TYLin _rasor

FINAL REPORT

DECEMBER 31, 2025

Caribou State Route 161-State Route 89-Downtown, Planning Phase of Village Partnership Initiative | WIN 27988.00

CITY OF CARIBOU | MAINEDOT

MaineDOT

Contents

1.0 INTRODUCTION

Study Background

The City of Caribou and the Maine Department of Transportation (MaineDOT) contracted with T.Y. Lin International (TYLin) and Rasor Landscape Architecture to develop recommendations for both short and long-term improvements to improve accessibility and safety for all transportation modes within the downtown core encompassed by Main Street, Herschel Street, Prospect Street, and Hatch Drive as well as the surrounding areas accessed by Sweden Street, Washburn Street, Water Street, High Street, Park Street, Glenn Street, and Bennett Drive.

Study Area

The study area, as depicted on Figure 1.1, generally consists of the central downtown area bracketed by Collins Street, Prospect Street, Hatch Drive, and Main Street and also includes Sweden Street west to the High School, Water Street to the riverfront, Park Street and High Street east to Bennett Drive, portions of Glenn Street and Bennett Drive south of Sperry Drive, Washburn Street west to Spring Street, and Veterans Memorial Park.

Study Purpose and Need

Study Purpose

The purpose of the study is to improve accessibility and safety for all transportation modes in Caribou while complimenting local economic development strategies, goals, and objectives. The study will identify transportation improvements that reduce congestion, improve pedestrian and traffic safety, complement long-range land use planning goals, and align with economic goals for the city. This study will not only consider roadway safety and mobility issues but also consider improvements to active transportation and transit. It will also look at aesthetic design features to enhance the village look, feel, and character of Caribou's historic downtown while considering current growth trends and development. The proposed recommendations will be supported by reasonably available local, state, and federal funding.

Study Need

The need for proposed improvement strategies is demonstrated through pedestrian and bicycle safety issues, gaps and the lack of a comprehensive multimodal system, high vehicle speeds and roadways that serve vehicles as a priority.

Study Alternative Comparison Measures

The following measures were used to evaluate future recommendations:

- Adding/Enhancing Crosswalks
- Bike Lanes/Shared Lane markings/Multi-Use Paths
- ADA Improvements
- Adding/Improving sidewalks
- Traffic Calming Strategies
- On-Street Parking Changes
- Curb Extensions
- Adjusting Lane Widths
- Pedestrian Refuge Islands
- Wayfinding Signage
- Landscaping
- Pedestrian Scale Street lights
- Driveway/Access Management
- Intersection Traffic Control

Study Committee

A Study Committee was formed to help guide the Study and the members include:

- Jay Kamm, NMDC
- Penny Thompson, City of Caribou
- Jarod Farn-Guillette, MaineDOT
- Tom Errico, T.Y. Lin International
- Chris Helstrom, T.Y. Lin International
- Mitchell Rasor, Rasor Landscape Architecture

Figure 1.1 Study Area

2.0 EXISTING TRANSPORTATION CONDITIONS

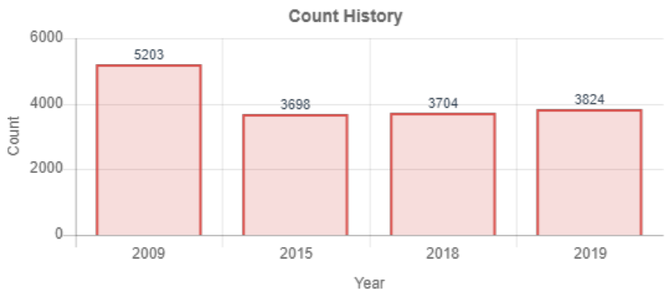
2.1 Traffic Volumes

Historical Traffic Volume Variation by Year

Based on available data, the daily traffic volumes on streets within the study area generally decreased between 2009 and 2024. Traffic count histories by year for various locations are summarized below.

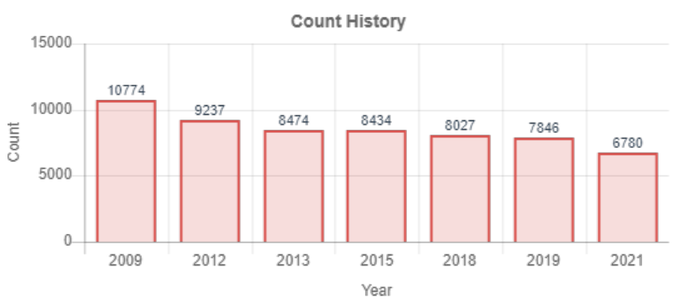
Main Street North of Herschel Street

As noted, traffic volumes declined overall between 2009 and 2019 by approximately 27%.



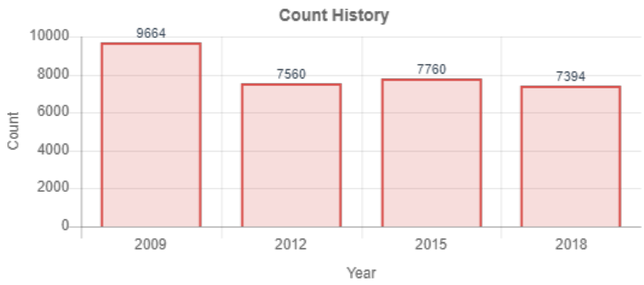
Main Street South of Water Street

As noted, traffic volumes declined overall between 2009 and 2021 by approximately 37%.



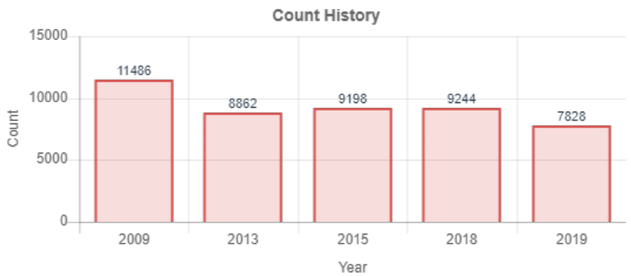
Bennett Drive North of High Street

As noted, traffic volumes declined overall between 2009 and 2018 by approximately 23%.



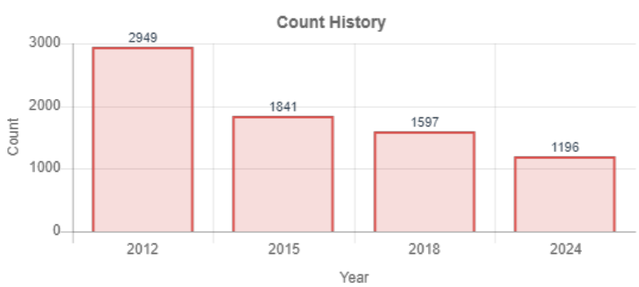
High Street East of Main Street

As noted, traffic volumes declined overall between 2009 and 2019 by approximately 32%.



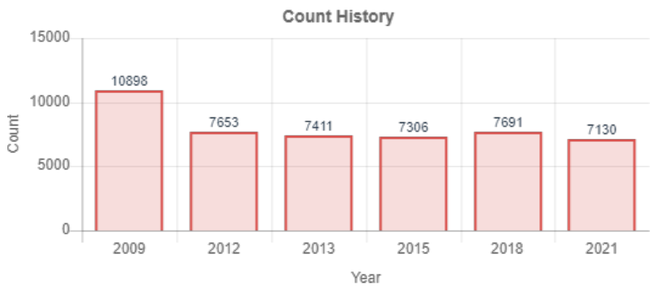
Park Street East of Main Street

As noted, traffic volumes declined overall between 2012 and 2024 by approximately 59%.



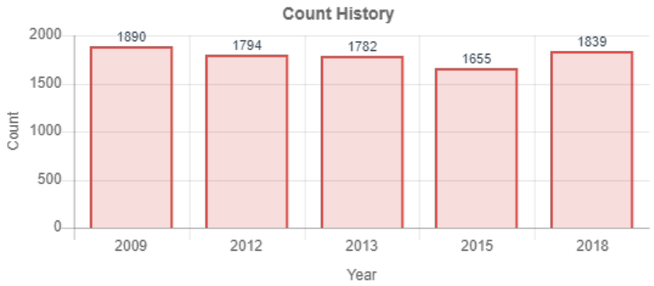
Sweden Street West of Hatch Drive

As noted, traffic volumes declined overall between 2009 and 2021 by approximately 35%.



Washburn Street West of Hatch Drive

As noted, traffic volumes declined between 2009 and 2015 by approximately 12% and subsequently returned to near 2009 levels, resulting in a small overall decrease between 2009 and 2018 of approximately 3%.



Annual Average Daily Traffic Volumes

Annual Average Daily Traffic (AADT) is the average of the vehicular traffic for all days summed up and divided by 365. Figure 2.1 shows the AADT on major roads in the study area. Traffic volumes are heaviest on Bennett Drive, High Street, South Main Street, and outer Sweden Street. 2021 AADT values are summarized in Table 2.1.

AADT
- 0 - 200
- 200 - 500
- 500 - 1,000
- 1,000 - 1,500
- 1,500 - 2,500
- 2,500 - 4,000
- 4,000 - 7,000
- 7,000 - 12,000
- 12,000 - 17,000
- 17,000 - 100,000

Table 2.1
2021 Annual Average Daily Traffic Volumes (AADT)

Location	AADT
Sweden St. s/o Woodland Rd.	4400
Sweden St. w/o Prospect St.	6420
Prospect St. n/o Sweden St.	4102
Hatch Dr. s/o Sweden St.	2823
Hatch Dr. w/o Main St.	8954
Main St. n/o Water St.	9761
Main St. s/o Water St.	8550
Water St. e/o Main St.	821
High St. e/o Main St.	9654
Main St. n/o Herschel Dr.	3565
Herschel St. w/o Main St.	8253
Main St. n/o Lyndon St.	7875
Main St. s/o Lyndon St.	6376
Lyndon St. s/o Main St.	1888
Grove St. w/o Main St.	202
Water St. w/o Route 1	390
High St. w/o Bennett Dr.	8317
Bennett Dr. n/o High St.	7493

Table 2.1
2021 Annual Average Daily Traffic Volumes (AADT)

Location	AADT
Sperry Dr.	1519
Glenn St. n/o Park St.	1045
Park St. w/o Glenn St.	1298
Park St. e/o Main St.	1435
Main St. n/o Park St.	2713
Prospect St. n/o Herschel St.	727
Grange St.	52
Sweden St. e/o Hatch Dr.	1445
Record St. s/o Herschel Dr.	3625

Figure 2.1 Annual Average Daily Traffic Volumes

2.2 Roadway Classification

Functional classification is the process by which public streets and highways are grouped into classes according to the character of service they are intended to provide based on mobility (arterials provide greater mobility) and access to the highway (local roads provide greater access, but much less mobility). Classifications include Principal Arterial Interstate, Principal Arterial Other Freeways and Expressways, Other Principal Arterials, Minor Arterials, Major/urban Collectors, Minor Collectors and Local Roads.

In Caribou most of the streets within the study area including Bennett Drive, High Street, Main Street, Collins Street, Herschel Street, Prospect Street, Hatch Drive, Sweden Street, and Washburn Street are classified as Major Collectors (see Figure 2.2).

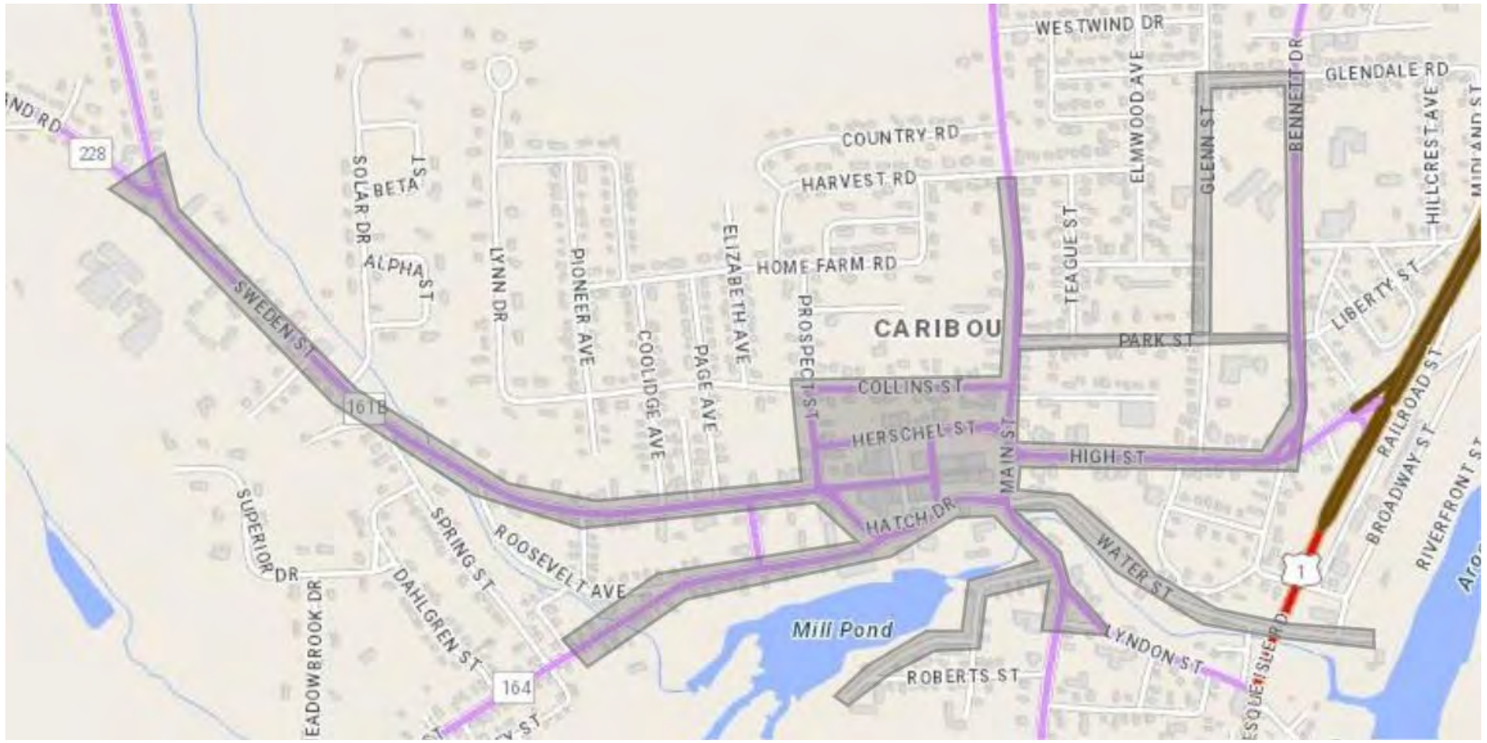
Urban minor arterial street system

The minor arterial street system interconnects with and augments the urban principal arterial system and provides service to trips of moderate length at a somewhat lower level of travel mobility than major arterials. This system also distributes travel to geographic areas smaller than those identified with the higher system.

The minor arterial street system includes all arterials not classified as principal and contains facilities that place more emphasis on land access than the higher system and offers a lower level of traffic mobility. Such facilities may carry local bus routes and provide intracommunity continuity but ideally should not penetrate identifiable neighborhoods. This system should include urban connections to rural collector roads where such connections have not been classified for internal reasons as urban principal arterials.

Urban collector street system

The collector street system provides both land access service and traffic circulation within residential neighborhoods, commercial and industrial areas. It differs from the arterial system in that facilities on the collector system may penetrate residential neighborhoods, distributing trips from the arterials through the area to the ultimate destination. Conversely, the collector street also collects traffic from local streets in residential neighborhoods and channels it into the arterial system. In the central business district, and other areas of like development and traffic density, the collector system may include the street grid which forms a logical entity for traffic circulation.



Federal Functional Class
- Interstate
- Other Freeway or Expressway
- Other Principal Arterial
- Minor Arterial
- Major Collector
- Minor Collector

Figure 2.2 Caribou Roadway Functional Classification

2.3 Intersection Volumes and Operations

Intersection turning movement volumes were obtained from MaineDOT. The counts were performed at the following locations:

- Main Street/High Street: Wednesday October 16, 2024
  - AM peak hour 7:30-8:30AM
  - PM peak hour 2:45-3:45PM
- Main Street/Hatch Drive/Water Street: Tuesday September 17, 2024
  - AM peak hour 7:30-8:30AM
  - PM peak hour 4:30-5:30PM
- Main Street/Herschel Street: Wednesday October 16, 2024
  - AM peak hour 7:30-8:30AM
  - PM peak hour 2:45-3:45PM
- Sweden Street/Prospect Street/Hatch Drive: Tuesday September 17, 2024
  - AM peak hour 7:15-8:15AM
  - PM peak hour 2:30-3:30PM
- Hatch Drive/Washburn Street: Tuesday September 17, 2024
  - AM peak hour 7:15-8:15AM
  - PM peak hour 2:30-3:30PM
- High Street/Bennett Drive: Wednesday October 16, 2024
  - AM peak hour 7:30-8:30AM
  - PM peak hour 3:15-4:15PM

Figure 2.3 depicts the PM peak hour volumes at study intersections in the downtown area.

To evaluate intersection alternatives, capacity analyses were performed at the study intersections for existing condition during peak hour. The standard used to evaluate traffic operating conditions of the transportation system is referred to as the Level of Service (LOS). Level of Service provides a measurement of the delay experienced at an intersection as a result of traffic operations at that intersection. In general, there are six levels of service: Level of Service A to Level of Service F. The highest, Level of Service A, describes a condition of free flow, with low volumes and high speeds. Level of Service B represents a stable traffic flow with operating speeds beginning to be restricted somewhat by traffic conditions. Level of Service C, which is normally utilized for design purposes, describes a stable condition of traffic operation. It entails moderately restricted movements due to higher traffic volumes, but traffic conditions are not objectionable to motorists. Level of Service D reflects a condition of more restrictive movements for motorists and influence of congestion becomes more noticeable. Level of Service E is representative of the actual capacity of the roadway or intersection and involves delay to all motorists due to congestion. The lowest, Level of Service F, is described as force flow and is characterized by volumes greater than the theoretical roadway capacity. Complete congestion occurs, and in extreme cases, the volume passing a given point drops to zero. This is considered as an unacceptable traffic operating condition.

Table 2.2 highlights the level of service criteria for unsignalized intersections. The level of service criteria for unsignalized intersections is based on control delay per vehicle measured in seconds.

Table 2.2
LOS Criteria for Unsignalized Intersections

Level of Service	Control Delay Per Vehicle (seconds)
A	≤10
B	>10 and ≤15
C	>15 and ≤25
D	>25 and ≤35
E	>35 and ≤50
F	> 50

Source: 2010 Highway Capacity Manual, Transportation Research Board

For this study, level of service analysis at the study area intersections was conducted with Synchro/SimTraffic 11. Tables 2.3 and 2.4 present the results of the level of service analyses within the study area.

Table 2.3
Existing Level of Service Summary

	LOS	Delay
Sweden/Hatch/Prospect	A	6.0
Main/Herschel	A	6.0
Main/High	A	2.3
Hatch/Washburn	A	7.0
Main/Hatch/Water	A	4.4

As noted in the previous tables, the study intersections currently operate with minor delay. During the field work for this study, there were no significant delays observed at the intersections noted in Table 2.3. Some congestion was observed on Bennett Drive in the middle of the afternoon when school gets out, which appears to be attributed to heavy use of the crosswalk between the community school and the recreation center at that time.

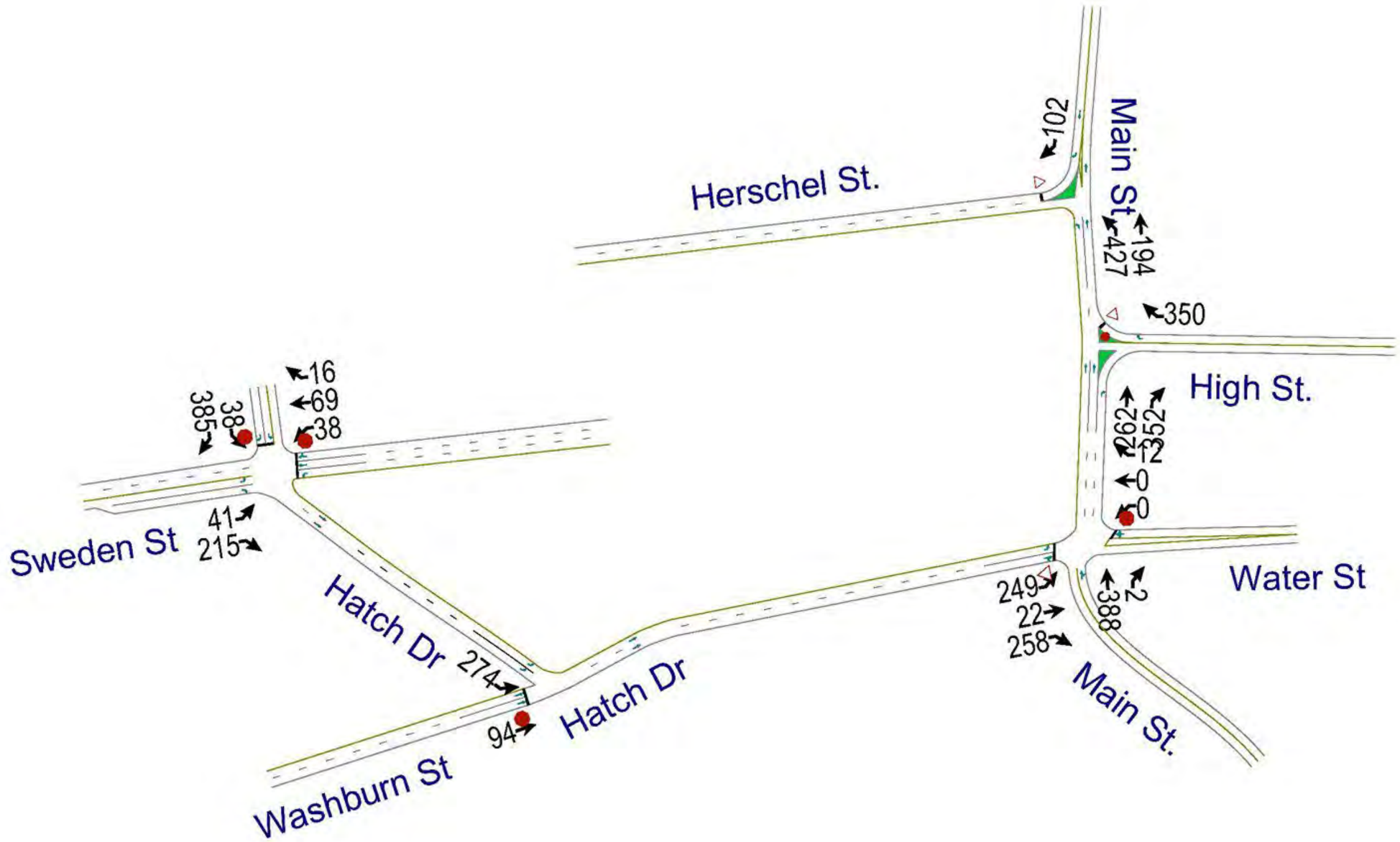


Figure 2.3 Existing Peak Hour Traffic Volumes

2.4 Safety

MaineDOT provided crash summary reports for the study area for the three-year period 2020 to 2022. As discussed later in this section, there is one High Crash Location in the study area, High Street/Bennett Drive. The Main Street/High Street intersection had seven crashes, so nearly a High Crash Location. All other locations had 4 or less crashes over the noted three-year period.

To supplement the crash summary reports additional crash data was obtained from MaineDOT over a three-year period between 2021 and 2023 and includes all crash types, as depicted in Figure 2.4. In addition, a review of fatal and injury crashes was performed as summarized below.

- There was a fatal crash located outside of the study area. It occurred on Van Buren Road south of Main Street on November 23, 2022, at 9:38 PM.
- The following locations had injury crashes.
  - Four injury crashes occurred on Bennett Drive between Glendale Road and High Street.
  - Two injury crashes occurred at the High Street/Bennett Drive intersection.
  - Four injury crashes occurred on High Street between Glenn Street and Main Street.
  - One injury crash occurred at the Main Street/High Street intersection.
  - One injury crash occurred at the Hatch Drive/Washburn Street intersection.

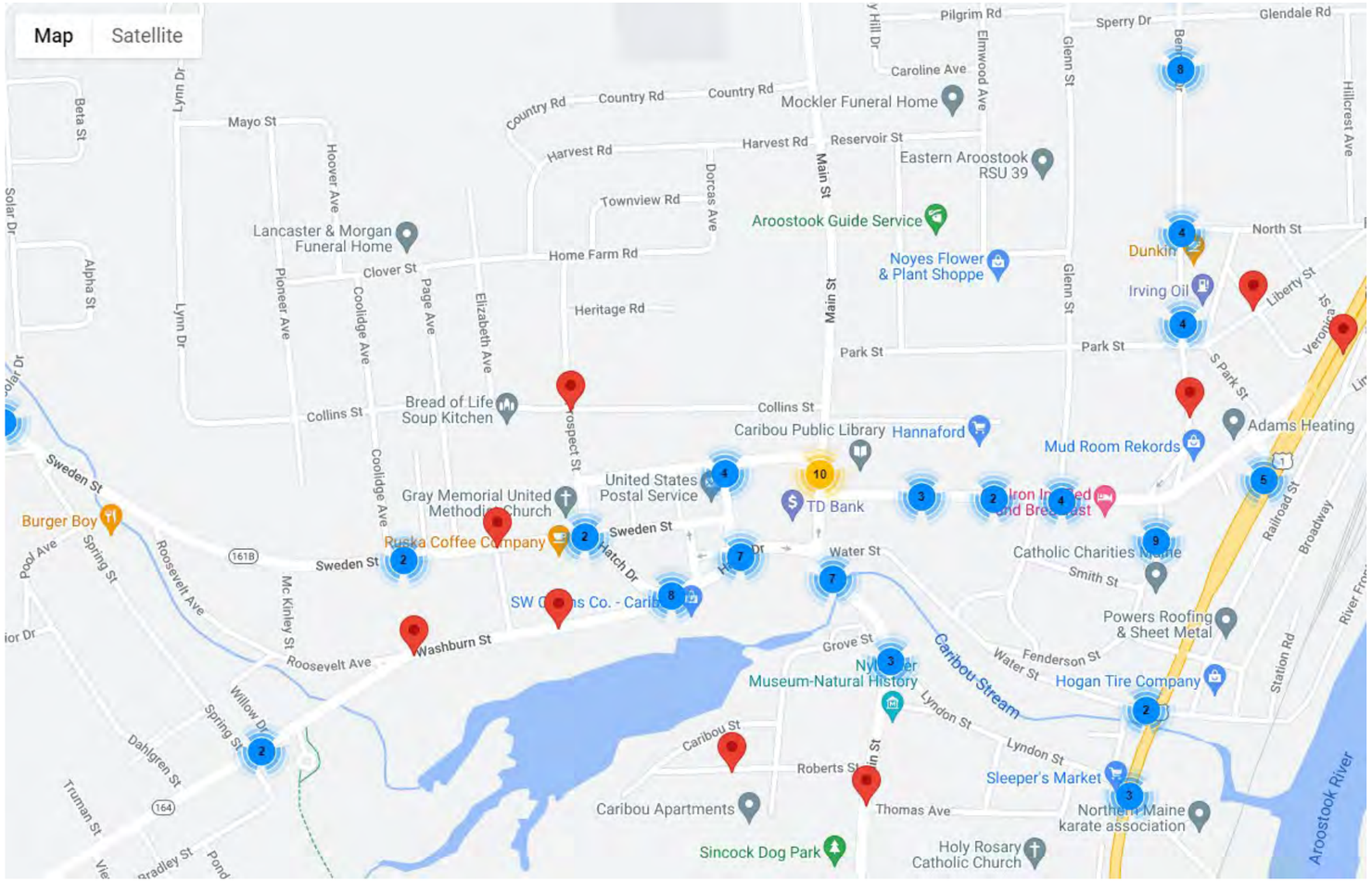


Figure 2.4 Three-Year Crash History (All Crash Types)

The three-year data was separated to isolate pedestrian type crashes. There was an injury level (non-fatal) pedestrian crash at the intersection of Main Street and High Street as shown in Figure 2.5.

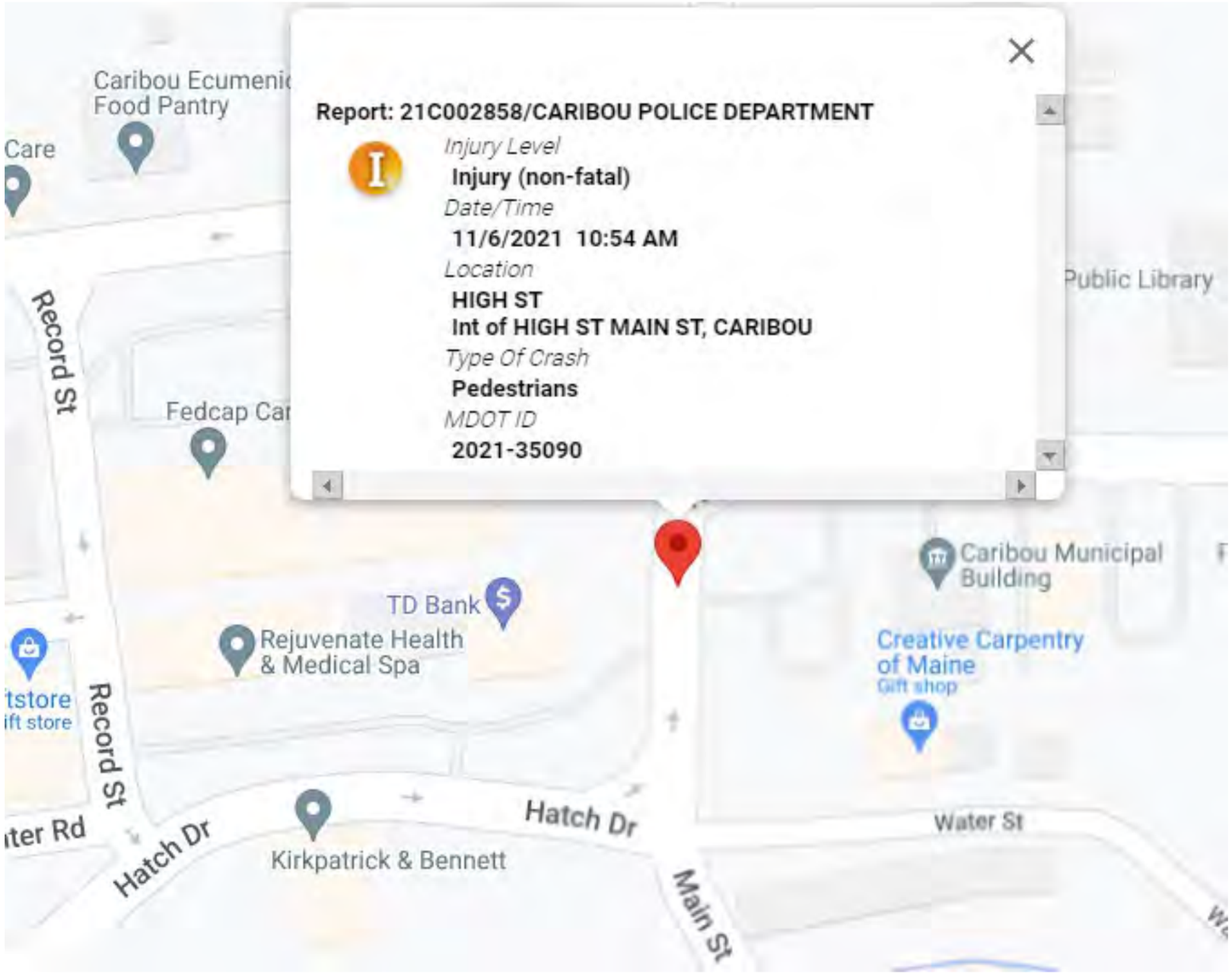


Figure 2.5 Pedestrian Crash at Intersection of High Street and Main Street

There was an injury level (non-fatal) pedestrian crash on Woodland Road as shown in Figure 2.6.

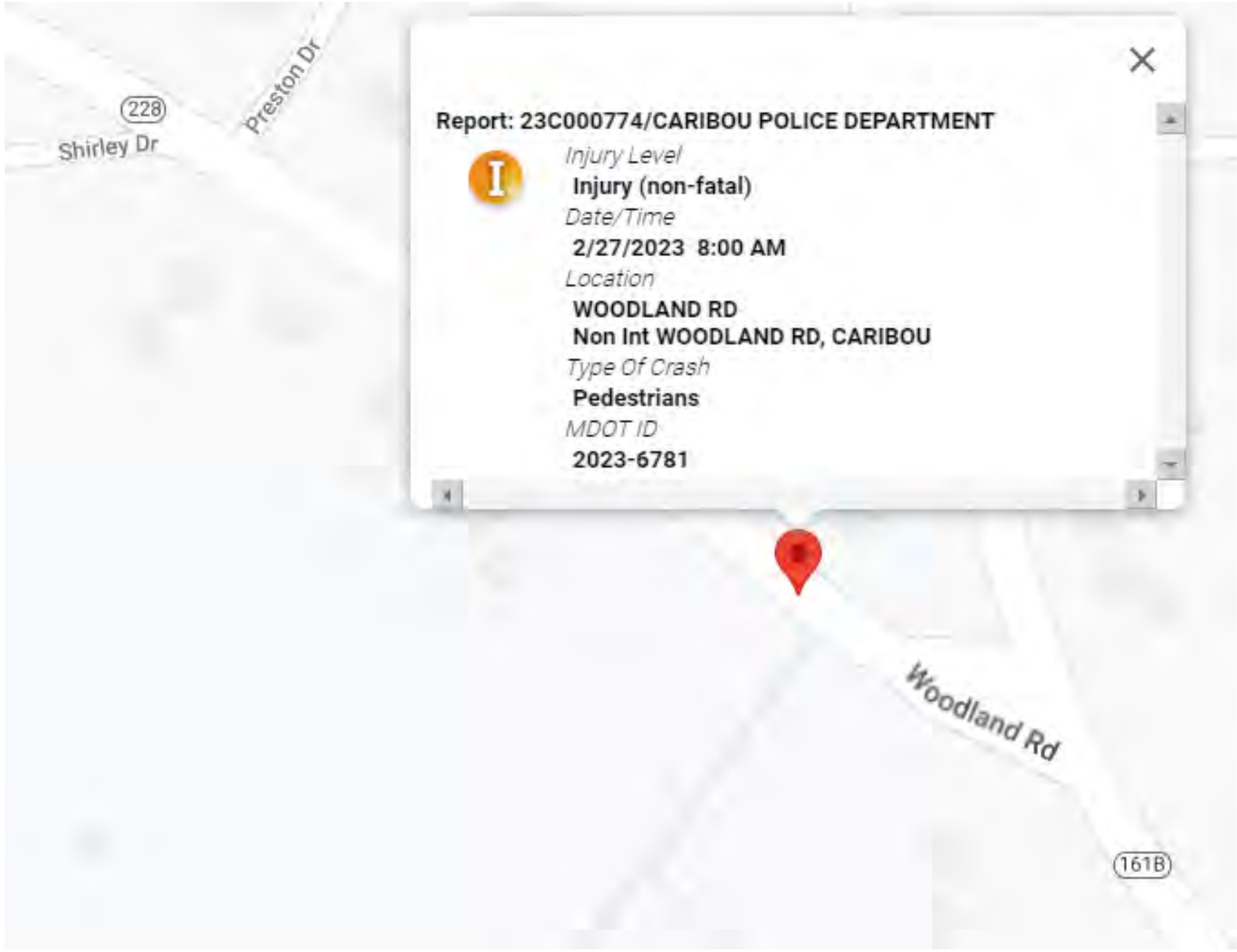


Figure 2.6 Pedestrian Crash on Woodland Road

The three-year data was separated to isolate bicycle type crashes. There was an injury level (non-fatal) bicycle crash at the intersection of Bennett Drive and Liberty Street as shown in Figure 2.7.

Figure 2.7 Bicycle Crash at Intersection of Bennett Drive and Liberty Street

MaineDOT has established criteria for determining High Crash Locations (HCL) where an intersection or road segment has 8 or more crashes and a Critical Rate Factor (CRF) greater than or equal to 1.0 over a three-year period. The CRF is a comparison of the study locations with other comparable locations in the State. There is one current HCL located within the study area, which is the intersection of High Street (State Route 89), Bennett Drive, and Pleasant Street, as depicted in Figure 2.8. There were no specific contributing factors, but the following are some crash details.

- Driver actions included two where motorists followed too closely, one where speed was a factor, one involving an improper turn, one failed to yield the right-of-way, and one failed to keep in the proper lane.
- Five of the crashes occurred in daylight conditions and two in dark conditions.
- Crashes were spread out over the entire year.
- Only one crash occurred on icy/snowy road surfaces.

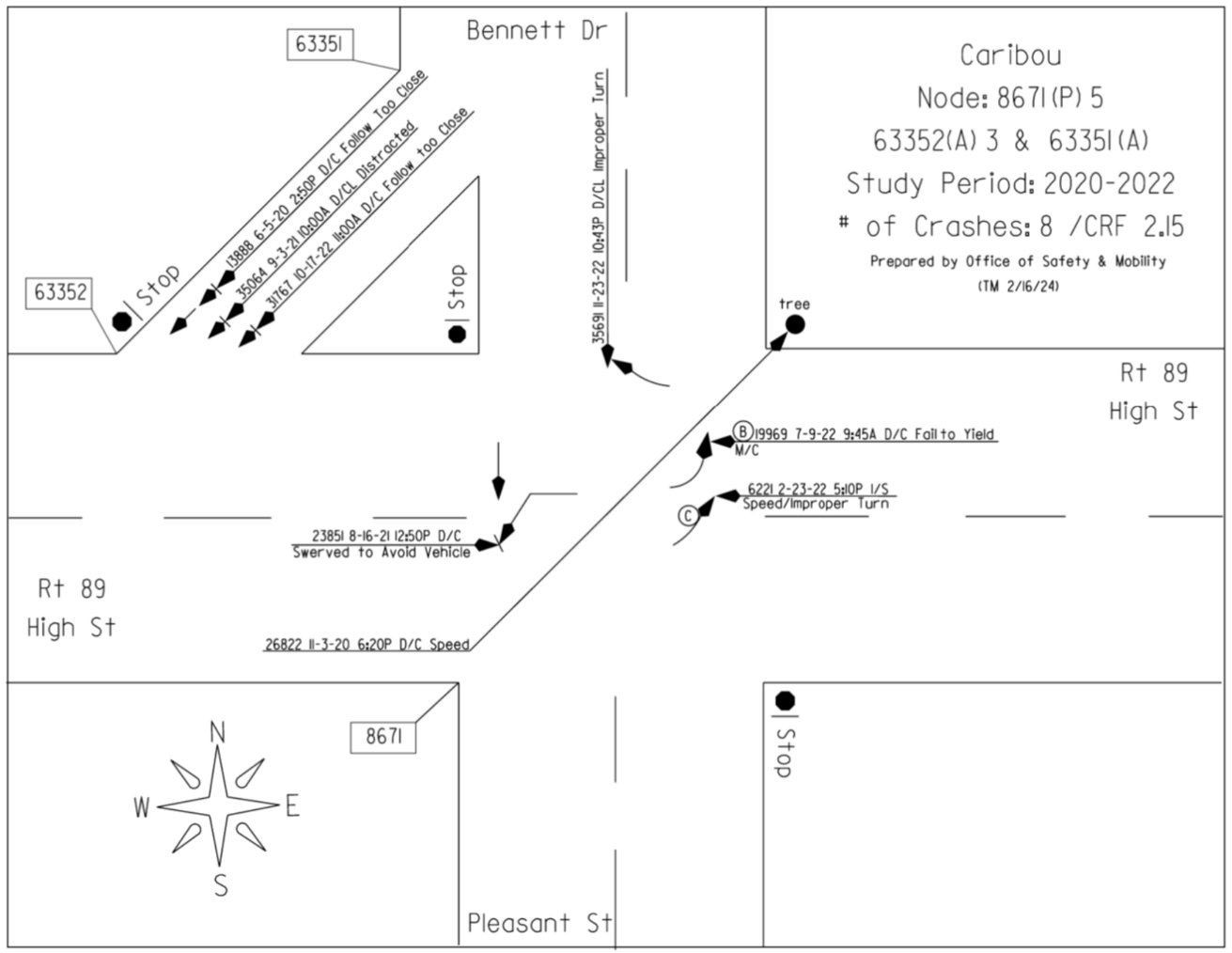


Figure 2.8 Current High Crash Location

Historically there have been other HCLs within the study area on Main Street and Hatch Drive as shown in Figure 2.9.

Figure 2.9 Historical High Crash Locations

2.5 MaineDOT Customer Service Ratings

MaineDOT has a methodology to provide a fair, structured framework to prioritize programs and projects. The are two parts – the Highway Corridor Priority, and Customer Service Level. The Customer Service Level (CSL) measures the State's highway assets in three areas. The CSL uses customer-focused engineering measures to track Highway Safety, Condition and Serviceability, and grades them similar to an academic report card (A to F). The following lists the individual measures that make up the overall service level grade.

- A
- B
- C
- D
- F

Safety (see Figure 2.10)

- Crash History
- Rutting Pavement
- Paved Roadway Width
- Bridge Reliability

High Street, Record Street, and the southerly portion of Prospect Street have average Safety Service Levels. The northerly portion of Bennett Drive and a segment of Sweden Street immediately west of the intersection with Prospect Street and Hatch Drive have poor Safety Service Levels.

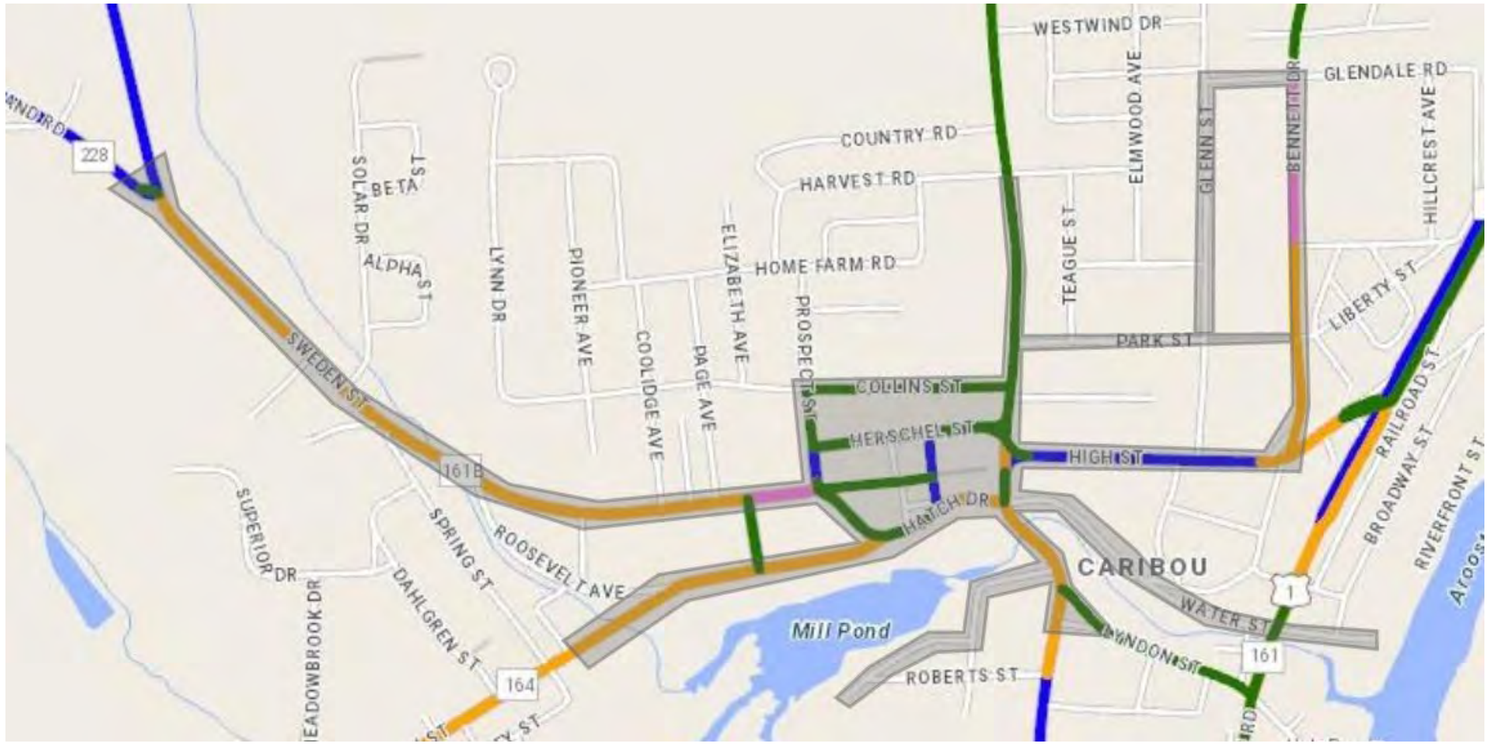


Figure 2.10 MaineDOT Safety Service Level

Condition (see Figure 2.11)

- Ride Quality
- Pavement Condition
- Roadway Strength
- Bridge Condition

High Street, Bennett Drive, and a short segment of Sweden Street near the Spring Street intersection have average Condition Service Levels. Outer Sweden Street west of Spring Street, portions of the Main Street and High Street intersection, and portions of Main Street south of Hatch Drive have poor Condition Service Levels.

A
B
C
D
F

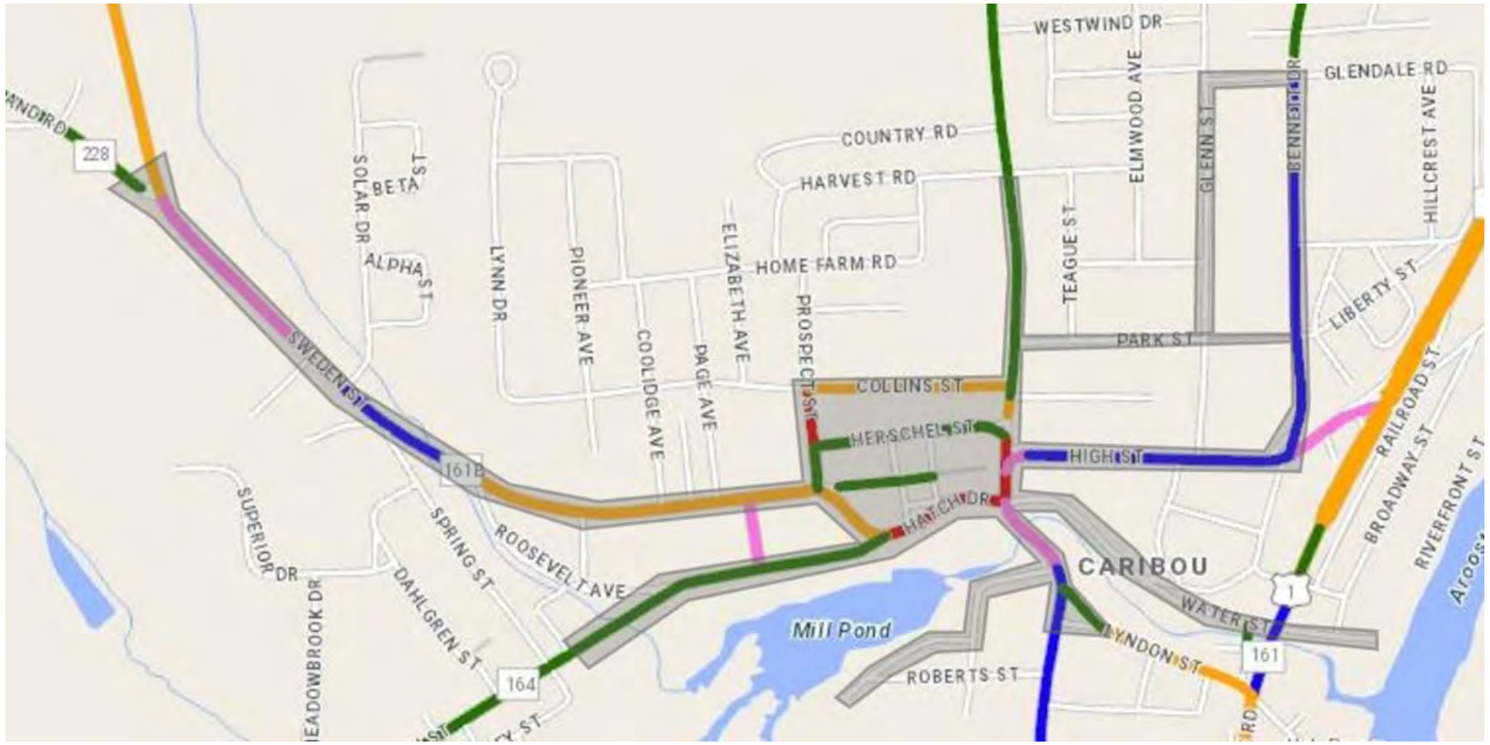


Figure 2.11 MaineDOT Condition Service Level

Service (see Figure 2.12)

- Posted Road
- Posted Bridge
- Congestion

Service Levels of B or higher are provided throughout the study area, except for a portion of the intersection of High Street and Main Street, Main Street between High Street and Hatch Drive, and a short segment of Hatch Drive immediately west of Main Street.

A
B
C
D
F

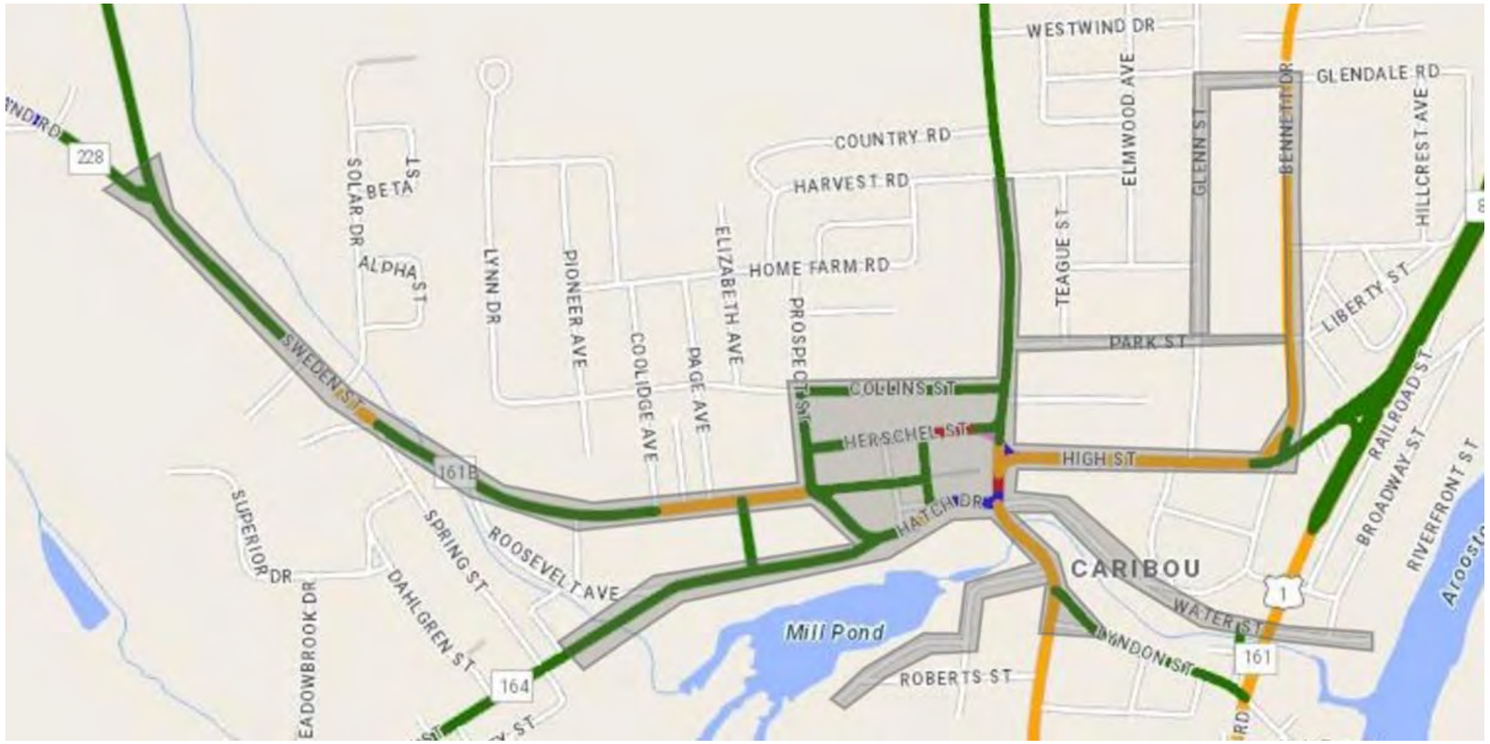


Figure 2.12 MaineDOT Service Level

3.0 ROADWAY INVENTORY

Bennett Drive

Bennett Drive consists of two lanes between High Street and Park Street and transitions to a three-lane configuration with a shared center left turn lane north of Park Street to Sperry Drive. The total paved width is approximately 40 feet. A bituminous sidewalk is provided on the west side between High Street and Park Street, and on both sides north of Park Street. The pedestrian crossings at Park Street and North Street are signal equipped with a Rectangular Rapid Flashing Beacon (RRFB).

Figure 3.1 Bennett Drive

Glenn Street

Glenn Street is comprised of two lanes with a bituminous sidewalk on the east side. Utility poles are located in the sidewalk between High Street and Park Street. The sidewalk crosses to the west side immediately south of Sperry Drive. Pedestrian crossings are provided at Park Street and immediately south of Sperry Drive, which are not RRFB equipped. Shoulder widths vary and curb remnants are present on the west side. The total paved width varies from approximately 28 to 32 feet.

Figure 3.2 Glenn Street

High Street

High Street is comprised of two lanes with a bituminous sidewalk on both sides. The sidewalk on the south side has some obstructions from utility poles. A signal equipped (RRFB) pedestrian crossing is provided at Glenn Street. Pedestrian crossings are also provided at Hannaford and the Municipal Building, which are not signal equipped. The total paved width varies from approximately 33 to 34 feet in the vicinity of Glenn Street and Bennett Drive and increases slightly to the west towards Hannaford and the Municipal Building. There are several access management issues present, particularly at Hannaford, Irving Circle K, and Aroostook Savings & Loan. Hannaford has two entrances approximately 70 feet apart, each handling inbound and outbound traffic. The westerly entrance to Irving Circle K and the entrance to Aroostook Savings & Loan are each in excess of 90 feet wide. Access management issues are also present at businesses located on the south side of High Street immediately east of Goldfrank Drive.

Figure 3.3 High Street

Park Street

Park Street is comprised of two lanes with a bituminous sidewalk on the north side. Sidewalk width varies from approximately 3.5 to 4.5 feet. Utility poles are generally located behind the sidewalk. The total paved width is approximately 26 feet. Park Street extends between Main Street and Glenn Street. Prior to the construction of the Caribou Community School, Park Street continued east to Bennett Drive.

Figure 3.4 Park Street

Main Street (North)

Main Street (north of Herschel Street) is comprised of two lanes with a bituminous sidewalk on the east side. Sidewalk width varies from approximately 4 to 4.5 feet. The sidewalk is obstructed by a utility pole immediately north of High Street, and some constrictions are present from large trees located immediately behind the sidewalk. North of Collins Street the utility poles are generally located behind the sidewalk. A pedestrian crossing is provided at Collins Street, which is not signal equipped. The total paved width varies from approximately 30 to 36 feet.

Figure 3.5 Main Street (North)

Main Street (South)

Main Street (south of Herschel Street) has a variable layout and design function. Between Hatch Drive and Herschel Street, Main Street is one-way northbound. The typical section of the one-way segment varies. Between Hatch Drive and High Street, Main Street has a three-lane configuration (left only-thru-right only). The right only lane ends at High Street, and between High Street and Herschel Street, Main Street has a two-lane configuration (left only-thru). Concrete sidewalks are provided on both sides between Hatch Drive and Herschel Street, however numerous ADA compliance issues are present. Pedestrian crossings are provided immediately south of Herschel Street and immediately south of High Street, neither of which are signal equipped. The total paved width of the three-lane portion between Hatch Drive and High Street varies from approximately 32 to 40 feet. The total paved width of the two-lane portion between High Street and Herschel Street varies from approximately 28 to 32 feet. South of Hatch Drive, Main Street is two-way with a total paved width which varies from approximately 31 to 40 feet. Bituminous sidewalks are provided on both sides. Pedestrian crossings are provided at Hatch Drive/Water Street and at Nylander Street, neither of which are signal equipped.

Figure 3.6 Main Street (South)

Herschel Street

Herschel Street consists of two distinct segments. Between Main Street and Record Street, Herschel Street is one-way westbound. The one-way segment is comprised of two lanes, with a total paved width of approximately 32 to 33 feet. Concrete sidewalk is provided on both sides of the one-way segment, however there are numerous constrictions particularly on the north side from retaining walls and poorly maintained vegetation immediately behind the sidewalks. One pedestrian crossing is provided in the one-way segment, located immediately west of the intersection of Herschel Street and Main Street, which is not signal equipped. Between Record Street and Prospect Street, Herschel Street is two-way, comprised of two lanes with sporadic on-street parking and bituminous sidewalk provided on the south side. There is a pedestrian crossing provided immediately west of Record Street, which is not signal equipped. The total paved width of the two-way segment varies from approximately 44 to 45 feet. The shoulder widths vary in the two-way segment and there are significant access management issues on the north side including the entrance to Godin's Service, Inc. and adjacent parking area to the west that spans 300 feet without curbing or defined back edge of shoulder.

Figure 3.7 Herschel Street

Prospect Street

Prospect Street is comprised of two lanes between Herschel Street and Collins Street with a bituminous sidewalk provided on the west side. The total paved width of the two-lane segment varies from approximately 28 to 36 feet. Parallel on-street parking is provided on the west side immediately north of Herschel Street. On-Street angle parking is provided on the west side immediately south of Herschel Street before Prospect Street transitions to a three-lane configuration as it approaches Sweden Street. The three-lane approach to Sweden Street is comprised of two southbound lanes (thru-right only) and one northbound lane. The total paved width of the three-lane segment varies from approximately 50 to 54 feet. Bituminous sidewalk is provided on the west side between Herschel Street and Sweden Street, however there are numerous ADA compliance issues including several in the vicinity of Gray Memorial United Methodist Church.

Figure 3.8 Prospect Street

Hatch Drive

Hatch Drive is a one-way street comprised of two lanes travelling generally eastbound between the intersection of Prospect Street and Sweden Street and the intersection of Main Street and Water Street. Concrete sidewalk is provided on the north side, however it is discontinuous and there are numerous ADA compliance issues as well as constrictions from street light bases located in the sidewalk. There are portions of both bituminous and concrete sidewalk provided on the south side of Hatch Drive east of the intersection with Washburn Street. The sidewalk on the south side has constrictions from both street light bases and utility poles, as well as several other ADA compliance issues. There are multiple pedestrian crossings provided. These are located at Sweden Street, Washburn Street, Stevens Street, Record Street, and Main Street. None of the pedestrian crossings are signal equipped. The total paved width varies from approximately 31 to 33 feet.

Figure 3.9 Hatch Drive

Sweden Street (Downtown)

The downtown portion of Sweden Street located between Record Street and Prospect Street is one-way westbound. There is a one-lane segment between Record Street and the Caribou Theater with on-street angle parking and brick sidewalks on both sides. The sidewalks have numerous constrictions from street light bases and tree wells, particularly on the south side. The sidewalks on both sides of the street have several other ADA compliance issues. Pedestrian crossings are provided at Record Street, Sears, and the Caribou Theater. None of the pedestrian crossings are signal equipped. The on-street angle parking on the north side ends immediately west of the American Legion and the street transitions to a three-lane configuration (left only-thru-right only) as it approaches Hatch Drive and Prospect Street. The total paved width varies from approximately 56 to 57 feet.

Figure 3.10 Sweden Street (Downtown)

Sweden Street (Outer)

The outer portion of Sweden Street located between Prospect Street and Woodland Road is a two-way street comprised of two lanes and variable width shoulders. On-street parallel parking is provided on both sides between Prospect Street and Coolidge Avenue. Bituminous sidewalks are provided on both sides between Prospect Street and Spring Street, and on the west side only north of Raymond Drive. The sidewalk on the west side is constricted by utility poles, several of which are located within the sidewalk. Pedestrian crossings are provided at the Gray Memorial United Methodist Church, Assembly of God Church, Caribou Court House, McKinley Street, Raymond Drive, and Farrell Street. None of the pedestrian crossings are signal equipped, and several ADA compliance issues are present. The total paved width typically ranges from approximately 43 to 46 feet.

Figure 3.11 Sweden Street (Outer)

Washburn Street

Washburn Street is a two-lane street with a typical paved width ranging from approximately 26 to 28 feet. There is a short one-way segment (eastbound only) between Hatch Drive and an unnamed street that accesses the Caribou Office Park. West of the Caribou Office Park, Washburn Street is two-way with variable width shoulders and a bituminous sidewalk on the south side. Utility poles are generally located behind the sidewalk.

Figure 3.12 Washburn Street

Water Street

Water Street is comprised of two lanes with variable width shoulders. On-street angle parking is provided on the north side and on-street parallel parking is provided on the south side, in the area immediately east of Main Street. A concrete sidewalk is provided on the south side immediately east of Main Street. The concrete sidewalk is constricted by utility poles and street light bases which are located within the sidewalk, and it is discontinuous with bituminous sidewalk on the south side of the street which extends further to the east. Bituminous sidewalk begins on the south side at approximately the Caribou Trading Post and Pawn Shop and extends easterly to Bridge Street. The curb reveal is inadequate adjacent to the bituminous sidewalk, which is constricted in some locations due to poorly maintained vegetation and has numerous other ADA compliance issues. There are some sidewalk remnants on the north side between Bridge Street and the U.S. Route 1 overpass. There is a guardrail section on the south side between Bridge Street and Hogan Tire. The total paved width is variable, ranging from approximately 26 to 32 feet.

Figure 3.13 Water Street

Figure 3.14 Sperry Drive

Sperry Drive

- Pavement width varies from approximately 25 to 27 feet.
- Bituminous sidewalk provided on the south side.

Figure 3.15 Collins Street

Collins Street

- Pavement width varies from approximately 26 to 28 feet.
- Bituminous sidewalk on north side (note utility pole obstructions).

Figure 3.16 Record Street

Record Street (One-Way)

- Pavement width varies from approximately 24 to 26 feet.
- Brick sidewalk on both sides (note ADA compliance issues).

Figure 3.17 Grove Street

Grove Street

- Pavement width varies from approximately 24 to 26 feet.
- Bituminous sidewalks provided on both sides.

Figure 3.18 Lyndon Street

Lyndon Street

- Average pavement width is approximately 26 feet.
- Bituminous sidewalk provided on the east side.

Figure 3.19 Nylander Street

Nylander Street

- Pavement width varies from approximately 22 to 24 feet.
- No sidewalks provided.

4.0 KICKOFF MEETING AND SAFETY AUDIT

The Kickoff Meeting and Safety Audit discussion were held at the Caribou Wellness & Recreation Center on March 1, 2024.

ATTENDEES	EMAIL
Penny Thompson, City Manager City of Caribou	pthompson@cariboumaine.org
Dave Ouellette, Public Works City of Caribou	daveo@cariboumaine.org
Michael Gahagan, Police Chief City of Caribou	policechief@cariboumaine.org
Brian Lajoie, Fire Chief City of Caribou	firechief@cariboumaine.org
Jay Kamm, Senior Planner NMDC	jkamm@nmdc.org
Jarod Farn-Guillette, Project Manager MaineDOT	jarod.farn-guillette@maine.gov
Tom Errico, Senior Traffic Engineer TYLin	thomas.errico@tylin.com
Chris Helstrom, Project Manager TYLin	christopher.helstrom@tylin.com
Mitch Rasor, Landscape Architect Rasor	mitchell@rasor.co

- Northern Maine Development Commission (NMDC) is working on an update to Caribou's Comprehensive Plan
  - Emphasis on environmental resilience
  - Expected to include waterfront plan
  - Jay Kamm (NMDC) mentioned transportation plan under development to surrounding towns such as Easton, Fort Kent, etc.
- Consider ADA access, especially during winter months
- Better connections are needed between schools/wellness center and residential neighborhoods
- Penny Thompson (City of Caribou) wants Caribou to "be the best bedroom community", providing a desirable place for people to live while supporting labor force and industry in surrounding towns
- Pedestrian activity not uncommon during early morning hours (may need to consider enhanced lighting to better support this)
- Crosswalks changed to piano keys paint scheme a few years ago for better visibility
- Intersection improvements are needed at Main Street/High Street. Michael Gahagan (City of Caribou) indicated that there are frequent crashes at this location
- In general, the downtown core has too many free-flow traffic movements, which are not considered to be pedestrian friendly
- Consider conversion to a T-intersection at Main Street/High Street
- Consideration should be given to bike/ped access related to Summer on Sweden Street, Thursday night activities in the summer
  - Outdoor spaces used for events (Sweden Street and surrounding downtown core area, better connectivity needed)
- Consider improved parking near/along North Main Street
- Tom Errico (TYLin) mentioned communications with City of Caribou IT Dept for sharing info related to the project online, through social media, etc.
  - Penny Thompson (City of Caribou) distributes a flyer that she updates with info about current events, activities, etc. She would like to provide a QR Code to access project plans as they are developed
- Safety issues at Record Street pedestrian crossing were discussed
- Safety issues at Water Street/Main Street intersection were discussed
- Consider safety upgrades to segments of Federally designated bike routes (USBR501 goes thru Caribou within the study area on outer Sweden Street to Route 228)
- Potential needs for traffic counts were discussed, particularly on Herschel and Sweden Streets, Main Street north of Water Street, High Street east of Main Street, and Bennett Drive. TYLin will review existing data available from MaineDOT databases.
- MaineDOT mill and fill project scheduled for summer of 2024 on Route 164 (Main Street, Hatch Drive, Washburn Street) was discussed
- Collins Pond Path bike/ped loop could be expanded/improved as part of this project
  - Consider input from Caribou Age Friendly Group and Cary Senior Group
  - Consider input from Sam Collins, Spinski's group
- Consider ATV/snowmobile access
- Jarod Farn-Guillette (MaineDOT) explained study process and funding options

5.0 ENVIRONMENTAL RESOURCES

This section documents environmental resources obtained from State online resources. These include a review of historic properties, State conserved land, plant and animal habitat, and wetlands.

5.1 Historic Properties

According to State data, there are some properties in the vicinity of the project that have historic designation (see Figure 5.1). Table 5.1 notes the properties that are listed or are eligible.

Table 5.1
Historic Properties (Listed and Eligible)

Property	Address	Designation
Caribou Junior High School (demolished)	59 Glenn Street	Eligible (formerly)
Single Family Home	636 Main Street	Eligible
Gray Memorial United Methodist Church Parsonage	8 Prospect Street	Listed
Gray Memorial United Methodist Church	2 Prospect Street	Listed

Historic Properties

- Not Eligible
- Not Determined
- Unknown
- Eligible
- Listed
- Historic District

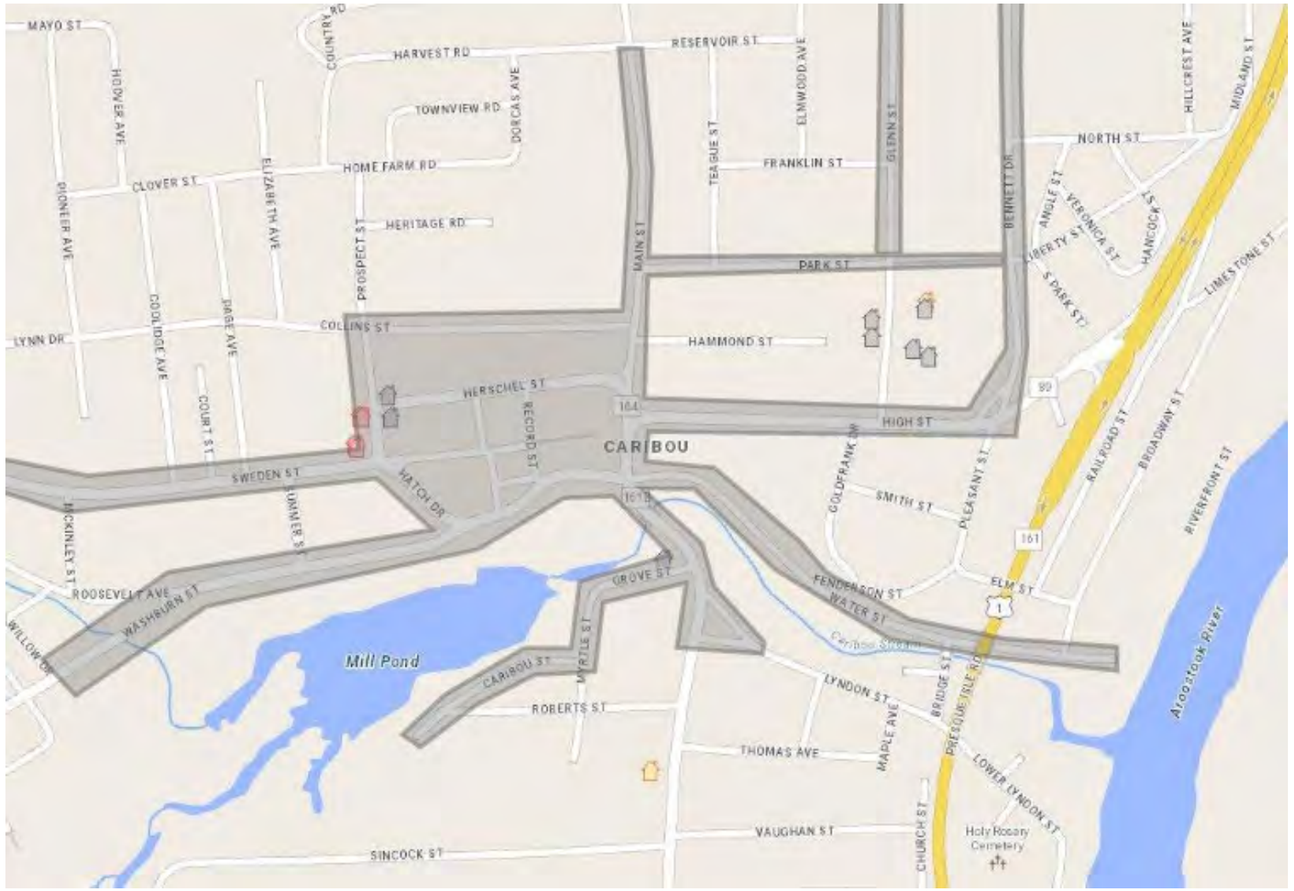


Figure 5.1 Historic Properties

5.2 State Conservation Land

Based on information available from MaineDOT Public MapViewer, there are no Conserved Lands within the study area. Some privately owned conservation lands may not be represented.

5.3 Plant and Animal Habitat

Information from Maine Natural Areas Program indicates that there are habitats of endangered species within the study area.

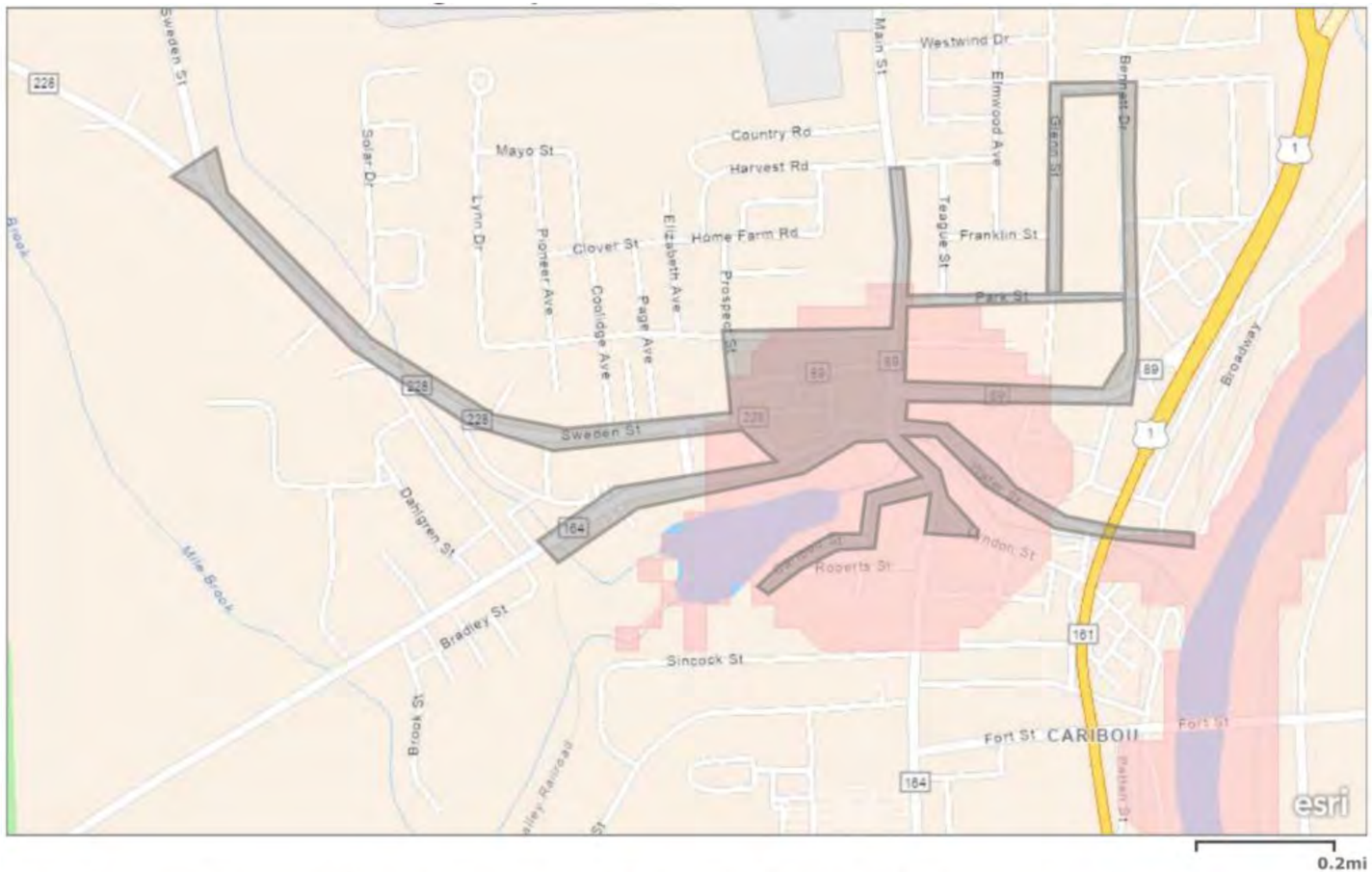


Figure 5.2 Plant and Animal Habitats Endangered Species Area

5.4 Wetlands

Figure 5.3 depicts the USFWS wetlands mapping within the study area.

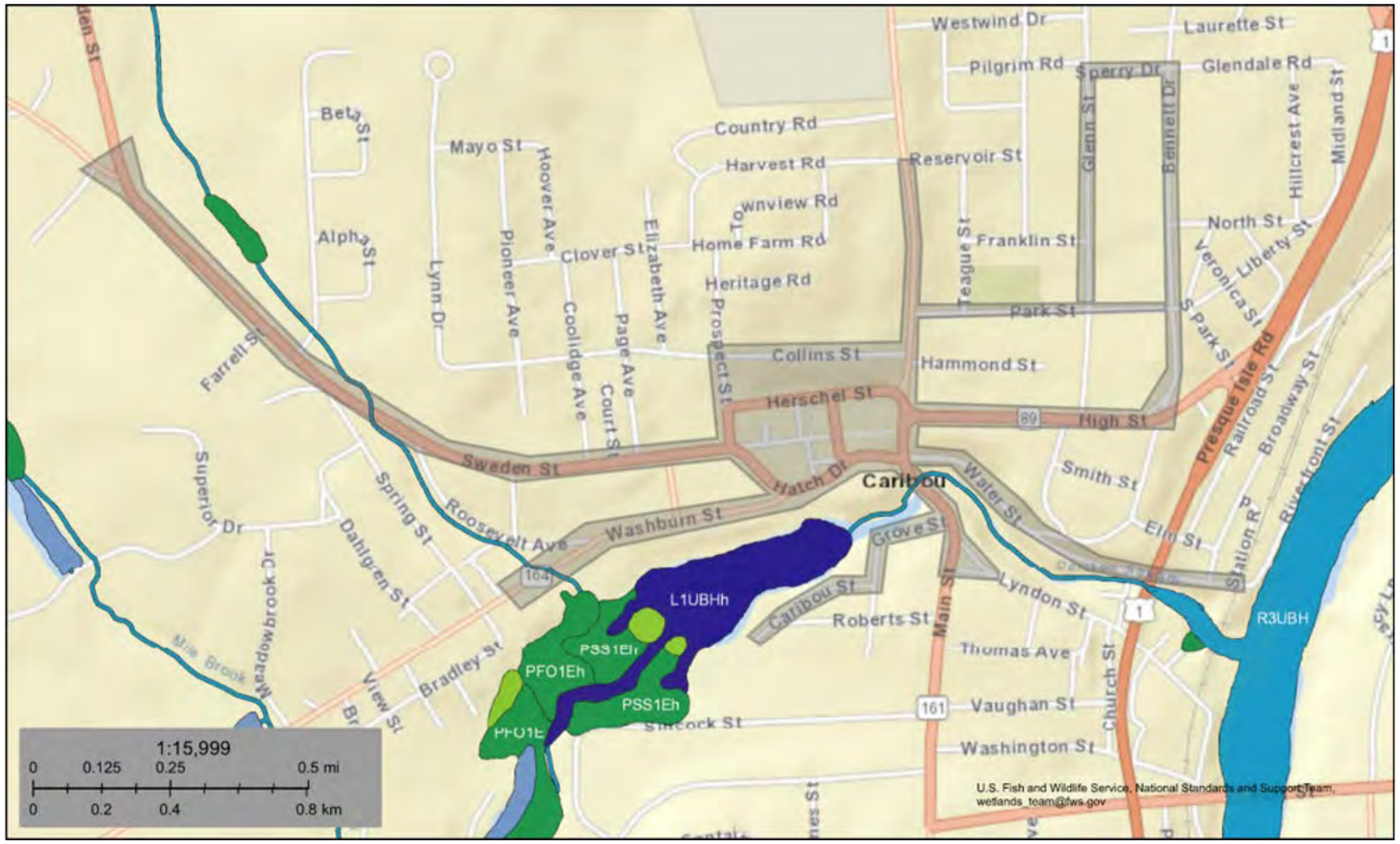


Figure 5.3 Wetlands Adjacent to the Study Area

6.0 PROPERTY OWNERSHIP/RIGHT OF WAY

Right of Way information pertaining to the corridor study area of downtown Caribou is available through the following MaineDOT Property Plans for each listed segment area:

Right of Way

N. Main Street:

- Property Plan 020302, File Number 2-302

S. Main Street:

- Property Plan 020444, File Number 2-444

Water Street / Bridge Street:

- Property Plan 020347, File Number 2-347

Bennet Drive:

- Property Plan 020087, File Number 2-87
- Property Plan 020447, File Number 2-447

Right of Way – County Road Layout

Main Street:

- Property Plan 0201456
- Property Plan 0202560
- Property Plan 0205400

Sweden Street:

- Property Plan 0202397
- Property Plan 0203154
- Property Plan 0205395

High Street:

- Property Plan 0202560

In general, the state right of way in these locations appear to be variable width, depending on proximity to adjacent buildings and other structures. The county road layouts use 66 feet (4 rods) right of way.

7.0 PARKING

The following presents information on public parking in the study area and includes both on-street spaces and off-street lots.

On-Street Parking

Sweden Street

- There are seventy-five on-street angled parking spaces, three of them are handicap, on Sweden Street in the downtown core of the study area. This section of Sweden Street is one-way with parking on both sides of the road.
- There are approximately thirty-seven on-street parallel parking spaces on Sweden Street to the west of the downtown core. This section is two-way with parking on both sides of the road.

Herschel Street

- There are twelve on-street parallel parking spaces, one of them is handicap, on Herschel Street in the downtown core of the study area.
- Parking on Herschel Street consists of parking in widened shoulder area between Prospect Street and Record Street. This section of Herschel Street is two-way. The parking spaces are all on the south side of the road and are painted.

Stevens Avenue

- There are nine on-street angled parking spaces, one of them is handicap, on Stevens Avenue in the downtown core of the study area.
- Parking on Stevens Avenue consists of parking on one side of the road in the one-way section between Center Road and Sweden Street. The parking spaces are marked.

Center Road

- There are eight on-street parallel parking spaces on Center Road in the downtown core of the study area.
- Parking on Center Road consists of parking on both sides of the one-way street. The parking spaces are marked.

Prospect Street

- There are six on-street angled parking spaces and three on-street parallel parking spaces on Prospect Street, the downtown core of the study area.
- Parking on Prospect Street consists of parking on the west side of the road between Sweden Street and Collins Street. The parking spaces are marked.

Water Street

- There are approximately nine on-street parallel parking spaces and six on-street angled parking spaces on Water Street in the study area.
- On-street parking on Water Street is limited to the section of road just off Main Street.

Off-Street Lots

There are several businesses in the study area that provide off-street parking to the public. A breakdown of the approximate parking spaces at each major location is as follows:

- **Downtown Mall North Lot** -97 spaces (4 Handicap)
- **Downtown Mall South Lot** -50 spaces (2 Handicap)
- **Post Office** -30 spaces (2 Handicap)
- **Legion Parking Lot**– 12 spaces (2 Handicap)
- **Wardwell's Auto Repair**– 61 spaces
- **Thrive Body Spa** – 16 spaces
- **Movie Theater** – 18 spaces
- **Hatch Drive North Lot** -28 spaces
- **S.W. Collins Co. East Lot** -136 spaces (4 Handicap)
- **S.W. Collins Co. West Lot** -32 spaces (2 Handicap)
- **Caribou Office Park** – 93 spaces (3 Handicap)
- **Dollar General** – 28 spaces
- **Church – Assembly of God** – 83 spaces (5 Handicap)
- **DiOddo's Pizzeria** – 32 spaces (1 Handicap)
- **Caribou Court House** – 109 spaces (4 Handicap)
- **Caribou Gardens**– 20 spaces
- **Monica's Scandinavian Imports** – 25 (2 Handicap)
- **Burger Boy** – 24 spaces
- **Caribou High School** – 265 spaces (2 Handicap)
- **Caribou Municipal Building** – 26 spaces (2 Handicap)
- **Caribou Public Library** - 18 spaces (1 Handicap)
- **Aroostook Savings & Loan** – 35 spaces
- **Hannaford** – 148 spaces (5 Handicap)
- **Key Bank** – 34 spaces (2 Handicap)
- **Caribou Community School** – 165 (6 Handicap)
- **Caribou Wellness & Recreation Center** – 80 spaces (6 Handicap)
- **The County Federal Credit Union** – 41 spaces (2 Handicap)

8.0 EXISTING LAND USE CONDITIONS

8.1 Zoning

The Study area is focused on the downtown or Lyndon Square but is expansive extending along corridors to the west along Sweden Street to the High School, to the north along High Street and Bennett Drive to the Wellness & Recreation Center and the Community School and to the east along Water Street to the riverfront. Downtown is zoned C-1, the legs extending to High School and to the Wellness and Recreation Center are Zoned C-2 and the leg running along Water Street to the Riverfront is zoned R-2 as shown in Figure 8.1. The C-1 and C-2 zones are surrounded by residential zones zoned R-2 or R-1.

When looking at walkability in terms of zoning, one of the key concerns is allowing residential uses and commercial uses to co-exist in a traditional manner as in most historic downtowns in Maine. It is understood there may not be a residential use on the same lot or above a fast-food restaurant, but a diversity of housing types within the C-1 and C-2 Zones should be allowed and encouraged. Currently a multi-unit condo building of residences is not allowed downtown in Lydon Square or anywhere in the C-1 and C-2 Zones. Duplex Units are not allowed anywhere within the C-1 Zone. Multi-family rental units and third floor apartments units are allowed with Planning Board approval. Second floor rental units should also be allowed in the C-1 and C-2 Zones and should be allowed with CEO review. The first floor of buildings in the C-1 Zone should be reserved for commercial uses as currently zoned. In general, drive thrus should not be allowed in the C-1 zone as they are an inefficient use of space and detract from the downtown form and walkability. Other uses requiring large outdoor display areas and having more suburban form, such automobile sales, should not be allowed downtown or in the C-1 zone as they don't contribute to walkability and the character of a downtown and are more appropriate for more auto-oriented corridor areas such as the C-2 Zone.

The C-1 Zone allows for 100% lot coverage and zero setbacks, which is appropriate for a downtown. It should be noted that the first block of Water Street east of Main Street has a traditional downtown form with multi-story buildings with commercial uses on the first floor and residential uses on the upper floors. This stretch of Water Street along with Sweden Street between Prospect Street and Record Street is the most traditional "downtown" form remaining in Caribou, however this stretch of Water Street is now non-conforming because in the C-2 Zone only 50% lot coverage is allowed and 10' front setbacks are required. This segment of Water Street should potentially be rezoned C-1.

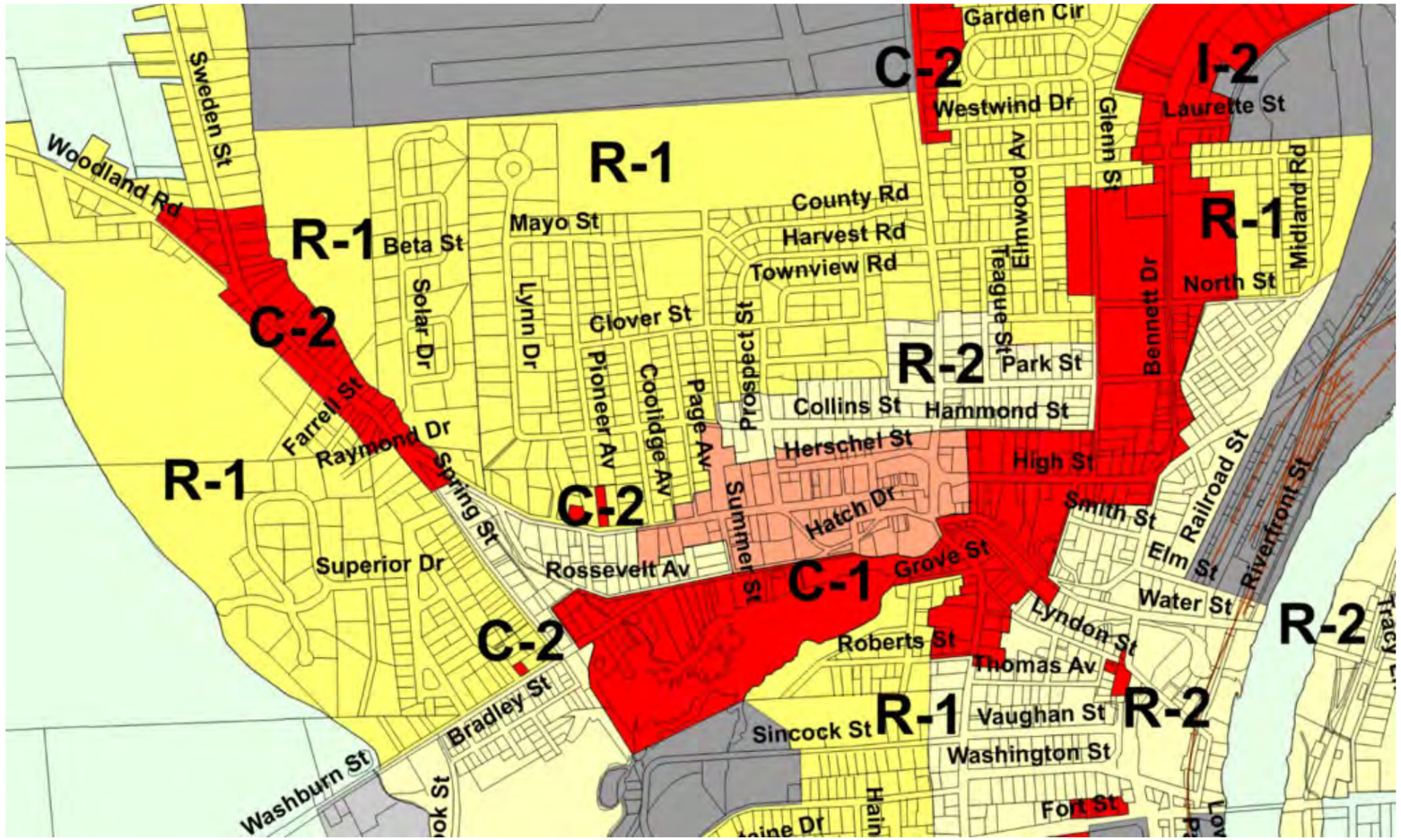


Figure 8.1 Zoning

8.2 Character Areas

The Study Area is comprised of many important community assets that have distinct character as noted on Figure 8.2. In the center of Caribou is Lyndon Square, or the former downtown. Surrounding the downtown or Lyndon Square, but separated by either natural features, roads, the one-way loop system, or by distance are key character areas such as the riverfront, residential neighborhoods, Caribou Mill Pond, the High School, High Street or "Main Street", the Community School, and the Community & Recreation Center. To a certain degree, the existing transportation facilities are a barrier between these assets, particularly in the downtown area, and improvements to the system (active transportation, removal of slip lanes, the creation of traditional intersections, one-way to two-way conversions), will increase accessibility and connectivity to these assets and amplify their use and benefit for all residents.

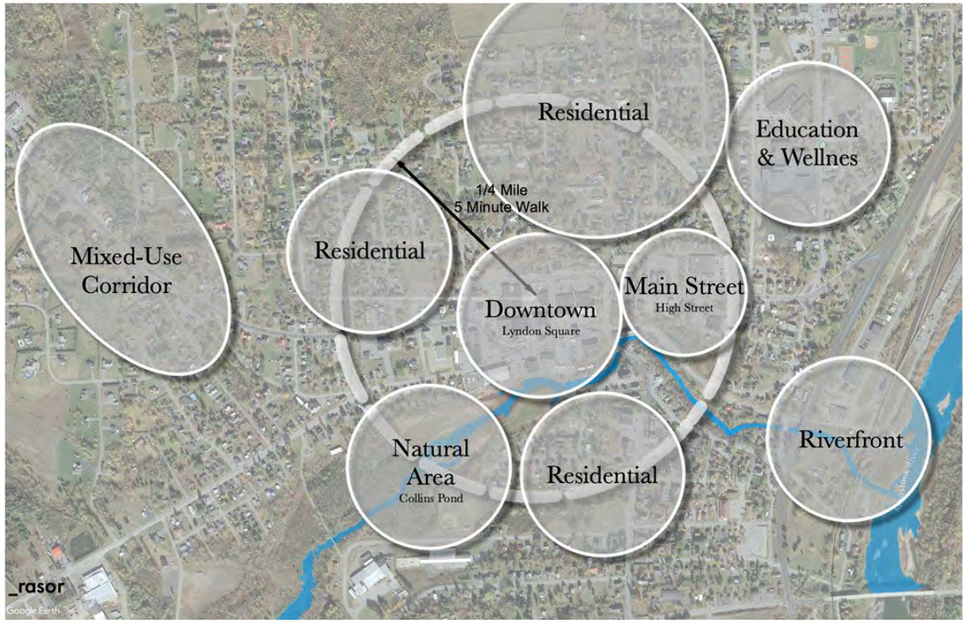


Figure 8.2 Character Areas

8.3 Pedestrian Sheds

Figure 8.3 illustrates areas of Caribou within a five minute or ¼ mile "pedestrian shed." Caribou Stream runs through downtown creating a valley with climb to the north or south out of the valley that adds to the challenge of pedestrians moving through town, however within a ten-minute walk one can move from a residential neighborhood to a grocery store to a library to movie theater to a post office and to a natural area. This is a unique set of assets within the downtown pedestrian shed. The safer and more inviting it is to move through and across the pedestrian shed to the varying assets will help promote the livability and vitality of Caribou. As the different pedestrian sheds within Caribou are knitted together with shared use paths, neighborhood byways, and other amenities, the more inviting and accessible the community will be for all residents.

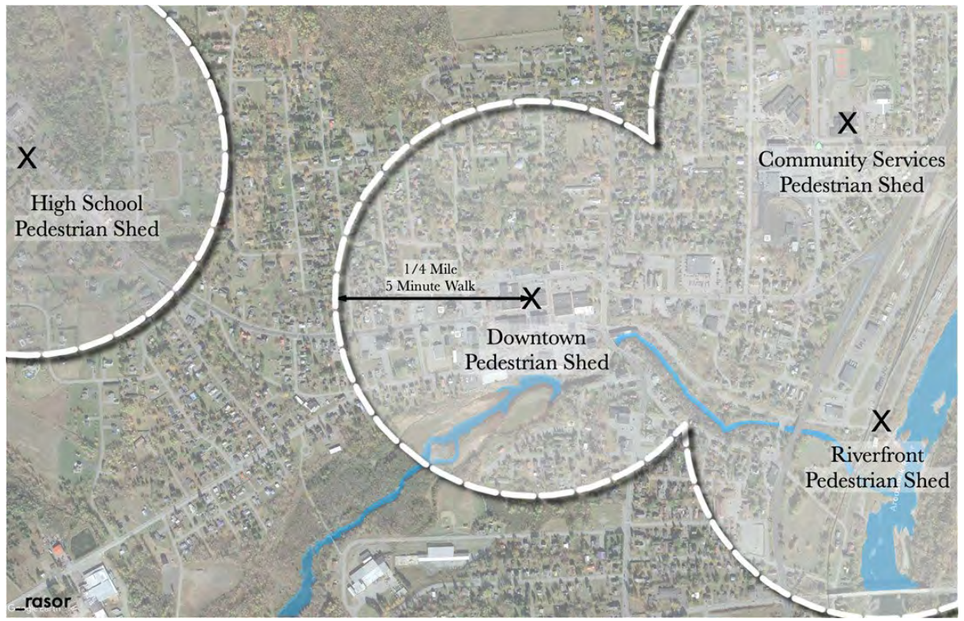


Figure 8.3 Pedestrian Sheds

8.4 Connectivity

Figure 8.4 illustrates the existing streets and multi-use path in the study area. The streets shown in black are two way and the streets shown in white are one-way. This diagram clearly illustrates that Caribou has a high level of connectivity, but at the center of the community where everything comes together in the downtown the connectivity is minimized with one-way streets limiting access to businesses, the downtown core, as well as making east to west movements confusing. Maximizing connectivity increases options for people to reach their destinations and choose their route, enhances fire and safety service, promotes economic activity, and allows the overall community grid system to provide resilience and redundancy.

The yellow line depicts the existing multi-use path providing critical connectivity between the neighborhoods to the north and south of Caribou Stream. Extending this path to additional neighborhoods within Caribou will increase accessibility and connectivity, benefiting the entire community.

When approaching downtown from High Street or Sweden Street one cannot drive directly into the heart of the historic downtown and is diverted away from inner Sweden Street to the one-way loop system. This configuration is not user-friendly and limits accessibility to businesses and the post office. Pedestrians approaching downtown from High Street and Sweden Street are also discouraged from moving directly to inner Sweden Street due to the wide and undefined intersection at Sweden Street and Hatch Drive and the multiple lanes, slip lane, and lack of visual connection at High Street.

8.5 Downtown Building Frontage

Figure 8.5 is an analysis of downtown street to building frontage. Downtown has 9,120 +/- linear feet of street frontage. Nineteen percent of the street frontage has buildings addressing the street. Nine percent of the 19% have buildings directly addressing the street in a traditional downtown manner. In a traditional Maine downtown, 50% to 90% of the buildings directly address the street creating the sense of a downtown versus the sense of a strip shopping mall. The current urban design of Caribou's downtown is more suburban than historic downtown due to the extensive lengths of road frontages with no buildings defining the edges. In addition, Lydon Square is 70's era pedestrian mall surrounded by parking. The pedestrian mall (not the most logical or user-friendly design for a northern Maine climate) used to be the Sweden Street alignment connecting Sweden Street to High Street.

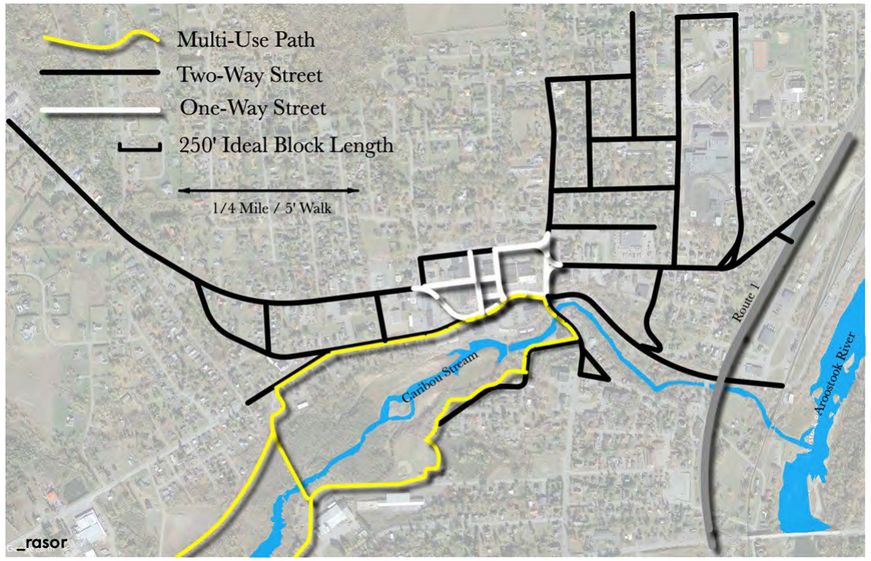


Figure 8.4 Existing Connectivity

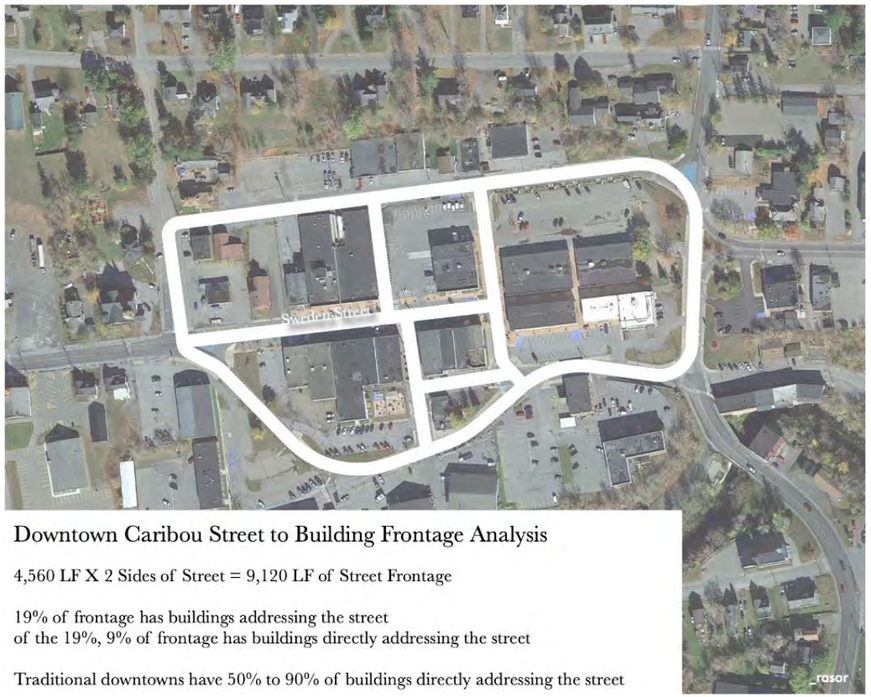


Figure 8.5 Street to Building Frontage Analysis

8.6 Downtown Topography

As illustrated in the cross sections in Figure 8.6, downtown from Herschel Street to the Caribou Mill Pond and Caribou Stream is located on the side slope of the stream valley. This grade is most evident on Main Street as it rises from Water Street north to High Street and Herschel Street. In effect, Herschel, Sweden, and Hatch Streets are stepping down the terrain. The retaining wall running along Herschel Street at Lyndon Square is evidence of this slope and the awkward way it is currently addressed regarding urban form and downtown placemaking.

The overall topography provides some challenges for pedestrians, redevelopment, winter conditions, and the flow of the stormwater from entire downtown impervious surface areas south to the Caribou Stream. Improved bike / pedestrian and vehicle connectivity east to west will help make the topography easier to negotiate and in turn make the downtown more user-friendly and accessible. The proposed green spaces, esplanades, and urban canopy will greatly reduce stormwater runoff from downtown to the Caribou Mill Pond (which has seen eutrophication), improving water quality and treating stormwater in decentralized green infrastructure systems. These green systems are a unique opportunity to address mobility, aesthetics, heat island effect, ecological diversity, and stormwater quality in an integrated manner.

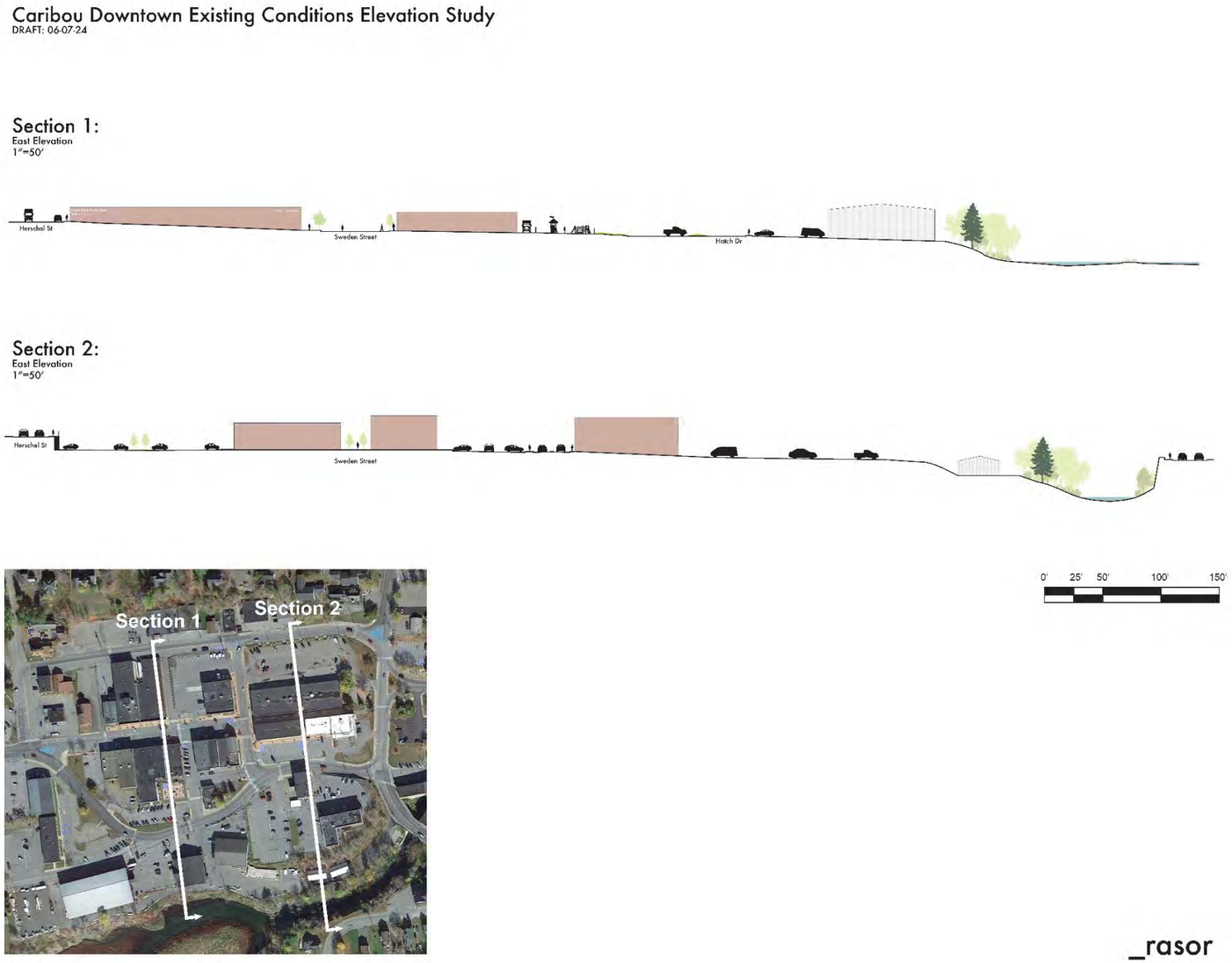


Figure 8.6 Downtown Topography

9.0 RECOMMENDATIONS, ALTERNATIVES ANALYSIS, AND COSTS

The following sections summarize the planning study recommendations, the alternatives analysis as it relates to specific recommendations, and the planning level cost estimates for the recommendations. In general, the recommendations have two major components: active transportation improvements and downtown reconfigurations. Sections 9.1 through 9.8 of this report address active transportation improvements as shown in the Active Transportation Plan in Figure 9.1(a). Active transportation improvements are detailed in existing and proposed section views in subsequent sections of this report. The Section View Key is shown in Figure 9.1(b). Downtown reconfigurations are addressed in Sections 9.9 through 9.11, later in this report.

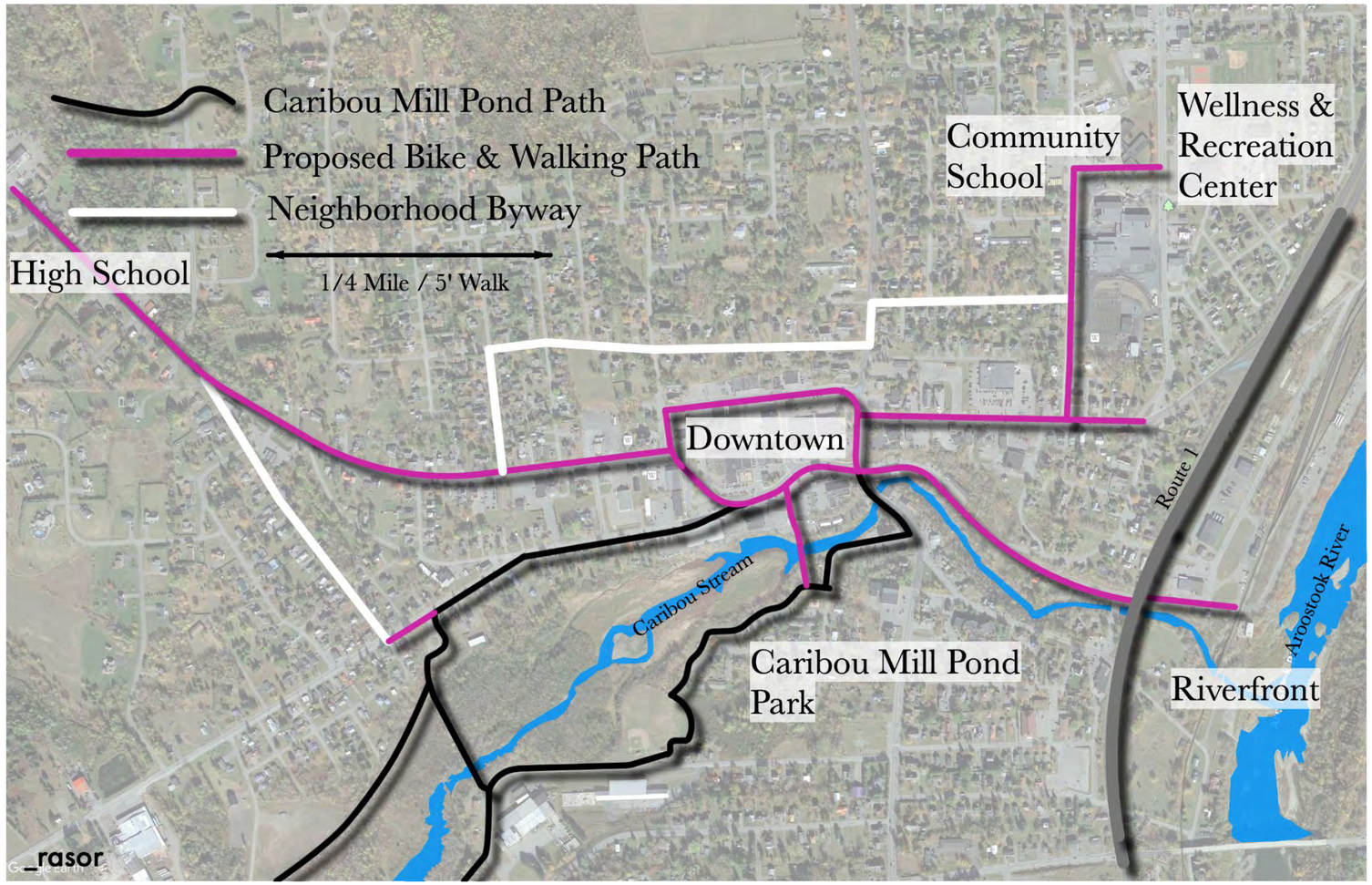


Figure 9.1(a) Active Transportation Plan

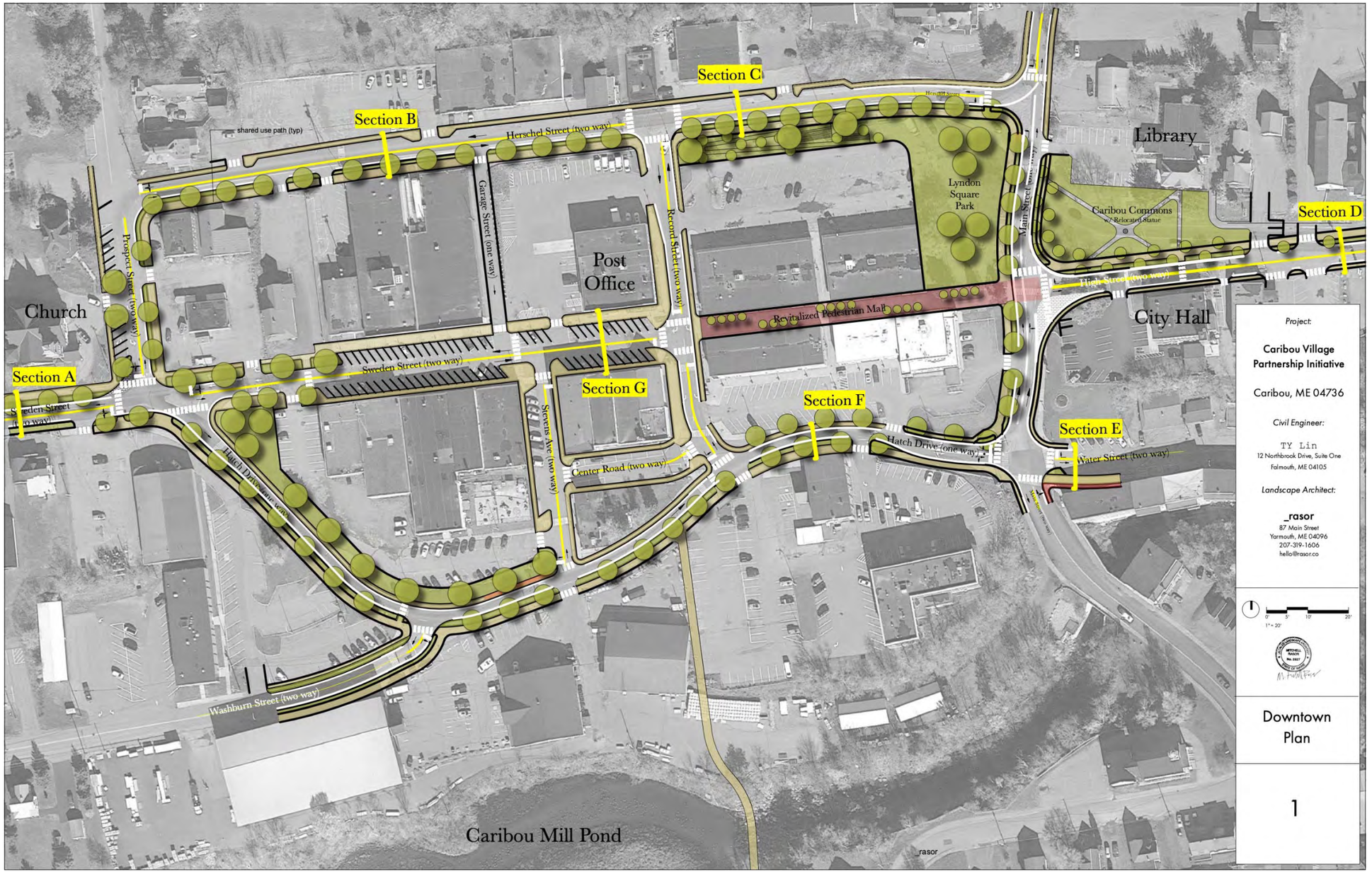


Figure 9.1(b) Section View Key

9.1 Sweden Street (Outer)

Roadway Typical Section

Proposed Concept: Reduced Mainline and Shoulder Widths

The existing typical section of Sweden Street between Prospect Street and the High School is generally comprised of two 12-foot travel lanes with 8-foot shoulders on both sides. Shoulder widths vary somewhat, and on-street parallel parking is provided at the easterly extents between approximately Coolidge Avenue and Prospect Street. There are existing variable width bituminous sidewalks on both sides between Prospect Street and Spring Street, and on the west side only north of Raymond Drive. The existing typical section is shown in Figure 9.2.

The proposed concept is a narrowed typical section with 11-foot travel lanes and 8-foot on-street parking on the left side (facing west) as shown in Figure 9.3. The excessive existing width is repurposed to provide an on-alignment separated pedestrian and bicycle facility (see Pedestrian/Bicycle Facilities) between the High School and the downtown as depicted in plan view in Figure 9.1.

The cost estimate assumes a mill and fill treatment of the pavement section and drainage modifications necessary to accommodate changes to gutter lines associated with the proposed typical section.

Pros:

- Traffic calming
- Narrower roadway typical section provides space for multi-use path and esplanade
- Improved streetscape and aesthetics
- Provides a separated pedestrian and bicycle facility along a key route between existing City assets

Cons:

- Will likely result in some property impacts
- Relocation of on-street parking on the right side (facing west) in the vicinity of Prospect Street (anticipated to be moved to Prospect Street and left side of Sweden Street)
- Cost

Pedestrian/Bicycle Facilities

Proposed Concept: Multi-Use Path and Esplanade

The existing sidewalk condition is variable and poor in some areas, and the excessive width of Sweden Street promotes vehicle speeds which are unsafe for pedestrians and bicyclists. The proposed concept repurposes the existing sidewalk on the right side (facing west) and the space gained from a reduction in both mainline and shoulder widths (see Roadway Typical Section) into a 5-foot vegetated esplanade and 10-foot separated multi-use path as shown in Figure 9.3.

Signalization (RRFB) of existing crosswalks at the Assembly of God Church, Caribou District Court, and at Spring Street should be considered. All pedestrian facilities shall be designed to meet ADA requirements.

Pros:

- Protected facility along an established pedestrian route
- Direct connection between the High School, residential neighborhoods, and downtown
- Improved bicycle and pedestrian safety

Cons:

- May result in some changes to functionality of parking and access for businesses and services on Sweden Street
- Potential increased winter maintenance effort
- Potential for environmental impacts (registered historical landmark at intersection of Sweden Street and Prospect Street)

Alternatives Analysis and Considerations:

Consideration was given to locating the multi-use path on the left side (facing west) of Sweden Street, as there is an existing sidewalk on that side of the street over the entire length of the segment. Locating the multi-use path on the right side (facing west) simplifies the connection to subsequent trail segments to the east on Prospect Street and Herschel Street, enhancing overall downtown connectivity. In addition, it allows for the existing sidewalk on the left side (facing west) to be maintained over the entire length of the segment, providing additional pedestrian capacity and access to neighborhoods to the south and west of Outer Sweden Street.

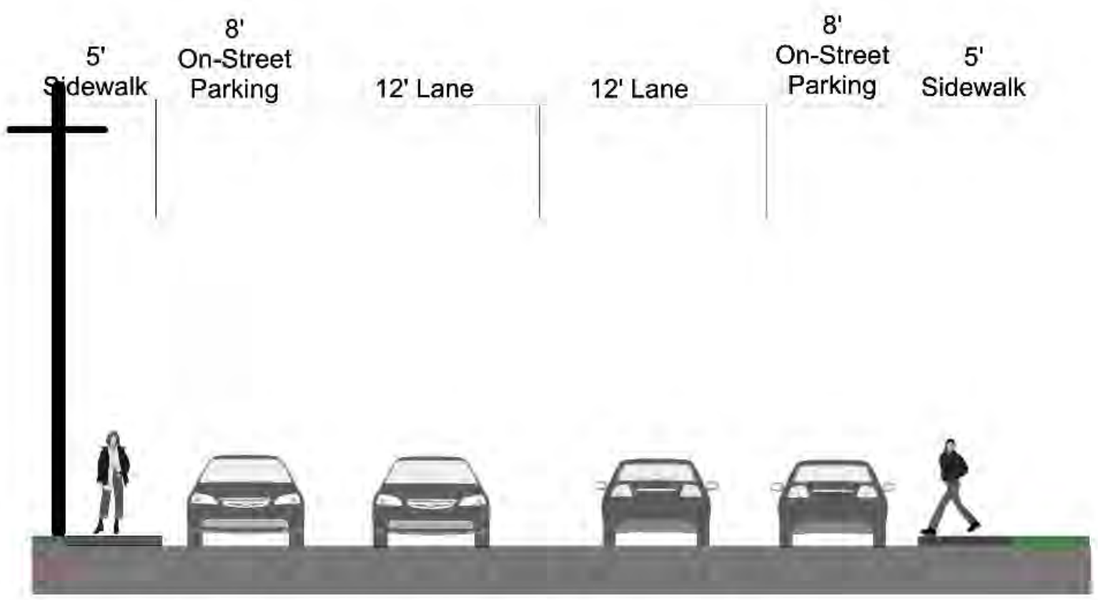
Access Management Improvements

To improve safety and mobility, changes to access should be considered as summarized below.

Reduce entrance width at the following locations:

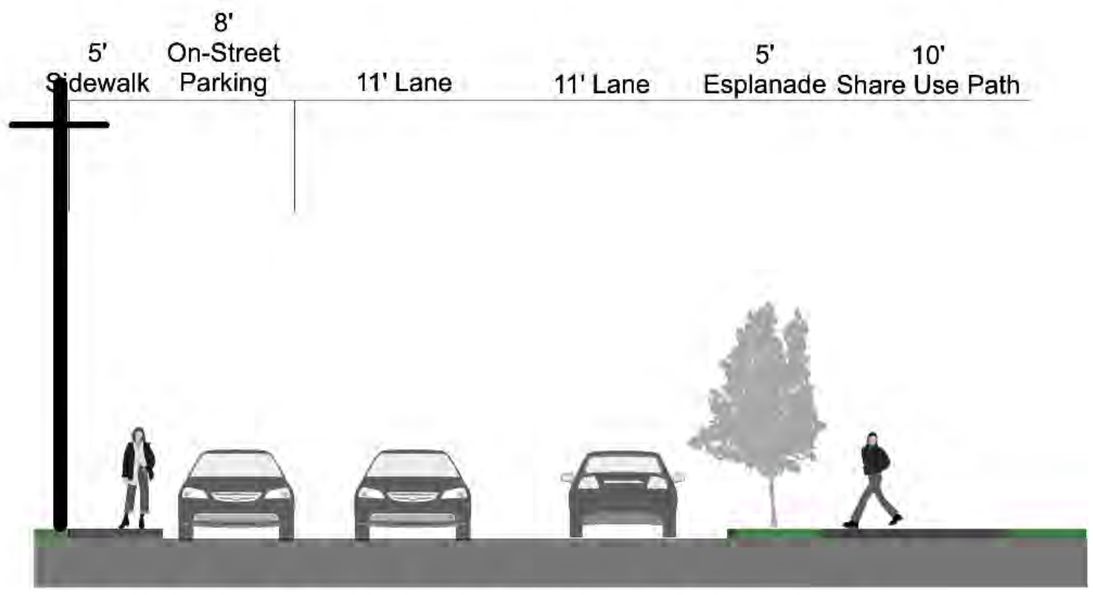
- Dollar General
- Ruska's Coffee
- DiOddo's Restaurant
- Sweden Street/Spring Street/Raymond Drive intersection
- Sweden Street Hot Spot
- County Sports
- Priority Tractor and Equipment

Proposed Concept Planning-Level Cost Estimate: $4,790,000



Section A: Outer Sweden Street - Existing (looking west)

Figure 9.2 Sweden Street Existing Conditions



Section A: Outer Sweden Street - Proposed (looking west)

Figure 9.3 Sweden Street Proposed Section

9.2 Herschel Street

Roadway Typical Section

Proposed Concept: Reduced Mainline and Shoulder Widths

The existing typical section of Herschel Street varies, and presently the street has two distinct segments. Between Main Street and Record Street, Herschel Street is one-way westbound with approximately 12.5-foot travel lanes, 3-foot shoulders, and sidewalk on both sides as shown in Figure 9.4. Between Record Street and Prospect Street, Herschel Street is two-way with 12-foot travel lanes, 8-foot on-street parking on the left side (facing west) with sidewalk, and variable width shoulder on the right side, as shown in Figure 9.5.

The proposed concept converts the one-way segment to two-way, making Herschel Street two-way traffic over its entire length (discussed further in Section 9.9). The proposed concept is a narrowed typical section with 10-foot travel lanes and 8-foot on-street parking on the right side (facing west) with 5-foot sidewalk as shown in Figure 9.6. The excessive existing width is repurposed to provide an on-alignment separated pedestrian and bicycle facility (see Pedestrian/Bicycle Facilities) on the left side (facing west) between Prospect Street and Main Street as depicted in plan view in Figure 9.1.

Consideration will be given to travel lane widths during final design. Multi-use path segment may be narrowed to avoid Design Exception for lane width on Herschel Street.

The cost estimate assumes a mill and fill treatment of the pavement section and drainage modifications necessary to accommodate changes to gutter lines associated with the proposed typical section.

Pros:

- Narrower roadway typical section provides space for multi-use path and esplanade while promoting traffic calming
- Improved streetscape and aesthetics
- Provides separated bicycle and pedestrian facility through downtown area

Cons:

- Will result in changes to parking and access for businesses located on the south side of Herschel Street
- Snow removal and other winter maintenance considerations

Pedestrian/Bicycle Facilities

Proposed Concept: Multi-Use Path and Esplanade

The excessive width of Herschel Street promotes vehicle speeds which are unsafe for pedestrians and bicyclists. The proposed concept repurposes the existing sidewalk on the left side (facing west) and the space gained from a reduction in both mainline and shoulder widths (see Roadway Typical Section) into a 5-foot vegetated esplanade and 10-foot separated multi-use path as shown in Figure 9.6.

The multi-use path includes access to ADA integrated ramp to Amphitheater Park as shown in Figure 9.6. All pedestrian facilities shall be designed to meet ADA requirements. Proposed crosswalks are shown in Figures presented in Section 9.9.

Pros:

- Provides a separated bicycle and pedestrian facility through the Downtown, accessible from points west (Outer Sweden Street)
- Direct access to and integrated with other improvements recommended for Lyndon Square Park

Cons:

- May result in some property impacts
- Will require access considerations for businesses located on the south side of Herschel Street

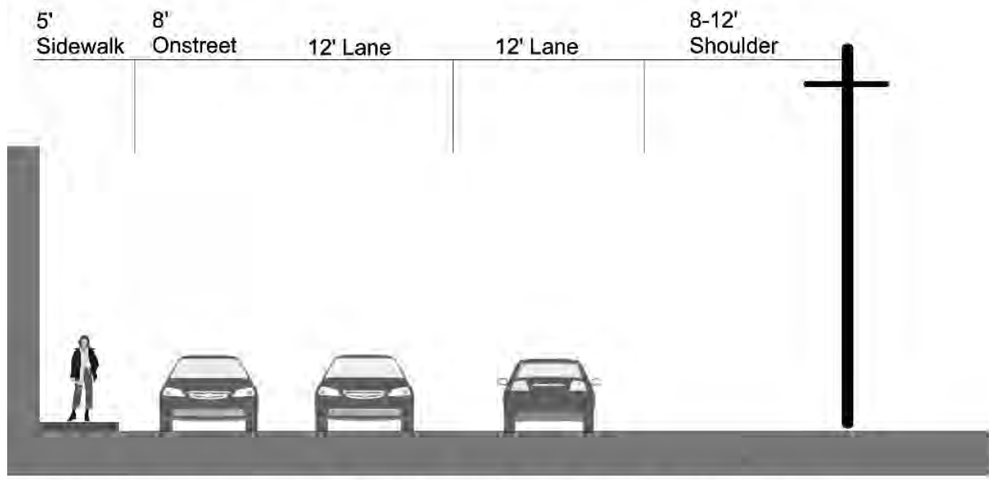
Access Management Improvements

To improve safety and mobility, changes to access should be considered as summarized below.

Reduce entrance width at the following locations:

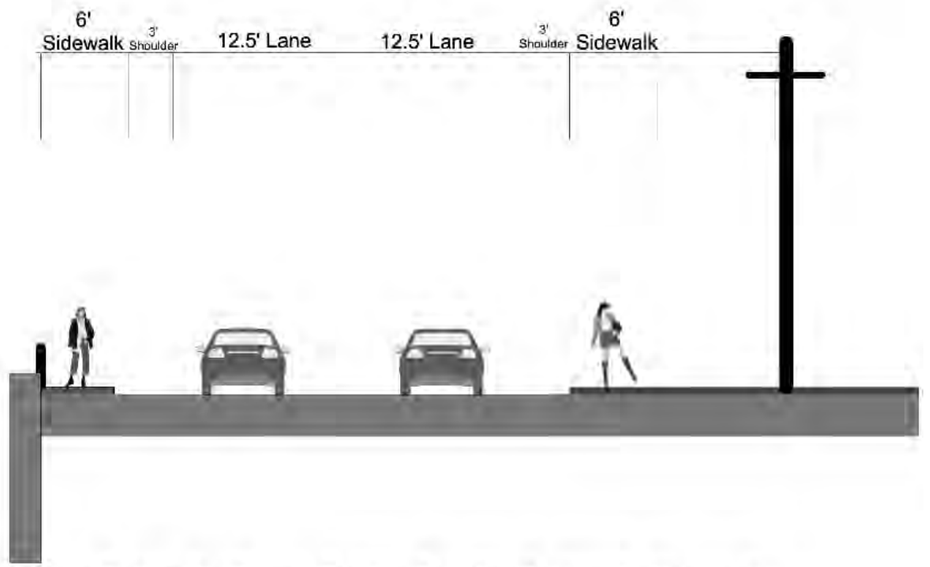
- Caribou Ecumenical Food Pantry
- County Optical
- Godin's Service, Inc.
- Paved parked area immediately west of Godin's Service, Inc.

Proposed Concept Planning-Level Cost Estimate: $1,430,000



Section B: Herschel Street - Existing Two Way Section (looking west)

Figure 9.4 Herschel Street Existing Conditions (Two-Way Segment)



Section C: Herschel Street - Existing One Way Section (looking west)

Figure 9.5 Herschel Street Existing Conditions (One-Way Segment)

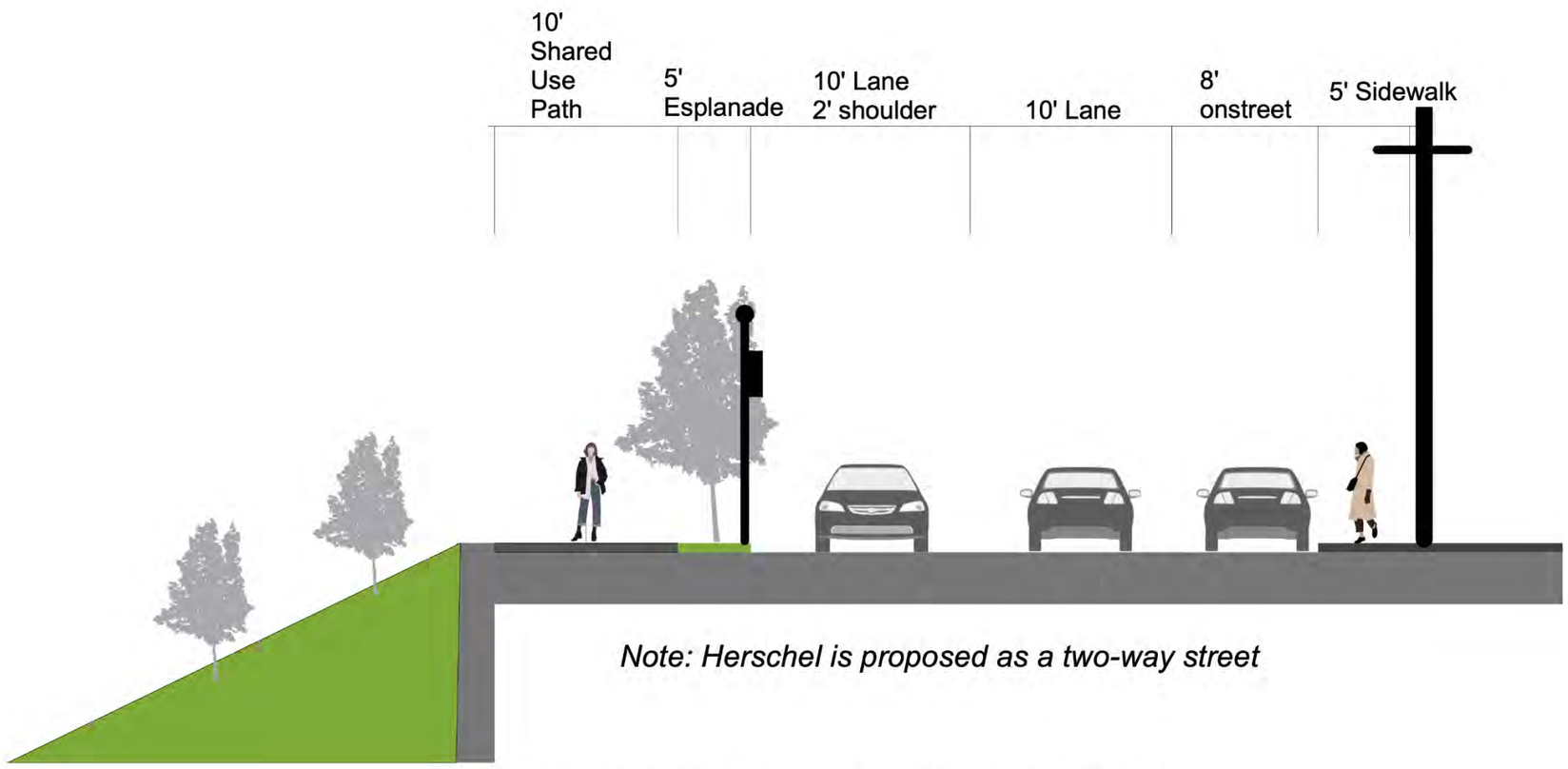


Figure 9.6 Herschel Street Proposed Section

9.3 Hatch Drive

Roadway Typical Section

Proposed Concept: Single Lane with Reduced Mainline and Shoulder Widths

Hatch Drive is one-way eastbound over its entire length from the intersection of Prospect Street and Sweden Street to the intersection of Main Street and Water Street. The existing typical section of Hatch Drive is generally comprised of two 12-foot travel lanes with 4-foot shoulders on both sides. Sidewalk materials and conditions vary, and west of Stevens Street the sidewalk is discontinuous. East of Stevens Street there are sidewalks on both sides. The existing typical section is shown in Figure 9.7.

The proposed concept is a revised typical section with a single 12-foot travel lane and 2-foot shoulders as shown in Figure 9.8. The single travel lane generally occupies the location of the existing northerly travel lane. The space occupied by the existing southerly travel lane and shoulder is repurposed to provide an on-alignment separated pedestrian and bicycle facility (see Pedestrian/Bicycle Facilities). The proposed concept is depicted in plan view in Figure 9.1 and shown in section view in Figure 9.8.

Modifications to the intersections with Sweden Street and Main Street are proposed, as discussed in Section 9.9. There are no significant access management changes proposed in this section. The cost estimate assumes a mill and fill treatment of the pavement section and drainage modifications necessary to accommodate changes to gutter lines associated with the proposed typical section.

Pros:

- Traffic calming
- Narrower roadway typical section provides shorter and safer pedestrian crossings
- Improved safety and aesthetics within the downtown core

Cons:

- Trees and esplanade may present winter maintenance challenges
- Narrower template reduces space available for emergency vehicles

Pedestrian/Bicycle Facilities

Proposed Concept: Multi-Use Path and Esplanade

The proposed concept repurposes the space occupied by the existing southerly travel lane and shoulder into a 6-foot vegetated esplanade and variable width (typically 8 to 10-feet) separated multi-use path as shown in Figure 9.8.

RRFB signalization of pedestrian crossings, particularly at Washburn Street and Stevens Street or Record Street, should be considered. All pedestrian facilities shall be designed to meet ADA requirements. Proposed crosswalks are shown in Figures presented in Section 9.9.

Pros:

- Repurposed width provides a protected facility through downtown
- Provides bicycle and pedestrian access from Sweden Street and points west to Main Street
- Increased connectivity between residential neighborhoods, schools, and downtown

Cons:

- Potential for some property impacts
- Width of multi-use trail may vary due to potential utility conflicts
- Multi-use trail and esplanade may increase snow removal efforts

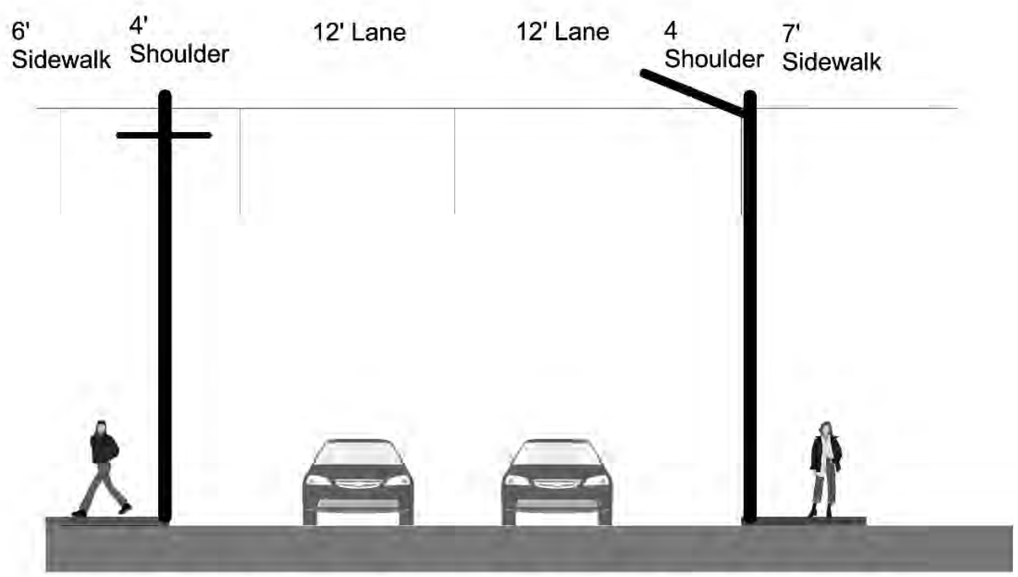
Alternatives Analysis and Considerations:

Consideration was given to realignment of the western portion of Hatch Drive between Prospect Street and Washburn Street to create traditional 4-way and T-intersection geometries at those locations, respectively. Although the space occupied by the current alignment could be converted to multi-use trail and greenspace, the property impacts associated with the roadway realignment were considered prohibitive at this time. This potential realignment should be considered in the future as part of long-term land use planning efforts.

Proposed Concept Planning-Level Cost Estimate: $1,060,000

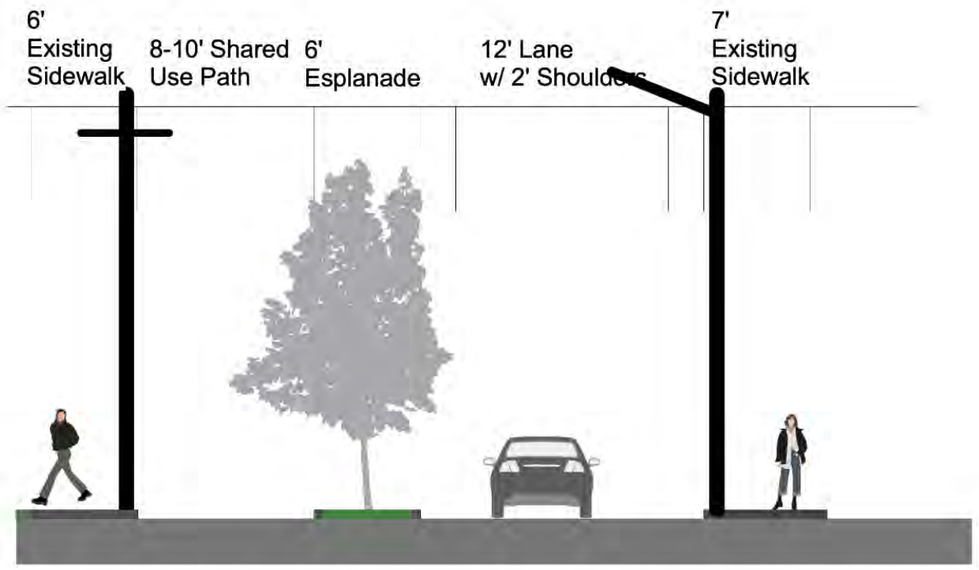
Opportunity for Demonstration Project:

The planning-level cost estimate above assumes a mill and fill pavement treatment over the entire length of Hatch Drive and includes considerations for alterations to gutter lines and existing drainage structures in order to construct the proposed typical section. As noted in Figure 9.8, the existing drainage, sidewalks, and curbing could be maintained and the existing travel way could be retrofitted with a new curbed esplanade. This approach presents an opportunity for a low-cost demonstration project to implement the single lane configuration and provide a separated bicycle and pedestrian facility over the short term. To accelerate implementation and reduce cost of a demonstration project, the separations could be accomplished with a combination of restriping and removable bollards.



Section F: Hatch Street - Existing Typical Section (looking west)

Figure 9.7 Hatch Drive Existing Conditions



Section F: Hatch Street - Proposed Typical Section (looking west)

Note: Maintain existing drainage, sidewalks, and curbing, and retofit travel way with new curbed esplanade to create buffered shared use path

Figure 9.8 Hatch Drive Proposed Section

9.4 High Street

Roadway Typical Section

Proposed Concept: Reduced Mainline and Shoulder Widths

The existing typical section of High Street between Main Street and Bennett Drive is generally comprised of two 12-foot travel lanes with 6-foot shoulders on both sides. Shoulder widths vary somewhat, and there are existing variable width bituminous sidewalks on both sides. The existing typical section is shown in Figure 9.9.

The proposed concept is a narrowed typical section with 11-foot travel lanes and 2-foot shoulders as shown in Figure 9.10. The excessive existing width is repurposed to provide an on-alignment separated pedestrian and bicycle facility (see Pedestrian/Bicycle Facilities) between Main Street and Bennett Drive as depicted in plan view in Figure 9.1.

The cost estimate assumes a mill and fill treatment of the pavement section and drainage modifications necessary to accommodate changes to gutter lines associated with the proposed typical section.

It is recommended that the western limits of High Street between approximately Irving Circle K and Main Street be realigned to the south. This is discussed in detail in Section 9.9.

Pros:

- Traffic calming
- Narrower roadway typical section provides space for multi-use path and esplanade
- Provides a separated facility for enhanced access to city services (City Hall, Library)
- Improved connectivity from downtown and points west to key city assets to the east (Community School, Wellness & Recreation Center)

Cons:

- May have some property impacts
- Will likely require coordination to relocate some overhead utilities
- Access to businesses on the north side of the street will require some modifications due to multi-use path and esplanade
- Multi-use path and esplanade may present winter maintenance challenges

Pedestrian/Bicycle Facilities

Proposed Concept: Multi-Use Path and Esplanade

The existing sidewalk condition is variable and poor in some areas, and the excessive width of High Street promotes vehicle speeds which are unsafe for pedestrians and bicyclists. The proposed concept repurposes the existing sidewalk on the right side (facing west) and the space gained from a reduction in both mainline and shoulder widths (see Roadway Typical Section) into a 5.5-foot vegetated esplanade and 10-foot separated multi-use path as shown in Figure 9.10.

The RRFB signalized pedestrian crossing at Glenn Street should be maintained. A RRFB signalized crossing between the Municipal Building and the Library should be considered (as shown in Figures presented in Section 9.9). All pedestrian facilities shall be designed to meet ADA requirements. This will include relocation of some utility poles for sidewalk reconstruction on the south side of High Street.

Pros:

- Protected facility along an established pedestrian route
- Direct connection between downtown, Municipal Building, Library, and points east
- Improved bicycle and pedestrian safety

Cons:

- May result in some changes to functionality of entrances to businesses and services on the north side of High Street
- Potential increased winter maintenance effort
- Results in less space for emergency vehicles

For visualization purposes, a photograph of the existing conditions and an architectural rendering of the multi-use trail and esplanade are provided in Figure 9.11(a) and Figure 9.11(b), respectively.

Proposed Concept: Lyndon Square Pedestrian Mall

The existing pedestrian walkway between buildings which comprise the Downtown Mall is uninviting and lacks a visual connection between High Street and the downtown core along Sweden Street. The proposed pedestrian mall aligns directly with the proposed crossing on Main Street and provides a clear and attractive connection between the proposed Caribou Commons and the downtown core along Sweden Street. A comparison of the existing pedestrian mall and the proposed pedestrian mall are shown in Figures 9.12(a) and 9.12(b), respectively.

Alternatives Analysis and Considerations:

Consideration was given to locating the multi-use path on the left side (facing west) of High Street, as there is existing sidewalk on that side of the street over the entire length of the segment as well. Locating the multi-use path on the right side (facing west) simplifies the connection to the subsequent trail segment to the north on Glenn Street and Herschel Street, enhancing overall downtown connectivity. In addition, locating the multi-use trail on the left side (facing west) was considered unfavorable due to the potential for adjacent emergency vehicle traffic from the Police Department (located on High Street) and Ambulance and Fire Department (located on Goldfrank Drive).

Consideration was given to reconnecting High Street to Sweden Street along the alignment discussed herein (see Section 9.9), through the area currently occupied by the pedestrian mall. While aggressive and certainly carrying significant property impacts, this concept received positive feedback at the 2nd Public Meeting. Long-term planning efforts should consider this option.

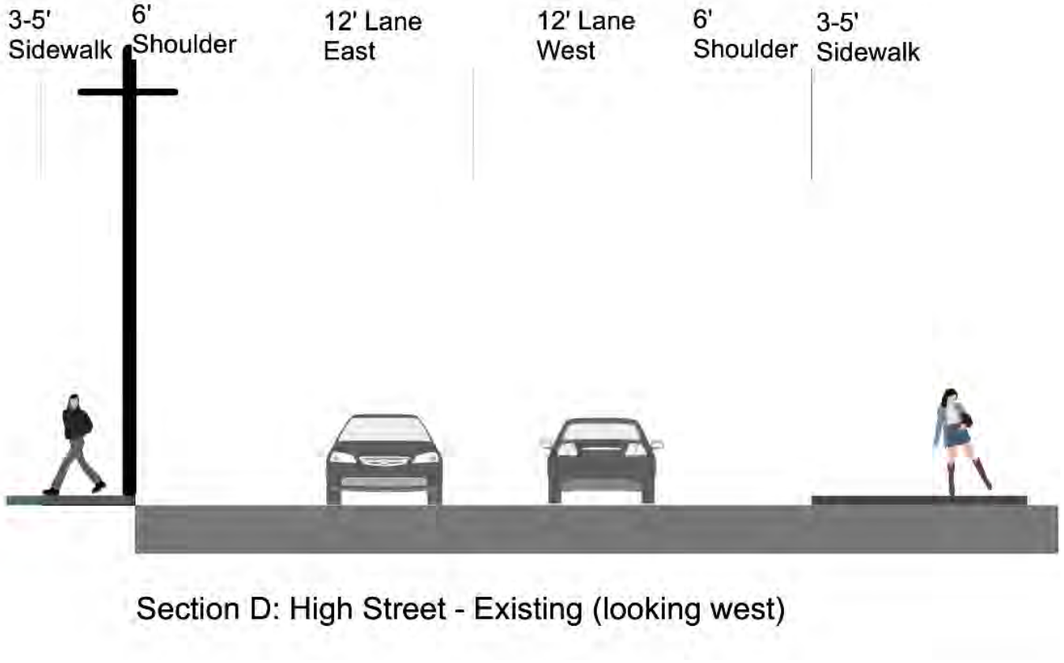
Access Management Improvements

To improve safety and mobility, changes to access should be considered as summarized below.

Reduce entrance width at the following locations:

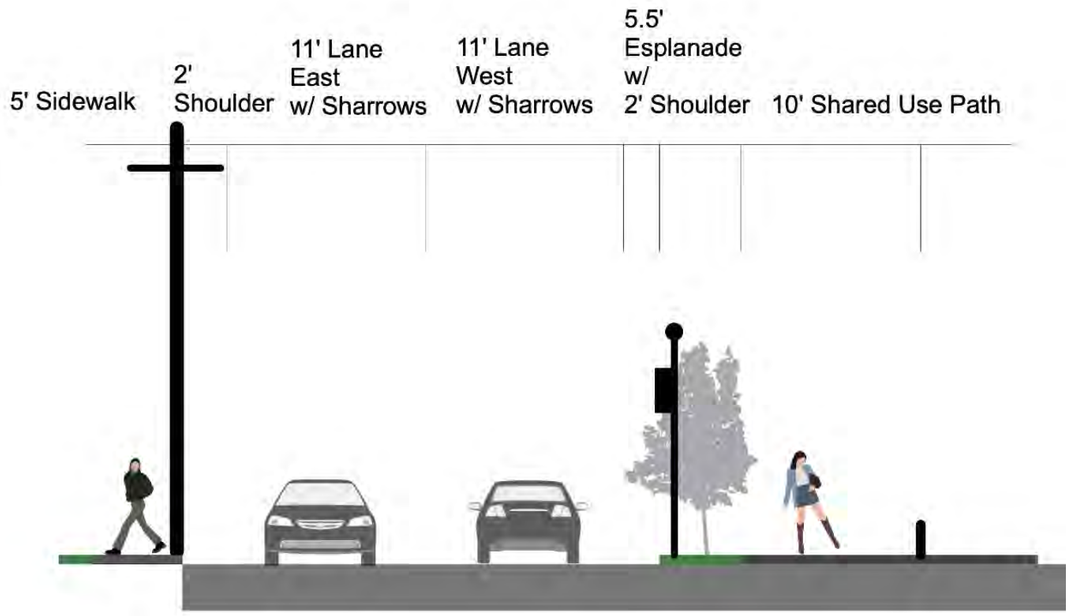
- Aroostook Savings & Loan
- Irving Circle K
- Hannaford
- Businesses on south side of High Street immediately east of Goldfrank Drive

Proposed Concept Planning-Level Cost Estimate: $1,280,000



Section D: High Street - Existing (looking west)

Figure 9.9 High Street Existing Conditions



Section D: High Street - Proposed

Figure 9.10 High Street Proposed Section

Figure 9.11(a) Photo of High Street Existing Conditions

Figure 9.11(b) Rendering of High Street Proposed Section

Figure 9.12(a) Photo of Pedestrian Mall Existing Conditions

Figure 9.12(b) Rendering of Proposed Pedestrian Mall

9.5 Glenn Street

Roadway Typical Section

Proposed Concept: Reduced Mainline and Shoulder Widths

The existing typical section of Glenn Street between High Street and Sperry Drive is generally comprised of two 12-foot travel lanes. Shoulder widths vary and are approximately 2 foot on the right side (facing north) and 5 foot on the left side. There is an existing sidewalk on the right side (facing north). The existing typical section is shown in Figure 9.13.

The proposed concept is a narrowed typical section with 10-foot travel lanes and 1-foot shoulders as shown in Figure 9.14. The excessive existing width is repurposed to provide an on-alignment separated pedestrian and bicycle facility on Glenn Street (see Pedestrian/Bicycle Facilities) between High Street and a new proposed multi-use trail segment that traverses the Community School property and connects Glenn Street to Bennett Drive, as depicted in plan view in Figure 9.1.

The cost estimate assumes a mill and fill treatment of the pavement section and drainage modifications necessary to accommodate changes to gutter lines associated with the proposed typical section. There are no significant access management changes recommended on Glenn Street.

Pros:

- Traffic calming
- Narrower roadway typical section provides space for multi-use path and esplanade
- Provides a separated facility for enhanced connectivity to Community School from Park Street, High Street, and other points west and south

Cons:

- May have some property impacts
- Will likely require coordination to relocate some overhead utilities
- Increased winter maintenance associated with multi-use path and esplanade

Pedestrian/Bicycle Facilities

Proposed Concept: Multi-Use Path and Esplanade

The proposed concept repurposes the existing sidewalk on the right side (facing north) and the space gained from a reduction in both mainline and shoulder widths (see Roadway Typical Section) into a 5-foot vegetated esplanade and 10-foot separated multi-use path as shown in Figure 9.14.

Pedestrian crossings at Park Street and immediately south of Sperry Drive should be maintained. Signalization (RRFB) should be considered at the crossing at Park Street. All pedestrian facilities shall be designed to meet ADA requirements. This will include relocation of some utility poles for sidewalk reconstruction on the east side of Glenn Street.

Pros:

- Protected facility along a key pedestrian route
- Direct connection between High Street, Park Street, and points west and south to Community School
- Improved bicycle and pedestrian safety

Cons:

- Potential increased winter maintenance effort
- Results in less space for school buses

Proposed Concept Planning-Level Cost Estimate: $1,340,000

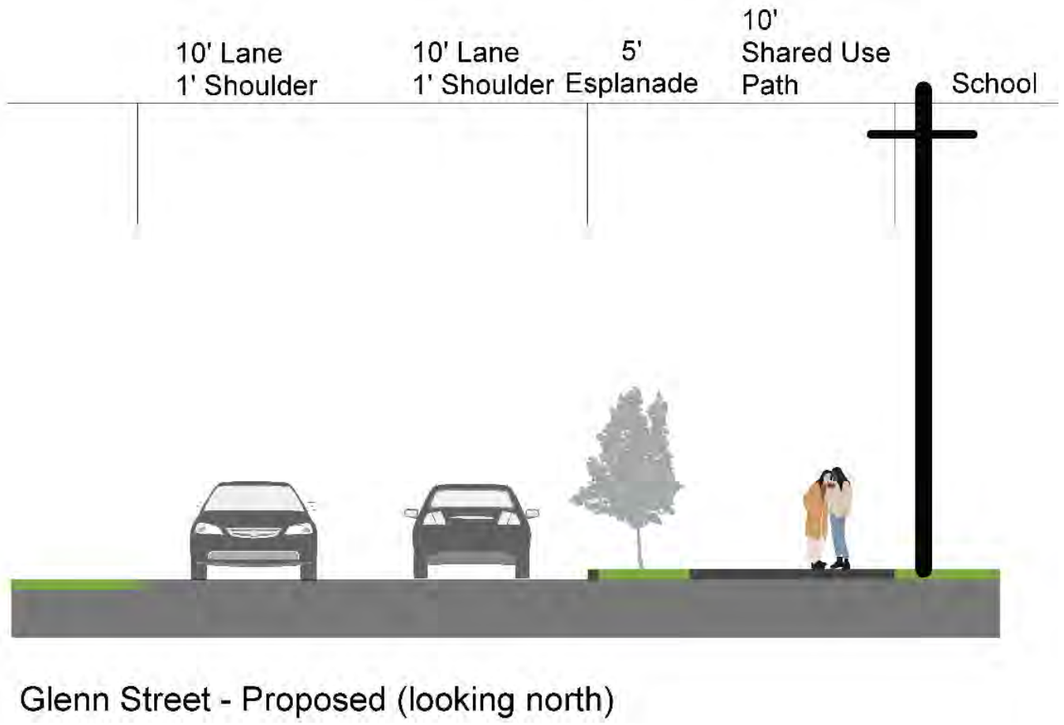


Figure 9.13 Glenn Street Existing Conditions

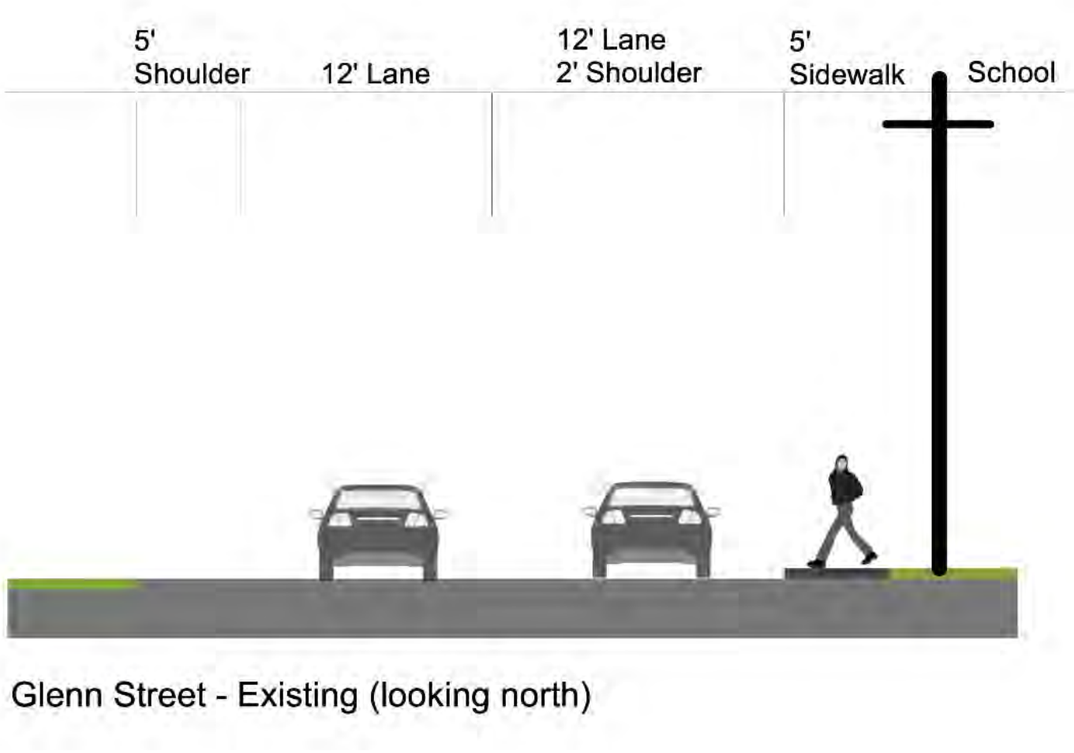


Figure 9.14 Glenn Street Proposed Section

9.6 Water Street

Roadway Typical Section

Proposed Concept: Reduced Mainline and Shoulder Widths

The existing typical section of Water Street, immediately east of Main Street is generally comprised of two 12-foot travel lanes with 8-foot shoulders. On-street parallel parking is provided on the left side (facing west towards downtown). There are sidewalks on both sides. On the left side (facing west towards downtown) there is an existing lawn area between the on-street parking and the sidewalk. The existing typical section of Water Street near the intersection with Main Street is shown in Figure 9.15.

The proposed concept is a narrowed typical section with 11-foot travel lanes and a 2-foot shoulder on the right side (facing west towards downtown) as shown in Figure 9.16. The excessive existing width is repurposed into a 6-foot vegetated esplanade which separates with sidewalk from the travelway on the right side (facing west towards downtown). On the left side (facing west towards downtown) the width gained from the reduction in travel lane width and the existing lawn area are repurposed into a 10-foot multi-use path adjacent to the sidewalk. This will require a short section of retaining wall to support vertical grade changes between the roadway and the proposed multi-use path in the area immediately east of Main Street. The proposed typical section immediately east of Main Street is shown in Figure 9.16.

The existing typical section varies to the east and is generally comprised of 12-foot travel lanes with variable width shoulders (approximately 2-foot) and bituminous sidewalk on the south side, as shown in Figure 9.17. The proposed typical section utilizes reduced travel lane widths (10-foot) and reduced shoulder widths (approximately 1-foot). The excessive width and the existing sidewalk on the south side are repurposed into a variable width multi-use path (generally 10-foot) and variable width vegetated esplanade (generally 5-foot), as shown in Figure 9.18.

The cost estimate assumes a mill and fill treatment of the pavement section and drainage modifications necessary to accommodate changes to gutter lines associated with the proposed typical section.

Pros:

- Traffic calming
- Reduced width of roadway typical section provides space for multi-use path and esplanade
- Provides a separated facility for enhanced bicycle and pedestrian connectivity to the waterfront

Cons:

- May have some property impacts
- Will likely require coordination to relocate some overhead utilities
- Increased winter maintenance associated with multi-use path and esplanade

Pedestrian/Bicycle Facilities

Proposed Concept: Multi-Use Path and Esplanade

In the area immediately east of Main Street, the excessive existing width is repurposed into a 6-foot vegetated esplanade which separates with sidewalk from the travelway on the right side (facing west towards downtown). On the left side (facing west towards downtown) the width gained from the reduction in travel lane width and the existing lawn area are repurposed into a 10-foot multi-use path adjacent to the sidewalk, as shown in Figure 9.16.

From approximately Caribou Trading Post and heading east towards the waterfront, the excessive width and the existing sidewalk on the south side are repurposed into a variable width multi-use path (generally 10-foot) and variable width vegetated esplanade (generally 5-foot), as shown in Figure 9.18. Multi-use path and esplanade widths are anticipated to vary due to variations in the existing typical section, steep existing grades along the north side of Water Street, and constrictions present at the U.S. Route 1 overpass. As noted in Figure 9.18, the multi-use path may need to shift to the north side of Water Street at the U.S. Route 1 underpass.

All pedestrian facilities shall be designed to meet ADA requirements. This will include relocation of some utility poles.

Pros:

- Protected facility along access route to waterfront
- Direct connection between Downtown, Main Street, and points west to waterfront area
- Improved bicycle and pedestrian safety

Cons:

- Potential increased winter maintenance effort
- Reduced shoulder widths may inhibit ATV access

Access Management Improvements

To improve safety and mobility, changes to access should be considered as summarized below.

Reduced entrance width at the following locations:

- Creative Carpentry of Maine
- Caribou Trading Post
- Paved parking area immediately northwest of Caribou Trading Post
- Hogan Tire

Proposed Concept Planning-Level Cost Estimate: $3,510,000

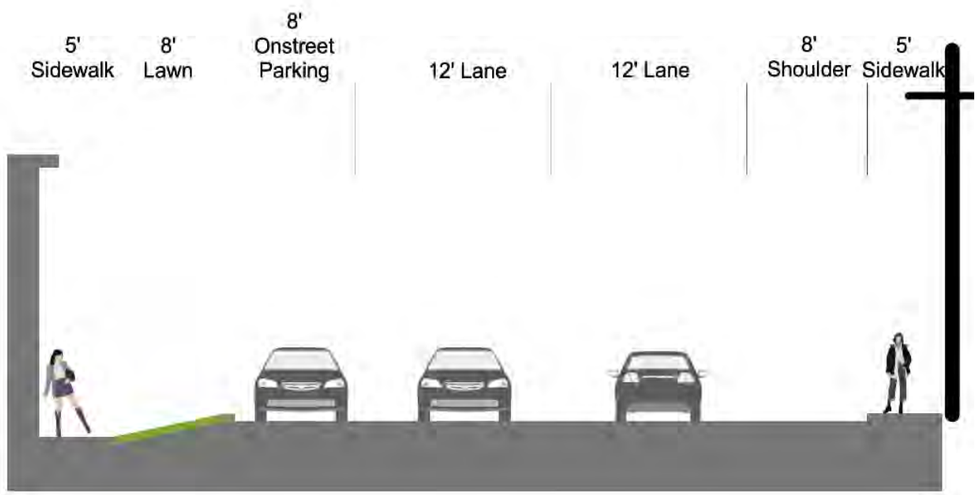


Figure 9.15 Water Street Existing Conditions

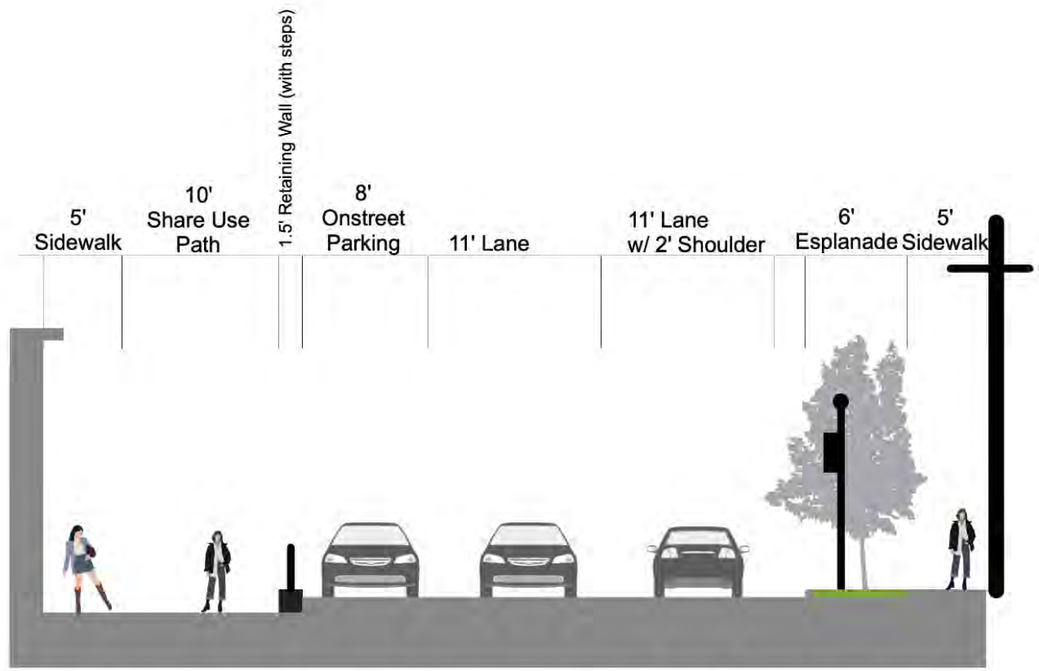
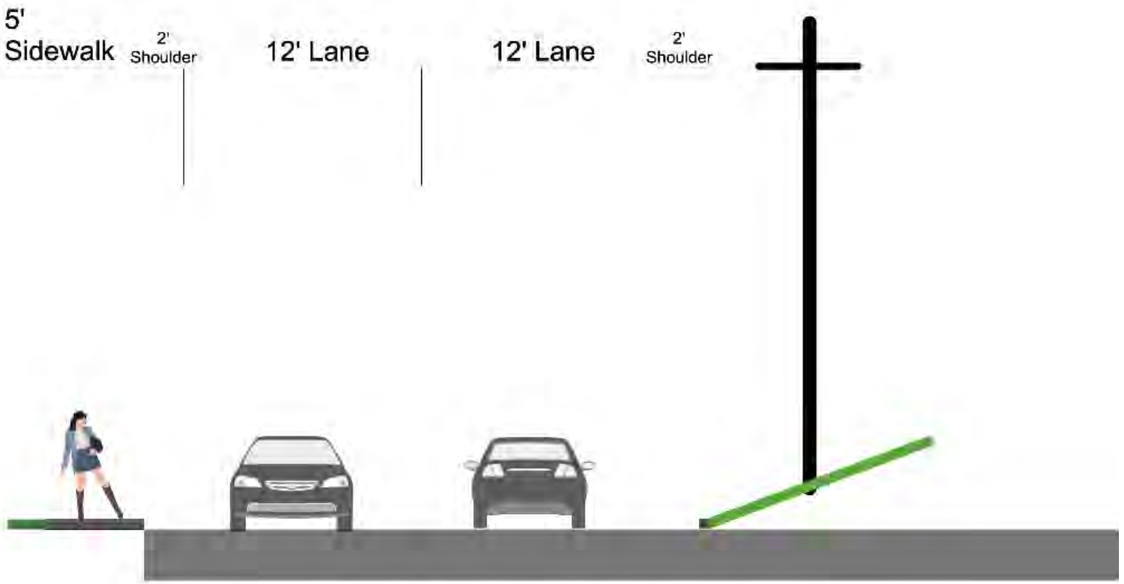
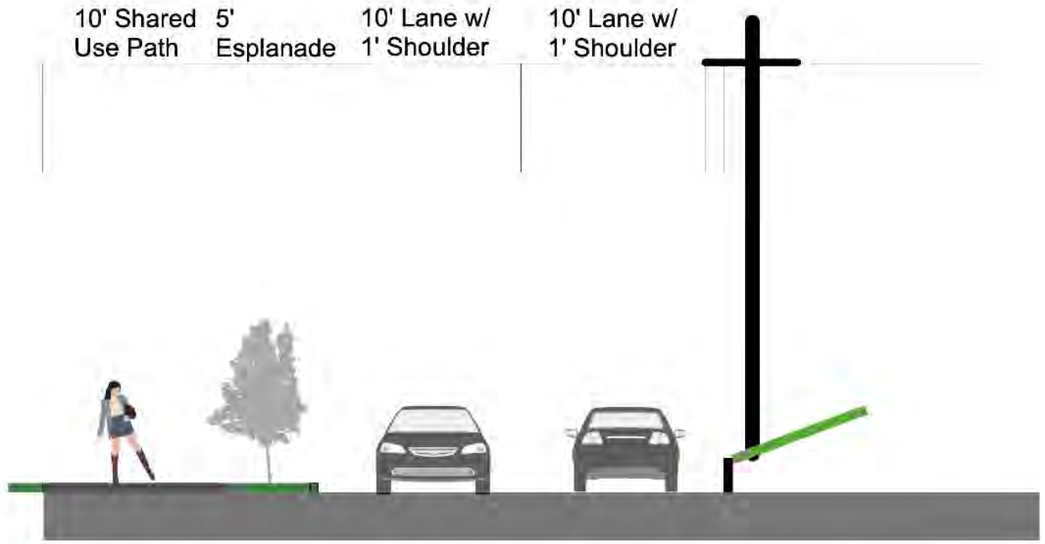


Figure 9.16 Water Street Proposed Section



Outer Water Street - Existing (looking downtown)

Figure 9.17 Outer Water Street Existing Conditions



NOTE: Shared use path probably has to shift to other side of Water Street at Route 1 underpass

Water Street - Proposed (looking downtown)

Figure 9.18 Outer Water Street Proposed Section

9.7 Off-Alignment Multi-Use Path Segments

Caribou Mill Pond Connector

Proposed Concept: New Multi-Use Path

A new off-alignment multi-use path segment is proposed between Hatch Drive and the existing Caribou Mill Pond walking loop, as shown in Figure 9.1. It is understood that the City of Caribou has plans to reconstruct the dam on the Caribou Stream. In general, the intent is for the new path segment cross the Caribou Stream along the crest of the new earthen dam.

The cost estimate assumes the multi-use path is 10-feet wide with up to 4-feet of green space on both sides. The cost estimate includes contingencies for additional items such as hand railings and signage.

Pros:

- Connects new path segment proposed on Hatch Drive to existing walking loop
- Direct link from Downtown to Caribou Mill Pond Park
- Scenic addition to existing path system

Cons:

- Some property impacts are likely between Hatch Drive and Caribou Stream
- Potential for environmental impacts
- Will require coordination during design and construction of new Caribou Stream dam

Proposed Concept Planning-Level Cost Estimate: $800,000

Community School Connector

Proposed Concept: New Multi-Use Path

A new off-alignment multi-use path segment is proposed between Glenn Street and Bennett Drive, across the Community School property as shown in Figure 9.1. When the Community School was constructed, the portion of Park Street between Glenn Street and Bennett Drive was eliminated. This proposed path segment reestablishes a critical pedestrian connection between Park Street and western neighborhoods to the Community School and the Wellness & Recreation Center.

A pedestrian hybrid beacon should be considered at the crossing on Bennett Drive, between the Community School and the Wellness & Recreation Center as noted at Public Meeting #1. Further design considerations should be developed during the preliminary engineering phase.

The cost estimate assumes the multi-use path is 10-feet wide with up to 4-feet of green space on both sides. The cost estimate includes contingencies for additional items such as fencing and signage.

Pros:

- Connects Park Street and western neighborhoods to the Community School and Wellness & Recreation Center
- Reestablishes pedestrian link between Glenn Street and Bennett Drive

Cons:

- Coordination with school district will be required to establish new fence openings and meet security requirements
- Potential for environmental impacts

Proposed Concept Planning-Level Cost Estimate: $300,000

9.8 Neighborhood Byways

A series of neighborhood byways is proposed to complement the proposed multi-use path segments and enhance active transportation between residential neighborhoods, the downtown, and existing city assets. Proposed byways are shown in white in Figure 9.1. Note that cost estimates for byways assume each segment will receive a pavement mill & fill treatment. This assumption was made to account for variability in existing pavement conditions and unknown specifics of municipal preservation paving cycles.

Spring Street Byway

Proposed Concept: Shared-Use Lane Markings (Sharrows)

Shared-use lane markings are proposed on Spring Street between Sweden Street and Washburn Street. The cost estimate assumes a mill & fill pavement treatment on Spring Street.

Coolidge Avenue Byway

Proposed Concept: Shared-Use Lane Markings (Sharrows)

Shared-use lane markings are proposed on Coolidge Avenue between Sweden Street and Collins Street. The cost estimate assumes a mill & fill pavement treatment on this segment of Coolidge Avenue.

Collins Street Byway

Proposed Concept: Shared-Use Lane Markings (Sharrows) and Sidewalk Reconstruction

Shared-use lane markings and sidewalk reconstruction are proposed on Collins Street between Coolidge Avenue and Main Street. The cost estimate assumes a mill & fill pavement treatment on this segment of Collins Street, sidewalk reconstruction on both sides of the street, and drainage system alterations.

Main Street Byway

Proposed Concept: Shared-Use Lane Markings (Sharrows)

Shared-use lane markings are proposed on Main Street between Collins Street and Park Street. Alternatively, separated bike lanes could be considered between Harvest Road and Herschel Street. The cost estimate assumes a mill & fill pavement treatment on this segment of Main Street.

Park Street Byway

Proposed Concept: Shared-Use Lane Markings (Sharrows) and Sidewalk Reconstruction

Shared-use lane markings and sidewalk reconstruction are proposed on Park Street between Main Street and Glenn Street. The cost estimate assumes a mill & fill pavement treatment on this segment of Park Street, sidewalk reconstruction on both sides of the street, and drainage system alterations.

Pros:

- Connects residential neighborhoods to proposed multi-use path segments
- Improved mobility between existing city assets

Cons:

- Sidewalk reconstruction will require some utility pole relocations
- Increased maintenance responsibility associated with pavement markings and wayfinding signage

Proposed Concept Planning-Level Cost Estimate: $3,620,000

9.9 Downtown Reconfigurations

Several reconfigurations of the downtown area are recommended. These include realignment of the westerly portion of High Street and reconfiguration of the intersection of High Street and Main Street, construction of a new park between City Hall and the Library, and revitalization of Lyndon Square Park and the existing pedestrian mall. Recommendations also include two-way conversion of several streets within the downtown core including Herschel Street, Record Street, and Sweden Street, as well as the easterly portion of Washburn Street immediately west of Hatch Drive. The intersection of Prospect Street, Sweden Street, and Hatch Drive is slightly realigned to support two-way traffic on Sweden Street and a single-lane configuration on Hatch Drive.

Traffic Analysis

In support of the proposed improvement alternative, a detailed traffic analysis was performed. To evaluate the traffic outcomes of changing some study area streets to two-way flow, traffic volumes were modified to account for changes in travel patterns. Travel pattern changes were quantified from Streetlight data on area origin and destination patterns. Additionally, according to MaineDOT guidance, existing traffic volumes were increased by an annual growth rate of 0.5%. Figure 9.19 presents the 2044 traffic volumes during the PM peak hour. Table 9.1 presents the results of a SimTraffic analysis. As noted, key study area intersections will operate with little delay. At the Main Street/Herschel Street intersection the delay noted is for the newly introduced left from Herschel Street to Main Street. This is a low volume movement and meets MaineDOT level of service standards.

Proposed downtown reconfigurations are summarized in Figure 9.20.

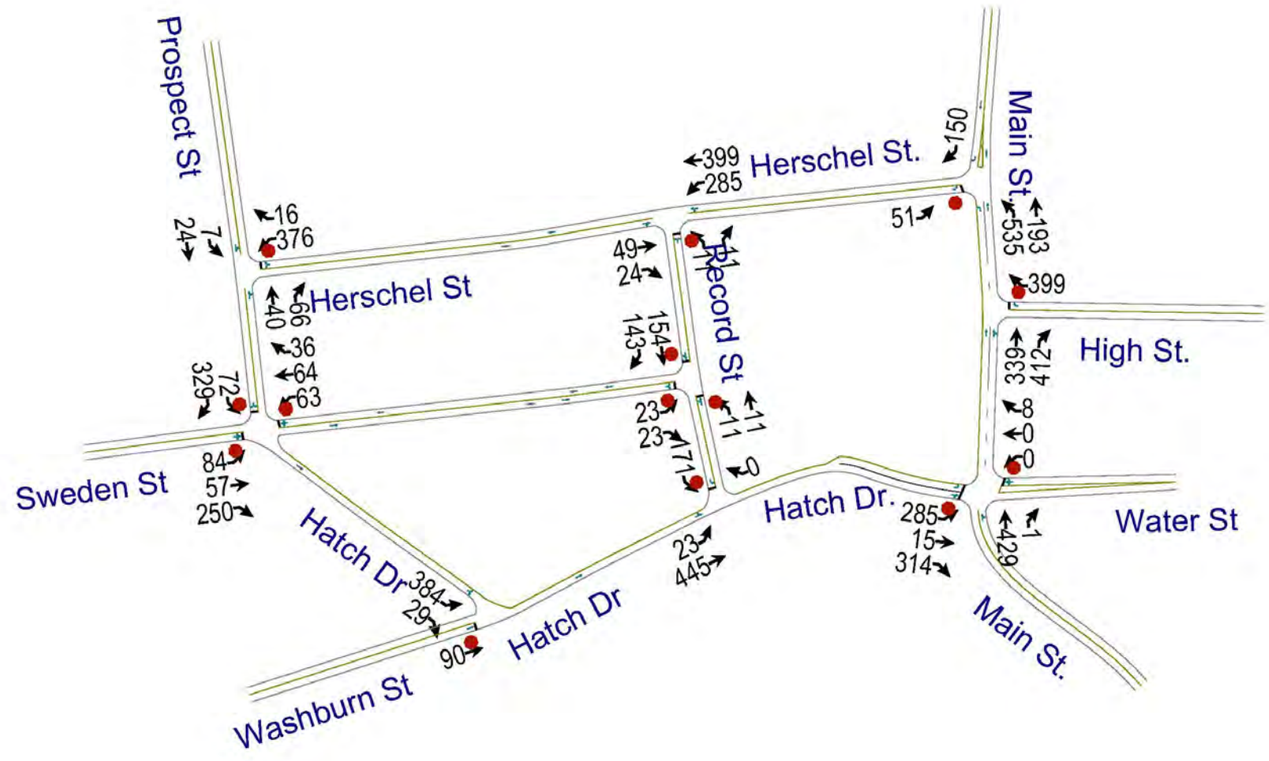


Figure 9.19 2044 PM Peak Hour Volumes (Downtown)

Table 9.1
2044 Level of Service Summary

	LOS	Delay Seconds/vehicle
Sweden St./Hatch Dr./Prospect St.	A	7.0
Main St./Herschel St.	C	34.6
Main St./High St.	A	9.4
Hatch Dr./Washburn St.	A	10.0
Main St./Hatch Dr./Water St.	A	8.5

Figure 9.20 Downtown Plan

High Street and Caribou Commons

Proposed Concept: Realign High Street and Construct New Park

The proposed concept realigns the western extents of High Street to generally follow the front face of the Municipal Building. This aligns High Street with the pedestrian mall to the west across Main Street, providing a visual connection to the downtown. The intersection of High Street and Main Street is reconfigured to support one-way traffic moving in two lanes northbound on Main Street. This configuration supports a two-way conversion of Main Street if desired by the city in the future. A new park (Caribou Commons) is proposed in the area occupied by the existing High Street alignment, immediately south of the library, as shown in Figure 9.21.

By realigning High Street with the historic Sweden Street alignment, a proposed 20,000 square foot park is created in front of the library called Caribou Commons. This is also an opportunity to move the caribou sculpture from Lyndon Square to a more central and visible location within Caribou Commons on axis with City Hall and the Library.
By creating Caribou Commons between City Hall and the Library as well as fronting directly on the High Street and Main Street Intersection, a defined civic campus for Caribou is created in the heart of the community that is intuitive, attractive, and inviting. This is a unique opportunity to address transportation, placemaking, and economic development in an integrated and efficient manner.
In creating Caribou Commons, approximately 20,000 square feet of impervious surface is converted to park, reducing stormwater impacts on the Caribou Stream and mitigating the heat island effect.

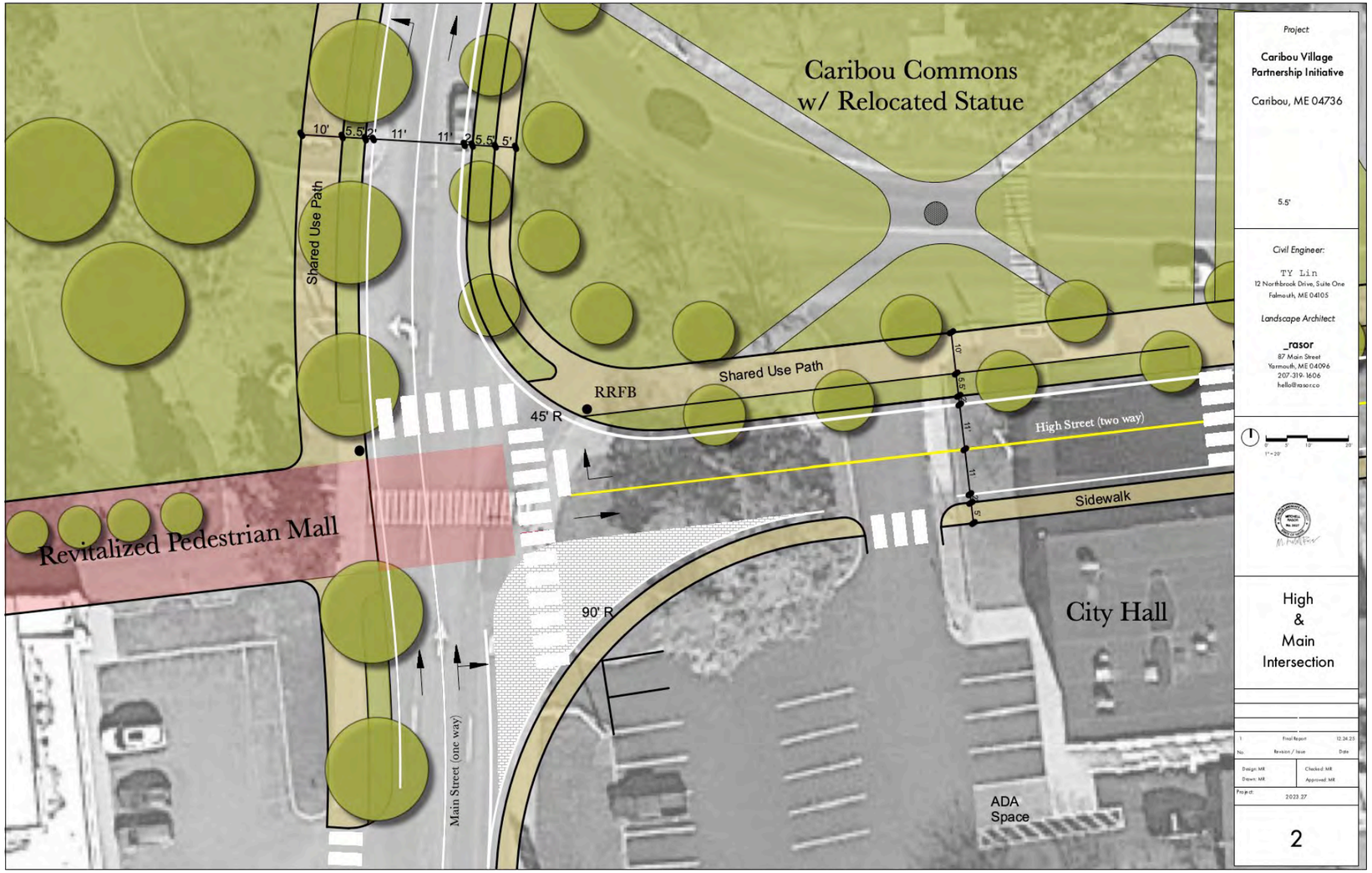


Figure 9.21 High Street and Main Street

Pros:

- Improved pedestrian safety
- New Park enhances area adjacent to public services (Municipal Building, Library)
- Supports potential future two-way conversion of Main Street

Cons:

- Reduction in parking immediately in front of municipal building
- Parking layout will require further consideration during preliminary engineering design phase
- Property impacts are likely
- Changes to access and parking at Aroostook Savings & Loan and Irving Circle K

Proposed Concept Planning-Level Cost Estimate:

- **$2,520,000 (High Street-Main Street Reconfiguration)**
- **$250,000 (Caribou Commons)**
- **$250,000 (Main Street Plaza and Pedestrian Mall)**
- **$220,000 (Street Trees; entire downtown plan)**
- **$56,000 (Street Lights; entire downtown plan)**

Herschel Street and Lyndon Square Park

Proposed Concept: Herschel Street Two-Way Conversion and New Park

The proposed concept converts Herschel Street to two-way traffic over its entire length. The intersection of Main Street and Herschel Street is realigned to support a two-lane configuration of Main Street and construction of multi-use path as shown in Figure 9.22.

In addition to creating Caribou Commons, the plan includes a 32,000 square foot park at Lyndon Square in conjunction with a redesigned pedestrian mall plaza connecting High Street to Sweden Street. As with Caribou Commons, Lyndon Square Park includes an approximate 32,000 square foot reduction in impervious surface helping to mitigate stormwater impacts and the heat island effect. Caribou Commons and Lydon Square Park frame Main Street creating a green heart to downtown speaking to Caribou's outdoor heritage. These spaces will be transformational for Caribou in terms of ecology, aesthetics, community pride, and economic development.

Access to the park is integrated with multi-use path segment on Herschel Street as discussed in Section 9.2.

<u>Pros:</u>

- Improved traffic flow from west to Main Street
- New Park repurposes underutilized parking area
- Supports potential future two-way conversion of Main Street

<u>Cons:</u>

- Will result in some property impacts

Proposed Concept Planning-Level Cost Estimate:

- **Herschel Street (as discussed in Section 9.2)**
- **$500,000 Lyndon Square Park**

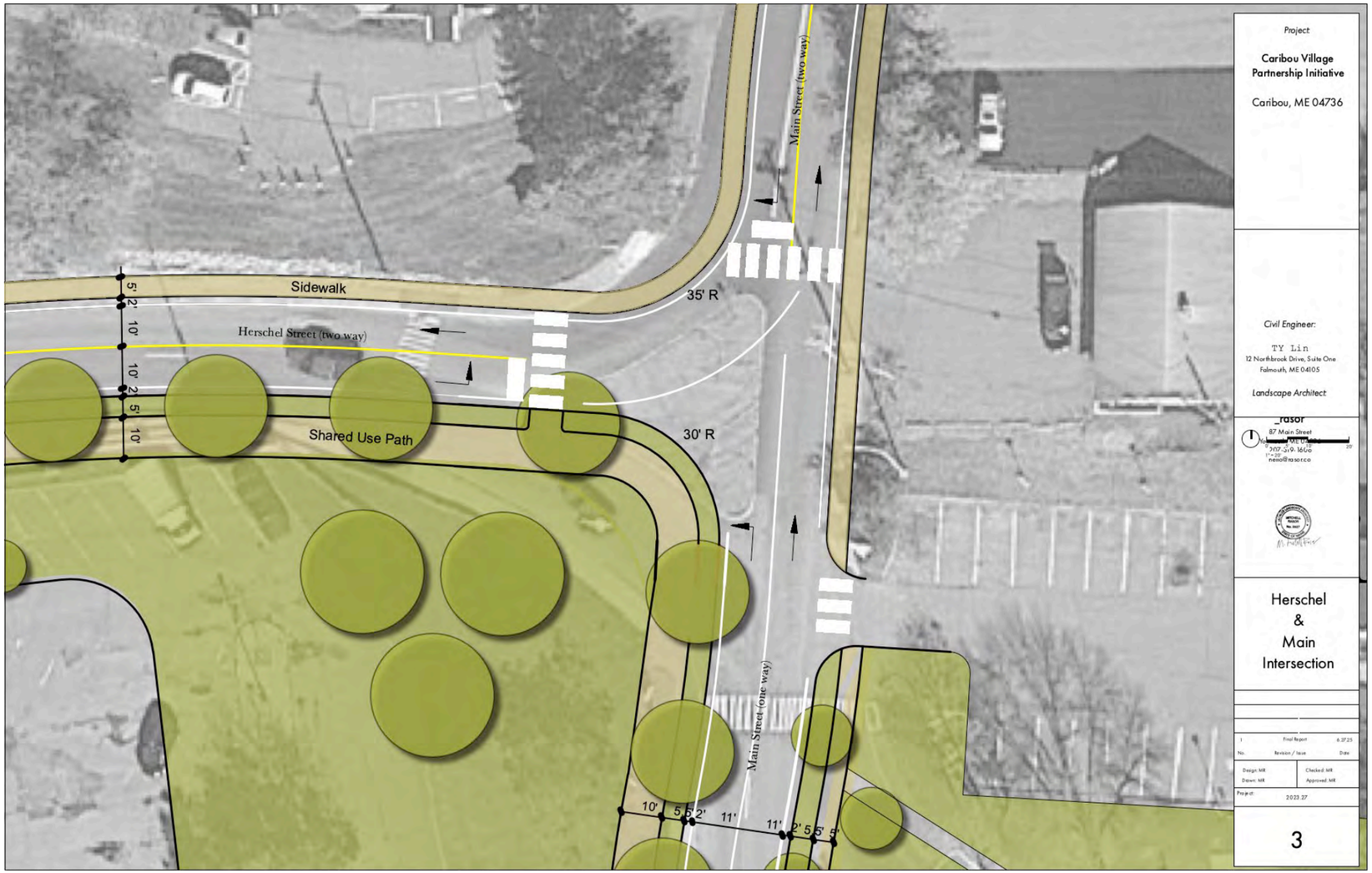


Figure 9.22 Main Street and Herschel Street

Prospect Street-Sweden Street-Hatch Drive

Proposed Concept: Sweden Street Two-Way Conversion and Intersection Realignment

The proposed concept converts Sweden Street to two-way between Record Street and the intersection of Prospect Street and Hatch Drive. Hatch Drive is converted to a one-lane configuration as discussed previously in this report. The approach of Prospect Street is reconfigured to two lanes and new angle parking is introduced in the area previously occupied by the right turn-only lane. The intersection of Hatch Drive and Sweden Street is slightly realigned to support truck turning movements given the proposed single-lane configuration of Hatch Drive. These recommendations for Prospect Street, Sweden Street, and Hatch Drive are shown in Figure 9.23.

Pros:

- Improved pedestrian safety
- Enhanced downtown access from points west via Sweden Street

Cons:

- Reduction in on-street parking on outer Sweden Street
- Potential environmental impacts (registered historic landmark on Prospect Street)

Opportunity for Demonstration Project: Sweden Street Two-Way Conversion

The proposed two-way conversion of Sweden Street could be accomplished on a short-term basis with a restriping and signage project. The existing conditions are shown in section view in Figure 9.24, and the proposed two-way conversion with modified on-street parking (which does not alter the curb lines) is shown in Figure 9.25.

Explanation of Costs:

The cost of the Sweden Street demonstration project is provided separately below. Costs for Outer Sweden Street, and Hatch Drive are detailed in previous sections of this report. Costs of intersection improvements discussed in this section are included in the individual cost estimates for Prospect Street (provided below), as well as Outer Sweden Street and Hatch drive (discussed previously in this report).

Proposed Concept Planning-Level Cost Estimate:

- **$110,000 (Sweden Street Demonstration Project)**
- **$370,000 (Prospect Street; Mill & Fill, Multi-Use Path, Esplanade, and Drainage Adjustments)**

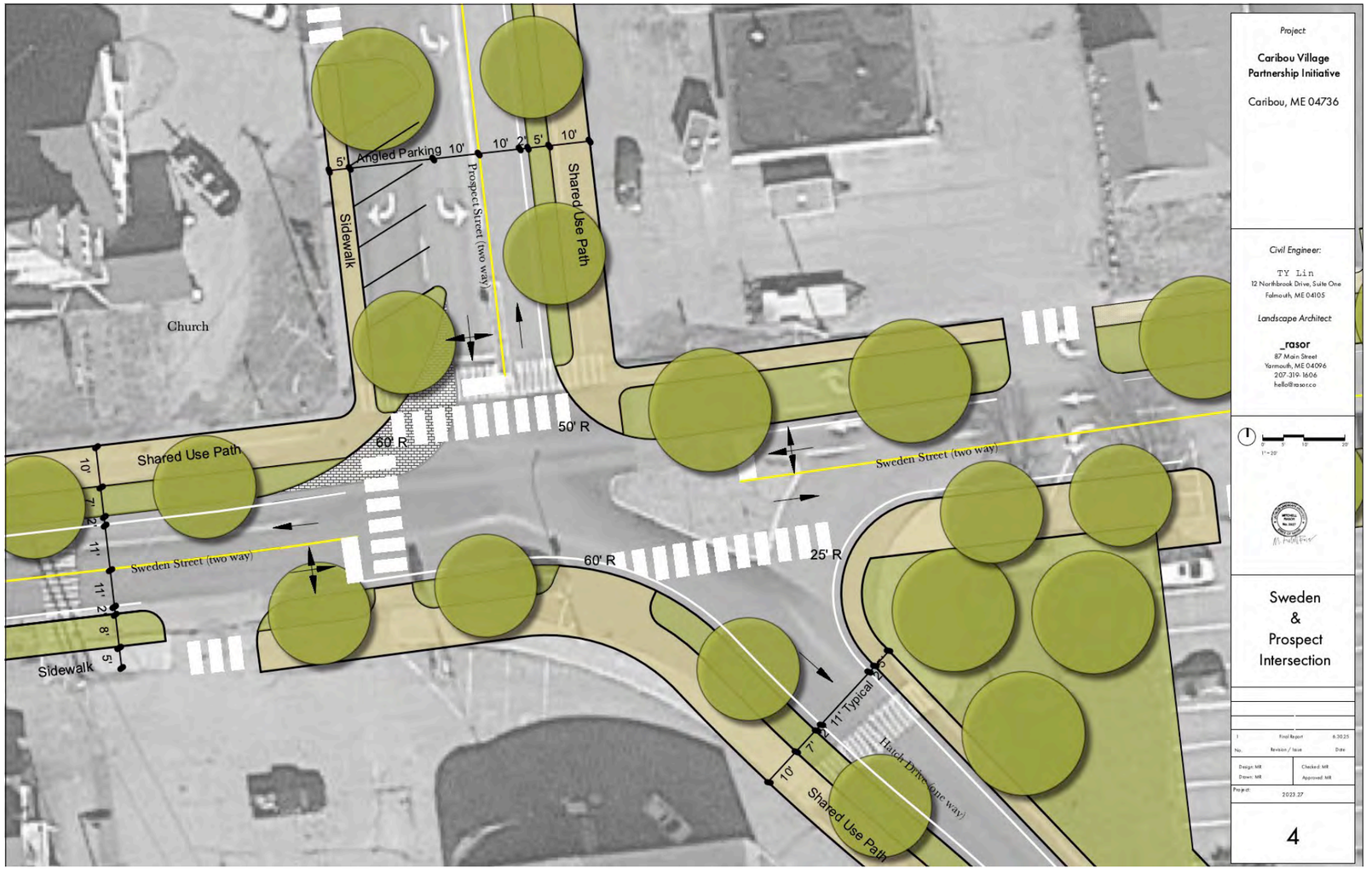
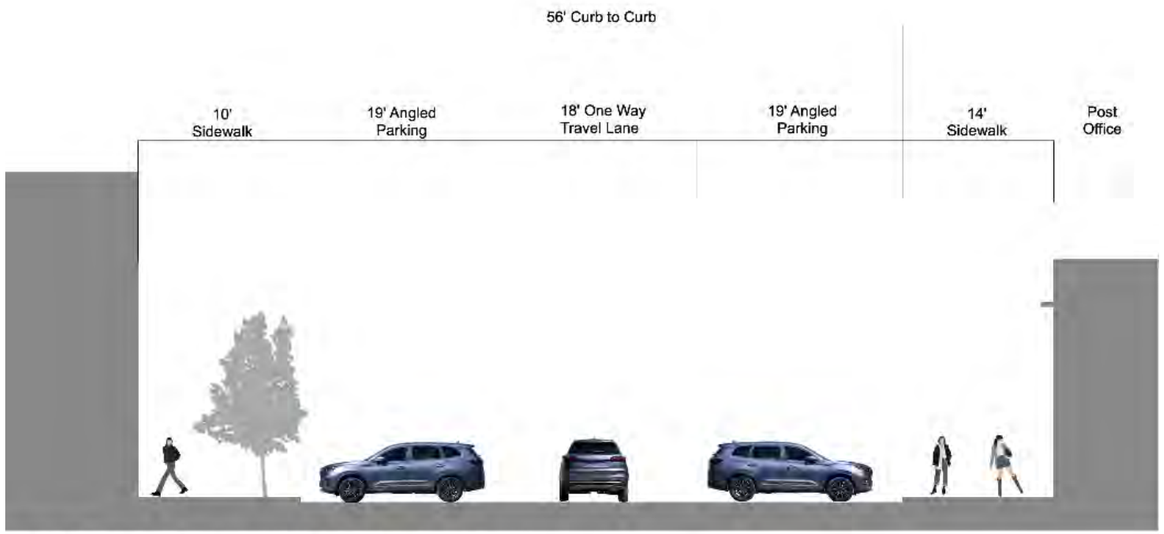
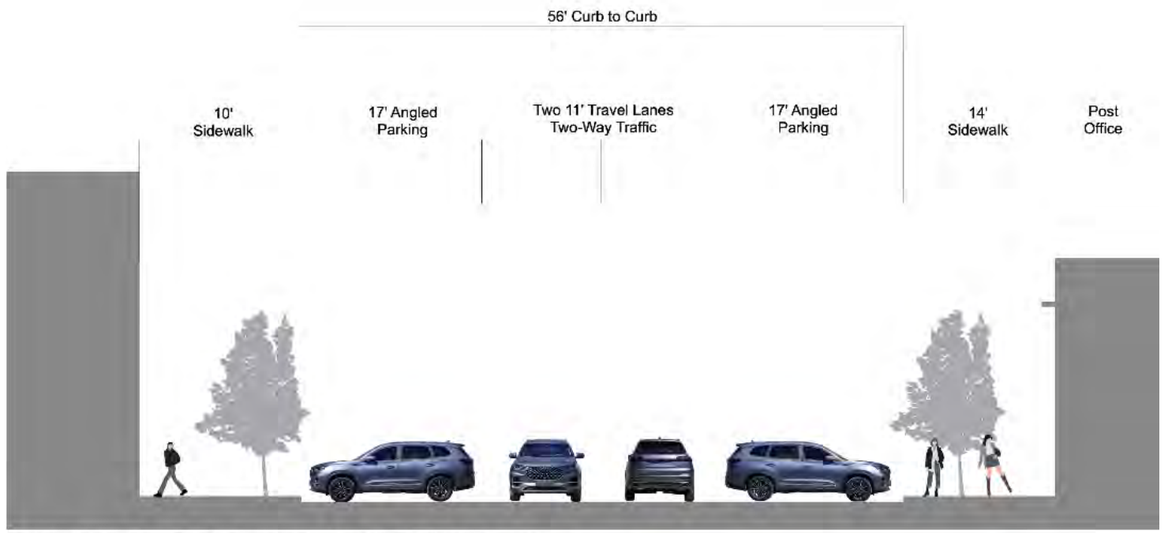


Figure 9.23 Prospect Street, Sweden Street, and Hatch Drive



Section G: Sweden Street - Existing at Post Office (looking west)

Figure 9.24 Sweden Street Existing Cross Section



Section G: Sweden Street - Proposed at Post Office (looking west)

Figure 9.25 Sweden Street Proposed Cross Section

Hatch Drive-Main Street-Water Street

Proposed Concept: Single Lane Configuration of Hatch Drive and Intersection Improvements

The proposed concept reconfigures Hatch Drive to a single lane (remains one-way eastbound) configuration with on-alignment multi-use path as discussed in Section 9.3. The approach to Main Street transitions to two-lanes to support left and right turning movements onto Main Street with acceptable queues. The pedestrian crossing to Water Street is shortened, joining the multi-use paths on Hatch Drive and Water Street discussed previously in this report. Main Street north of the intersection of Hatch Drive and Water Street has a two-lane configuration and remains one-way northbound (however this configuration supports future two-way conversion of Main Street if desired by the city), as shown in Figure 9.26.

<u>Pros:</u>

- Improved pedestrian safety
- Supports future two-way conversion of Main Street (if desired)

<u>Cons:</u>

- Relocation of some utility poles and street light bases will likely be necessary

Explanation of Costs:

The costs of improvements to Hatch Drive, including the on-alignment multi-use path are discussed in Section 9.3. The costs of intersection improvements discussed in this section are included in the individual cost estimates for Hatch Drive and Water Street as discussed previously in this report.

Downtown Interior Streets

Proposed Concept: Two-Way Conversion of Record Street, Center Street, and Stevens Street

It is recommended that the streets interior to the downtown core (Record Street, Center Street, and Stevens Street) be converted to two-way traffic as shown in Figure 9.17. On-street parking and potential ROW impacts will be further evaluated during preliminary engineering design phase.

Explanation of Costs:

The cost estimate includes mill and fill pavement treatment of the downtown interior streets, sidewalk reconstruction, and drainage adjustments.

Proposed Concept Planning-Level Cost Estimate:

- **$1,280,000 (Downtown Interior Streets)**

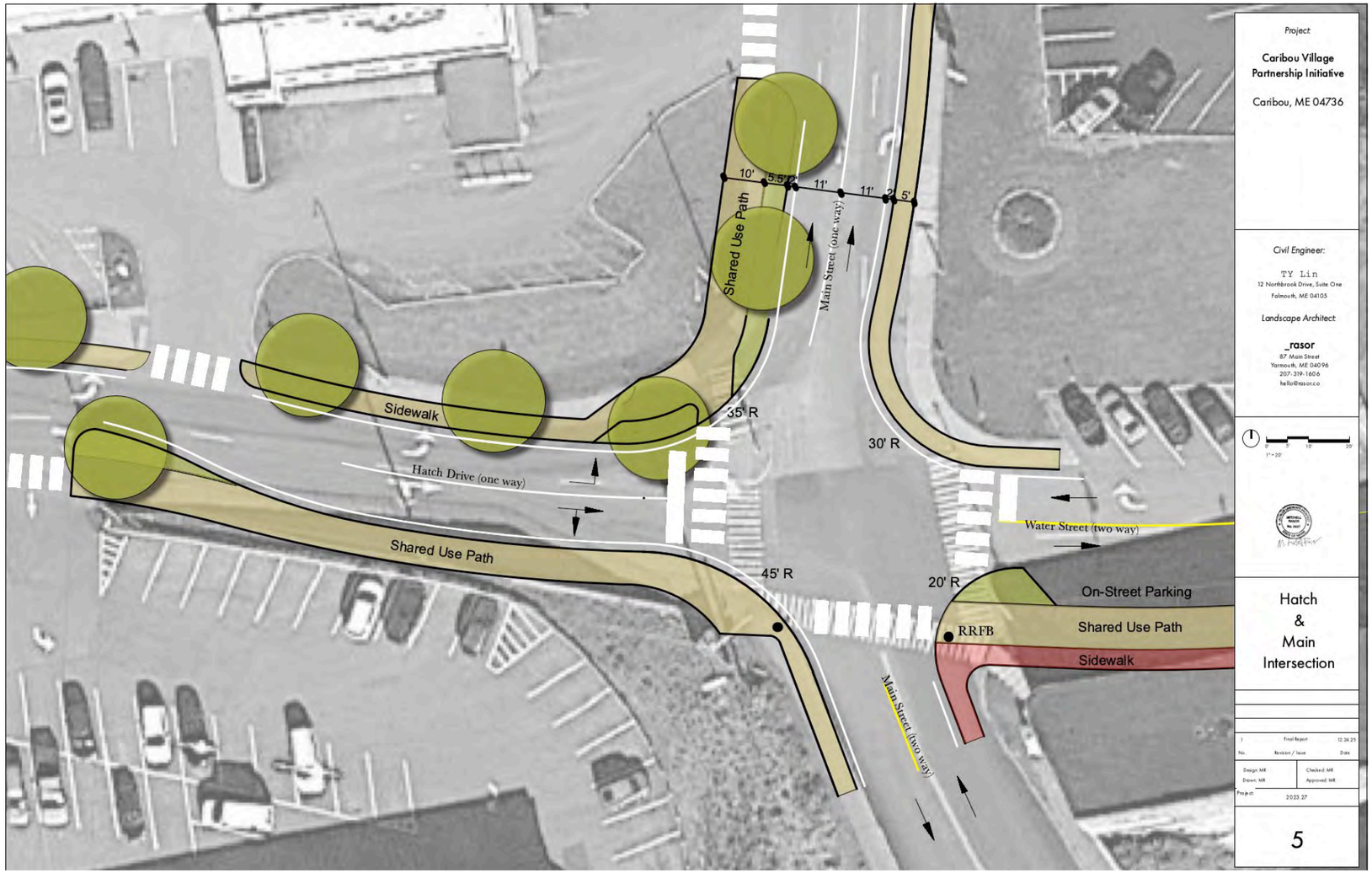


Figure 9.26 Hatch Drive, Main Street, and Water Street

9.10 High Street and Bennett Drive Intersection

As discussed in Section 2.4, the existing intersection of High Street and Bennett Drive is currently a High Crash Location (HCL) based on MaineDOT criteria. Improvements are needed to increase sight distance and reduce rear-end type crashes.

High Street-Bennett Drive

Proposed Concept: Intersection Reconfiguration

The proposed concept shifts the approach of Bennett Drive to the west, aligning the centerline of Bennett Drive with the centerline of Pleasant Street. The dedicated right turn lane and center island are eliminated, making all movements stop controlled and improving sight distance, particularly for left turning movements from Bennett Drive to High Street. Additional greenspace is introduced in the space gained from removal of the center island and shift to the west, as shown in Figure 9.27.

Traffic Analysis

A traffic analysis was performed in conjunction with the recommended improvements. Figure 9.28 depicts the 2044 PM peak hour volumes used in the analysis. Based on a SimTraffic analysis, the intersection is projected to operate at an overall level of service A with left turn movements from Bennett Drive projected to operate at level of service B. Acceptable conditions will be provided.

<u>Pros:</u>

- Increased visibility for both vehicles and pedestrians
- New green space separates sidewalk along west side of Bennett Drive from intersection traffic
- Change is anticipated to mitigate crash pattern at this HCL

<u>Cons:</u>

- Reduction in LOS (proposed condition within acceptable limits)
- May have some minor property impacts

Proposed Concept Planning-Level Cost Estimate: $220,000

Figure 9.27 High Street and Bennett Drive Intersection

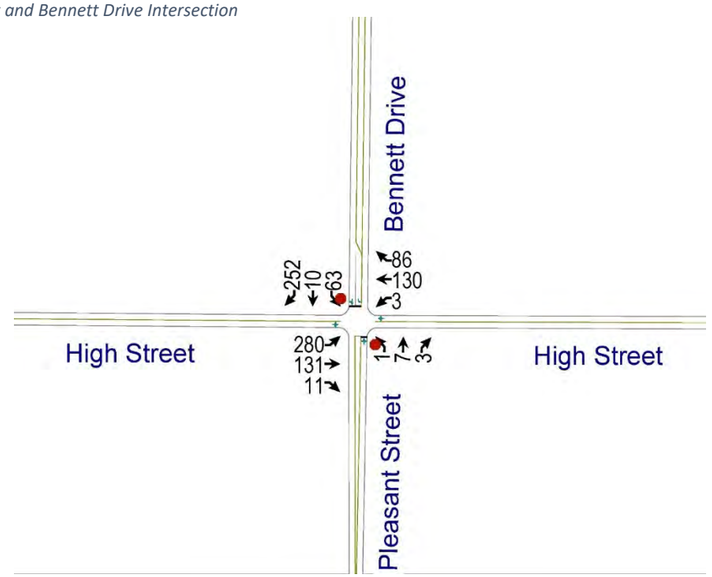


Figure 9.28 2044 PM Peak Hour Volumes (High Street-Bennett Drive-Pleasant Street)

10.0 PUBLIC OUTREACH

Two public meetings were held during the study process to obtain feedback. A summary of each meeting is provided below.

10.1 Public Meeting #1: June 17, 2024

This meeting was held at the Caribou Wellness & Recreation Center, beginning at 6:00 PM and ending at approximately 7:50 PM. The presentation consisted of the following Agenda:

1. Introductions
2. MaineDOT Village Partnership Initiative
3. Study Team and Study Area
4. Purpose and Need Statement
5. Scope of Work and Public Process
6. Existing Transportation Conditions
7. Existing Land Use/Zoning/Character
8. Range of Alternatives
9. Public Input/Comments

The following questions/comments were provided:

- Should individual projects within specific portions of the Study Area be considered?
    - Spot Improvements
    - Phasing
    - Priorities
- Jarod Farn-Guillette explained funding avenues and options available through VPI and discretionary construction grants
    - Emphasized value of the study as a means to get proposed projects to rise up when competing for discretionary funding
- Question was asked regarding projects in the works on Lower Lyndon Street, Penny Thompson to follow up
- Comments were made related to Caribou Bypass moving traffic around the downtown
- Many properties currently have poor access which inhibits business development
- Question was asked regarding potential generation of development parcels if old street grid system is revisited
- Tom Errico explained mixed modes of use within the transportation system
- Jarod Farn-Guillette explained the importance of wayfinding and branding within the downtown
- Tom Errico explained excessive widths on many of the corridors within the Study Area
- Comment was made regarding need for path through the Community School property since Park Street in that area was removed
- Comment was made regarding need to path from Bennett Drive and High Street to the waterfront, question was asked regarding Lower Lyndon Street as a potential option
- Comment regarding poor sidewalk conditions on Collins Street. Safer walking conditions are needed to Community School from surrounding neighborhoods.
- Library and Municipal Building parking is considered a premium
- Access is poor to parking off Record Street, this is considered a reason for underuse of the parking area immediately south of Herschel Street
- Suggestion was made to “enclose” the downtown as a means of keeping sidewalks free of ice and snow, reference was made to Halifax, Nova Scotia
- Question was asked regarding whether this project would support construction of new roadways for residential development, similar to Solar Drive
- It was pointed out that “Caribou Mill Pond” (previously referred to as “Collins Pond” would undergo reconstruction in 2025 including dredging, a fishway, and a new dam
- Questions were asked about on-street parking. There is no on-street parking permitted on Bennett Drive
- Upgrades to existing trail system are desired by the city. Considerations should include ATV access and overall access to restaurants and other waypoints
- It was suggested that a “wide area” be identified for permanent and dedicated ATV and snowmobile facilities through the downtown to support outdoor recreation
- Jarod explained purpose-built infrastructure as it relates to available discretionary construction funding
- A comment was made that 28,000 people visit Caribou each year to ride snowmobiles and this is considered a key for economic development
- There was discussion regarding backup of pedestrians between the Community School and the Wellness & Recreation Center and associated challenges with traffic on Bennett Drive
    - Bridge or tunnel to cross Bennett Drive an option?
    - Tom Errico suggested consideration of pedestrian hybrid beacon

10.2 Public Meeting #2: December 19, 2024

This meeting was held at the Caribou Wellness & Recreation Center, beginning at 6:30 PM and ending at approximately 7:45 PM. The presentation consisted of the following Agenda:

1. Introductions
2. MaineDOT Village Partnership Initiative
3. Study Team and Study Area
4. Goals Identified by Study Team
5. Existing Conditions and Transportation System Needs
6. Review of Initial Planning Concepts
7. Public Input/Comments

The following questions/comments were provided:

- Reconnect High Street to Sweden Street now. The one-way loop “long killed the downtown”
- Questions were asked related to truck turning movements as they relate to the proposed downtown plan. Tom Errico explained truck templates and turning movement analysis, and considerations to date.
- Consider sources of trucks, specifically potato trucks
- There were questions related to use or reactivation of rail line near waterfront. In general, the project did not consider rail transit or the rail line in question.
- How will all the proposed trees be watered? Suggestion was made to consider irrigation. Mitch Rasor indicated that drought resistance species will be recommended, and also discussed gravel nurseries and bare root systems
- Salt resistant tree and plant species are needed
- Does the project consider farm equipment routing? There was discussion about use of the existing Caribou Bypass.
- Pedestrian movements at the intersection of High Street and Main Street are unsafe. Positive feedback regarding intersection reconfiguration and stop control.
- Positive feedback regarding the repurposing of underutilized parking immediately south of Herschel Street into new park area
- Consider increased parking at Library
- Concerns were expressed related to visionary plan which makes Sweden Street, Main Street, and High Street a traditional 4-way intersection. Concerns were focused on having a signal on Main Street, requiring vehicles to stop on uphill grade
- Consider bike racks and anti-theft devices on new trail segments
- Consider on-grade bike lane instead of curbed esplanade and separated path
- Questions regarding use of bikes on sidewalks. Tom Errico explained minimum widths of multi-use paths.
- Positive comments regarding separated bicycle and pedestrian facilities and enhanced connectivity between schools.
- Add path segment on South Main Street to “hilltop”
- Existing unpaved trails need resurfacing

APPENDICES

Appendix A: Concept Plans

shared use path (typ)

Herschel Street (two way)

Herschel Street

Main Street (two way)

Library

Caribou Commons
w/ Relocated Statue

Post Office

Record Street (two way)

Revitalized Pedestrian Mall

Church

City Hall

Prospect Street (two way)

Sweden Street (two way)

Bridge Street (two way)

Washburn Street (two way)

Caribou Mill Pond

_rasor

Project:

Caribou Village Partnership Initiative

Caribou, ME 04736

Civil Engineer:

TY Lin
12 Northbrook Drive, Suite One
Falmouth, ME 04105

Landscape Architect:

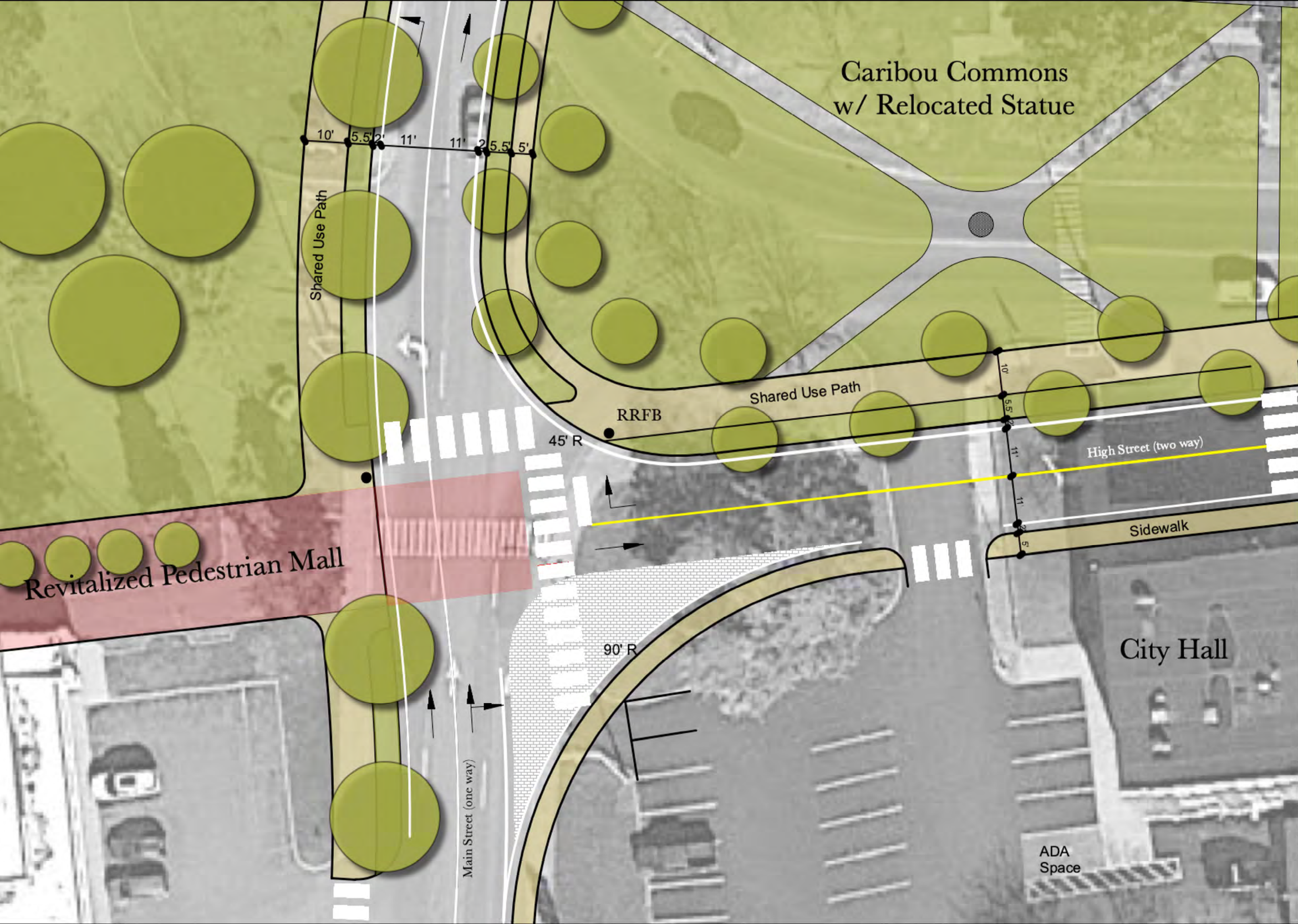
_rasor
87 Main Street
Yarmouth, ME 04096
207-319-1606
hello@rasor.co

0' 5' 10' 20'
1" = 20'

MITCHELL RASOR No. 2927 STATE OF MAINE

Downtown Plan

1



Project

Caribou Village Partnership Initiative

Caribou, ME 04736

5.5'

Civil Engineer:

TY Lin
12 Northbrook Drive, Suite One
Falmouth, ME 04105

Landscape Architect

_rasor
87 Main Street
Yarmouth, ME 04096
207-319-1606
hello@rasor.co

1" = 20'

High & Main Intersection

No.	Revision / Issue	Date
1	Final Report	12.24.25

Design: MR
Drawn: MR
Checked: MR
Approved: MR

Project: 2023.27

2

Project

Caribou Village Partnership Initiative

Caribou, ME 04736

Civil Engineer:

TY Lin
12 Northbrook Drive, Suite One
Falmouth, ME 04105

Landscape Architect

_rasor
87 Main Street
Yo[illegible] ME 0[illegible]
207-319-16[illegible]
1"=20'
hello@rasor.co

Herschel & Main Intersection

No.	Revision / Issue	Date
1	Final Report	6.27.25

Design: MR | Checked: MR
Drawn: MR | Approved: MR

Project: 2023.27

3

Project:

Caribou Village Partnership Initiative

Caribou, ME 04736

Civil Engineer:

TY Lin
12 Northbrook Drive, Suite One
Falmouth, ME 04105

Landscape Architect:

_rasor
87 Main Street
Yarmouth, ME 04096
207-319-1606
hello@rasor.co

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1" = 20'

Hatch & Main Intersection

No.	Revision / Issue	Date
1	Final Report	12.24.25

Design: MR | Checked: MR
Drawn: MR | Approved: MR

Project: 2023.27

5

Church

5' Angled Parking 10' 10' 2' 5' 10'

Sidewalk

Prospect Street (two way)

Shared Use Path

50' R

60' R

10' 7' 2' 11' 11' 2' 8' 5'

Shared Use Path

Sweden Street (two way)

Sidewalk

60' R

25' R

Sweden Street (two way)

5' 2' 11' Typical 2' 7' 10'

Hatch Drive (one way)

Shared Use Path

Project

Caribou Village Partnership Initiative

Caribou, ME 04736

Civil Engineer:

TY Lin
12 Northbrook Drive, Suite One
Falmouth, ME 04105

Landscape Architect

_rasor
87 Main Street
Yarmouth, ME 04096
207-319-1606
hello@rasor.co

0' 5' 10' 20'
1" = 20'

Sweden & Prospect Intersection

No.	Revision / Issue	Date
1	Final Report	6.30.25

Design: MR | Checked: MR
Drawn: MR | Approved: MR

Project: 2023.27

4

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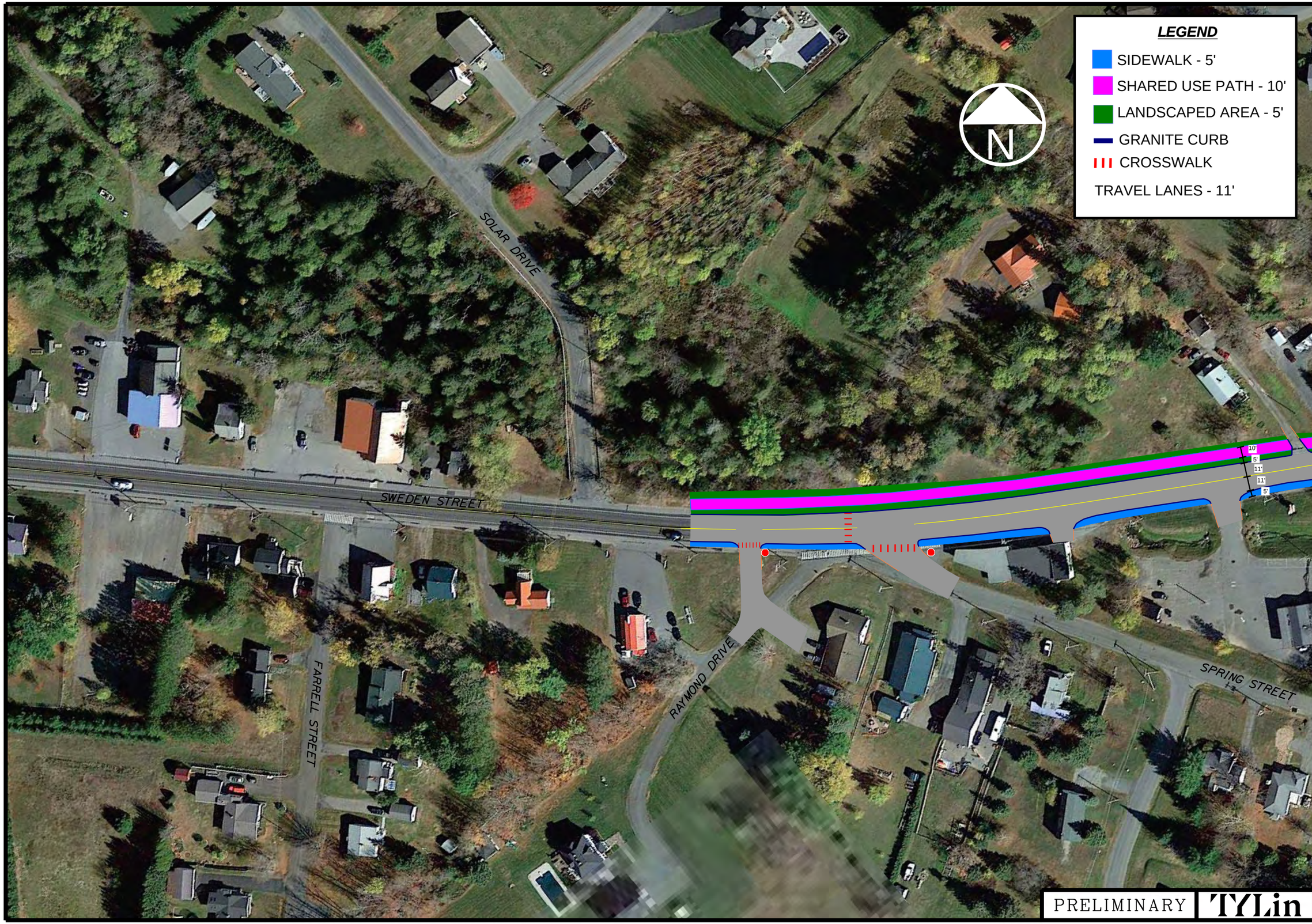

PRELIMINARY

TYLin

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DEPARTMENT OF TRANSPORTATION

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WIN
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DESIGN3-DETAILED3		
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REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

CARIBOU
ROUTE 161 - MAIN STREET STUDY

PLAN

SHEET NUMBER

1

OF 4

Notes:

Warning signs shall be installed and Rectangular Rapid Flash Beacons shall be considered at all Sweden Street crossings during design.

Driveway modifications shall be considered during design to minimize vehicle/bicycle/pedestrian conflicts.

LEGEND

- SIDEWALK - 5'
- SHARED USE PATH - 10'
- LANDSCAPED AREA - 5'
- GRANITE CURB
- CROSSWALK

TRAVEL LANES - 11'

N

10' 5' 11' 11' 5'

SPRING STREET

ROOSEVELT AVENUE

MCKINLEY STREET

PRELIMINARY

TYLin

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

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CARIBOU
ROUTE 161 - MAIN STREET STUDY

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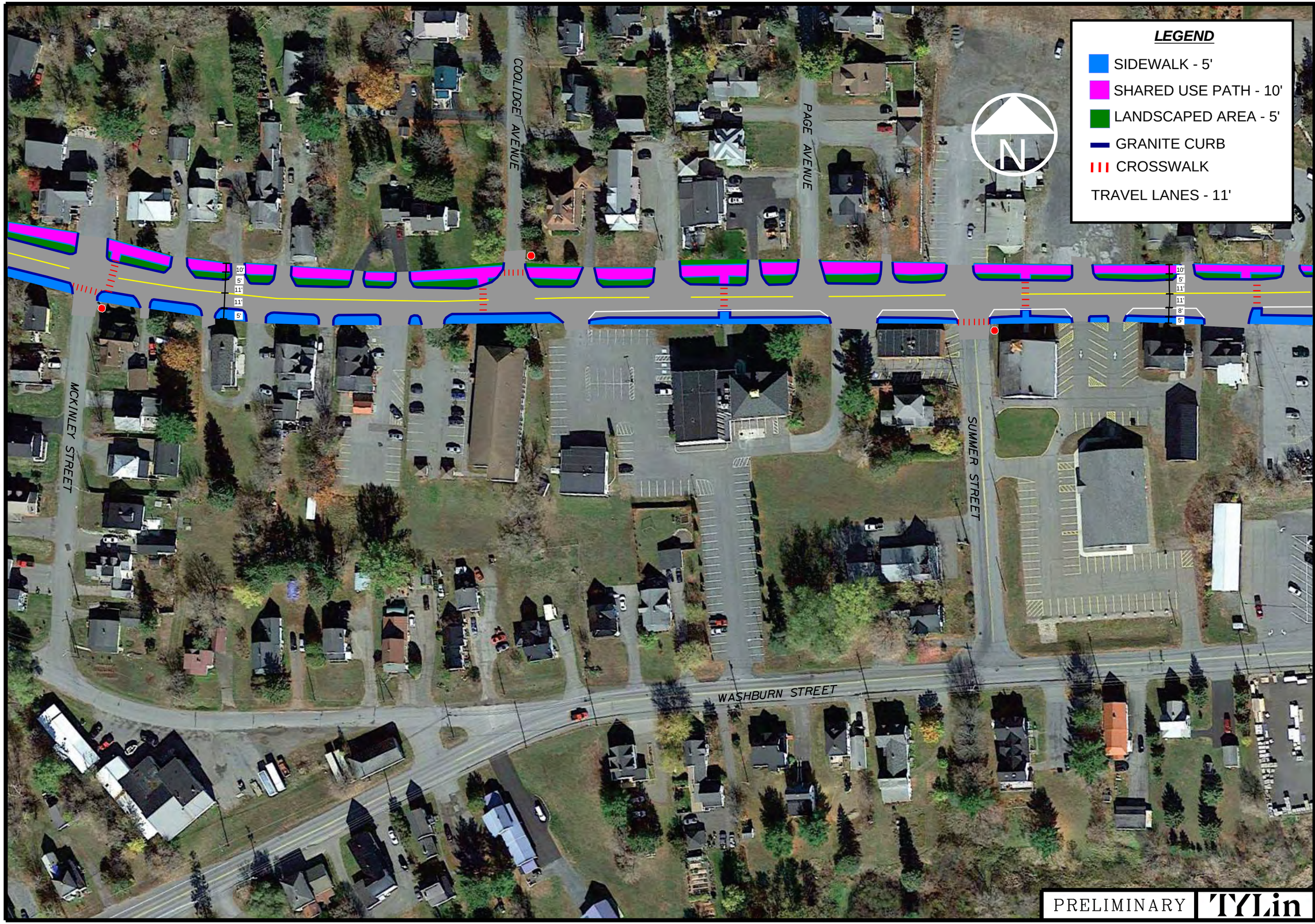

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ROUTE 161 - MAIN STREET STUDY

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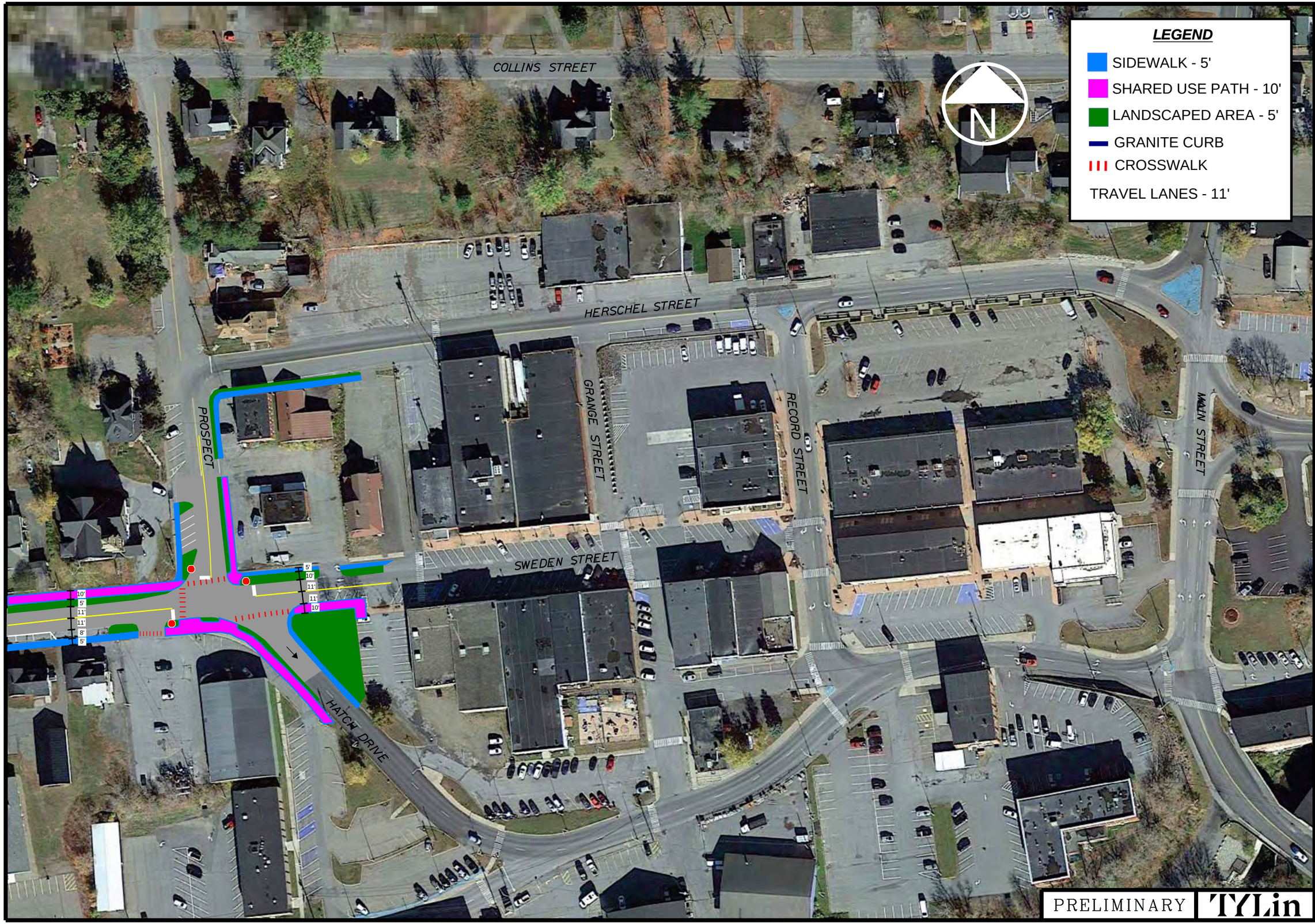

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CARIBOU
ROUTE 161 - MAIN STREET STUDY

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OF 4

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Appendix B: Planning Level Cost Estimates

City of Caribou Village Partnership Initiative - Planning-Level Cost Estimate

Final Report
WIN: 27988.00
12/31/2025

Byways	$3,620,000
Caribou Mill Pond Connector	$800,000
Downtown Interior Streets	$1,280,000
Glenn Street	$1,340,000
Hatch Drive	$1,060,000
Herschel Street	$1,430,000
High Street	$1,280,000
High Street - Bennett Drive Intersection	$220,000
North Main Street Reconfiguration (High Street Realignment)	$2,520,000
Caribou Commons	$250,000
Main Street Plaza and Pedestrian Mall	$250,000
Street Trees	$220,000
Street Lights	$56,000
Lyndon Square Park	$500,000
Prospect Street	$370,000
School Yard Connector (Glenn Street to Bennett Drive)	$300,000
Sweden Street (Outer)	$4,790,000
Sweden Street (Demonstration Project)	$110,000
Water Street	$3,510,000
Grand Total	**$23,906,000**

Neighborhood Byways

Collins Street

Length 2176 ft.

	Width (ft.)	Area (SF)	Unit Cost ($ / SF)	Cost ($)	Notes
Sidewalk Reconstruction (LT)	5	10880	$24	$261,120	Assume 2" HMA atop 12" agg type D with granite curb type 5
Sidewalk Reconstruction (RT)	5	10880	$24	$261,120	Assume 2" HMA atop 12" agg type D with granite curb type 5
Roadway Pavement	26	56576	$6	$339,456	Assume full width Mill & Fill; average pavement width assumed based on Google Earth measurements
	CB & Related Items (EA)		**Unit Cost ($/EA)**		
Drainage	15		10,000	$150,000	Priced to include UD and connections to and adjustment of existing drainage; assume 1 basin every 300 ft.
			Subtotal	**$1,011,696**	

Coolidge Ave.

Length 728 ft.

	Width (ft.)	Area (SF)	Unit Cost ($ / SF)	Cost ($)	Notes
Roadway Pavement	22	16016	$6	$96,096	Assume full width Mill & Fill; average pavement width assumed based on Google Earth measurements
			Subtotal	**$96,096**	

Main Street

Length 254 ft.

	Width (ft.)	Area (SF)	Unit Cost ($ / SF)	Cost ($)	Notes
Roadway Pavement	38	9652	$6	$57,912	Assume full width Mill & Fill; average pavement width assumed based on Google Earth measurements
			Subtotal	**$57,912**	

Park Street

Length 1143 ft.

	Width (ft.)	Area (SF)	Unit Cost ($ / SF)	Cost ($)	Notes
Sidewalk Reconstruction (LT)	5	5715	$24	$137,160	Assume 2" HMA atop 12" agg type D with granite curb type 5
Sidewalk Reconstruction (RT)	5	5715	$24	$137,160	Assume 2" HMA atop 12" agg type D with granite curb type 5
Roadway Pavement	32	36576	$6	$219,456	Assume full width Mill & Fill; average pavement width assumed based on Google Earth measurements
	CB & Related Items (EA)		**Unit Cost ($/EA)**		
Drainage	8		10,000	$80,000	Priced to include UD and connections to and adjustment of existing drainage; assume 1 basin every 300 ft.
			Subtotal	**$573,776**	

Spring Street

Length 1807 ft.

	Width (ft.)	Area (SF)	Unit Cost ($ / SF)	Cost ($)	Notes
Roadway Pavement	23	41561	$6	$249,366	Assume full width Mill & Fill; average pavement width assumed based on Google Earth measurements
			Subtotal	**$249,366**	

All Byways Subtotal			$1,988,846
Miscellaneous Items (signage, MOT, striping, Etc)	10%	$	198,884.60
Mobilization	10%	$	218,773.06
Contingency	25%	$	601,625.92
Construction Total			$3,008,130
PE	10%		$300,813
CE	10%		$300,813
ROW			$2,500
Section Total			$3,612,255
Rounded Section Total			**$3,620,000**

Caribou Mill Pond Connector (No cross section - assume an esplanade on each side and shared use path.)

Length 767 ft.

	Width (ft.)	Area (SF)	Unit Cost ($ / SF)	Cost ($)	Notes
Esplanade (LT)	4	3068	$5	$15,340	
Esplanade (RT)	4	3068	$5	$15,340	
Shared Use Path	10	7670	$27	$207,090	
Pedestrian Bridge				$200,000	Pedestrian bridge needs to be built over new dam; assume $200,000 based on recent similar estimates
			Subtotal	**$437,770**	

Miscellaneous Items (signage, MOT, striping, Etc)	10%	$	43,777.00
Mobilization	10%	$	48,154.70
Contingency	25%	$	132,425.43
Construction Total			$662,127
PE	10%		$66,213
CE	10%		$66,213
ROW			$2,500
Section Total			$797,053
Rounded Section Total			**$800,000**

Downtown Interior Streets

Length varies (see below)

	Length (ft.)	Width (ft.)	Area (SF)	Unit Cost ($ / SF)	Cost ($)	Notes
Sidewalk	3000	5	15000	$24	$360,000	Assumes 2" HMA atop 12" agg type D with granite curb type 5
Roadway Pavement	1300	32	41600	$6	$249,600	Assume full width Mill & Fill; average pavement width assumed based on Google Earth measurements
	CB & Related Items (EA)			**Unit Cost ($ / EA)**		
Drainage	9			$10,000	$90,000	Priced to include UD and connections to and adjustment of existing drainage; assume 1 basin every 300 ft.
				Subtotal	**$699,600**	

Miscellaneous Items (signage, MOT, striping, Etc)	10%	$	69,960.00
Mobilization	10%	$	76,956.00
Contingency	25%	$	211,629.00
Construction Total			$1,058,145
PE	10%		$105,815
CE	10%		$105,815
ROW			$2,500
Section Total			$1,272,274
Rounded Section Total			**$1,280,000**

Glenn Street

Length 1,487 ft.

	Width (ft.)	Area (SF)	Unit Cost ($ / SF)	Cost ($)	Notes
Esplanade (RT)	5	7435	5	$37,175	
Shared Use Path (RT)	10	14870	27	$401,490	
Roadway Pavement	22	32714	6	$196,284	Assume full width Mill & Fill; width taken from proposed cross sections.
	CB & Related Items (EA)		**Unit Cost ($/EA)**		
Drainage	10		10,000	$100,000	Priced to include UD and connections to and adjustment of existing drainage; assume 1 basin every 300 ft.
			Subtotal	**$734,949**	

Miscellaneous Items (signage, MOT, striping, Etc)	10%	$	73,494.90
Mobilization	10%	$	80,844.39
Contingency	25%	$	222,322.07
Construction Total			$1,111,610
PE	10%		$111,161
CE	10%		$111,161
ROW			$2,500
Section Total			$1,336,432
Rounded Section Total			**$1,340,000**

Hatch Drive

Length 1,282 ft.

	Width (ft.)	Area (SF)	Unit Cost ($ / SF)	Cost ($)	Notes
Shared Use Path (LT)	10	12820	$27	$346,140	
Esplanade (RT)	6	7692	$5	$38,460	
Roadway Pavement	14	17948	$6	$107,688	Assume full width Mill & Fill; width taken from proposed cross sections.
	CB & Related Items (EA)		**Unit Cost ($/EA)**		
Drainage	9		10,000	$90,000	Priced to include UD and connections to and adjustment of existing drainage; assume 1 basin every 300 ft.
			Subtotal	**$582,288**	

Miscellaneous Items (signage, MOT, striping, Etc)	10%	$	58,228.80
Mobilization	10%	$	64,051.68
Contingency	25%	$	176,142.12
Construction Total			$880,711
PE	10%		$88,071
CE	10%		$88,071
ROW			$2,500
Section Total			$1,059,353
Rounded Section Total			**$1,060,000**

Herschel Street

Length 1,187 ft.

	Width (ft.)	Area (SF)	Unit Cost ($ / SF)	Cost ($)	Notes
Shared Use Path (LT)	10	11870	$27	$320,490	
Esplanade (LT)	5	5935	$5	$29,675	
Sidewalk (RT)	5	5935	$24	$142,440	Assumes 2" HMA atop 12" agg type D with granite curb type 5
Roadway Pavement	30	35610	$6	$213,660	Assume full width Mill & Fill; width taken from proposed cross sections.
	CB & Related Items (EA)		**Unit Cost ($/EA)**		
Drainage	8		10,000	$80,000	Priced to include UD and connections to and adjustment of existing drainage; assume 1 basin every 300 ft.
			Subtotal	**$786,265**	

Miscellaneous Items (signage, MOT, striping, Etc)	10%	$	78,626.50
Mobilization	10%	$	86,489.15
Contingency	25%	$	237,845.16
Construction Total			$1,189,226
PE	10%		$118,923
CE	10%		$118,923
ROW			$2,500
Section Total			$1,429,571
Rounded Section Total			**$1,430,000**

High Street

Length 1,080 ft.

	Width (ft.)	Area (SF)	Unit Cost ($ / SF)	Cost ($)	Notes
Sidewalk (LT)	5	5400	$24	$129,600	Assumes 2" HMA atop 12" agg type D with granite curb type 5
Esplanade (RT)	5.5	5940	$5	$29,700	
Shared Use Path	10	10800	$27	$291,600	
Roadway Pavement	26	28080	$6	$168,480	Assume full width Mill & Fill; width taken from proposed cross sections.
	CB & Related Items (EA)		**Unit Cost ($/EA)**		
Drainage	8		10,000	$80,000	Priced to include UD and connections to and adjustment of existing drainage; assume 1 basin every 300 ft.
			Subtotal	**$699,380**	

Miscellaneous Items (signage, MOT, striping, Etc)	10%	$	69,938.00
Mobilization	10%	$	76,931.80
Contingency	25%	$	211,562.45
Construction Total			$1,057,812
PE	10%		$105,781
CE	10%		$105,781
ROW			$2,500
Section Total			$1,271,875
Rounded Section Total			**$1,280,000**

High Street / Bennett Drive Intersection

Length 300 ft.

	Width (ft.)	Area (SF)	Unit Cost ($ / SF)	Cost ($)	Notes
New Sidewalk (LT)	5	1500	$24	$36,000	Assumes 2" HMA atop 12" agg type D with granite curb type 5
Roadway Pavement	34	10200	$6	$61,200	Assume full width Mill & Fill; average pavement width assumed based on Google Earth measurements
	CB & Related Items (EA)				
Drainage	2		$10,000	$20,000	Priced to include UD and connections to and adjustment of existing drainage; assume 1 basin every 300 ft.
			Subtotal	**$117,200**	

Miscellaneous Items (signage, MOT, striping, Etc)	10%	$	11,720.00
Mobilization	10%	$	12,892.00
Contingency	25%	$	35,453.00
Construction Total			$177,265
PE	10%		$17,727
CE	10%		$17,727
ROW			$2,500
Section Total			$215,218
Rounded Section Total			**$220,000**

North Main Street Reconfiguration (High Street Realignment) (No cross section - assume an esplanade and shared use path.)

Length 1,000 ft.

	Width (ft.)	Area (SF)	Unit Cost ($ / SF)	Cost ($)	Notes
Esplanade	5	5000	$5	$25,000	
Shared Use Path	10	10000	$27	$270,000	
Roadway Pavement	30	30000	$30	$900,000	Assume full width and full depth reconstruction; average pavement width assumed based on Google Earth measurements
	Length (ft.)		**Unit Cost ($ / LF)**		
New Granite Curb	1700		$50	$85,000	Assume new granite curb along Main Street and High Street Realignment - curb added as a separate line item here to account for full reconstruction work from the High Street realignment
	CB & Related Items (EA)		**Unit Cost ($/EA)**		
Drainage	7		15,000	$105,000	Priced to include UD and connections to and adjustment of existing drainage; assume 1 basin every 300 ft.
			Subtotal	**$1,385,000**	

Miscellaneous Items (signage, MOT, striping, Etc)	10%	$	138,500.00
Mobilization	10%	$	152,350.00
Contingency	25%	$	418,962.50
Construction Total			$2,094,813
PE	10%		$209,481
CE	10%		$209,481
ROW			$2,500
Section Total			$2,516,275
Rounded Section Total			**$2,520,000**

Prospect Street (No cross section - assume an esplanade and shared use path.)

Length 273 ft.

	Width (ft.)	Area (SF)	Unit Cost ($ / SF)	Cost ($)	Notes
Esplanade	5	1365	$5	$6,825	
Shared Use Path	10	2730	$27	$73,710	
Roadway Pavement	60	16380	$6	$98,280	Assume full width Mill & Fill; average pavement width assumed based on Google Earth measurements
	CB & Related Items (EA)		**Unit Cost ($/EA)**		
Drainage	2		10,000	$20,000	Priced to include UD and connections to and adjustment of existing drainage; assume 1 basin every 300 ft.
			Subtotal	**$198,815**	

Miscellaneous Items (signage, MOT, striping, Etc)	10%	$	19,881.50
Mobilization	10%	$	21,869.65
Contingency	25%	$	60,141.54
Construction Total			$300,708
PE	10%		$30,071
CE	10%		$30,071
ROW			$2,500
Section Total			$363,349
Rounded Section Total			**$370,000**

Community School Connector (No cross section - assume esplanades on both sides and a shared use path.)

Length 521 ft.

	Width (ft.)	Area (SF)	Unit Cost ($ / SF)	Cost ($)	Notes
Esplanade (LT)	4	2084	$5	$10,420	
Esplanade (RT)	4	2084	$5	$10,420	
Shared Use Path	10	5210	$27	$140,670	
			Subtotal	**$161,510**	

Miscellaneous Items (signage, MOT, striping, Etc)	10%	$	16,151.00
Mobilization	10%	$	17,766.10
Contingency	25%	$	48,856.78
Construction Total			$244,284
PE	10%		$24,428
CE	10%		$24,428
ROW			$2,500
Section Total			$295,641
Rounded Section Total			**$300,000**

Sweden Street (outer)

Length 4,129 ft.

	Width (ft.)	Area (SF)	Unit Cost ($ / SF)	Cost ($)	Notes
Sidewalk (LT)	5	20645	$24	$495,480	Assumes 2" HMA atop 12" agg type D with granite curb type 5
Shared Use Path (RT)	10	41290	$27	$1,114,830	
Roadway Pavement	30	123870	$6	$743,220	Assume full width Mill & Fill; width taken from proposed cross sections.
	CB & Related Items (EA)		**Unit Cost ($/EA)**		
Drainage	28		10,000	$280,000	Priced to include UD and connections to and adjustment of existing drainage; assume 1 basin every 300 ft.
			Subtotal	**$2,633,530**	

Miscellaneous Items (signage, MOT, striping, Etc)	10%	$	263,353.00
Mobilization	10%	$	289,688.30
Contingency	25%	$	796,642.83
Construction Total			$3,983,214
PE	10%		$398,321
CE	10%		$398,321
ROW			$2,500
Section Total			$4,782,357
Rounded Section Total			**$4,790,000**

Sweden Street (Demonstration Project)

Length 675 ft.

	Length (ft.)	Unit Cost ($ / LF)	Cost ($)	Notes
centerline	675	$8	$5,400	Length measurements taken from Google Earth
left edge line	675	$8	$5,400	Length measurements taken from Google Earth
right edge line	675	$8	$5,400	Length measurements taken from Google Earth
		Subtotal	**$16,200**	

Miscellaneous Items (signage, MOT, striping, Etc)	10%	$	1,620.00
Mobilization	10%	$	1,782.00
Contingency	25%	$	4,900.50
Construction Total			$89,303
PE	10%		$8,930
CE	10%		$8,930
ROW			$2,500
Section Total			$109,663
Rounded Section Total			**$110,000**

Water Street

Length 2,446 ft.

	Width (ft.)	Area (SF)	Unit Cost ($ / SF)	Cost ($)	
Sidewalk (LT)	5	12230	$24	$293,520	Assumes 2" HMA atop 12" agg type D with granite curb type 5
Shared Use Path (LT)	10	24460	$27	$660,420	
Esplanade (RT)	6	14676	$5	$73,380	
Sidewalk (RT)	5	12230	$24	$293,520	Assumes 2" HMA atop 12" agg type D with granite curb type 5
Roadway Pavement	30	73380	$6	$440,280	Assume full width Mill & Fill; width taken from proposed cross sections.
	Length (ft.)		**Unit Cost ($ / LF)**		
Retaining Wall (LT)	200		$240		Ref. Fort Kent Estimate under 'Sidewalk village to town hall tab'
	CB & Related Items (EA)		**Unit Cost ($/EA)**		
Drainage	17		10,000	$170,000	Priced to include UD and connections to and adjustment of existing drainage; assume 1 basin every 300 ft.
			Subtotal	**$1,931,120**	

Miscellaneous Items (signage, MOT, striping, Etc)	10%	$	193,112.00
Mobilization	10%	$	212,423.20
Contingency	25%	$	584,163.80
Construction Total			$2,920,819
PE	10%		$292,082
CE	10%		$292,082
ROW			$2,500
Section Total			$3,507,483
Rounded Section Total			**$3,510,000**