/R	0.43	15	B	71	218
	SB L/T/R	0.75	23	C	144	#467
<b>OVERALL</b>		<b>0.82</b>	<b>28</b>	<b>C</b>		

- Ⓢ Signalized Intersection
- X → Vehicular Volume
- neg → <5 Vehicles
- One-Way Street

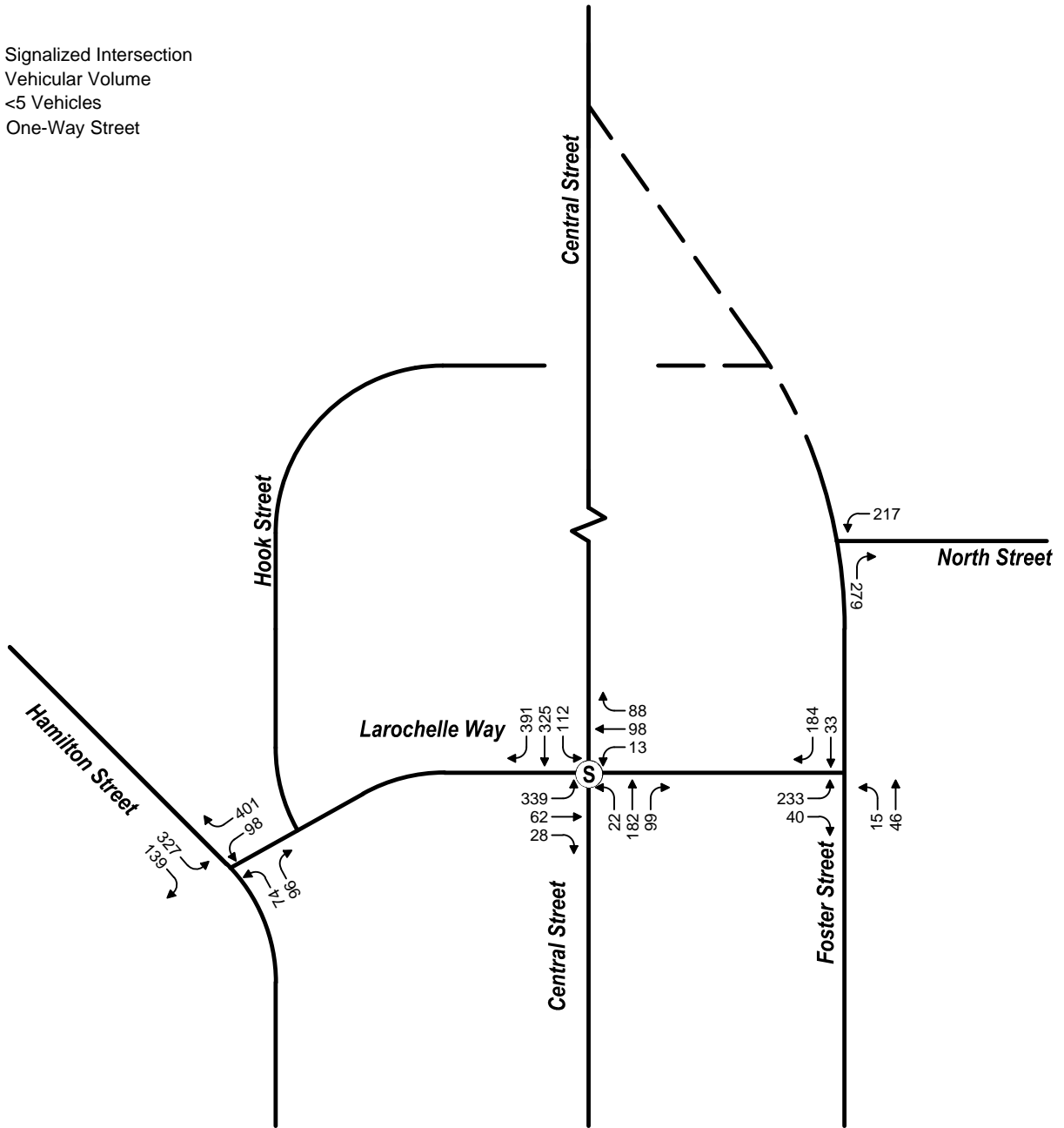


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2028 Future Build Conditon Weekday Morning Figure 6  
 Peak Hour Traffic Volumes  
 Southbridge, Massachusetts

↖ Not to Scale

- Ⓢ Signalized Intersection
- X → Vehicular Volume
- neg → <5 Vehicles
- One-Way Street



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2028 Future Build Condition Weekday Evening Figure 7  
 Peak Hour Traffic Volumes  
 Southbridge, Massachusetts

