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Responsiveness.
Results.

Final Study

Route 4 Traffic & Safety Study Berwick, Maine

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June 30, 2023

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Acknowledgements

Gorrill Palmer would like to thank the Town of Berwick, the Maine Department of Transportation, the Southern Maine Planning & Development Commission, and Committee Members for their contributions and assistance in the completion of this study.

INTRODUCTION

The study area for this project includes Route 4 in Berwick from the South Berwick Town line to the North Berwick Town line (See Appendix A). Route 4 has a AADT of approximately 10,000 vehicles per day, is predominantly 55 mph within the study area, and is primarily a single lane in each direction. The primary purpose of this study was to present alternatives to improve the safety of the corridor. However, improving the safety needs to be balanced with the mobility of the corridor, since Route 4 functions as a high commuter route, not just locally but regionally. The corridor also serves as direct access to numerous businesses and residents.

In addition to the existing businesses and residents directly accessing Route 4, this area has significant growth potential not only for those undeveloped or underdeveloped parcels with direct access to Route 4, but also those parcels that access the side roads or within the region. With an increase in traffic and driveways along the corridor, additional conflicts are introduced along with a potential for a reduction in safety.

The first task of the study was to establish the existing conditions of the Route 4 corridor to gain an understanding of how the corridor currently operates. The initial existing condition's evaluation was completed to set the benchmark for which a comparison to the impacts of proposed recommendations could be made. The existing conditions evaluation included establishing traffic volumes within the corridor, completing capacity/queue analysis, investigating the need for turn lanes; and establishing free flow speeds, and identifying lots that could be developed in the future.

The second task of the study involved working with the SMPDC, MaineDOT, the Town and committee members to identify potential alternatives for the corridor to address safety as well as other deficiencies identified in the existing conditions evaluation. Once the alternatives were identified, they were evaluated, and preliminary opinions of costs were calculated to assist with the planning for future implementation.

The following is a summary of the methodology, results, and conclusions of the study with supporting documentation included in the Appendices as noted.

BACKGROUND AND PURPOSE

It is critical to know and understand the background and purpose for the study to ensure the recommended alternatives align. The following is directly from the Request for Proposals – Route 4 Traffic and Safety Study:

> *"Maine Route 4 runs North/South from Rangeley Maine to the New Hampshire border in South Berwick. The approximately 2.9-mile section of Route 4 in Berwick is classified as a Minor Arterial, State Highway and connects North Berwick to South Berwick. The area along US Route 4 in Berwick is primarily commercial and industrial with residential uses mixed in. This section of roadway and associated intersections experiences a high number of crashes including multiple fatal and severe injury crashes documented over the last 10 years. The purpose of this study is to identify projects to improve safety along the existing roadway while preserving or improving the overall capacity and to minimize congestion while providing safe vehicular access to new and existing development along Route 4.*

PROJECT OBJECTIVES

The following is directly from the Request for Proposals – Route 4 Traffic and Safety Study:

"The purpose of the study is to develop a corridor safety improvement plan identifying short-term and long-term improvements to the corridor including major intersections and access management recommendations."

STUDY AREA

The study area includes approximately 2.9 miles of Route 4 from the South Berwick town line to the North Berwick town line. Although all intersections within the study area were considered throughout the study process, the following three intersections were identified as key locations where SMPDC provided traffic volumes:

- Blackberry Hill Road @ Route 4 (unsignalized)
- Pond Road @ Kind Farms @ Route 4 (unsignalized)
- Old Route 4 @ Route 4 (unsignalized)

EXISTING TRAFFIC VOLUMES

Existing traffic volumes used for this study are based on turning movement counts completed by the Southern Maine Planning and Development Commission (SMPDC). Turning movement counts for the Route 4 / Blackberry Hill Road and Route 4 / Pond Road / Kind Farms Access intersections were completed on Thursday November 3rd, 2022, while the turning movement count for the Route 4 / Old Route 4 intersection was completed on Tuesday, November 29th, 2022. The counts were completed for a minimum of 12 hours during a weekday. The existing AM and PM peak hour count volumes are presented on the Raw Volumes Figure 2 included in Appendix B.

The existing raw 2022 traffic volumes described above were adjusted seasonally to represent peak summer traffic conditions. The 2022 seasonally adjusted volumes were then adjusted by an annual growth factor to yield 2023 design hourly volumes. The following section describes the adjustments in more detail.

It should be noted that in addition to the weekday turning movement counts, the intersection of Route 4 / Pond Road / Kind Farms Access was also counted on Saturday, November 5, 2022 from 10:00 AM – 6:00 PM. The Saturday peak hour was from 3:00 – 4:00 PM. The Saturday peak hour total entering volume (990 vehicles) of the intersection was slightly less than the weekday PM peak hour (1162 vehicles), but it was greater than the AM peak hour (887 vehicles). Of note is that the traffic turning into / out of the Kind Farms Access was higher on a Saturday peak hour than a weekday PM peak hour. This is of special interest because turning traffic is what has the higher potential for causing crashes. Specifically, there was a disproportionate number of vehicles traveling northbound turning left into the site and then turning right exiting the site to/from the South Berwick and NH direction. See Figure 2 in Appendix B for the raw count volumes.

ADJUSTED TRAFFIC VOLUMES

Seasonal Adjustment

The seasonal adjustment was calculated by using the weekly group mean factors provided by MaineDOT specific to this corridor. To calculate the seasonal adjustment, the factor for the week the count was completed is divided by the sixth highest factor for the year, which typically occurs in July or August. This will factor the volumes to represent peak summer traffic conditions. See Figure 3 in Appendix B for adjustment factors that were applied.

Annual Adjustment

Once the raw 2022 traffic volumes are adjusted seasonally, they are then adjusted for annual growth to the years 2023 and 2045. This growth adjustment represents background growth of the surrounding regional area. Based on discussions with the MaineDOT planning office, it was determined that a 0.5% straight line growth per year was appropriate for this area.

The 2023 and 2045 design hourly volumes and adjustments used are shown on Figures 3 and 4 respectively in Appendix B.

SPEED STUDY

Since higher speeds can be directly related to the severity of a crash, a vehicular speed study was completed for Route 4 traffic within the study area to determine the 50th and 85th percentile speeds. The study was conducted approximately 500 feet southwest of the Route 4 / Old Route 4 intersection (Maggies Dine & Drive) and approximately 300 feet southwest of the Route 4 / Blackberry Hill Road intersection. The study locations were selected based on discussions at the project Kick-Off Meeting (November 1, 2022), prior to conducting the study. These locations were chosen because they are both within the 55-mph speed zone, are not too close to high volume side streets or businesses and are relatively level and straight segments of roadway. The speed zones on Route 4 and the locations of the speed study are included in Appendix C, Figures 5 and 6.

The study was performed using a calibrated radar gun on November 8, 2022, from approximately 1:30 PM to 4:00 PM. In completing the speed study, only free-flowing vehicles on Route 4 were recorded. Free-flowing means vehicles following other vehicles were not recorded, since their speed can be hindered by the lead vehicle. The free-flowing speed for 100 vehicles in each direction (total of 200 vehicles per location) was recorded. The 85th percentile speed is the speed at which 85% of traffic is traveling at or below. The 50th percentile speed is determined by finding the median speed collected in the data set. The following tables summarize the data with the ***italicized and bold*** speed being the posted speed limit of 55 mph, data highlighted green is the 50th percentile speed and data highlighted in yellow is the 85th percentile speed.

Table 1 – Speed Study Results (Maggie's Dine and Drive)

Northbound		
Recorded Speed (mph)	Number of Vehicles	Percentile
<45	2	2
45	0	2
46	1	3
47	2	5
48	5	10
49	5	15
50	3	18
51	6	24
52	3	27
53	13	40
54	5	45
55	***10***	***55***
56	6	61
57	11	72
58	9	81
59	5	86
60	7	93
61	3	96
62	0	96
63	2	98
64	1	99
65	0	99
>65	1	100

Southbound		
Recorded Speed (mph)	Number of Vehicles	Percentile
<45	1	1
45	1	2
46	4	6
47	2	8
48	3	11
49	4	15
50	4	19
51	4	23
52	6	29
53	2	31
54	7	38
55	***13***	***51***
56	9	60
57	6	66
58	11	77
59	5	82
60	7	89
61	4	93
62	4	97
63	1	98
64	2	100
65	0	100
>65	0	100

As shown in Table 1, the 50th percentile speed at this location is 55 mph for both northbound and southbound directions, which is the posted speed limit. The 85th percentile speed is 59 mph for northbound traffic and 60 mph for southbound traffic, which is 4 mph and 5 mph over the posted speed limit respectively. Typically, the 85th percentile speed is approximately 5 mph over the posted speed limit or less, so these would both be considered "typical". In the northbound direction 55% of drivers are driving at or below the speed limit and in the southbound direction 51% of drivers are driving at or below the speed limit.

Table 2 – Speed Study Results (South of Blackberry Hill Road)

Northbound		
Recorded Speed (mph)	Number of Vehicles	Percentile
<45	5	5
45	2	7
46	2	9
47	6	15
48	6	21
49	5	26
50	7	33
51	10	43
52	9	52

Southbound		
Recorded Speed (mph)	Number of Vehicles	Percentile
<45	10	10
45	3	13
46	3	16
47	2	18
48	7	25
49	4	29
50	4	33
51	11	44
52	10	54

53	15	67
54	8	75
55	***4***	***79***
56	7	86
57	3	89
58	5	94
59	1	95
60	2	97
61	1	98
62	1	99
63	1	100
64	0	100
65	0	100
>65	0	100

53	12	66
54	10	76
55	***5***	***81***
56	3	84
57	9	93
58	2	95
59	4	99
60	0	99
61	0	99
62	0	99
63	1	100
64	0	100
65	0	100
>65	0	100

As shown in Table 2, the 50th percentile speed at this location is 52 mph for both northbound and southbound traffic, which is 3 mph under the posted speed limit. The 85th percentile speed is 56 mph for northbound traffic and 57 mph for southbound traffic, which are only 1 and 2 mph over the posted speed limit respectively. The 50th and 85th percentile speeds at this location may be less than those in Table 1 because this location is located closer to the center of South Berwick, and the speed limit reduces to 45 mph approximately 1,000 feet to the south.

Although the existing speeds do not significantly deviate from the posted speed limit, it should be noted that the travel speeds along this corridor are still significantly high with a speed limit of 55 mph. At that speed, any crash has a strong potential to result in injuries. One of the goals for this study and its recommended alternatives is to reduce the speed of vehicles traveling through this area and separate where practical the turning traffic from the through traffic. In reducing the speed and separating traffic streams, the goal is to reduce the number of crashes, especially fatalities and serious injury crashes.

SAFETY REVIEW

Safety Objective:

As identified previously, the primary objective of this study was to "develop a corridor safety improvement plan identifying short-term and long-term improvements to the corridor including major intersections and access management recommendations". To accomplish the objective and better understand the current safety of the corridor, GP reviewed the crash history and patterns from several perspectives and over different time periods. The MaineDOT was critical in providing the information and background so that this in-depth review could be completed. The following describes the safety evaluation in more detail.

High Crash Locations (HCLs)

To identify high crash locations (HCLs) within the study area, GP requested and reviewed the latest MaineDOT 3-year (2020-2022) crash history for the study area. To evaluate whether a location has a crash problem, MaineDOT uses two criteria to define a HCL. Both criteria must be met to be classified as an HCL. The criteria are as follows:

1. A critical rate factor (CRF) of 1.00 or more for a three-year period. A CRF compares the actual crash rate to the rate for similar intersections in the state, A CRF of less than 1.00 indicates a rate of less than average **and:**

2. A minimum of eight crashes over the same three-year period.

The following Table 3 shows the number of crashes and CRF over the latest three-year period (2020-2022) for the segment of Route 4 (Portland Street) from the South Berwick/Berwick Town Line to the North Berwick/Berwick Town Line.

Table 3 – HCL Evaluation

Nodes	Description	# of Crashes	CRF	High Crash Location (Y/N)
Intersections				
56703	Town Line - Berwick, South Berwick	0	0	N
57008	Driscoll Lane / State Route 4	0	0	N
58286	Circuit Road / State Route 4	0	0	N
57009	Blackberry Hill Road / State Route 4	6	1.55	N
58283	Pond Road / State Route 4	1	0.28	N
56706	Old Route 4 / State Route 4	2	0.59	N
56707	Town Line – Berwick, North Berwick	0	0	N
Segments				
56703 – 57008	State Route 4 from Berwick/South Berwick Town Line to Driscoll Lane	0	0	N
57008 – 58286	State Route 4 from Driscoll Lane to Circuit Road	6	0.41	N
57009 – 58286	State Route 4 from Blackberry Hill Road to Circuit Road	1	0.35	N
57009 – 58283	State Route 4 from Blackberry Hill Road to Pond Road	1	0.15	N
58283 – 56706	State Route 4 from Pond Road to Old Route 4	16	0.43	N
56706 – 56707	State Route 4 from Old Route 4 to Berwick/North Berwick Town Line	3	0.17	N

As shown in Table 3, there are no HCLs within the study area. It should be noted that the crash history only identifies reported crashes and does not include "near misses".

Although there are no HCLs, there are two locations which met one of the two criteria for a HCL; the intersection of Blackberry Hill Road / State Route 4 (Portland Street) (6 crashes, CRF = 1.55), and the roadway segment of Route 4 from Pond Road to Old Route 4 (16 crashes, CRF = 0.43). A summary of crash data for the study area is included in Appendix D.

Fatalities and Serious Injuries

A review of fatal and serious injury crashes was completed for the last 10-year period (2013 – 2022). In that 10-year period, there were a total of 12 crashes (6 fatalities and 6 serious injuries). Those crashes are shown on the "Conceptual Roadway Improvement Plans" provided in Appendix F. The following is a list of those crashes as they occurred from south to north on the corridor as shown on the plans in Appendix F.

Date: 5/4/2017
Injury Level: Serious Injury
Type: Rear End / Sideswipe
Location: Straight Road

Date: 3/8/2020
Injury Level: Serious Injury
Type: Intersection Movement
Location: Three Leg Intersection

Date: 2/10/2015
Injury Level: Serious Injury
Type: Went off Road
Location: Straight Road

Date: 2/26/2022
Injury Level: Fatality
Type: Rear End / Sideswipe
Location: Driveway

Date: 9/2/2014
Injury Level: Fatality
Type: Rear End / Sideswipe
Location: Driveway

Date: 3/18/2019
Injury Level: Serious Injury
Type: Rear End / Sideswipe
Location: Driveway

Date: 6/9/2018
Injury Level: Fatality
Type: Head-On / Sideswipe
Location: Curved Road

Date: 4/10/2013
Injury Level: Fatality
Type: Head-On / Sideswipe
Location: Straight Road

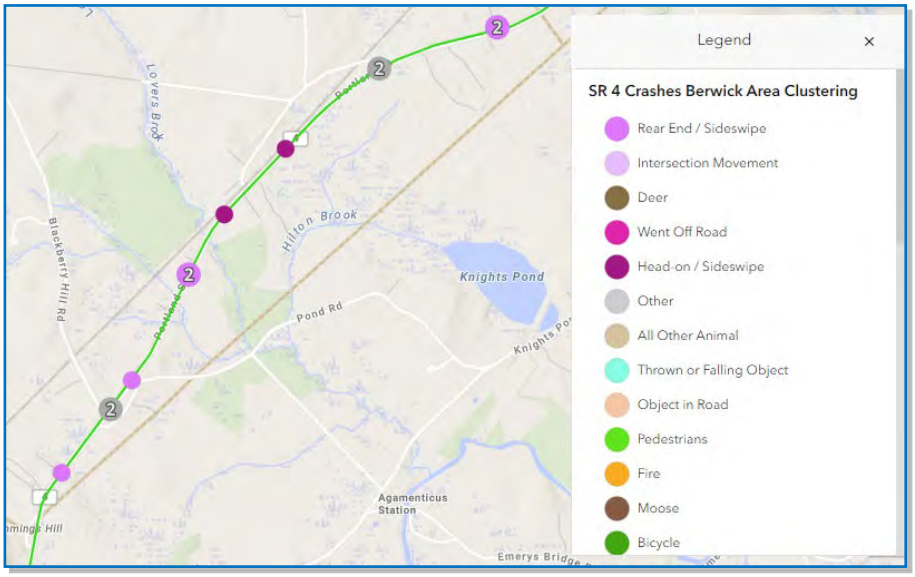
Date: 1/10/2018
Injury Level: Fatality
Type: Rear End / Sideswipe
Location: Straight Road

Date: 8/14/2022
Injury Level: Fatality
Type: Head-On / Sideswipe
Location: Three Leg Intersection

Date: 2/11/2015
Injury Level: Serious Injury
Type: Rear End / Sideswipe
Location: Driveway

Date: 10/17/2014
Injury Level: Serious Injury
Type: Rear End / Sideswipe
Location: Driveway

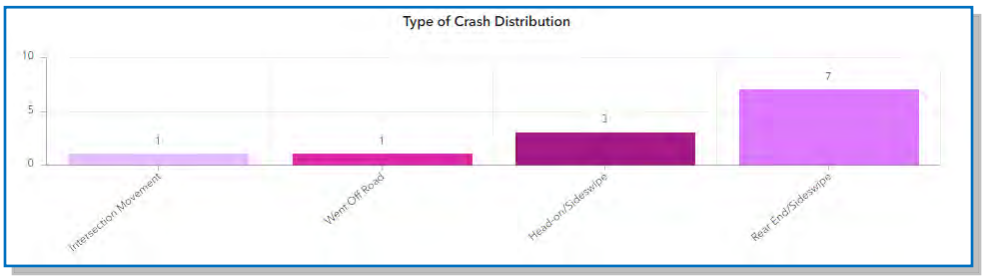
As shown on the plans in Appendix F, the six serious injury crashes were relatively spread out over the corridor, while the six fatal crashes occurred from the Pond Road intersection to the Old Route 4 intersection, with two of the six fatal crashes occurring immediately around the Old Route 4 intersection. The following provides more information on the patterns of the above fatal and serious injury crashes that have occurred in the last 10 years.

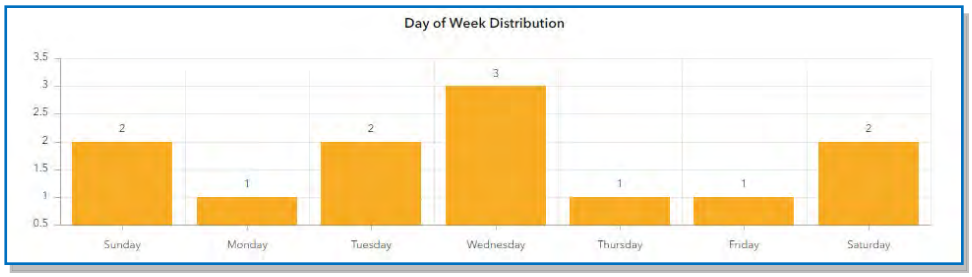


In addition to showing the crash locations on the figures in Appendix F, the figure to the left also shows the locations of those 12 crashes.

As identified previously, most of the crashes were "Rear End / Sideswipe"

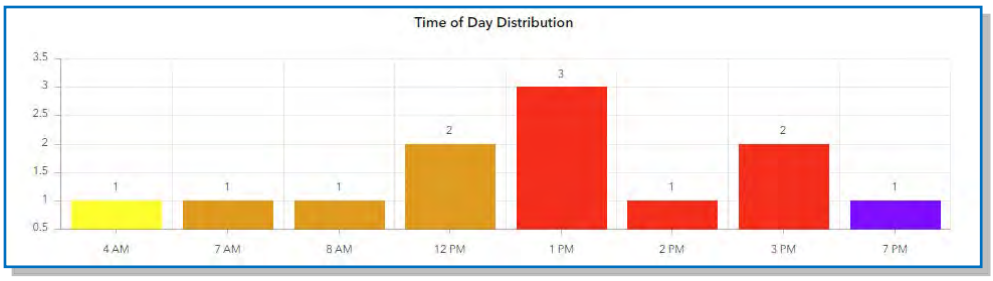
As identified from the adjacent bar chart, the majority of the crashes are "Rear End / Sideswipe", with the second most occurrence being "Head-on/Sideswipe" .

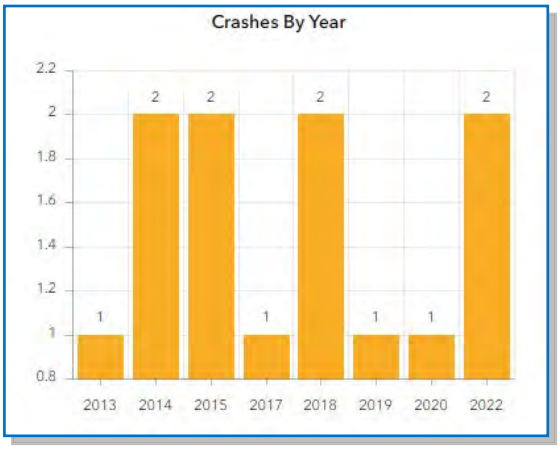




As seen from the "Day of Week Distribution", crashes were distributed relatively evenly across the week, with Wednesday more active with 3 crashes.

Based on the "Time of Day Distribution", it appears the most crashes occur at 1:00 PM, with the remainder of the crashes relatively even across the day.





As seen from the "Crashes By Year", there is an average of 1.2 fatal & serious injury crashes per year. If a corridor experiences a consistent rate of more than 1 crash (fatal + serious injury) every year for 10 years, it warrants further review and potential mitigation.

Safety History (all crash types):

Just because a location is not classified as a high crash location, does not mean that safety can't be improved at that location. To better understand the longer crash history of the corridor, in addition to the latest three-year crash history used to determine a HCL, the five and ten-year crash histories were also reviewed. The following Table 4 summarizes the three, five, and ten-year crash histories for the corridor. The supporting documentation is provided in Appendix D.

Table 4 – Crash History (All Crash Types)

Nodes	Description	2020 -2023 (3 yrs)	2018 – 2022 (5 yrs)	2013 – 2022 (10 yrs)
Intersections				
56703	Town Line - Berwick, South Berwick	0	0	0
57008	Driscoll Lane / State Route 4	0	0	1
58286	Circuit Road / State Route 4	0	1	2
57009	Blackberry Hill Road / State Route 4	6	10	13
58283	Pond Road / State Route 4	1	1	2
56706	Old Route 4 / State Route 4	2	3	5
56707	Town Line – Berwick, North Berwick	0	0	0
Intersection Total		**9**	**15**	**23**
Segments				
56703 – 57008	State Route 4 from Berwick/South Berwick Town Line to Driscoll Lane	0	0	1
57008 – 58286	State Route 4 from Driscoll Lane to Circuit Road	6	9	18

Nodes	Description	2020 -2023 (3 yrs)	2018 – 2022 (5 yrs)	2013 – 2022 (10 yrs)
57009 – 58286	State Route 4 from Blackberry Hill Road to Circuit Road	1	1	2
57009 – 58283	State Route 4 from Blackberry Hill Road to Pond Road	1	2	4
58283 – 56706	State Route 4 from Pond Road to Old Route 4	16	30	56
56706 – 56707	State Route 4 from Old Route 4 to Berwick/North Berwick Town Line	3	7	18
Segment Total		**27**	**49**	**99**
Total Corridor Crashes		**36**	**64**	**122**

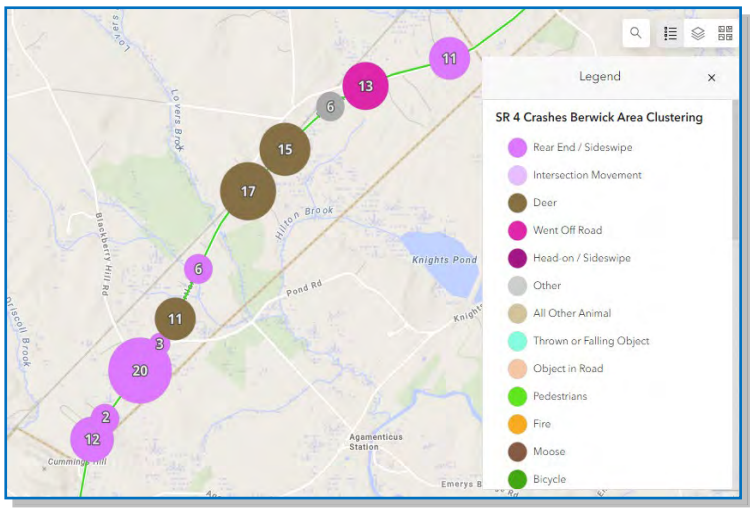
As shown from the results in Table 4, the two locations identified previously in Table 3 as meeting one of the two criteria for a high crash location, also show a history of crashes at those locations. This could indicate that safety improvements may be warranted and would be beneficial if implemented. In addition to the two locations identified in Table 3, the above Table 4 identifies two other roadway segments of interest as follows:

- State Route 4 from Driscoll Lane to Circuit Road
- State Route 4 from Old Route 4 to Berwick/North Berwick Town Line

Although the safety information for the whole corridor will be considered in evaluating possible alternatives to improve safety, these four specific locations are of particular interest.

Crash Patterns (all crash types):

In addition to the fatal and serious injury crash patterns identified previously, overall crash patterns for the study area were also reviewed. The patterns discussed in more detail as follows are based on the years 2013-2022, a ten-year history. Based on the data, there were 122 crashes in that 10-year time period, with 23 occurring at intersections and the remaining 99 occurring on roadway segments. This information confirms the information provided for the 10-year history in the previous Table 4.



As seen from the adjacent location map, a significant number of crashes occurred in proximity to the Blackberry Hill Intersection and on the roadway segment northerly, just south of the Old Route 4 intersection.

- Intersections:

A breakdown of the Route 4 intersection crashes is as follows:

Driscoll Lane	1	5%
Circuit	2	8%
Blackberry Hill Road	13	57%
Pond Road	2	8%
Old Route 4	5	22%
Total	**23**	**100%**

As the summary shows, approximately 57% of the intersection crashes for the corridor occurred at the Blackberry Hill Road intersection, with approximately 22% occurring at the Old Route 4 intersection. Therefore, almost 80% of the intersection crashes occurred at two locations.

- Segments:

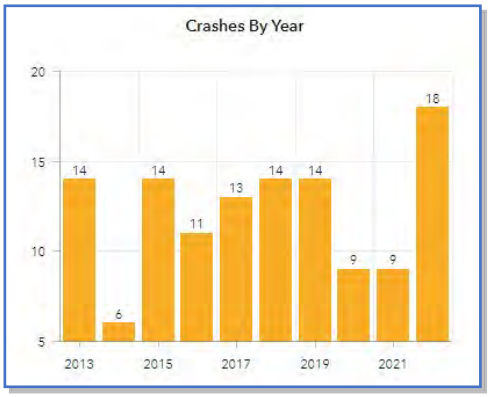
A breakdown of the Route 4 roadway segment crashes is as follows:

South Berwick TL to Driscoll Lane	1	1%
Driscoll Lane to Circuit Road	18	18%
Circuit Road to Blackberry Hill Road	2	2%
Blackberry Hill Road to Pond Road	4	4%
Pond Road to Old Route 4	56	57%
Old Route 4 to North Berwick TL	18	18%
Total	**99**	**100%**

As the summary shows, approximately 57% of the segment crashes for the corridor occurred between Pond Road and Old Route 4. As identified previously, fatal crashes were also concentrated between Pond Road and Old Route 4. The second highest crash patterns were 18% each occurring between Driscoll Lane to Circuit Road and Old Route 4 to North Berwick Town Line.

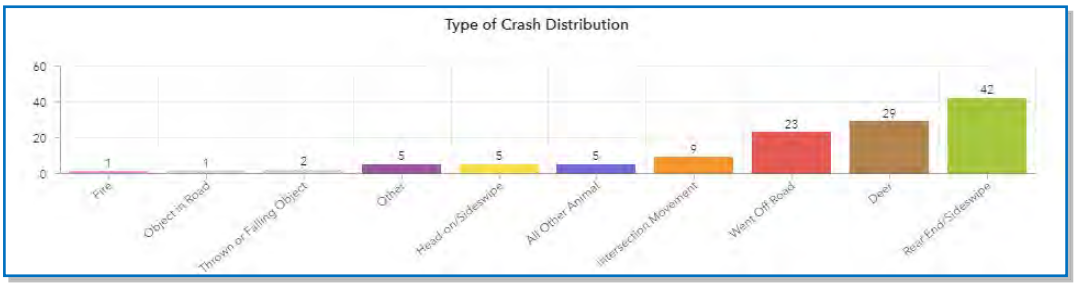
- Overall Patterns:

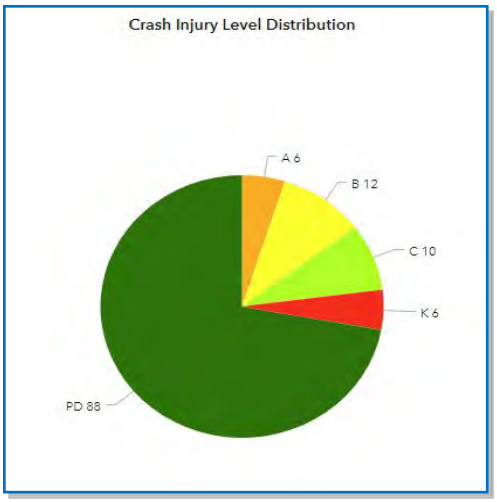
In addition to where the crashes are occurring, it is important to understand the timing and make-up of the crashes. The following visuals are from the link provided by MaineDOT and help to further understand the crash patterns. The visuals are for the 10-year time period 2013-2022.



This "Crashes By Year" graphic shows the distribution of the crashes over the last 10 years. As shown, there was a decrease in crashes in 2020 and 2021 during Covid, with a sharp increase in 2022. This spike in 2022 is concerning and is hopefully not the beginning of a trend, which would make this study and its recommendations even more critical to implement.

The adjacent "Type of Crash Distribution" graphic shows the type of crashes throughout the corridor. This graphic shows that the majority of the crashes within the study area are rear-end / sideswipe with the second largest crash type associated with deer.



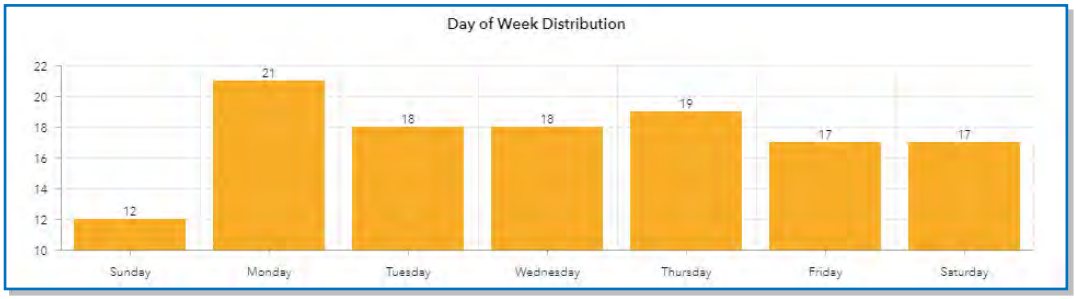


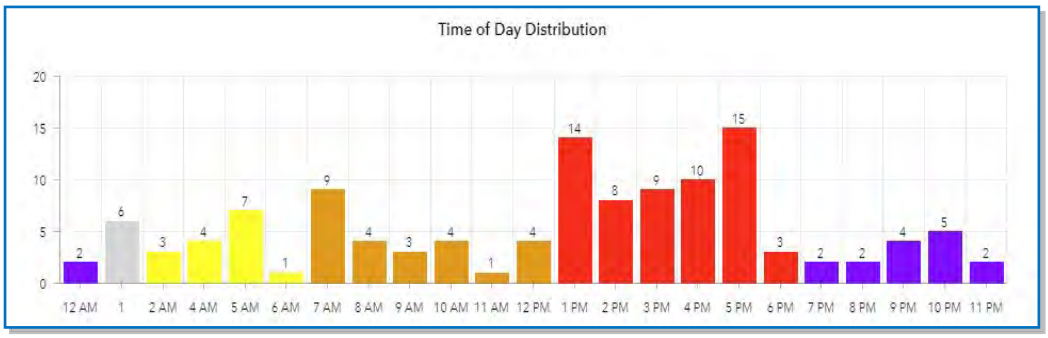
The "Crash Injury Level Distribution" shows the severity of the injury level of the occupants of the vehicles. The following are the meaning of each of the levels:

PD = Property Damage
C = Possible Injury
B = Suspected Minor Injury
A = Suspected Serious Injury
K = Fatality

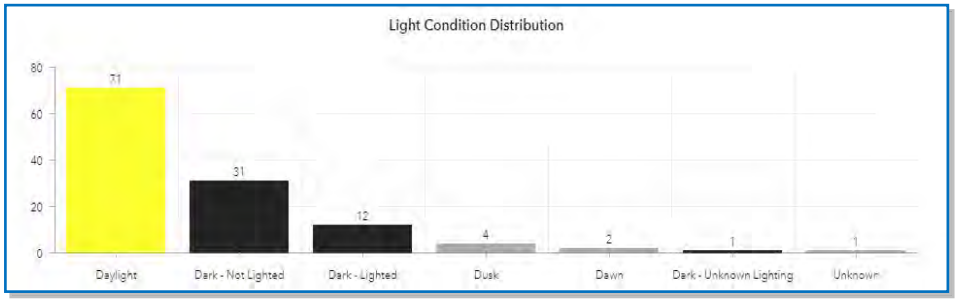
As can be seen from the graphic, although approximately 72% of the crashes are property damage, there are still approximately 28% that potentially sustained injuries, including approximately 10% fatality and serious injury crashes.

The "Day of the Week Distribution" shows when the crashes occurred throughout the week. Of note is that Saturday is very similar to the rest of the week. Typically, if the crashes are primarily Monday through Friday, it can indicate that the crashes are more heavily associated with commuter traffic. That does not appear to be the case.





The "Time of Day Distribution" graphic shows how crashes are distributed during each hour of the day. As can be seen from the graphic, the peak hours for crashes appear to be during the 1:00 PM and 5:00 PM hours, with significant decreases before and after the afternoon peak hours. This could indicate that it could be the result of a large local employer having a shift change, or other special event occurring during this time on a regular basis that may increase congestion on this section of roadway.



The "Light Condition Distribution" graphic shows the lighting conditions for the crashes. As the graphic shows, approximately 58% of the crashes occurred in daylight. Although this is greater than half, there are still approximately 35% of the crashes occurring in "Dark" conditions, with approximately 72% of those occurring in "non-lighted" conditions. Overhead illumination is recommended in the alternatives at locations where raised medians within the road are being recommended.

The previous seven graphics provide a detailed picture of the crash patterns for Route 4 within the study area. This detailed picture along with other existing condition evaluations were considered when making alternative recommendations as discussed in more detail in the "Potential Alternatives" section of this study.

POTENTIAL DEVELOPMENTS

As part of this evaluation, an assessment of undeveloped and underdeveloped lots with frontage along Route 4 was completed. The purpose of identifying undeveloped or underdeveloped property along the study area is to identify where potential driveways may locate in the future and where additional traffic may be introduced to the roadway network. This assessment was completed by using aerial imagery and Berwick tax maps to investigate parcels which were not currently developed for commercial or residential uses on Route 4 between the Berwick / North Berwick and Berwick / South Berwick town lines. Based on this evaluation, four parcels were identified within this segment which are as follows: Tax Map R-70, Lots 5-3 and 12; and Tax Map R-72, Lots 10-1 and 17. An aerial map of these lots is included in Appendix E.

In performing this study, a convenience store with fueling positions was submitted to the Town and MaineDOT for a Traffic Movement Permit for Map R-70, Lot 12. This is one of the locations that was identified earlier for this study as having potential for development. As part of this study, GP has been working with the Town, MaineDOT, and the applicant on the location and design of that driveway. As a result, the plans provided in this study represent the approximate design of that driveway.

This general area is poised to experience potentially significant growth in the area. With growth also comes additional driveways and traffic volumes, which can also introduce additional conflicts. The purpose of this study is not only to address the existing safety of the corridor, but to provide alternatives that can help reduce future conflicts as growth occurs.

POTENTIAL ALTERNATIVES

Potential Alternatives Approach – The primary reason for this study was to review and improve the safety of the corridor while not reducing the mobility. As such, the recommended alternatives are based on a detailed review of the crashes within the study area and recommending alternatives to address identified safety concerns.

Potential alternatives are described in more detail as follows. The alternatives are listed in the order in which they are expected to have the most beneficial impact, in our opinion, on the crashes along the corridor, with the first alternatives expected to have the most positive impact with the last ones having the least impact.

Turn Lanes:

The three key study area intersections (identified previously) were evaluated to determine if left or right turn lanes on Route 4 are warranted. The evaluations were based on NCHRP 457 methodology consistent with requirements of the MaineDOT. The analyses are provided in Appendix G.

Based on that evaluation, turn lanes on Route 4 were warranted at the following locations:

- Blackberry Hill Road – Both left and right turn lanes for vehicles turning onto Blackberry Hill Road
- Kind Farms / Pond Road – Both left and right turn lanes for vehicles turning into Kind Farms and a left turn lane for vehicles turning onto Pond Road
- Old Route 4 – Left turn lane for vehicles turning onto Old Route 4

Safety Benefit:

As identified previously in the safety section, approximately 87% of the intersection crashes within the study area occurred

at one of the above three intersections, with the majority of those crashes being rear-end or sideswipe. With the introduction of turn lanes, the turning traffic will be able to exit from the through traffic stream while completing their turn and reduce if not eliminate the existing crash patterns at those intersections.

In combination with the turn lanes, a channelization island is being recommended on Circuit Road at the Route 4 intersection. This island will reduce the potential for conflicting left turns into or out of Circuit Road conflicting with the recommended left turn lane for Blackberry Hill Road. Circuit Road also has access onto Pond Road, so vehicles can still turn left onto or off from Route 4 at the Pond Road / Route 4 intersection.

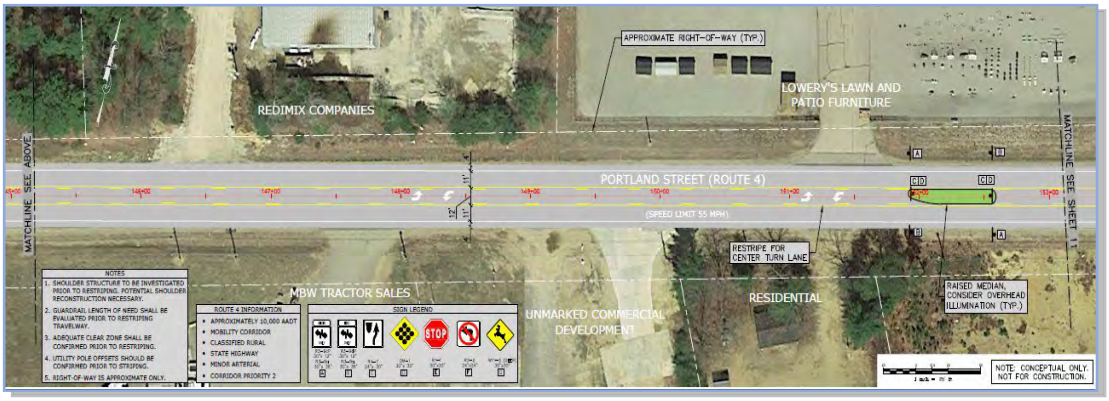
It should be noted that the convenience store identified previously is also proposing left and right turn lanes for their access as shown in the conceptual plans.

Center Two-Way Left Turn Lanes

In addition to the formal left turn lanes for the intersections, center two-way left turn lanes are recommended just north of the intersection with Pond Road / Kind Farms and for most of the corridor north of Maggie's Dine and Drive (Drawing No. 9). These are locations where there is a concentration of driveways but where formal left turn lanes would not be appropriate due to the lower traffic volumes making the turns and the potential for conflicting left turn movements.

Safety Benefit:

The purpose of the two-way left turn lane is similar to the formal turn lanes, in that they allow left turning vehicles to exit from the through traffic stream while completing their turn. This is intended to reduce the rear-end / sideswipe crashes although there were less of these types of crashes than the intersections where the formal turn lanes are being recommended.



An additional safety benefit to the center two-way left turn lanes is that it gives the perception of a more restrictive roadway than a simple two-lane roadway with wide shoulders. This should aid in reducing vehicle speeds.

Special Note:

It should be noted that the existing roadway cannot simply just be restriped to create a center two-way left turn lane. The roadway would have to be surveyed and explored to determine if the shoulders are

adequate to accommodate increases in traffic, the cross-slopes are appropriate, and clear zones will need to be checked because the through lanes are being shifted closer to the edge of the roadway.

Raised Center Medians

A center two-way left turn lane is an alternative on much of the corridor. Where there is sufficient length between curb cuts, a center median could be constructed within the center turn lane, such as the following example from Route 114 in Scarborough, Maine:

Safety Benefit:

This raised median serves several safety purposes; it prevents drivers from using the center turn lane for unauthorized uses such as passing, can help to slow vehicles down along the corridor, and provides the opportunity for "two-stage gap acceptance".

Two-stage gap acceptance is when a vehicle is leaving a side street or business, they can wait for a gap in one direction, move out to the center turn lane, and then wait for a gap in the other direction. Therefore, they would not need gaps in both directions at the same time. The two-stage gap acceptance can occur without the raised median, but the raised median helps to control the use of the center turn lane.

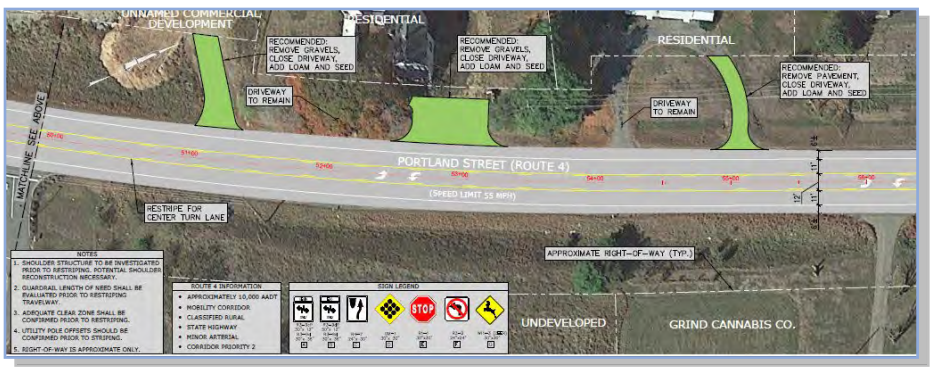
Although the sample shown above is landscaped, the MaineDOT expressed a preference to not have them landscaped due to the difficulty in safely maintaining the landscaping on a roadway that is 55 mph. The medians being recommended would still be raised but would be paved instead of landscaped.

Special Note:

It is recommended that overhead lighting be considered to provide continuous lighting through the raised area. If lighting is not used, then vertical reflectorized delineators shall be used to accent the center median.

Access Management

Access management includes controlling driveway widths, the number of driveways along a corridor, and



the alignment and spacing of curb cuts, all with a goal of limiting the number of potential conflicts along a corridor. Reducing the number of conflict points along a 55-mph corridor is especially critical.

Safety Benefit:

As stated, the safety benefit of reducing the number, widths or alignment of curb cuts is to focus and limit where traffic enters or exits the roadway, which will reduce the number of conflict points along the corridor. Reducing the number of conflict points along a corridor has been proven to improve the safety of the corridor.

Special Note:

The modifications shown on the plans are recommendations only. Removal or modification of any legal access (driveways or entrances) must be approved by the land owner.

Modified Striping

There are some sections of the corridor that did not appear suitable for the other alternatives previously identified; therefore, modified striping in the form of 12-inch-wide edge lines is being proposed for those areas.

Safety Benefit:

The anticipated safety benefit of the wide edge lines (widened on the inside to make the lanes narrower) is being proposed in the locations not receiving other alternatives to give the perception to the driver that the roadway is narrower and that something is different, and the driver should have an increased awareness. It was discussed with the stakeholders that this could potentially be a demonstration project to determine its effectiveness.

Special Note:

According to MaineDOT, any modified striping such as the 12" wide edge lines must proceed through the Demonstration Project process.

Signage

Just north of the Pond Road intersection northerly on Route 4 to just south of the intersection with Old Route 4 there were 19 crashes involving deer (2013-2022). Three "Deer" signs in each direction are being proposed along this section of Route 4 to remind drivers of the increased potential for deer activity. Signs are separated by approximately 2,000 feet.

Safety Benefit:

The benefit of the signs would be to heighten the awareness of drivers of the potential of deer activity and potentially result in less deer crashes.

Special Note:

Erection of these signs in Maine requires the approval of Inland Fisheries & Wildlife.

Implementation of Alternatives

When and how the potential alternatives are implemented could vary significantly. In general, the alternatives as identified above are listed with the alternatives that take more effort and planning first, and are generally more expensive to implement, such as turning lanes and center two-way left turn lane. As one moves down the list the amount of effort, planning and costs decreases as you get to striping and signage. A later section herein provides a detailed preliminary opinion of costs for the corridor alternatives divided into four sections.

Special Note:

The proposed convenience store identified previously to be located between Blackberry Hill Road and Pond Road is currently in the process of a Traffic Movement Permit application with MaineDOT. As a result of that application, the convenience store may be required to implement some of the recommended alternatives in that immediate area.

Fatal and Serious Injury Crashes

Of the 12 crashes that were identified previously as either fatal or serious injury, some form of alternative is being proposed at those locations, with the exception of the southern most serious injury crash. A contributing factor of that crash was that the driver either fell asleep or was fatigued. The location of the 12 crashes that were identified as fatal or serious injury crashes are shown on the figures in Appendix F.

Maintenance of Corridor

The MaineDOT currently plows this section of Route 4. To ensure adequate resources, further municipal / State maintenance discussions and/or agreements may be necessary.

Design Exceptions and/or Region Engineer approval:

Please take note that the following will require Design Exceptions and/or Region Engineer approval:

- Sections with less than 4-foot shoulders
- Sections with less than 5-foot shoulders, in guardrail and curb areas

COMPUTER MODELING RESULTS

The following summarizes the results of the capacity and queue evaluations for the study area intersections for the following scenarios:

- 2023 No Build – This scenario represents existing traffic volumes and geometric conditions
- 2045 No Build - This scenario represents forecast conditions in the year 2045 if nothing were to be done along the corridor for improvements
- 2045 Build - This scenario uses the same volumes as the 2045 No Build scenario but includes the recommended alternatives along the corridor as presented in the previous "Potential Alternatives" section

The study area intersections include the following:

- Blackberry Hill Road / Route 4 (unsignalized)
- Pond Street / Kind Farms Access / Route 4 (unsignalized)
- Old Route 4 / Route 4 (unsignalized)

Special Note:

It is important to note in reviewing this section of the study, that the primary purpose of the study and recommended alternatives described previously is to improve the safety of the corridor and not focused on improving the level of service of the corridor. However, the goal of the alternatives while addressing safety is to maintain (if not improve) the mobility of the corridor.

Capacity Analysis:

The computer modeling used the Synchro/SimTraffic computer analysis software (Version 11). Level of service (LOS) rankings are similar to the academic ranking system where an 'A' is good with little control delay and an 'F' represents poor traffic conditions. If the level of service falls below a 'D,' an evaluation should be made to determine if mitigation is warranted. The following table summarizes the relationship between control delay per vehicle and level of service for unsignalized intersections:

Table 5 - Level of Service Criteria for Unsignalized Intersections

Level of Service	Control Delay per Vehicle (s)
A	Less than 10.0
B	10.1 to 15.0
C	15.1 to 25.0
D	25.1 to 35.0
E	35.1 to 50.0
F	Greater than 50.0

The capacity analysis results are based on an averaging of five SimTraffic simulations. The following table summarizes the results of the capacity analysis for the study area intersections. The yellow highlights identify movements that are below LOS D. Please note that the Kind Farms Access did not have traffic volumes during the AM peak hour, presumably they were not open at that time of day. Hard copies of the computer modeling results are provided in Appendix H.

Table 6 – Capacity Analysis Results

Intersection Movement	2023 No Build LOS / Delay (sec.)		2045 No Build LOS / Delay (sec.)		2045 Build LOS / Delay (sec.)	
	AM	PM	AM	PM	AM	PM
Route 4 / Blackberry Hill Road	**Unsignalized**					
Blackberry Hill Road EB LR	A 9	C 20	B 12	E 37	B 15	D 34
Route 4 NB LT	A 3	A 6	A 4	A 8		
Route 4 NB L					A 7	A 7
Route 4 NB T					A 1	A 2
Route 4 SB TR	A 4	A 4	A 4	A 4		
Route 4 SB T					A 4	A 4
Route 4 SB R					A 0	A 0
Overall	A 4	A 6	A 5	A 8	A 4	A 5
Route 4 / Kind Farms Access / Pond Street	**Unsignalized**					
Kind Farms Access EB LTR	B 12	B 11	B 14	C 19	C 20	C 17
Pond Road WB LTR	A 10	B 15	B 13	C 25	C 16	D 30
Route 4 NB LTR	A 3	A 6	A 4	A 7		
Route 4 NB L					A 0	A 3
Route 4 NB TR					A 3	A 4
Route 4 SB LTR	A 2	A 3	A 2	A 3		
Route 4 SB L					A 3	A 6
Route 4 SB T					A 2	A 2
Route 4 SB R					A 0	A 0
Overall	A 3	A 6	A 3	A 7	A 3	A 5

Intersection Movement	2023 No Build LOS / Delay (sec.)		2045 No Build LOS / Delay (sec.)		2045 Build LOS / Delay (sec.)	
	AM	PM	AM	PM	AM	PM
Route 4 / Old Route 4	**Unsignalized**					
Route 4 NB LT	A 4	A 5	A 4	A 6		
Route 4 NB L					A 5	A 4
Route 4 NB T					A 3	A 4
Route 4 SB TR	A 4	A 3	A 4	A 4	A 4	A 4
Old Route 4 EB LR	A 9	A 9	A 9	C 18	A 10	C 17
Overall	A 4	A 5	A 4	A 6	A 4	A 5

XX = Level of Service "E" or below
NB = Northbound, SB = Southbound, EB = Eastbound, WB = Westbound,
L = Left, T = Through, R = Right

As shown in Table 6, no movements in the 2045 Build scenario are forecast to be less than LOS D.

Queue Analysis

Similar to capacity analysis, a 95th percentile queue analysis was completed using the same computer modeling. Based on that modeling, the following queues are forecast. Queues have been rounded up to the nearest five-foot interval.

Table 7 – 95th Percentile Queue Results

Intersection Movement	2023 No Build Queue (Ft)		2045 No Build Queue (ft)		2045 Build Queue (ft)	
	AM	PM	AM	PM	AM	PM
Route 4 / Blackberry Hill Road	**Unsignalized**					
Blackberry Hill Road EB LR	50	65	65	100	75	90
Route 4 NB LT	85	135	105	205		
Route 4 NB L (200)					50	60
Route 4 NB T					---	---
Route 4 SB TR	5	5	---	5		
Route 4 SB T					---	---
Route 4 SB R (50)					10	15
Route 4 / Kind Farms Access / Pond Street	**Unsignalized**					
Kind Farms Access EB LTR	15	70	20	85	15	80
Pond Road WB LTR	50	50	50	50	55	55
Route 4 NB LTR	---	80	---	90		
Route 4 NB L (170)					---	40
Route 4 NB TR					---	---

Intersection Movement	2023 No Build Queue (Ft)		2045 No Build Queue (ft)		2045 Build Queue (ft)	
	AM	PM	AM	PM	AM	PM
Route 4 SB LTR	25	95	40	40		
Route 4 SB L (100)					15	20
Route 4 SB T					---	---
Route 4 SB R (50)					---	---
Route 4 / Old Route 4	**Unsignalized**					
Route 4 NB LT	45	85	60	115		
Route 4 NB L (100)					30	45
Route 4 NB T					---	---
Route 4 SB TR	---	---	---	5	---	5
Old Route 4 EB LR	40	35	45	50	45	50

NB = Northbound, SB = Southbound, EB = Eastbound, WB = Westbound
L = Left, T = Thru, R = Right
(XX) = Proposed Auxiliary Lane Length

As seen from Table 7, none of the proposed auxiliary lanes are forecast to exceed their available length in the 2045 Build scenario.

PRELIMINARY OPINION OF CONSTRUCTION COSTS

A preliminary opinion of construction cost (detailed breakdown included in Appendix I) was calculated for the recommended alternatives as shown on the plans provided in Appendix F. The preliminary opinion of cost is based on conceptual plans only and is subject to revision as the plans are refined. For the center medians, they were considered as raised but not landscaped. For the purposes of this study, the preliminary opinion of cost for the corridor was divided into four sections. Each section is consistent in the alternative that is being recommended. A summary of the costs for each of the four sections is provided as follows:

Table 8 – Preliminary Opinion of Costs

Section	Predominant Recommended Alternative	Preliminary Opinion of Cost (2023 Dollars)
Sta 26+00 to Sta 48+50	Turn Lanes & Raised Medians	$938,615
Sta 48+50 to Sta 60+56	Center Turn Lane & Access Management	$593,985
Sta 60+56 to Sta 120+66	Modified Striping & Access Management	$116,610
Sta 120+66 to Sta 166+46	Center Turn Lane & Raised Median & Access Management	$1,778,695
Subtotal		$3,427,905

Contingency (20%)		$685,581
Total Construction Cost (rounded)		**$4,114,000**

As identified in Table 8, if all the recommended alternatives were implemented, it could cost approximately four million dollars.

MEETINGS

Prior to the beginning of the project, it was decided not to have public meetings since the purpose of the study is more technical in nature and was intended to address safety concerns. A committee kick-off meeting was held on November 1, 2022 to discuss the study and to do a group field review of select locations. In addition to the kick-off meeting, numerous virtual meetings were held throughout the process to discuss the project direction, findings, alternatives, and status.

EXISTING CONDITIONS & RECOMMENDED ALTERNATIVES SUMMARY

The following is a summary of the existing conditions and recommended alternatives:

1. The purpose of this study is to identify alternatives to improve safety along the existing roadway while preserving or improving the overall capacity and to minimize congestion while providing safe vehicular access to existing or future development along Route 4.

2. Route 4 has a AADT of approximately 10,000 vehicles per day, is predominantly 55 mph within the study area, and is primarily a single lane in each direction.

3. There are three key intersections within the study area that were identified for detailed evaluation:

    - Blackberry Hill Road @ Route 4 (unsignalized)
    - Pond Road @ Kind Farms @ Route 4 (unsignalized)
    - Old Route 4 @ Route 4 (unsignalized)

4. The design hourly volumes for the study were based on those projected to the year 2045.

5. Two Route 4 speed studies were completed within the 55 mph section of the corridor. One was at Maggie's Dine and Drive and the other was approximately 300 feet south of the Blackberry Hill Road intersection. Both studies showed the 85th percentile speed limit did not exceed more than 5 mph over the speed limit. Generally, the speeds south of Blackberry Hill Road were less overall than those at the dine and drive.

6. A detailed safety review was completed for the corridor. Although there are not currently any high crash locations within the study area, there were 12 fatal or serious injury crashes in the last 10 years, and clear patterns of crashes identified for specific locations. Knowing that information allowed for alternatives specifically to address those patterns.

7. Areas for potential development were identified at the beginning of the study. As the study continued, a convenience store with fueling positions was proposed on one of the identified parcels, and the plans show the proposed driveway access.

8. The following potential alternatives are being recommended within the study area (see also Appendix F):

    - Left and right turn lanes – Auxiliary lanes are recommended at key intersections. This will allow turning traffic to exit from the through traffic stream and potentially reduce rear-end / sideswipe crashes, which was identified as the most common crash pattern.
    - Center two-way left turn lane – Similar to the auxiliary lanes, a center two-way left turn lane is being recommended for several roadway sections. These are more appropriate than formal turn lanes where driveways are more dense and typically have less overall turning traffic. This will allow turning traffic to exit from the through traffic stream and potentially reduce rear-end / sideswipe crashes.
    - Raised center median – Raised center medians are recommended at several locations within the center two-way left turn lane. These medians prevent inappropriate use of the center turn lane for passing and can also aid in slowing traffic down.
    - Access management – Reducing the number of driveways, the driveway widths, and spacing of driveways reduces potential conflicts along the corridor.
    - Modified striping – 12-inch wide edge striping is being recommended for a section of the corridor where other alternatives were not appropriate or cost prohibitive. This will give the appearance of narrow travel lanes and potentially assist in slowing down vehicles and raising driver awareness.
    - Signage – The second highest number of crashes within the corridor were crashes due to deer. Deer crossing signs are recommended in the section of the corridor where the safety review identified a concentration of those specific crashes.

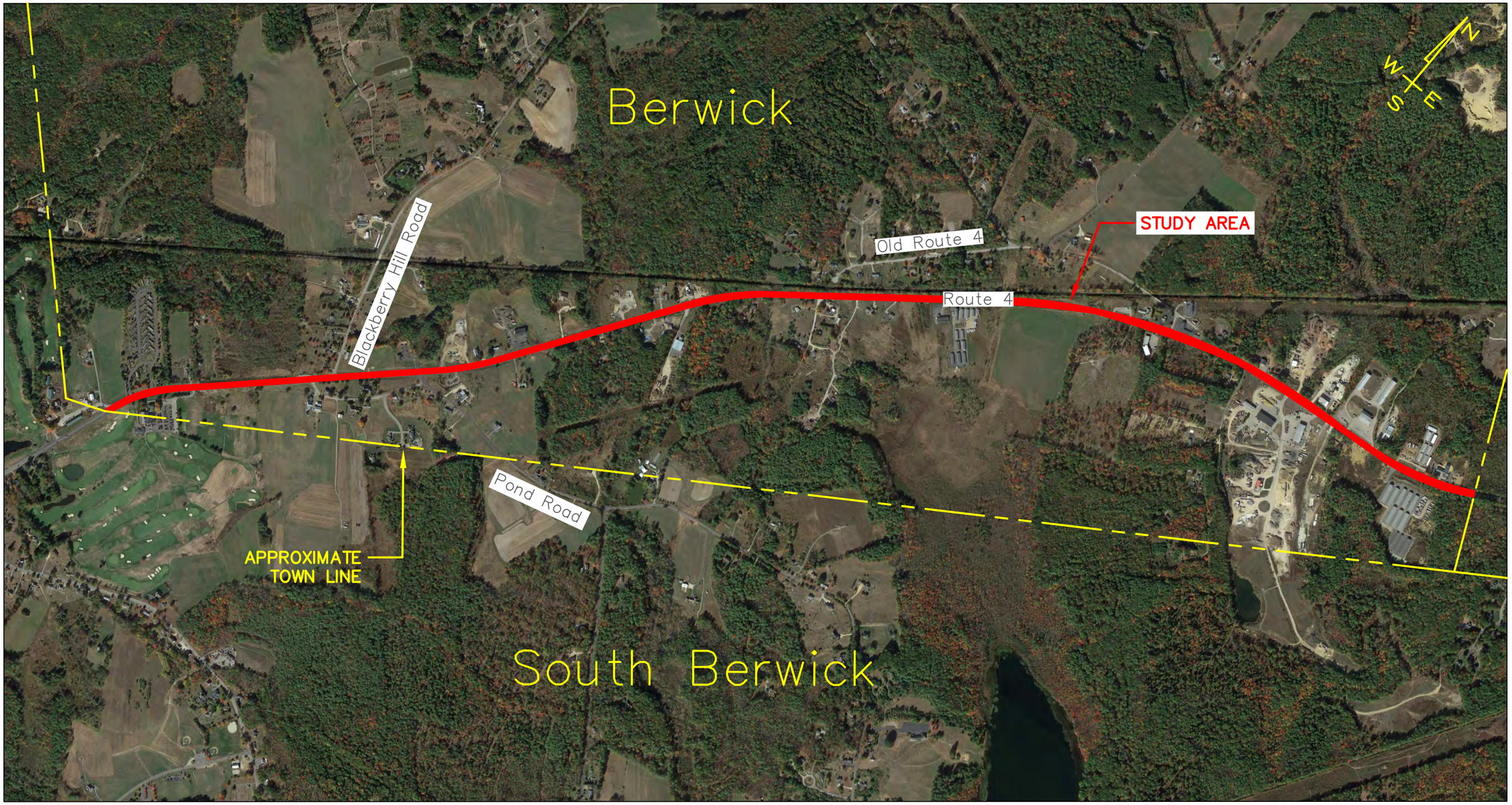
9. The purpose of this study was to improve safety along the corridor, while not decreasing the mobility of the corridor. Capacity analysis was completed for the following conditions: 2023 Existing, 2045 No Build and 2045 Build condition. Based on the analyses, the 2045 Build condition is forecast to have all acceptable levels of service and similar to the 2045 No Build condition. Thus, maintaining the corridor mobility.

10. Queue analysis was completed for 2023 Existing, 2045 No Build and 2045 Build conditions. Based on the analyses the queues in the 2045 Build condition are not forecast to exceed recommended auxiliary lane lengths.

11. A preliminary opinion of cost for the recommended alternatives was completed. The corridor was divided into four sections with similar recommended alternatives. Based on the opinion of cost, the potential alternatives (total for the corridor) could cost approximately four million dollars to construct / implement (2023 dollars).

Appendix A
Corridor Study Area

LOCATION MAP



Rev.	Date	Revision

Issued For	Date	By

Design: NJB	Draft: NJB	Date: JAN 2023
Checked: RED	Scale: NTS	Job No.: 4037
File Name: Location.dwg		

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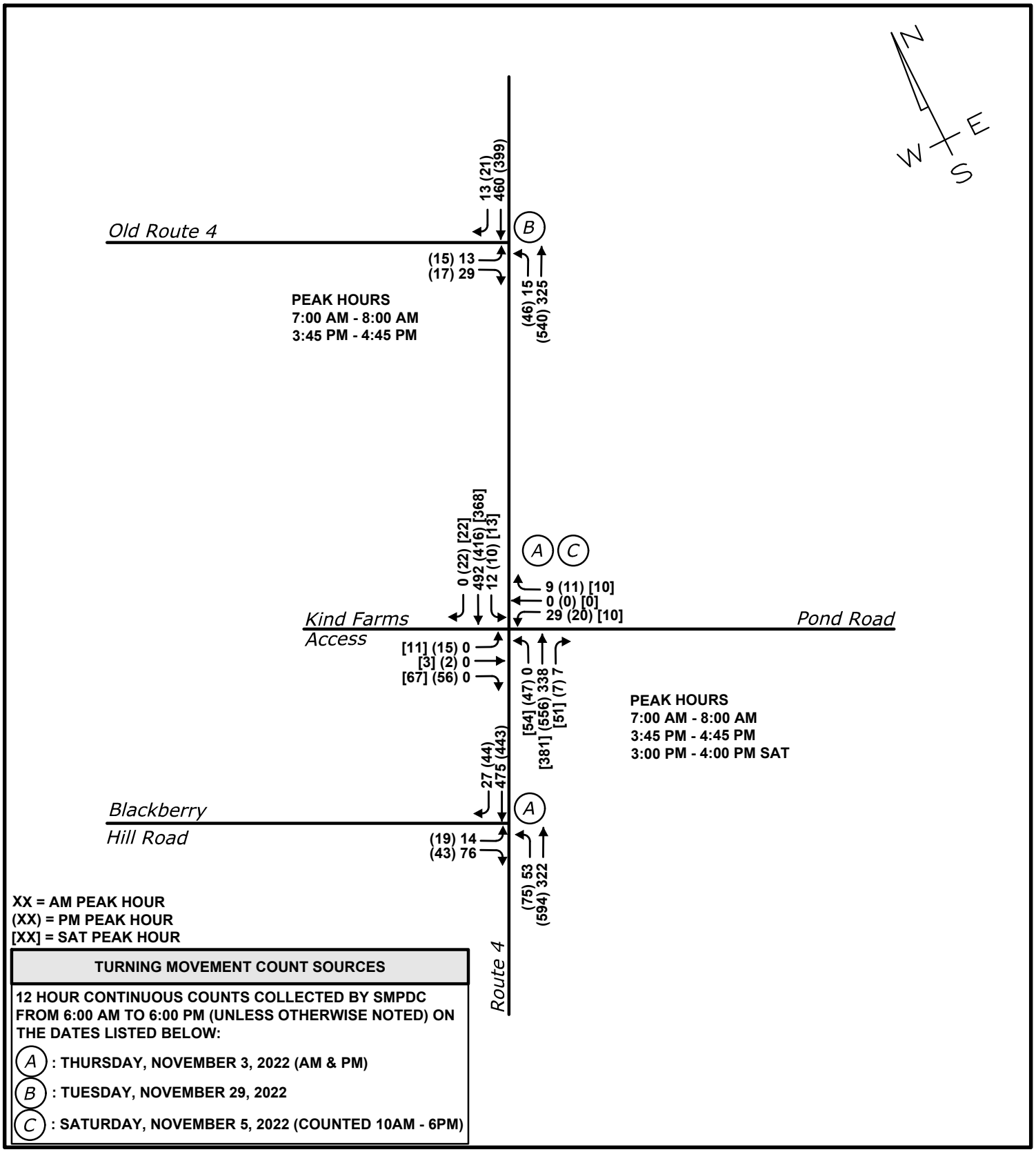
Drawing Name:	Location Map
Project:	Route 4 Traffic and Safety Study Berwick, Maine
Client:	KACTS and Town of Berwick

Drawing No. 01

Appendix B
Turning Movement Figures

Raw Volumes

Figure No. 2



XX = AM PEAK HOUR
(XX) = PM PEAK HOUR
[XX] = SAT PEAK HOUR

TURNING MOVEMENT COUNT SOURCES

12 HOUR CONTINUOUS COUNTS COLLECTED BY SMPDC FROM 6:00 AM TO 6:00 PM (UNLESS OTHERWISE NOTED) ON THE DATES LISTED BELOW:

- (A) : THURSDAY, NOVEMBER 3, 2022 (AM & PM)
- (B) : TUESDAY, NOVEMBER 29, 2022
- (C) : SATURDAY, NOVEMBER 5, 2022 (COUNTED 10AM - 6PM)

ROUTE 4 TRAFFIC AND SAFETY STUDY
BERWICK, MAINE

Design:	NJB	Scale:	NONE
Draft:	NJB	Date:	1/12/2023
Checked:	RED	File Name:	Figure Set.dwg

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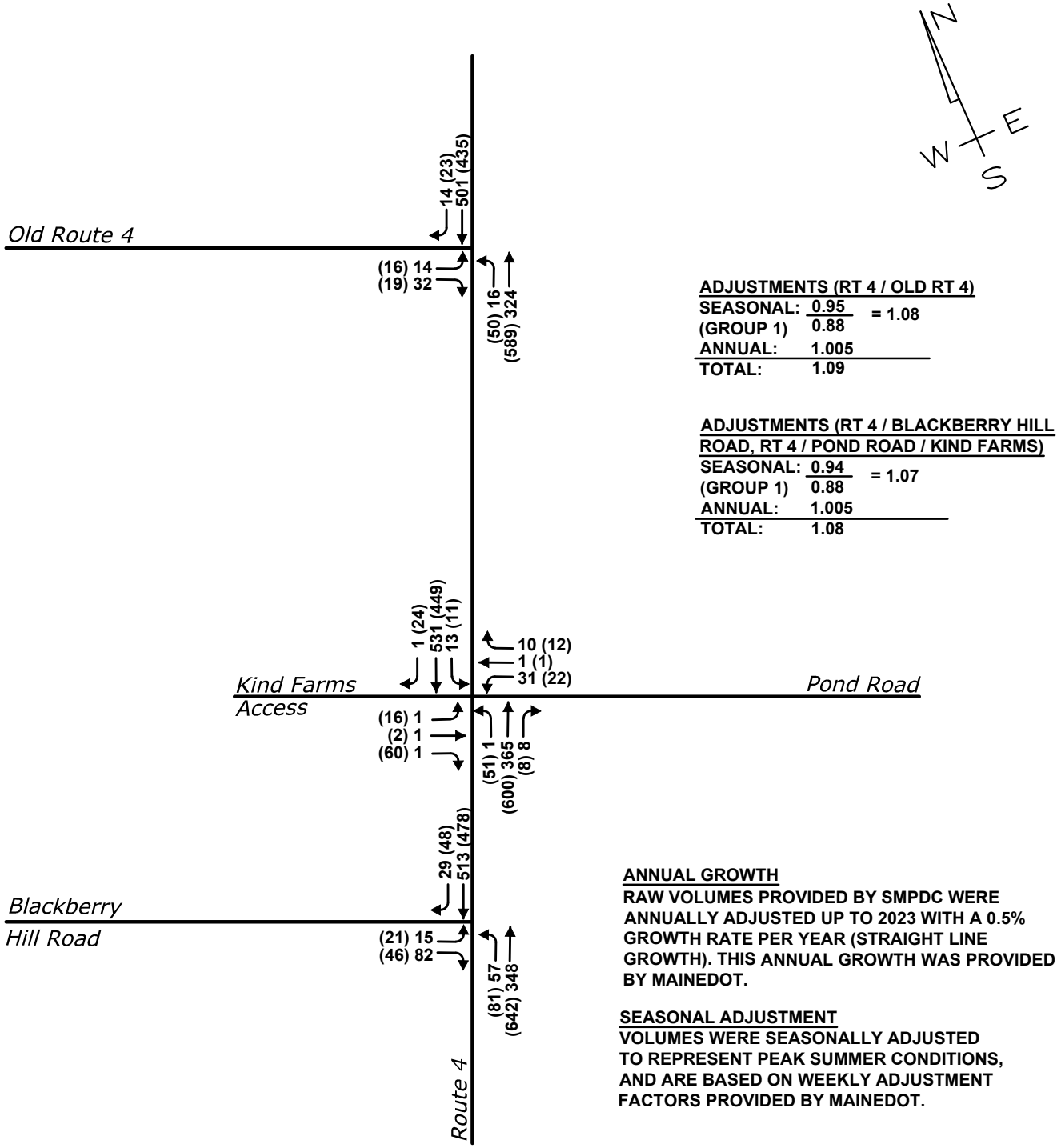
2023 Design Hourly Volumes

Figure No. 3



ADJUSTMENTS (RT 4 / OLD RT 4)

SEASONAL:	0.95	= 1.08
(GROUP 1)	0.88	
ANNUAL:	1.005	
TOTAL:	1.09	

ADJUSTMENTS (RT 4 / BLACKBERRY HILL ROAD, RT 4 / POND ROAD / KIND FARMS)

SEASONAL:	0.94	= 1.07
(GROUP 1)	0.88	
ANNUAL:	1.005	
TOTAL:	1.08	

ANNUAL GROWTH

RAW VOLUMES PROVIDED BY SMPDC WERE ANNUALLY ADJUSTED UP TO 2023 WITH A 0.5% GROWTH RATE PER YEAR (STRAIGHT LINE GROWTH). THIS ANNUAL GROWTH WAS PROVIDED BY MAINEDOT.

SEASONAL ADJUSTMENT

VOLUMES WERE SEASONALLY ADJUSTED TO REPRESENT PEAK SUMMER CONDITIONS, AND ARE BASED ON WEEKLY ADJUSTMENT FACTORS PROVIDED BY MAINEDOT.

ROUTE 4 TRAFFIC AND SAFETY STUDY
BERWICK, MAINE

Design:	NJB	Scale:	NONE
Draft:	NJB	Date:	4/17/2023
Checked:	RED	File Name:	Figure Set.dwg

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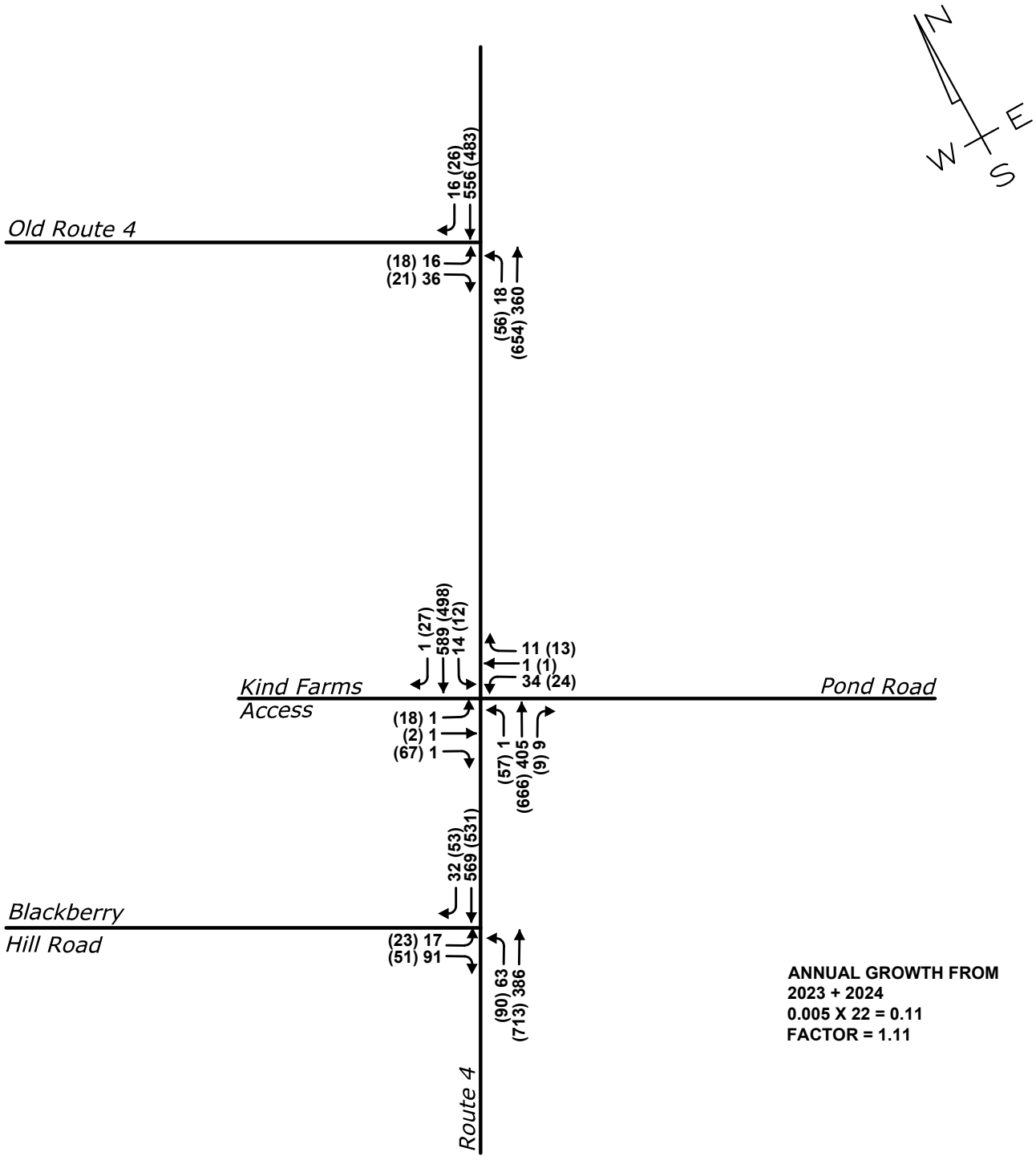
2045 Design Hourly Volumes

Figure No. 4



ROUTE 4 TRAFFIC AND SAFETY STUDY
BERWICK, MAINE

Design:	NJB	Scale:	NONE
Draft:	NJB	Date:	4/17/2023
Checked:	RED	File Name:	Figure Set.dwg

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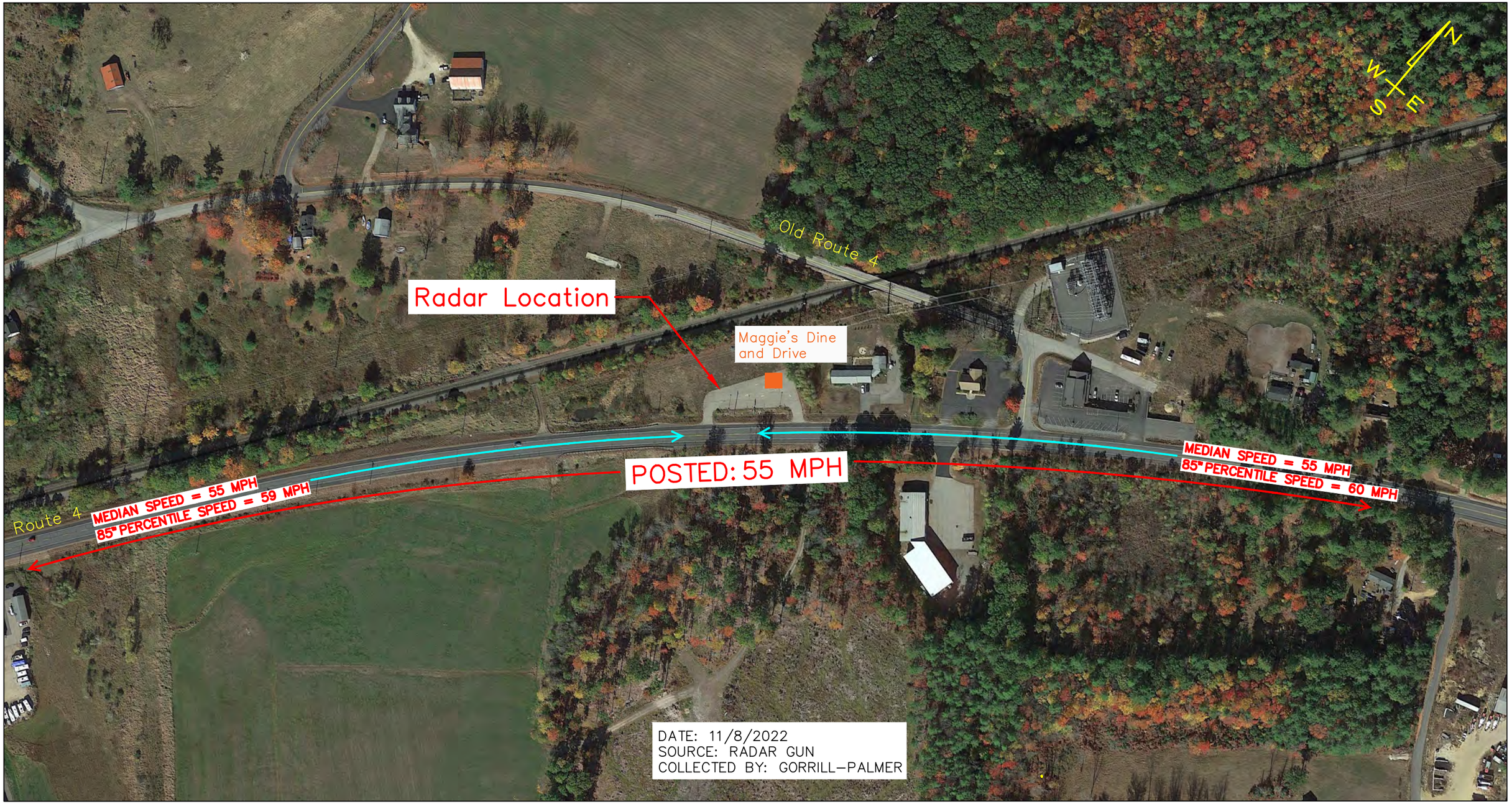
Appendix C
Speed Study Figures

ROUTE 4 SPEED STUDY



Rev.	Date	Revision

Issued For	Date	By

Design: NJB	Draft: NJB	Date: JAN 2023
Checked: RED	Scale: NTS	Job No.: 4037
File Name: Location.dwg		

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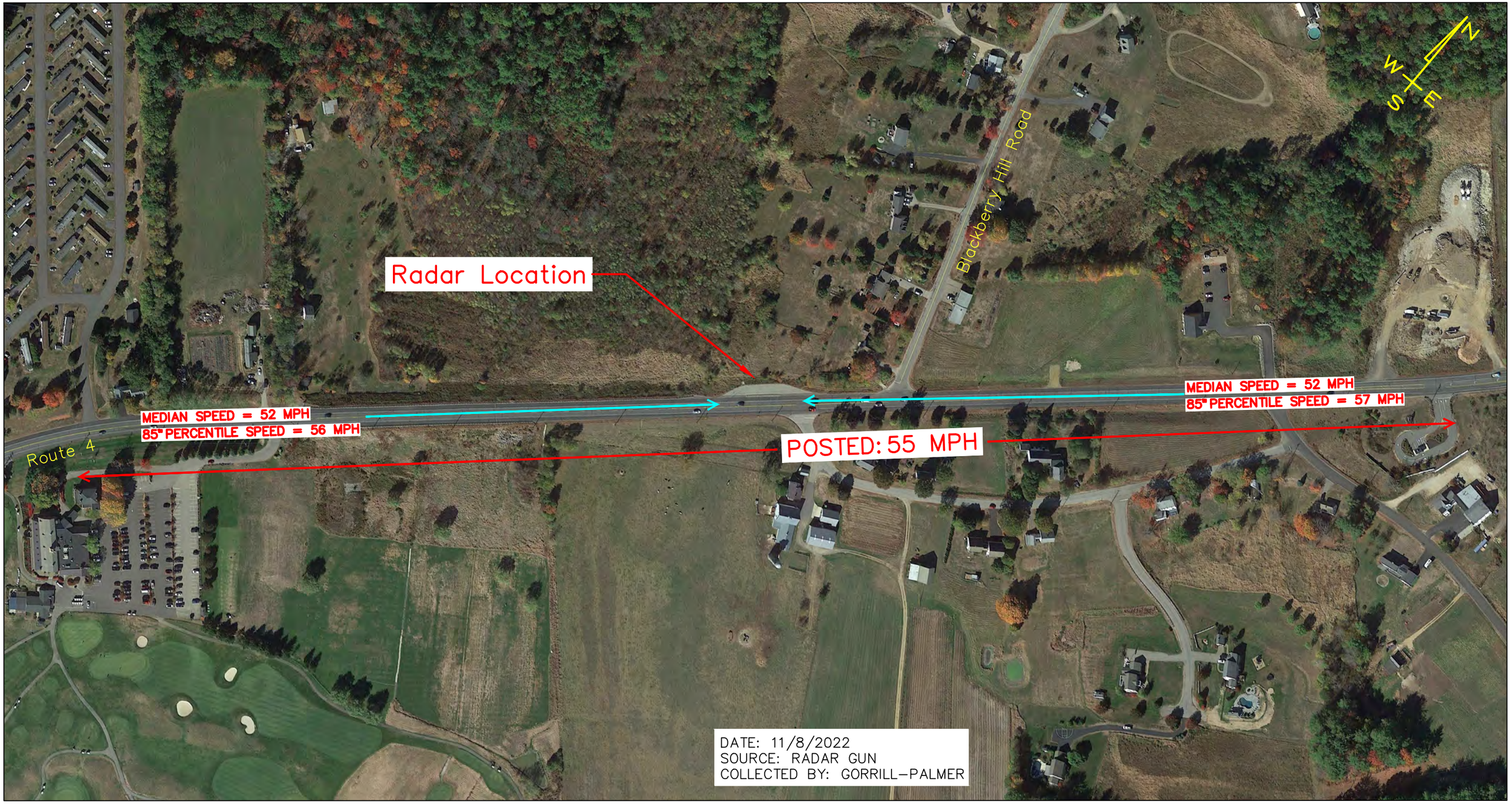
Drawing Name:	Location 1 – Maggie's Dine and Drive
Project:	Route 4 Traffic and Safety Study Berwick, Maine
Client:	KACTS and Town of Berwick

Drawing No.
05

ROUTE 4 SPEED STUDY



Rev.	Date	Revision

Issued For	Date	By

Design: NJB	Draft: NJB	Date: JAN 2023
Checked: RED	Scale: NTS	Job No.: 4037
File Name: Location.dwg		

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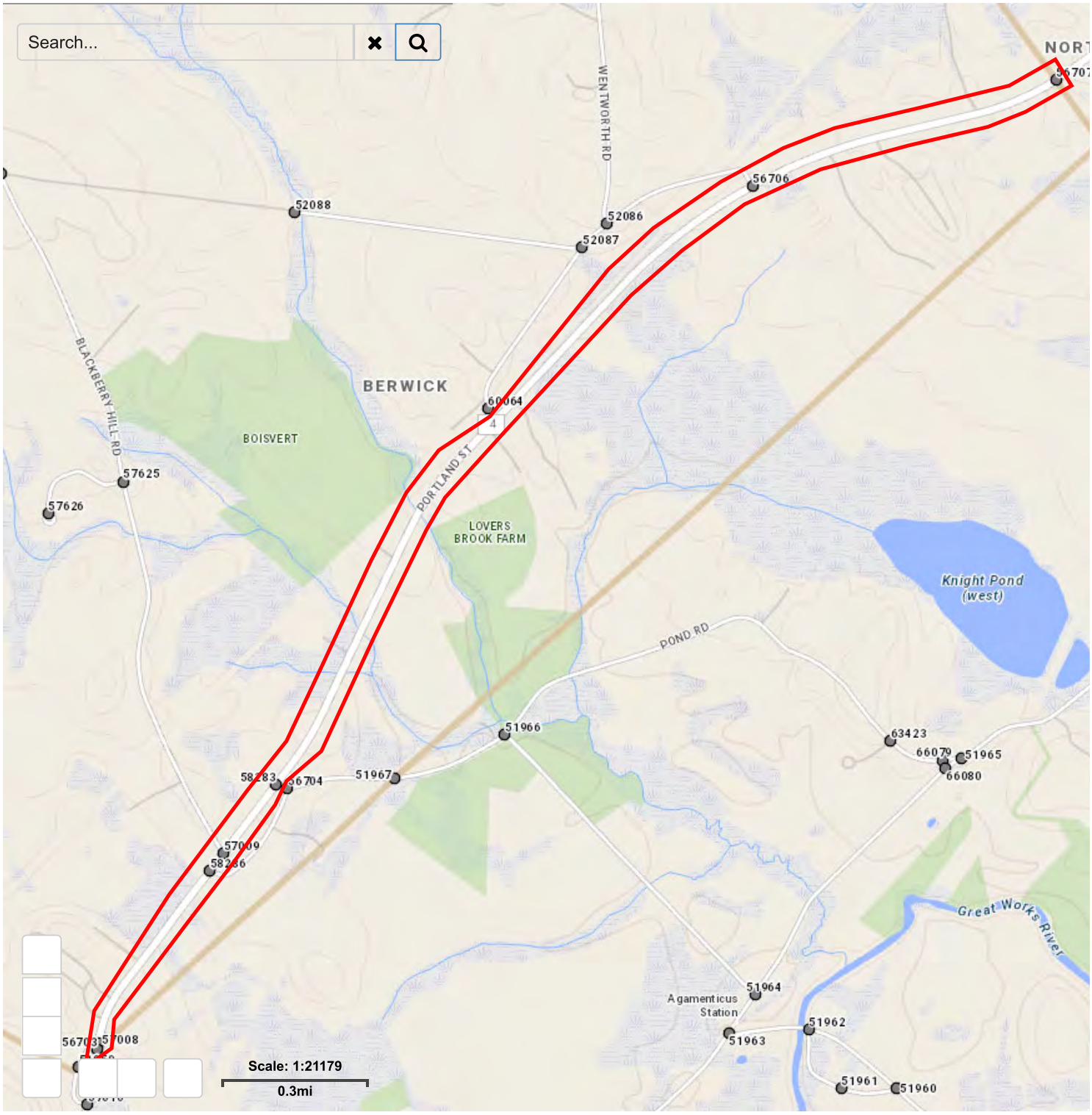
Drawing Name:	Location 2 – South of Blackberry Hill Lane
Project:	Route 4 Traffic and Safety Study Berwick, Maine
Client:	KACTS and Town of Berwick

Drawing No. 06

Appendix D
Safety Information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NORT
WENTWORTH RD
52088
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BERWICK
BLACKBERRY HILL RD
60064
4
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PORTLAND ST
57625
57626
LOVERS
BROOK FARM
Knight Pond
(west)
POND RD
51966
63423
66079
51965
66080
58283
66704
51967
57009
58236
Great Works River
Agamenticus
Station
51964
51962
51963
51961
51960
Scale: 1:21179
0.3mi

3 Year Crash History

Maine Department Of Transportation - Office of Safety, Crash Records Section

Crash Summary Report

Report Selections and Input Parameters

REPORT SELECTIONS

☑ **Crash Summary I** ☐ **Section Detail** ☑ **Crash Summary II** ☐ **1320 Public** ☐ **1320 Private** ☐ **1320 Summary**

REPORT DESCRIPTION

Berwick
Rte. 4/Portland St. from South Berwick TL to North Berwick TL

REPORT PARAMETERS

Year 2020, Start Month 1 through Year 2022 End Month: 12

Route: **0004X**	Start Node: **56703**	Start Offset: **0**	☐ **Exclude First Node**
	End Node: **56707**	End Offset: **0**	☐ **Exclude Last Node**

Crash Summary I

Nodes

Node	Route - MP	Node Description	U/R	Total Crashes	Injury Crashes K	A	B	C	PD	Percent Injury	Annual M Ent-Veh	Crash Rate	Critical Rate	CRF
56703	0004X - 1.31	TL - Berwick, South Berwick	1	0	0	0	0	0	0	0.0	4.369	0.00	0.31	0.00
												Statewide Crash Rate:	0.11	
57008	0004X - 1.32	Int of DRISCOLL LN PORTLAND ST	1	0	0	0	0	0	0	0.0	4.289	0.00	0.31	0.00
												Statewide Crash Rate:	0.11	
58286	0004X - 1.74	Int of CIRCUIT RD PORTLAND ST	1	0	0	0	0	0	0	0.0	4.111	0.00	0.31	0.00
												Statewide Crash Rate:	0.11	
57009	0004X - 1.79	Int of BLACKBERRY HILL RD PORTLAND ST	1	6	0	1	0	0	5	16.7	4.136	0.48	0.31	1.55
												Statewide Crash Rate:	0.11	
58283	0004X - 1.96	Int of POND RD PORTLAND ST	1	1	1	0	0	0	0	100.0	3.679	0.09	0.32	0.00
												Statewide Crash Rate:	0.11	
56706	0004X - 3.54	Int of OLD ROUTE FOUR PORTLAND ST	1	2	1	0	0	0	1	50.0	3.595	0.19	0.32	0.00
												Statewide Crash Rate:	0.11	
56707	0004X - 4.20	TL Berwick North Berwick	1	0	0	0	0	0	0	0.0	3.376	0.00	0.33	0.00
												Statewide Crash Rate:	0.11	
Study Years:	3.00	**NODE TOTALS:**		9	2	1	0	0	6	33.3	27.555	0.11	0.20	0.55

Crash Summary I

Sections

Start Node	End Node	Element	Offset Begin - End	Route - MP	Section Length	U/R	Total Crashes	Injury Crashes K	A	B	C	PD	Percent Injury	Annual HMVM	Crash Rate	Critical Rate	CRF
56703	57008	3114310	0 - 0.01	0004X - 1.31	0.01	1	0	0	0	0	0	0	0.0	0.00044	0.00	639.85	0.00
TL - Berwick, South Berwick				ST RTE 4											Statewide Crash Rate: 149.97		
57008	58286	3114448	0 - 0.42	0004X - 1.32	0.42	1	6	0	0	2	1	3	50.0	0.01762	113.54	277.74	0.41
Int of DRISCOLL LN PORTLAND ST				ST RTE 4											Statewide Crash Rate: 149.97		
57009	58286	3114450	0 - 0.05	0004X - 1.74	0.05	1	1	0	0	0	0	1	0.0	0.00200	166.56	473.82	0.00
Int of BLACKBERRY HILL RD PORTLAND ST				ST RTE 4											Statewide Crash Rate: 149.97		
57009	58283	3114449	0 - 0.17	0004X - 1.79	0.17	1	1	0	0	0	0	1	0.0	0.00624	53.42	353.82	0.00
Int of BLACKBERRY HILL RD PORTLAND ST				ST RTE 4											Statewide Crash Rate: 149.97		
58283	56706	3938255	0 - 1.58	0004X - 1.96	1.58	1	16	0	0	0	2	14	12.5	0.05536	96.33	224.37	0.43
Int of POND RD PORTLAND ST				ST RTE 4											Statewide Crash Rate: 149.97		
56706	56707	3114314	0 - 0.66	0004X - 3.54	0.66	1	3	0	0	1	0	2	33.3	0.02228	44.88	264.50	0.00
Int of OLD ROUTE FOUR PORTLAND ST				ST RTE 4											Statewide Crash Rate: 149.97		
Study Years: 3.00				**Section Totals:**	2.89		27	0	0	3	3	21	22.2	0.10394	86.59	204.86	0.42
				Grand Totals:	2.89		36	2	1	3	3	27	25.0	0.10394	115.45	242.75	0.48

Crash Summary

Section Details

Start Node	End Node	Element	Offset Begin - End	Route - MP	Total Crashes	Injury Crashes K	A	B	C	PD	Crash Report	Crash Date	Crash Mile Point	Injury Degree
56703	57008	3114310	0 - 0.01	0004X - 1.31	0	0	0	0	0	0				
57008	58286	3114448	0 - 0.42	0004X - 1.32	6	0	0	2	1	3	2020-17873	07/27/2020	1.34	PD
											2022-18671	06/24/2022	1.37	PD
											2020-23543	09/27/2020	1.38	B
											2022-26313	09/12/2022	1.42	C
											2021-17107	07/05/2021	1.43	PD
											2020-8766	03/21/2020	1.50	B
57009	58286	3114450	0 - 0.05	0004X - 1.74	1	0	0	0	0	1	2020-11049	05/04/2020	1.78	PD
57009	58283	3114449	0 - 0.17	0004X - 1.79	1	0	0	0	0	1	2022-39022	12/27/2022	1.95	PD
58283	56706	3938255	0 - 1.58	0004X - 1.96	16	0	0	0	2	14	2020-8765	03/20/2020	2.01	PD
											2021-37874	12/23/2021	2.06	PD
											2022-13625	05/14/2022	2.13	PD
											2022-17053	06/15/2022	2.15	PD
											2021-31951	11/18/2021	2.26	PD
											2021-31466	11/13/2021	2.35	PD
											2020-30143	12/04/2020	2.76	PD
											2022-34885	11/20/2022	2.81	PD
											2022-26942	09/20/2022	2.82	C
											2022-17302	06/22/2022	2.84	C
											2021-16475	06/21/2021	3.04	PD
											2022-34173	11/15/2022	3.04	PD
											2021-30123	11/02/2021	3.04	PD
											2020-25595	10/23/2020	3.06	PD
											2022-20490	07/21/2022	3.07	PD
											2022-16361	06/12/2022	3.15	PD
56706	56707	3114314	0 - 0.66	0004X - 3.54	3	0	0	1	0	2	2022-27696	09/26/2022	3.58	PD
											2021-2505	01/30/2021	3.94	PD
											2022-4794	02/08/2022	4.16	B
				Totals:	27	0	0	3	3	21				

Crash Summary II - Characteristics

Crashes by Day and Hour

	AM												Hour of Day	PM											
Day Of Week	**12**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**Un**	**Tot**
SUNDAY	0	0	0	0	0	0	0	0	0	0	1	0	1	2	0	0	0	0	1	0	0	0	1	0	0	6
MONDAY	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	2	1	0	0	0	1	0	0	0	6
TUESDAY	1	0	0	0	0	0	0	1	0	0	0	0	0	1	0	1	1	1	0	0	0	0	0	0	0	6
WEDNESDAY	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	2
THURSDAY	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	2	1	0	0	0	1	0	0	6
FRIDAY	0	0	0	0	1	0	0	1	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	5
SATURDAY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	0	1	0	1	0	0	0	5
Totals	1	0	0	0	1	0	0	4	0	1	1	0	2	4	2	3	4	5	2	1	1	2	2	0	0	**36**

Vehicle Counts by Type

Unit Type	Total
1-Passenger Car	26
2-(Sport) Utility Vehicle	13
3-Passenger Van	1
4-Cargo Van (10K lbs or Less)	0
5-Pickup	10
6-Motor Home	0
7-School Bus	0
8-Transit Bus	0
9-Motor Coach	0
10-Other Bus	0
11-Motorcycle	0
12-Moped	0
13-Low Speed Vehicle	1
14-Autocycle	0
15-Experimental	0
16-Other Light Trucks (10,000 lbs or Less)	0
17-Medium/Heavy Trucks (More than 10,000 lbs)	7
18-ATV - (4 wheel)	0
20-ATV - (2 wheel)	0
21-Snowmobile	0
22-Pedestrian	0

Unit Type	Total
23-Bicyclist	0
24-Witness	9
25-Other	0
26-Construction	0
27-Farm Vehicle	0
Total	**67**

Crash Summary II - Characteristics

Crashes by Driver Action at Time of Crash

Driver Action at Time of Crash	Dr 1	Dr 2	Dr 3	Dr 4	Dr 5	Other	Total
No Contributing Action	15	18	3	0	0	0	36
Ran Off Roadway	0	0	0	0	0	0	0
Failed to Yield Right-of-Way	5	1	0	0	0	0	6
Ran Red Light	0	0	0	0	0	0	0
Ran Stop Sign	0	0	0	0	0	0	0
Disregarded Other Traffic Sign	0	0	0	0	0	0	0
Disregarded Other Road Markings	0	0	0	0	0	0	0
Exceeded Posted Speed Limit	0	0	0	0	0	0	0
Drove Too Fast For Conditions	0	0	0	0	0	0	0
Improper Turn	0	0	0	0	0	0	0
Improper Backing	2	0	0	0	0	0	2
Improper Passing	1	0	0	0	0	0	1
Wrong Way	0	0	0	0	0	0	0
Followed Too Closely	5	0	0	0	0	0	5
Failed to Keep in Proper Lane	3	0	0	0	0	0	3
Operated Motor Vehicle in Erratic, Reckless, Careless, Negligent or Aggressive Manner	1	0	0	0	0	0	1
Swerved or Avoided Due to Wind, Slippery Surface, Motor Vehicle, Object, Non-Motorist in Roadway	1	0	0	0	0	0	1
Over-Correcting/Over-Steering	0	0	0	0	0	0	0
Other Contributing Action	2	0	0	0	0	0	2
Unknown	0	0	0	0	0	0	0
Total	**35**	**19**	**3**	**0**	**0**	**0**	**57**

Crashes by Apparent Physical Condition And Driver

Apparent Physical Condition	Dr 1	Dr 2	Dr 3	Dr 4	Dr 5	Other	Total
Apparently Normal	34	18	3	0	0	0	55
Physically Impaired	0	0	0	0	0	0	0
Emotional(Depressed, Angry, Disturbed, etc.)	0	0	0	0	0	0	0
Ill (Sick)	0	0	0	0	0	0	0
Asleep or Fatigued	0	0	0	0	0	0	0
Under the Influence of Medications/Drugs/Alcohol	1	0	0	0	0	0	1
Other	0	1	0	0	0	0	1
Total	**35**	**19**	**3**	**0**	**0**	**0**	**57**

Driver Age by Unit Type

Age	Driver	Bicycle	SnowMobile	Pedestrian	ATV	Total
09-Under	0	0	0	0	0	0
10-14	0	0	0	0	0	0
15-19	6	0	0	0	0	6
20-24	7	0	0	0	0	7
25-29	6	0	0	0	0	6
30-39	11	0	0	0	0	11
40-49	11	0	0	0	0	11
50-59	9	0	0	0	0	9
60-69	3	0	0	0	0	3
70-79	2	0	0	0	0	2
80-Over	2	0	0	0	0	2
Unknown	1	0	0	0	0	1
Total	**58**	**0**	**0**	**0**	**0**	**58**

Crash Summary II - Characteristics

Most Harmful Event

Most Harmful Event	Total	Most Harmful Event	Total
1-Overturn / Rollover	0	38-Other Fixed Object (wall, building, tunnel, etc.)	0
2-Fire / Explosion	1	39-Unknown	0
3-Immersion	0	40-Gate or Cable	0
4-Jackknife	0	41-Pressure Ridge	0
5-Cargo / Equipment Loss Or Shift	0	**Total**	**57**
6-Fell / Jumped from Motor Vehicle	0		
7-Thrown or Falling Object	0		
8-Other Non-Collision	0		
9-Pedestrian	0		
10-Pedalcycle	0		
11-Railway Vehicle - Train, Engine	0		
12-Animal	12		
13-Motor Vehicle in Transport	40		
14-Parked Motor Vehicle	0		
15-Struck by Falling, Shifting Cargo or Anything Set in Motion by Motor Vehicle	1		
16-Work Zone / Maintenance Equipment	0		
17-Other Non-Fixed Object	1		
18-Impact Attenuator / Crash Cushion	0		
19-Bridge Overhead Structure	0		
20-Bridge Pier or Support	0		
21-Bridge Rail	0		
22-Cable Barrier	0		
23-Culvert	0		
24-Curb	0		
25-Ditch	1		
26-Embankment	0		
27-Guardrail Face	1		
28-Guardrail End	0		
29-Concrete Traffic Barrier	0		
30-Other Traffic Barrier	0		
31-Tree (Standing)	0		
32-Utility Pole / Light Support	0		
33-Traffic Sign Support	0		
34-Traffic Signal Support	0		
35-Fence	0		
36-Mailbox	0		
37-Other Post, Pole, or Support	0		

Injury Data

Severity Code	Injury Crashes	Number Of Injuries
K	2	3
A	1	2
B	3	4
C	3	4
PD	27	0
Total	**36**	**13**

Road Character

Road Grade	Total
1-Level	30
2-On Grade	5
3-Top of Hill	0
4-Bottom of Hill	0
5-Other	1
Total	**36**

Traffic Control Devices

Traffic Control Device	Total
1-Traffic Signals (Stop & Go)	0
2-Traffic Signals (Flashing)	0
3-Advisory/Warning Sign	0
4-Stop Signs - All Approaches	0
5-Stop Signs - Other	4
6-Yield Sign	0
7-Curve Warning Sign	0
8-Officer, Flagman, School Patrol	0
9-School Bus Stop Arm	0
10-School Zone Sign	0
11-R.R. Crossing Device	0
12-No Passing Zone	1
13-None	30
14-Other	1
Total	**36**

Light

Light Condition	Total
1-Daylight	22
2-Dawn	0
3-Dusk	1
4-Dark - Lighted	1
5-Dark - Not Lighted	11
6-Dark - Unknown Lighting	0
7-Unknown	1
Total	**36**

Crash Summary II - Characteristics

Crashes by Year and Month

Month	2020	2021	2022	Total
JANUARY	0	1	0	1
FEBRUARY	0	0	3	3
MARCH	3	0	0	3
APRIL	0	0	0	0
MAY	1	0	1	2
JUNE	0	3	4	7
JULY	1	1	1	3
AUGUST	1	0	1	2
SEPTEMBER	1	0	5	6
OCTOBER	1	0	0	1
NOVEMBER	0	3	2	5
DECEMBER	1	1	1	3
Total	**9**	**9**	**18**	**36**

Report is limited to the last 10 years of data.

Crash Summary II - Characteristics

Crashes by Crash Type and Type of Location

Crash Type	Straight Road	Curved Road	Three Leg Intersection	Four Leg Intersection	Five or More Leg Intersection	Driveways	Bridges	Interchanges	Other	Parking Lot	Private Way	Cross Over	Railroad Crossing	Traffic Circle-Roundabout	Total
Object in Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rear End - Sideswipe	3	0	5	0	0	3	0	0	0	0	0	0	0	0	11
Head-on - Sideswipe	0	1	1	0	0	0	0	0	0	0	0	0	0	0	2
Intersection Movement	0	0	1	0	0	3	0	0	0	0	0	0	0	0	4
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Train	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Went Off Road	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
All Other Animal	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Bicycle	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other	3	0	0	0	0	1	0	0	0	0	0	0	0	0	4
Jackknife	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rollover	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fire	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Submersion	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Thrown or Falling Object	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bear	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Deer	10	0	1	0	0	0	0	0	0	0	0	0	0	0	11
Moose	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Turkey	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	**20**	**1**	**8**	**0**	**0**	**7**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**36**

Crash Summary II - Characteristics

Crashes by Weather, Light Condition and Road Surface

Weather / Light	Dry	Ice/Frost	Mud, Dirt, Gravel	Oil	Other	Sand	Slush	Snow	Unknown	Water (Standing, Moving)	Wet	Total
Blowing Sand, Soil, Dirt												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Blowing Snow												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Clear												
Dark - Lighted	1	0	0	0	0	0	0	0	0	0	0	1
Dark - Not Lighted	9	0	0	0	0	0	0	0	0	0	0	9
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	18	0	0	0	0	0	0	0	0	0	1	19
Dusk	1	0	0	0	0	0	0	0	0	0	0	1
Unknown	0	0	0	0	1	0	0	0	0	0	0	1
Cloudy												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	1	0	0	0	0	0	0	0	0	0	1	2
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	2	0	0	0	0	0	0	0	0	0	0	2
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0

Crash Summary II - Characteristics

Crashes by Weather, Light Condition and Road Surface

Weather Light	Dry	Ice/Frost	Mud, Dirt, Gravel	Oil	Other	Sand	Slush	Snow	Unknown	Water (Standing, Moving)	Wet	Total
Fog, Smog, Smoke												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Other												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Rain												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	1	1
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Severe Crosswinds												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0

Crash Summary II - Characteristics

Crashes by Weather, Light Condition and Road Surface

Weather Light	Dry	Ice/Frost	Mud, Dirt, Gravel	Oil	Other	Sand	Slush	Snow	Unknown	Water (Standing, Moving)	Wet	Total
Sleet, Hail (Freezing Rain or Drizzle)												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Snow												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	**32**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**3**	**36**

5 Year Crash History

Maine Department Of Transportation - Office of Safety, Crash Records Section

Crash Summary Report

Report Selections and Input Parameters

REPORT SELECTIONS

☑ Crash Summary I ☐ Section Detail ☑ Crash Summary II ☐ 1320 Public ☐ 1320 Private ☐ 1320 Summary

REPORT DESCRIPTION

Berwick
Rte. 4/Portland St. from South Berwick TL to North Berwick TL

REPORT PARAMETERS

Year 2018, Start Month 1 through Year 2022 End Month: 12

Route: 0004X	Start Node: 56703	Start Offset: 0	☐ Exclude First Node
	End Node: 56707	End Offset: 0	☐ Exclude Last Node

Crash Summary I

Nodes

Node	Route - MP	Node Description	U/R	Total Crashes	Injury Crashes K	A	B	C	PD	Percent Injury	Annual M Ent-Veh	Crash Rate	Critical Rate	CRF
56707	0004X - 4.20	TL Berwick North Berwick	1	0	0	0	0	0	0	0.0	3.376	0.00	0.29	0.00
												Statewide Crash Rate:	0.11	
57009	0004X - 1.79	Int of BLACKBERRY HILL RD PORTLAND ST	1	10	0	1	1	0	8	20.0	4.136	0.48	0.27	1.77
												Statewide Crash Rate:	0.11	
56703	0004X - 1.31	TL - Berwick, South Berwick	1	0	0	0	0	0	0	0.0	4.369	0.00	0.27	0.00
												Statewide Crash Rate:	0.11	
58286	0004X - 1.74	Int of CIRCUIT RD PORTLAND ST	1	1	0	0	0	0	1	0.0	4.111	0.05	0.27	0.00
												Statewide Crash Rate:	0.11	
57008	0004X - 1.32	Int of DRISCOLL LN PORTLAND ST	1	0	0	0	0	0	0	0.0	4.289	0.00	0.27	0.00
												Statewide Crash Rate:	0.11	
58283	0004X - 1.96	Int of POND RD PORTLAND ST	1	1	1	0	0	0	0	100.0	3.679	0.05	0.28	0.00
												Statewide Crash Rate:	0.11	
56706	0004X - 3.54	Int of OLD ROUTE FOUR PORTLAND ST	1	3	1	0	0	0	2	33.3	3.595	0.17	0.28	0.00
												Statewide Crash Rate:	0.11	
Study Years:	5.00	NODE TOTALS:		15	2	1	1	0	11	26.7	27.555	0.11	0.18	0.61

Crash Summary I

Sections

Start Node	End Node	Element	Offset Begin - End	Route - MP	Section Length	U/R	Total Crashes	Injury Crashes K	A	B	C	PD	Percent Injury	Annual HMVM	Crash Rate	Critical Rate	CRF
56703	57008	3114310	0 - 0.01	0004X - 1.31	0.01	1	0	0	0	0	0	0	0.0	0.00044	0.00	596.10	0.00
TL - Berwick, South Berwick				ST RTE 4											Statewide Crash Rate: 149.99		
57008	58286	3114448	0 - 0.42	0004X - 1.32	0.42	1	9	0	0	2	1	6	33.3	0.01762	102.18	250.62	0.41
Int of DRISCOLL LN PORTLAND ST				ST RTE 4											Statewide Crash Rate: 149.99		
57009	58286	3114450	0 - 0.05	0004X - 1.74	0.05	1	1	0	0	0	0	1	0.0	0.00200	99.94	415.40	0.00
Int of BLACKBERRY HILL RD PORTLAND ST				ST RTE 4											Statewide Crash Rate: 149.99		
57009	58283	3114449	0 - 0.17	0004X - 1.79	0.17	1	2	0	0	0	1	1	50.0	0.00624	64.10	312.57	0.00
Int of BLACKBERRY HILL RD PORTLAND ST				ST RTE 4											Statewide Crash Rate: 149.99		
58283	56706	3938255	0 - 1.58	0004X - 1.96	1.58	1	30	2	1	1	4	22	26.7	0.05536	108.38	208.15	0.52
Int of POND RD PORTLAND ST				ST RTE 4											Statewide Crash Rate: 149.99		
56706	56707	3114314	0 - 0.66	0004X - 3.54	0.66	1	7	0	0	1	0	6	14.3	0.02228	62.83	240.02	0.00
Int of OLD ROUTE FOUR PORTLAND ST				ST RTE 4											Statewide Crash Rate: 149.99		
Study Years: 5.00				Section Totals:	2.89		49	2	1	4	6	36	26.5	0.10394	94.28	192.79	0.49
				Grand Totals:	2.89		64	4	2	5	6	47	26.6	0.10394	123.15	229.38	0.54

Crash Summary

Section Details

Start Node	End Node	Element	Offset Begin - End	Route - MP	Total Crashes	Injury Crashes K	A	B	C	PD	Crash Report	Crash Date	Crash Mile Point	Injury Degree
56703	57008	3114310	0 - 0.01	0004X - 1.31	0	0	0	0	0	0				
57008	58286	3114448	0 - 0.42	0004X - 1.32	9	0	0	2	1	6	2020-17873	07/27/2020	1.34	PD
											2022-18671	06/24/2022	1.37	PD
											2020-23543	09/27/2020	1.38	B
											2022-26313	09/12/2022	1.42	C
											2019-77637	12/25/2019	1.42	PD
											2021-17107	07/05/2021	1.43	PD
											2020-8766	03/21/2020	1.50	B
											2019-63692	09/02/2019	1.50	PD
											2019-52793	05/18/2019	1.50	PD
57009	58286	3114450	0 - 0.05	0004X - 1.74	1	0	0	0	0	1	2020-11049	05/04/2020	1.78	PD
57009	58283	3114449	0 - 0.17	0004X - 1.79	2	0	0	0	1	1	2019-76809	12/13/2019	1.89	C
											2022-39022	12/27/2022	1.95	PD

Crash Summary

Section Details

Start Node	End Node	Element	Offset Begin - End	Route - MP	Total Crashes	Injury Crashes K	A	B	C	PD	Crash Report	Crash Date	Crash Mile Point	Injury Degree
58283	56706	3938255	0 - 1.58	0004X - 1.96	30	2	1	1	4	22	2020-8765	03/20/2020	2.01	PD
											2019-60601	08/02/2019	2.04	B
											2021-37874	12/23/2021	2.06	PD
											2022-13625	05/14/2022	2.13	PD
											2018-35193	11/12/2018	2.15	PD
											2022-17053	06/15/2022	2.15	PD
											2021-31951	11/18/2021	2.26	PD
											2021-31466	11/13/2021	2.35	PD
											2019-46455	03/18/2019	2.48	A
											2018-17647	06/09/2018	2.70	K
											2020-30143	12/04/2020	2.76	PD
											2022-34885	11/20/2022	2.81	PD
											2022-26942	09/20/2022	2.82	C
											2022-17302	06/22/2022	2.84	C
											2018-38902	12/14/2018	2.88	C
											2019-45634	03/12/2019	2.89	PD
											2018-28252	10/04/2018	2.93	PD
											2019-45872	03/14/2019	2.95	C
											2022-34173	11/15/2022	3.04	PD
											2021-30123	11/02/2021	3.04	PD
											2019-52920	05/28/2019	3.04	PD
											2021-16475	06/21/2021	3.04	PD
											2020-25595	10/23/2020	3.06	PD
											2022-20490	07/21/2022	3.07	PD
											2018-14536	05/19/2018	3.14	PD
											2022-16361	06/12/2022	3.15	PD
											2018-5588	02/09/2018	3.15	PD
											2018-29935	10/22/2018	3.15	PD
											2019-70624	11/04/2019	3.35	PD
											2018-2864	01/10/2018	3.52	K

Crash Summary

Section Details

Start Node	End Node	Element	Offset Begin - End	Route - MP	Total Crashes	Injury Crashes K	A	B	C	PD	Crash Report	Crash Date	Crash Mile Point	Injury Degree
56706	56707	3114314	0 - 0.66	0004X - 3.54	7	0	0	1	0	6	2022-27696	09/26/2022	3.58	PD
											2019-57099	07/04/2019	3.64	PD
											2018-24949	09/04/2018	3.65	PD
											2018-8540	03/10/2018	3.70	PD
											2019-72678	11/18/2019	3.79	PD
											2021-2505	01/30/2021	3.94	PD
											2022-4794	02/08/2022	4.16	B
				Totals:	49	2	1	4	6	36				

Crash Summary II - Characteristics

Crashes by Day and Hour

	AM												PM												
	Hour of Day																								
Day Of Week	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	Un	Tot
SUNDAY	0	0	1	0	0	0	0	0	0	0	1	0	1	2	0	0	0	0	1	0	0	0	1	0	0	7
MONDAY	0	0	0	0	1	1	0	1	0	0	0	0	1	0	1	0	2	2	1	1	0	1	0	1	0	13
TUESDAY	1	0	0	0	0	1	0	1	0	1	0	1	0	1	0	2	1	1	0	0	0	0	0	0	0	10
WEDNESDAY	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	1	0	0	1	0	0	0	0	4
THURSDAY	0	0	1	0	0	1	0	0	0	1	0	0	0	0	1	1	0	2	1	0	0	1	2	0	0	11
FRIDAY	0	0	0	0	1	0	0	1	0	0	0	0	0	2	0	1	2	1	0	0	0	0	0	1	0	9
SATURDAY	1	0	0	0	0	0	0	0	0	0	0	0	0	2	1	1	1	2	0	1	0	1	0	0	0	10
Totals	2	0	2	0	2	3	0	4	0	2	1	1	2	8	3	5	6	9	3	2	1	3	3	2	0	64

Vehicle Counts by Type

Unit Type	Total
1-Passenger Car	50
2-(Sport) Utility Vehicle	24
3-Passenger Van	1
4-Cargo Van (10K lbs or Less)	0
5-Pickup	16
6-Motor Home	0
7-School Bus	2
8-Transit Bus	0
9-Motor Coach	0
10-Other Bus	0
11-Motorcycle	0
12-Moped	0
13-Low Speed Vehicle	1
14-Autocycle	0
15-Experimental	0
16-Other Light Trucks (10,000 lbs or Less)	0
17-Medium/Heavy Trucks (More than 10,000 lbs)	8
18-ATV - (4 wheel)	0
20-ATV - (2 wheel)	0
21-Snowmobile	0
22-Pedestrian	0

Unit Type	Total
23-Bicyclist	0
24-Witness	23
25-Other	0
26-Construction	0
27-Farm Vehicle	0
28-Horse and Buggy	0
Total	125

Crash Summary II - Characteristics

Crashes by Driver Action at Time of Crash

Driver Action at Time of Crash	Dr 1	Dr 2	Dr 3	Dr 4	Dr 5	Other	Total
No Contributing Action	24	33	4	0	0	0	61
Ran Off Roadway	4	0	0	0	0	0	4
Failed to Yield Right-of-Way	9	1	0	0	0	0	10
Ran Red Light	0	0	0	0	0	0	0
Ran Stop Sign	0	0	0	0	0	0	0
Disregarded Other Traffic Sign	0	0	0	0	0	0	0
Disregarded Other Road Markings	0	0	0	0	0	0	0
Exceeded Posted Speed Limit	0	0	0	0	0	0	0
Drove Too Fast For Conditions	0	0	0	0	0	0	0
Improper Turn	1	0	0	0	0	0	1
Improper Backing	2	0	0	0	0	0	2
Improper Passing	4	0	0	0	0	0	4
Wrong Way	0	0	0	0	0	0	0
Followed Too Closely	9	0	0	0	0	0	9
Failed to Keep in Proper Lane	4	0	0	0	0	0	4
Operated Motor Vehicle in Erratic, Reckless, Careless, Negligent or Aggressive Manner	1	0	0	0	0	0	1
Swerved or Avoided Due to Wind, Slippery Surface, Motor Vehicle, Object, Non-Motorist in Roadway	1	0	0	0	0	0	1
Over-Correcting/Over-Steering	0	0	0	0	0	0	0
Other Contributing Action	3	0	0	0	0	0	3
Unknown	1	0	0	0	0	0	1
Total	63	34	4	0	0	0	101

Crashes by Apparent Physical Condition And Driver

Apparent Physical Condition	Dr 1	Dr 2	Dr 3	Dr 4	Dr 5	Other	Total
Apparently Normal	55	33	4	0	0	0	92
Physically Impaired	0	0	0	0	0	0	0
Emotional(Depressed, Angry, Disturbed, etc.)	0	0	0	0	0	0	0
Ill (Sick)	2	0	0	0	0	0	2
Asleep or Fatigued	2	0	0	0	0	0	2
Under the Influence of Medications/Drugs/Alcohol	4	0	0	0	0	0	4
Other	0	1	0	0	0	0	1
Total	63	34	4	0	0	0	101

Driver Age by Unit Type

Age	Driver	Bicycle	SnowMobile	Pedestrian	ATV	Total
09-Under	0	0	0	0	0	0
10-14	0	0	0	0	0	0
15-19	7	0	0	0	0	7
20-24	10	0	0	0	0	10
25-29	15	0	0	0	0	15
30-39	19	0	0	0	0	19
40-49	21	0	0	0	0	21
50-59	14	0	0	0	0	14
60-69	8	0	0	0	0	8
70-79	4	0	0	0	0	4
80-Over	3	0	0	0	0	3
Unknown	1	0	0	0	0	1
Total	102	0	0	0	0	102

Crash Summary II - Characteristics

Most Harmful Event

Most Harmful Event	Total	Most Harmful Event	Total
1-Overturn / Rollover	0	38-Other Fixed Object (wall, building, tunnel, etc.)	0
2-Fire / Explosion	1	39-Unknown	0
3-Immersion	0	40-Gate or Cable	0
4-Jackknife	0	41-Pressure Ridge	0
5-Cargo / Equipment Loss Or Shift	0	Total	101
6-Fell / Jumped from Motor Vehicle	0		
7-Thrown or Falling Object	0		
8-Other Non-Collision	0		
9-Pedestrian	0		
10-Pedalcycle	0		
11-Railway Vehicle - Train, Engine	0		
12-Animal	18		
13-Motor Vehicle in Transport	74		
14-Parked Motor Vehicle	0		
15-Struck by Falling, Shifting Cargo or Anything Set in Motion by Motor Vehicle	1		
16-Work Zone / Maintenance Equipment	0		
17-Other Non-Fixed Object	1		
18-Impact Attenuator / Crash Cushion	0		
19-Bridge Overhead Structure	0		
20-Bridge Pier or Support	0		
21-Bridge Rail	0		
22-Cable Barrier	0		
23-Culvert	0		
24-Curb	0		
25-Ditch	2		
26-Embankment	0		
27-Guardrail Face	1		
28-Guardrail End	0		
29-Concrete Traffic Barrier	0		
30-Other Traffic Barrier	0		
31-Tree (Standing)	0		
32-Utility Pole / Light Support	1		
33-Traffic Sign Support	1		
34-Traffic Signal Support	0		
35-Fence	0		
36-Mailbox	1		
37-Other Post, Pole, or Support	0		

Injury Data

Severity Code	Injury Crashes	Number Of Injuries
K	4	8
A	2	6
B	5	8
C	6	8
PD	47	0
Total	64	30

Road Character

Road Grade	Total
1-Level	55
2-On Grade	8
3-Top of Hill	0
4-Bottom of Hill	0
5-Other	1
Total	64

Traffic Control Devices

Traffic Control Device	Total
1-Traffic Signals (Stop & Go)	0
2-Traffic Signals (Flashing)	0
3-Advisory/Warning Sign	2
4-Stop Signs - All Approaches	0
5-Stop Signs - Other	5
6-Yield Sign	0
7-Curve Warning Sign	0
8-Officer, Flagman, School Patrol	0
9-School Bus Stop Arm	0
10-School Zone Sign	0
11-R.R. Crossing Device	0
12-No Passing Zone	2
13-None	54
14-Other	1
Total	64

Light

Light Condition	Total
1-Daylight	34
2-Dawn	0
3-Dusk	4
4-Dark - Lighted	4
5-Dark - Not Lighted	21
6-Dark - Unknown Lighting	0
7-Unknown	1
Total	64

Crash Summary II - Characteristics

Crashes by Year and Month

Month	2018	2019	2020	2021	2022	Total
JANUARY	2	1	0	1	0	4
FEBRUARY	1	0	0	0	3	4
MARCH	2	3	3	0	0	8
APRIL	0	0	0	0	0	0
MAY	2	2	1	0	1	6
JUNE	1	0	0	3	4	8
JULY	0	1	1	1	1	4
AUGUST	0	2	1	0	1	4
SEPTEMBER	1	1	1	0	5	8
OCTOBER	2	0	1	0	0	3
NOVEMBER	1	2	0	3	2	8
DECEMBER	2	2	1	1	1	7
Total	14	14	9	9	18	64

Report is limited to the last 10 years of data.

Crash Summary II - Characteristics

Crashes by Crash Type and Type of Location

Crash Type	Straight Road	Curved Road	Three Leg Intersection	Four Leg Intersection	Five or More Leg Intersection	Driveways	Bridges	Interchanges	Other	Parking Lot	Private Way	Cross Over	Railroad Crossing	Traffic Circle-Roundabout	Total
Object in Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rear End - Sideswipe	6	0	10	0	0	5	0	0	0	0	0	0	0	0	21
Head-on - Sideswipe	1	2	1	0	0	0	0	0	0	0	0	0	0	0	4
Intersection Movement	0	0	1	0	0	6	0	0	0	0	0	0	0	0	7
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Train	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Went Off Road	6	0	0	0	0	0	0	0	0	0	0	0	0	0	6
All Other Animal	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Bicycle	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other	3	0	0	0	0	1	0	0	0	0	0	0	0	0	4
Jackknife	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rollover	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fire	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Submersion	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Thrown or Falling Object	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bear	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Deer	16	0	2	0	0	0	0	0	0	0	0	0	0	0	18
Moose	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Turkey	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	36	2	14	0	0	12	0	0	0	0	0	0	0	0	64

Crash Summary II - Characteristics

Crashes by Weather, Light Condition and Road Surface

Weather / Light	Dry	Ice/Frost	Mud, Dirt, Gravel	Oil	Other	Sand	Slush	Snow	Unknown	Water (Standing, Moving)	Wet	Total
Blowing Sand, Soil, Dirt												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Blowing Snow												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Clear												
Dark - Lighted	3	0	0	0	0	0	0	0	0	0	0	3
Dark - Not Lighted	17	0	0	0	0	0	0	0	0	0	0	17
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	27	0	0	0	0	0	0	0	0	0	1	28
Dusk	3	0	0	0	0	0	0	0	0	0	0	3
Unknown	0	0	0	0	1	0	0	0	0	0	0	1
Cloudy												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	1	1
Dark - Not Lighted	2	0	0	0	0	0	0	0	0	0	1	3
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	3	0	0	0	0	0	0	0	0	0	1	4
Dusk	1	0	0	0	0	0	0	0	0	0	0	1
Unknown	0	0	0	0	0	0	0	0	0	0	0	0

Crash Summary II - Characteristics

Crashes by Weather, Light Condition and Road Surface

Weather Light	Dry	Ice/Frost	Mud, Dirt, Gravel	Oil	Other	Sand	Slush	Snow	Unknown	Water (Standing, Moving)	Wet	Total
Fog, Smog, Smoke												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Other												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Rain												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	2	2
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Severe Crosswinds												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0

Crash Summary II - Characteristics

Crashes by Weather, Light Condition and Road Surface

Weather / Light	Dry	Ice/Frost	Mud, Dirt, Gravel	Oil	Other	Sand	Slush	Snow	Unknown	Water (Standing, Moving)	Wet	Total
Sleet, Hail (Freezing Rain or Drizzle)												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Snow												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	1	1
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	56	0	0	0	1	0	0	0	0	0	7	64

10 Year Crash History

Crash Summary Report

Report Selections and Input Parameters

REPORT SELECTIONS

☑ Crash Summary I ☐ Section Detail ☑ Crash Summary II ☐ 1320 Public ☐ 1320 Private ☐ 1320 Summary

REPORT DESCRIPTION

Berwick
Rte. 4/Portland St. from South Berwick TL to North Berwick TL

REPORT PARAMETERS

Year 2013, Start Month 1 through Year 2022 End Month: 12

Route: 0004X	Start Node: 56703	Start Offset: 0	☐ Exclude First Node
	End Node: 56707	End Offset: 0	☐ Exclude Last Node

Crash Summary I

Nodes

Node	Route - MP	Node Description	U/R	Total Crashes	Injury Crashes K	A	B	C	PD	Percent Injury	Annual M Ent-Veh	Crash Rate	Critical Rate	CRF
56703	0004X - 1.31	TL - Berwick, South Berwick	1	0	0	0	0	0	0	0.0	4.369	0.00	0.23	0.00
												Statewide Crash Rate:	0.11	
57008	0004X - 1.32	Int of DRISCOLL LN PORTLAND ST	1	1	0	0	0	0	1	0.0	4.289	0.02	0.23	0.00
												Statewide Crash Rate:	0.11	
58286	0004X - 1.74	Int of CIRCUIT RD PORTLAND ST	1	2	0	0	0	0	2	0.0	4.111	0.05	0.23	0.00
												Statewide Crash Rate:	0.11	
57009	0004X - 1.79	Int of BLACKBERRY HILL RD PORTLAND ST	1	13	0	1	1	0	11	15.4	4.136	0.31	0.23	1.36
												Statewide Crash Rate:	0.11	
58283	0004X - 1.96	Int of POND RD PORTLAND ST	1	2	1	0	0	0	1	50.0	3.679	0.05	0.24	0.00
												Statewide Crash Rate:	0.11	
56706	0004X - 3.54	Int of OLD ROUTE FOUR PORTLAND ST	1	5	1	0	0	0	4	20.0	3.595	0.14	0.24	0.00
												Statewide Crash Rate:	0.11	
56707	0004X - 4.20	TL Berwick North Berwick	1	0	0	0	0	0	0	0.0	3.376	0.00	0.24	0.00
												Statewide Crash Rate:	0.11	
Study Years:	10.01	NODE TOTALS:		23	2	1	1	0	19	17.4	27.555	0.08	0.16	0.52

Crash Summary I

Sections

Start Node	End Node	Element	Offset Begin - End	Route - MP	Section Length	U/R	Total Crashes	Injury Crashes K	A	B	C	PD	Percent Injury	Annual HMVM	Crash Rate	Critical Rate	CRF
56703	57008	3114310	0 - 0.01	0004X - 1.31	0.01	1	1	0	0	0	0	1	0.0	0.00044	228.65	512.72	0.00
TL - Berwick, South Berwick				ST RTE 4											Statewide Crash Rate: 149.99		
57008	58286	3114448	0 - 0.42	0004X - 1.32	0.42	1	18	0	1	4	1	12	33.3	0.01762	102.08	222.28	0.46
Int of DRISCOLL LN PORTLAND ST				ST RTE 4											Statewide Crash Rate: 149.99		
57009	58286	3114450	0 - 0.05	0004X - 1.74	0.05	1	2	0	0	0	0	2	0.0	0.00200	99.84	347.93	0.00
Int of BLACKBERRY HILL RD PORTLAND ST				ST RTE 4											Statewide Crash Rate: 149.99		
57009	58283	3114449	0 - 0.17	0004X - 1.79	0.17	1	4	0	1	0	1	2	50.0	0.00624	64.03	268.21	0.00
Int of BLACKBERRY HILL RD PORTLAND ST				ST RTE 4											Statewide Crash Rate: 149.99		
58283	56706	3938255	0 - 1.58	0004X - 1.96	1.58	1	56	4	1	3	6	42	25.0	0.05536	101.05	191.47	0.53
Int of POND RD PORTLAND ST				ST RTE 4											Statewide Crash Rate: 149.99		
56706	56707	3114314	0 - 0.66	0004X - 3.54	0.66	1	18	0	2	4	2	10	44.4	0.02228	80.70	214.55	0.38
Int of OLD ROUTE FOUR PORTLAND ST				ST RTE 4											Statewide Crash Rate: 149.99		
Study Years: 10.01				Section Totals:	2.89		99	4	5	11	10	69	30.3	0.10394	95.15	180.44	0.53
				Grand Totals:	2.89		122	6	6	12	10	88	27.9	0.10394	117.26	215.72	0.54

Crash Summary

Section Details

Start Node	End Node	Element	Offset Begin - End	Route - MP	Total Crashes	Injury Crashes K	A	B	C	PD	Crash Report	Crash Date	Crash Mile Point	Injury Degree
56703	57008	3114310	0 - 0.01	0004X - 1.31	1	0	0	0	0	1	2015-3887	01/25/2015	1.32	PD
57008	58286	3114448	0 - 0.42	0004X - 1.32	18	0	1	4	1	12	2016-14272	05/20/2016	1.33	PD
											2020-17873	07/27/2020	1.34	PD
											2022-18671	06/24/2022	1.37	PD
											2020-23543	09/27/2020	1.38	B
											2013-9051	03/08/2013	1.42	B
											2022-26313	09/12/2022	1.42	C
											2013-26705	10/25/2013	1.42	PD
											2017-20559	07/06/2017	1.42	PD
											2019-77637	12/25/2019	1.42	PD
											2021-17107	07/05/2021	1.43	PD
											2020-8766	03/21/2020	1.50	B
											2016-26062	09/09/2016	1.50	B
											2016-14275	05/11/2016	1.50	PD
											2013-6244	02/01/2013	1.50	PD
											2019-63692	09/02/2019	1.50	PD
											2019-52793	05/18/2019	1.50	PD
											2017-14295	05/04/2017	1.51	A
											2013-3915	01/16/2013	1.51	PD
57009	58286	3114450	0 - 0.05	0004X - 1.74	2	0	0	0	0	2	2020-11049	05/04/2020	1.78	PD
											2015-18447	06/24/2015	1.78	PD
57009	58283	3114449	0 - 0.17	0004X - 1.79	4	0	1	0	1	2	2015-6836	02/10/2015	1.86	A
											2019-76809	12/13/2019	1.89	C
											2015-18445	06/17/2015	1.89	PD
											2022-39022	12/27/2022	1.95	PD

Crash Summary

Section Details

Start Node	End Node	Element	Offset Begin - End	Route - MP	Total Crashes	Injury Crashes K	A	B	C	PD	Crash Report	Crash Date	Crash Mile Point	Injury Degree
58283	56706	3938255	0 - 1.58	0004X - 1.96	56	4	1	3	6	42	2020-8765	03/20/2020	2.01	PD
											2015-51688	12/07/2015	2.01	PD
											2019-60601	08/02/2019	2.04	B
											2017-7983	03/05/2017	2.04	PD
											2021-37874	12/23/2021	2.06	PD
											2022-13625	05/14/2022	2.13	PD
											2015-14559	04/29/2015	2.13	PD
											2017-14297	05/06/2017	2.14	PD
											2018-35193	11/12/2018	2.15	PD
											2022-17053	06/15/2022	2.15	PD
											2021-31951	11/18/2021	2.26	PD
											2014-21860	08/02/2014	2.30	PD
											2013-15531	06/17/2013	2.32	PD
											2021-31466	11/13/2021	2.35	PD
											2014-24659	09/02/2014	2.38	K
											2016-31634	11/01/2016	2.40	PD
											2019-46455	03/18/2019	2.48	A
											2016-2017	01/13/2016	2.65	C
											2013-29065	11/16/2013	2.66	PD
											2018-17647	06/09/2018	2.70	K
											2016-34472	11/17/2016	2.71	PD
											2020-30143	12/04/2020	2.76	PD
											2022-34885	11/20/2022	2.81	PD
											2017-19804	06/28/2017	2.81	PD
											2022-26942	09/20/2022	2.82	C
											2022-17302	06/22/2022	2.84	C
											2017-3365	01/18/2017	2.85	PD
											2018-38902	12/14/2018	2.88	C
											2017-979	01/01/2017	2.89	B
											2019-45634	03/12/2019	2.89	PD
											2013-35681	12/17/2013	2.89	PD
											2018-28252	10/04/2018	2.93	PD
											2019-45872	03/14/2019	2.95	C
											2016-12436	05/01/2016	3.02	C

Crash Summary

Section Details

Start Node	End Node	Element	Offset Begin - End	Route - MP	Total Crashes	Injury Crashes K	A	B	C	PD	Crash Report	Crash Date	Crash Mile Point	Injury Degree
											2021-16475	06/21/2021	3.04	PD
											2022-34173	11/15/2022	3.04	PD
											2021-30123	11/02/2021	3.04	PD
											2019-52920	05/28/2019	3.04	PD
											2013-10814	04/10/2013	3.05	K
											2020-25595	10/23/2020	3.06	PD
											2013-23250	08/31/2013	3.07	B
											2022-20490	07/21/2022	3.07	PD
											2014-21861	08/04/2014	3.12	PD
											2018-14536	05/19/2018	3.14	PD
											2022-16361	06/12/2022	3.15	PD
											2018-29935	10/22/2018	3.15	PD
											2018-5588	02/09/2018	3.15	PD
											2017-16094	05/17/2017	3.15	PD
											2016-18539	06/28/2016	3.26	PD
											2017-6822	02/11/2017	3.34	PD
											2019-70624	11/04/2019	3.35	PD
											2015-2229	01/09/2015	3.42	PD
											2013-32158	12/09/2013	3.44	PD
											2017-27991	09/14/2017	3.44	PD
											2013-26703	10/21/2013	3.49	PD
											2018-2864	01/10/2018	3.52	K

Crash Summary

Section Details

Start Node	End Node	Element	Offset Begin - End	Route - MP	Total Crashes	Injury Crashes K	A	B	C	PD	Crash Report	Crash Date	Crash Mile Point	Injury Degree
56706	56707	3114314	0 - 0.66	0004X - 3.54	18	0	2	4	2	10	2022-27696	09/26/2022	3.58	PD
											2013-26702	10/17/2013	3.60	PD
											2019-57099	07/04/2019	3.64	PD
											2018-24949	09/04/2018	3.65	PD
											2018-8540	03/10/2018	3.70	PD
											2019-72678	11/18/2019	3.79	PD
											2014-10534	03/20/2014	3.81	PD
											2017-35225	11/08/2017	3.86	PD
											2015-6837	02/11/2015	3.87	A
											2021-2505	01/30/2021	3.94	PD
											2015-39775	08/20/2015	3.96	C
											2015-3891	01/18/2015	4.12	C
											2017-13482	04/24/2017	4.13	B
											2022-4794	02/08/2022	4.16	B
											2014-30011	10/17/2014	4.17	A
											2015-41738	09/08/2015	4.17	B
											2016-27355	09/13/2016	4.17	B
											2015-12424	04/04/2015	4.17	PD
				Totals:	99	4	5	11	10	69				

Crash Summary II - Characteristics

Crashes by Day and Hour

	AM												PM													
	Hour of Day																									
Day Of Week	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	Un	Tot
SUNDAY	0	1	1	0	0	0	0	1	0	0	1	0	1	2	1	1	0	0	1	0	0	1	1	0	0	12
MONDAY	0	0	0	0	2	2	0	1	0	0	1	0	1	1	1	0	3	4	1	1	0	1	1	1	0	21
TUESDAY	1	1	0	0	1	1	0	2	0	1	0	1	0	3	1	2	2	2	0	0	0	0	0	0	0	18
WEDNESDAY	0	3	0	0	0	1	1	3	3	0	0	0	0	2	0	1	1	2	0	0	1	0	0	0	0	18
THURSDAY	0	1	2	0	0	2	0	0	0	1	0	0	1	0	3	2	0	3	1	0	0	1	2	0	0	19
FRIDAY	0	0	0	0	1	0	0	2	0	1	1	0	0	4	0	2	3	2	0	0	0	0	0	1	0	17
SATURDAY	1	0	0	0	0	1	0	0	1	0	1	0	1	2	2	1	1	2	0	1	1	1	1	0	0	17
Totals	2	6	3	0	4	7	1	9	4	3	4	1	4	14	8	9	10	15	3	2	2	4	5	2	0	122

Vehicle Counts by Type

Unit Type	Total
1-Passenger Car	87
2-(Sport) Utility Vehicle	41
3-Passenger Van	5
4-Cargo Van (10K lbs or Less)	0
5-Pickup	37
6-Motor Home	0
7-School Bus	2
8-Transit Bus	0
9-Motor Coach	0
10-Other Bus	0
11-Motorcycle	2
12-Moped	0
13-Low Speed Vehicle	1
14-Autocycle	0
15-Experimental	0
16-Other Light Trucks (10,000 lbs or Less)	2
17-Medium/Heavy Trucks (More than 10,000 lbs)	13
18-ATV - (4 wheel)	0
20-ATV - (2 wheel)	0
21-Snowmobile	0
22-Pedestrian	0
23-Bicyclist	0
24-Witness	27
25-Other	0
26-Construction	0
27-Farm Vehicle	0
28-Horse and Buggy	0
Total	217

Crash Summary II - Characteristics

Crashes by Driver Action at Time of Crash

Driver Action at Time of Crash	Dr 1	Dr 2	Dr 3	Dr 4	Dr 5	Other	Total
No Contributing Action	48	53	6	0	0	0	107
Ran Off Roadway	9	0	0	0	0	0	9
Failed to Yield Right-of-Way	12	1	0	0	0	0	13
Ran Red Light	0	0	0	0	0	0	0
Ran Stop Sign	0	0	0	0	0	0	0
Disregarded Other Traffic Sign	0	0	0	0	0	0	0
Disregarded Other Road Markings	0	0	0	0	0	0	0
Exceeded Posted Speed Limit	0	0	0	0	0	0	0
Drove Too Fast For Conditions	5	1	0	0	0	0	6
Improper Turn	1	0	0	0	0	0	1
Improper Backing	2	0	0	0	0	0	2
Improper Passing	6	0	0	0	0	0	6
Wrong Way	0	0	0	0	0	0	0
Followed Too Closely	17	3	0	0	0	0	20
Failed to Keep in Proper Lane	6	1	0	0	0	0	7
Operated Motor Vehicle in Erratic, Reckless, Careless, Negligent or Aggressive Manner	1	0	0	0	0	0	1
Swerved or Avoided Due to Wind, Slippery Surface, Motor Vehicle, Object, Non-Motorist in Roadway	3	0	0	0	0	0	3
Over-Correcting/Over-Steering	0	0	0	0	0	0	0
Other Contributing Action	8	3	0	0	0	0	11
Unknown	3	0	0	0	0	0	3
Total	121	62	6	0	0	0	189

Crashes by Apparent Physical Condition And Driver

Apparent Physical Condition	Dr 1	Dr 2	Dr 3	Dr 4	Dr 5	Other	Total
Apparently Normal	110	60	6	0	0	0	176
Physically Impaired	0	0	0	0	0	0	0
Emotional(Depressed, Angry, Disturbed, etc.)	0	0	0	0	0	0	0
Ill (Sick)	2	0	0	0	0	0	2
Asleep or Fatigued	3	0	0	0	0	0	3
Under the Influence of Medications/Drugs/Alcohol	6	1	0	0	0	0	7
Other	0	1	0	0	0	0	1
Total	121	62	6	0	0	0	189

Driver Age by Unit Type

Age	Driver	Bicycle	SnowMobile	Pedestrian	ATV	Total
09-Under	0	0	0	0	0	0
10-14	0	0	0	0	0	0
15-19	14	0	0	0	0	14
20-24	24	0	0	0	0	24
25-29	19	0	0	0	0	19
30-39	33	0	0	0	0	33
40-49	40	0	0	0	0	40
50-59	29	0	0	0	0	29
60-69	16	0	0	0	0	16
70-79	10	0	0	0	0	10
80-Over	4	0	0	0	0	4
Unknown	1	0	0	0	0	1
Total	190	0	0	0	0	190

Crash Summary II - Characteristics

Most Harmful Event

Most Harmful Event	Total	Most Harmful Event	Total
1-Overturn / Rollover	1	38-Other Fixed Object (wall, building, tunnel, etc.)	0
2-Fire / Explosion	1	39-Unknown	0
3-Immersion	0	40-Gate or Cable	0
4-Jackknife	0	41-Pressure Ridge	0
5-Cargo / Equipment Loss Or Shift	0	Total	189
6-Fell / Jumped from Motor Vehicle	0		
7-Thrown or Falling Object	0		
8-Other Non-Collision	0		
9-Pedestrian	0		
10-Pedalcycle	0		
11-Railway Vehicle - Train, Engine	0		
12-Animal	28		
13-Motor Vehicle in Transport	135		
14-Parked Motor Vehicle	1		
15-Struck by Falling, Shifting Cargo or Anything Set in Motion by Motor Vehicle	3		
16-Work Zone / Maintenance Equipment	0		
17-Other Non-Fixed Object	2		
18-Impact Attenuator / Crash Cushion	0		
19-Bridge Overhead Structure	0		
20-Bridge Pier or Support	0		
21-Bridge Rail	0		
22-Cable Barrier	0		
23-Culvert	0		
24-Curb	0		
25-Ditch	5		
26-Embankment	0		
27-Guardrail Face	1		
28-Guardrail End	1		
29-Concrete Traffic Barrier	0		
30-Other Traffic Barrier	0		
31-Tree (Standing)	1		
32-Utility Pole / Light Support	5		
33-Traffic Sign Support	1		
34-Traffic Signal Support	0		
35-Fence	1		
36-Mailbox	2		
37-Other Post, Pole, or Support	1		

Injury Data

Severity Code	Injury Crashes	Number Of Injuries
K	6	10
A	6	10
B	12	20
C	10	16
PD	88	0
Total	122	56

Road Character

Road Grade	Total
1-Level	102
2-On Grade	17
3-Top of Hill	2
4-Bottom of Hill	0
5-Other	1
Total	122

Traffic Control Devices

Traffic Control Device	Total
1-Traffic Signals (Stop & Go)	0
2-Traffic Signals (Flashing)	0
3-Advisory/Warning Sign	2
4-Stop Signs - All Approaches	0
5-Stop Signs - Other	7
6-Yield Sign	0
7-Curve Warning Sign	0
8-Officer, Flagman, School Patrol	0
9-School Bus Stop Arm	0
10-School Zone Sign	0
11-R.R. Crossing Device	0
12-No Passing Zone	3
13-None	109
14-Other	1
Total	122

Light

Light Condition	Total
1-Daylight	71
2-Dawn	2
3-Dusk	4
4-Dark - Lighted	12
5-Dark - Not Lighted	31
6-Dark - Unknown Lighting	1
7-Unknown	1
Total	122

Crash Summary II - Characteristics

Crashes by Year and Month

Month	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Total
JANUARY	1	0	3	1	2	2	1	0	1	0	11
FEBRUARY	1	0	3	0	2	1	0	0	0	3	10
MARCH	1	1	0	0	1	2	3	3	0	0	11
APRIL	1	0	2	1	1	0	0	0	0	0	5
MAY	0	0	1	3	3	2	2	1	0	1	13
JUNE	1	0	2	2	1	1	0	0	3	4	14
JULY	2	0	0	0	1	0	1	1	1	1	7
AUGUST	1	2	1	0	0	0	2	1	0	1	8
SEPTEMBER	0	1	1	2	1	1	1	1	0	5	13
OCTOBER	3	1	0	0	0	2	0	1	0	0	7
NOVEMBER	1	0	0	2	1	1	2	0	3	2	12
DECEMBER	2	1	1	0	0	2	2	1	1	1	11
Total	14	6	14	11	13	14	14	9	9	18	122

Report is limited to the last 10 years of data.

Crash Summary II - Characteristics

Crashes by Crash Type and Type of Location

Crash Type	Straight Road	Curved Road	Three Leg Intersection	Four Leg Intersection	Five or More Leg Intersection	Driveways	Bridges	Interchanges	Other	Parking Lot	Private Way	Cross Over	Railroad Crossing	Traffic Circle-Roundabout	Total
Object in Road	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Rear End - Sideswipe	11	0	13	0	0	18	0	0	0	0	0	0	0	0	42
Head-on - Sideswipe	2	2	1	0	0	0	0	0	0	0	0	0	0	0	5
Intersection Movement	0	0	1	0	0	8	0	0	0	0	0	0	0	0	9
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Train	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Went Off Road	17	1	3	0	0	2	0	0	0	0	0	0	0	0	23
All Other Animal	5	0	0	0	0	0	0	0	0	0	0	0	0	0	5
Bicycle	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other	4	0	0	0	0	1	0	0	0	0	0	0	0	0	5
Jackknife	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rollover	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fire	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Submersion	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Thrown or Falling Object	1	0	1	0	0	0	0	0	0	0	0	0	0	0	2
Bear	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Deer	26	0	3	0	0	0	0	0	0	0	0	0	0	0	29
Moose	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Turkey	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	68	3	22	0	0	29	0	0	0	0	0	0	0	0	122

Crash Summary II - Characteristics

Crashes by Weather, Light Condition and Road Surface

Weather / Light	Dry	Ice/Frost	Mud, Dirt, Gravel	Oil	Other	Sand	Slush	Snow	Unknown	Water (Standing, Moving)	Wet	Total
Blowing Sand, Soil, Dirt												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Blowing Snow												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	1	0	0	0	0	0	0	0	0	0	1
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Clear												
Dark - Lighted	7	1	0	0	0	0	0	0	0	0	0	8
Dark - Not Lighted	22	0	0	0	0	0	0	0	0	0	0	22
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	1	0	0	0	0	0	0	0	0	0	0	1
Daylight	50	0	0	0	0	0	1	2	0	0	1	54
Dusk	3	0	0	0	0	0	0	0	0	0	0	3
Unknown	0	0	0	0	1	0	0	0	0	0	0	1
Cloudy												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	1	1
Dark - Not Lighted	3	1	0	0	0	0	0	0	0	0	1	5
Dark - Unknown Lighting	1	0	0	0	0	0	0	0	0	0	0	1
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	7	0	0	0	0	0	0	0	0	0	3	10
Dusk	1	0	0	0	0	0	0	0	0	0	0	1
Unknown	0	0	0	0	0	0	0	0	0	0	0	0

Crash Summary II - Characteristics

Crashes by Weather, Light Condition and Road Surface

Weather / Light	Dry	Ice/Frost	Mud, Dirt, Gravel	Oil	Other	Sand	Slush	Snow	Unknown	Water (Standing, Moving)	Wet	Total
Fog, Smog, Smoke												
Dark - Lighted	1	0	0	0	0	0	0	0	0	0	0	1
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Other												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Rain												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	1	1
Dark - Not Lighted	0	1	0	0	0	0	0	0	0	0	0	1
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	1	0	0	0	0	0	0	0	0	5	6
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Severe Crosswinds												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0

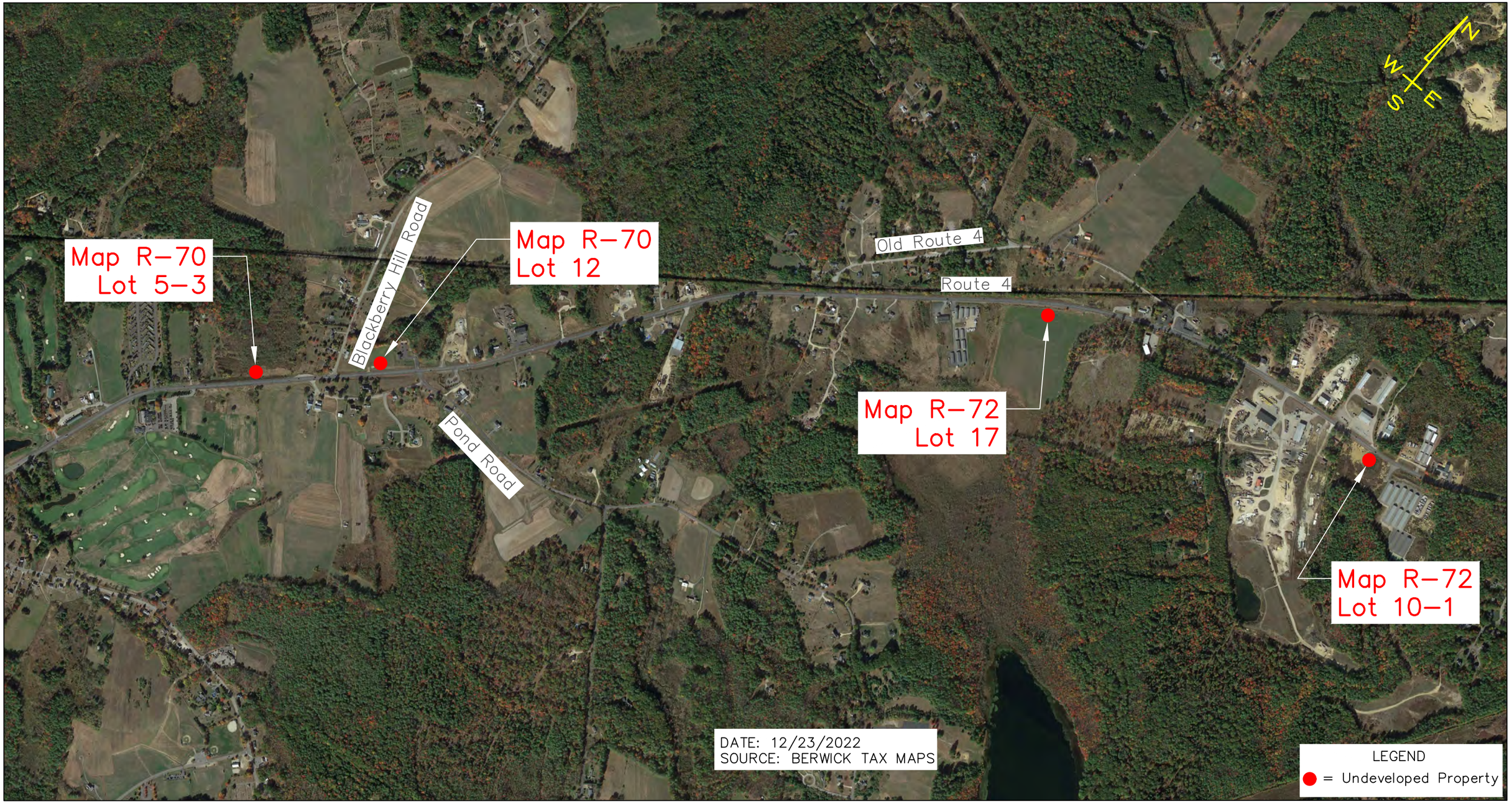
Crash Summary II - Characteristics

Crashes by Weather, Light Condition and Road Surface

Weather / Light	Dry	Ice/Frost	Mud, Dirt, Gravel	Oil	Other	Sand	Slush	Snow	Unknown	Water (Standing, Moving)	Wet	Total
Sleet, Hail (Freezing Rain or Drizzle)												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Snow												
Dark - Lighted	0	0	0	0	0	0	0	1	0	0	0	1
Dark - Not Lighted	0	0	0	0	0	0	0	2	0	0	1	3
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	1	0	0	0	1
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	96	5	0	0	1	0	1	6	0	0	13	122

Appendix E
Potential Developments

ROUTE 4 UNDEVELOPED LOTS



Rev.	Date	Revision

Issued For	Date	By

Design: NJB	Draft: NJB	Date: JAN 2023
Checked: RED	Scale: NTS	Job No.: 4037
File Name: Location.dwg		

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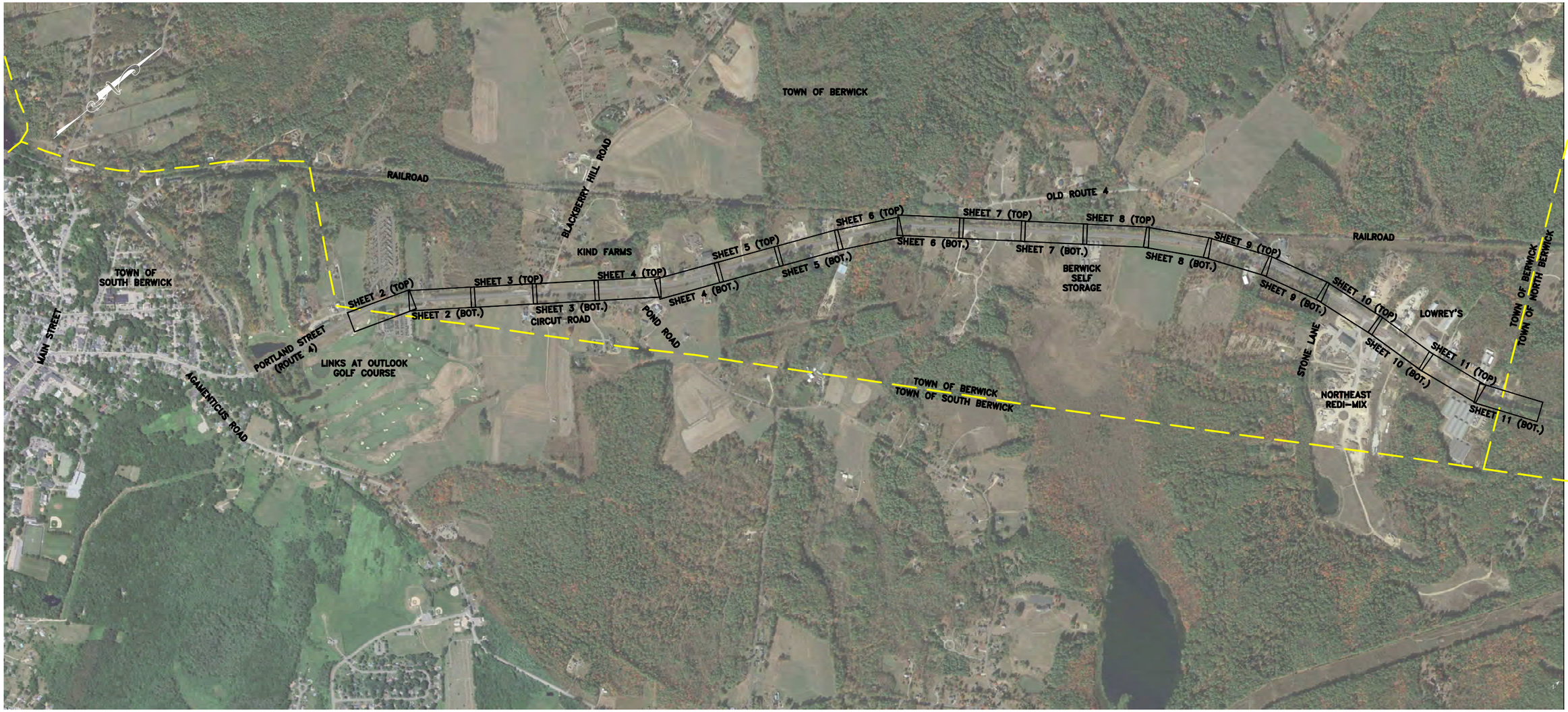
Drawing Name:	Route 4 Undeveloped Lots
Project:	Route 4 Traffic and Safety Study Berwick, Maine
Client:	KACTS and Town of Berwick

Drawing No. 07

Appendix F
Potential Alternatives

ROUTE 4 TRAFFIC AND SAFETY STUDY
BERWICK, MAINE
YORK COUNTY
JUNE 30, 2023



FINAL CONCEPT PLANS

600 0 300 600 1,200
1 inch = 600' ft.

NOTE: CONCEPTUAL ONLY. NOT FOR CONSTRUCTION.

Rev.	Date	Revision

Issued For	Date	By

Design: TW	Draft: DB	Date: JUNE 2023
Checked: RED	Scale: 1"=600'	Job No.: 4037
File Name: 4037 OVERALL.dwg		

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Drawing Name: Title Sheet
Project: Route 4 Traffic and Safety Study, Berwick, Maine
Client: KACTS, 110 Main Street, Suite 1400, Saco, ME 04072

Drawing No. 1

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RESIDENTIAL

DRICOLL LANE

SUNRISE HILL

RESIDENTIAL

SUNRISE HILL

RESIDENTIAL

PORTLAND STREET (ROUTE 4)

(SPEED LIMIT 45 MPH)

10+00 11+00 12+00 13+00 14+00 15+00 16+00 17+00 18+00

MATCHLINE SEE BELOW

LINKS AT OUTLOOK GOLF COURSE

BERWICK

SOUTH BERWICK

APPROXIMATE RIGHT-OF-WAY (TYP.)

RESIDENTIAL

APPROXIMATE RIGHT-OF-WAY (TYP.)

ASHLEY LANE

5/4/2017
SERIOUS INJURY
REAR END/SIDESWIPE
STRAIGHT ROAD

45 MPH
55 MPH

45 MPH
55 MPH

MATCHLINE SEE ABOVE

PORTLAND STREET (ROUTE 4)

(SPEED LIMIT 45 MPH)

18+00 19+00 20+00 21+00 22+00 23+00

PORTLAND STREET (ROUTE 4)

(SPEED LIMIT 55 MPH)

24+00 25+00 26+00

MATCHLINE SEE SHEET 3

LINKS AT OUTLOOK GOLF COURSE

NOTES

1. SHOULDER STRUCTURE TO BE INVESTIGATED PRIOR TO RESTRIPING. POTENTIAL SHOULDER RECONSTRUCTION NECESSARY.
2. GUARDRAIL LENGTH OF NEED SHALL BE EVALUATED PRIOR TO RESTRIPING TRAVELWAY.
3. ADEQUATE CLEAR ZONE SHALL BE CONFIRMED PRIOR TO RESTRIPING.
4. UTILITY POLE OFFSETS SHOULD BE CONFIRMED PRIOR TO STRIPING.
5. RIGHT-OF-WAY IS APPROXIMATE ONLY.

ROUTE 4 INFORMATION

- APPROXIMATELY 10,000 AADT
- MOBILITY CORRIDOR
- CLASSIFIED RURAL
- STATE HIGHWAY
- MINOR ARTERIAL
- CORRIDOR PRIORITY 2

SIGN LEGEND

A	B	C	D	E	F	G
R3-9cP 30"x 12" R3-9a 30"x 36" R4-1 24"x30"	R3-9dP 30"x 12" R3-9a 30"x 36"	R4-7 24"x 30"	OM-1 30"x 30"	R1-1 30"x30"	R3-2 24"x24"	SPECIAL ORDER SIGN 36"x48"

25 0 12.5 25 50

1 inch = 25' ft.

NOTE: CONCEPTUAL ONLY. NOT FOR CONSTRUCTION.

Rev.	Date	Revision

Issued For	Date	By

Design: TW	Draft: DB	Date: JUNE 2023	
Checked: RED	Scale: 1"=25'	Job No.: 4037	
File Name: 4037 SITEPLAN.dwg			

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Drawing Name: Conceptual Roadway Improvements Plan

Project: Route 4 Traffic and Safety Study
Berwick, Maine

Client: KACTS
110 Main Street, Suite 1400, Saco, ME 04072

Drawing No. 2

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APPROXIMATE RIGHT-OF-WAY (TYP.)

330' TAPER

180'

STRIPED MEDIAN (TYP.)

MATCHLINE SEE SHEET 2

MATCHLINE SEE BELOW

PORTLAND STREET (ROUTE 4)

(SPEED LIMIT 55 MPH)

12'±

13'±

10'±

12'±

26+00

27+00

28+00

29+00

30+00

31+00

32+00

33+00

34+00

C|D

C|D

RESTRIPE THIS SECTION TO ELIMINATE SOUTHBOUND PASSING ZONE AS SHOWN

MATCH EXISTING STRIPING

RAISED MEDIAN, CONSIDER OVERHEAD ILLUMINATION (TYP.)

RESIDENTIAL

RESIDENTIAL

CIRCUT ROAD

RESIDENTIAL

BLACKBERRY HILL ROAD

RESIDENTIAL

UNDEVELOPED

RIGHT TURN LANE TO BE EVALUATED BY DEVELOPER

POTENTIAL FUTURE DRIVEWAY

26'

CLEAR VEGETATION WITHIN RIGHT-OF-WAY

180'

200'

3/8/2020
SERIOUS INJURY
INTERSECTION MOVEMENT
THREE-LEG INTERSECTION

SHIFT STOP BAR UP, FINAL LOCATION TO BE DETERMINED

50'

195'

EXISTING SHOULDER IDENTIFIED AS "BIKE ROUTE"

1-FOOT STRIPING OFFSET (TYP.)

2/10/2015
SERIOUS INJURY
WENT OFF ROAD
STRAIGHT ROAD

50'

195'

MATCHLINE SEE ABOVE

MATCHLINE SEE SHEET 4

4'±

11'

12'

11'

5'±

4'

13'

11'

4'±

11'

12'

11'

5'±

4'

13'

11'

25+00

35+00

36+00

37+00

38+00

39+00

40+00

41+00

42+00

C|D

C|D

C|D

F

E

CHANNELIZATION ISLAND, RIGHT-IN, RIGHT-OUT ONLY

EXISTING SHOULDER IDENTIFIED AS "BIKE ROUTE"

RAISED MEDIAN, CONSIDER OVERHEAD ILLUMINATION (TYP.)

STRIPED MEDIAN (TYP.)

180'

195'

DEVELOPMENT TO ENSURE STORAGE IS APPROPRIATE

180'

CIRCUT ROAD

APPROXIMATE RIGHT-OF-WAY (TYP.)

RESIDENTIAL

NOTES

1. SHOULDER STRUCTURE TO BE INVESTIGATED PRIOR TO RESTRIPING. POTENTIAL SHOULDER RECONSTRUCTION NECESSARY.
2. GUARDRAIL LENGTH OF NEED SHALL BE EVALUATED PRIOR TO RESTRIPING TRAVELWAY.
3. ADEQUATE CLEAR ZONE SHALL BE CONFIRMED PRIOR TO RESTRIPING.
4. UTILITY POLE OFFSETS SHOULD BE CONFIRMED PRIOR TO STRIPING.
5. RIGHT-OF-WAY IS APPROXIMATE ONLY.

ROUTE 4 INFORMATION

- APPROXIMATELY 10,000 AADT
- MOBILITY CORRIDOR
- CLASSIFIED RURAL
- STATE HIGHWAY
- MINOR ARTERIAL
- CORRIDOR PRIORITY 2

SIGN LEGEND

A	B	C	D	E	F	G
R3-9cP 30"x 12" R3-9a 30"x 36" R4-1 24"x30"	R3-9dP 30"x 12" R3-9a 30"x 36"	R4-7 24"x 30"	OM-1 30"x 30"	R1-1 30"x30"	R3-2 24"x24"	SPECIAL ORDER SIGN 36"x48"

25 0 12.5 25 50

1 inch = 25' ft.

NOTE: CONCEPTUAL ONLY. NOT FOR CONSTRUCTION.

Rev.	Date	Revision

Issued For	Date	By

Design: TW	Draft: DB	Date: JUNE 2023	
Checked: RED	Scale: 1"=25'	Job No.: 4037	
File Name: 4037 SITEPLAN.dwg			

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Drawing Name: Conceptual Roadway Improvements Plan

Project: Route 4 Traffic and Safety Study
Berwick, Maine

Client: KACTS
110 Main Street, Suite 1400, Saco, ME 04072

Drawing No. 3

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KIND FARMS RESERVE MEDICAL AND RECREATIONAL CANNABIS

UNDEVELOPED

UNNAMED COMMERCIAL DEVELOPMENT

195'

195'

RAISED MEDIAN, CONSIDER OVERHEAD ILLUMINATION (TYP.)

2/26/2022
FATALITY
REAR END/SIDESWIPE
DRIVEWAY

MATCHLINE SEE SHEET 3

C D

42+00

43+00

44+00

45+00

4'±

11'

12'

11'

5'±

PORTLAND STREET (ROUTE 4)

STRIPED MEDIAN (TYP.)

180'

170'

APPROXIMATE RIGHT-OF-WAY (TYP.)

RESIDENTIAL

POND ROAD

50'

195'

B

4'

13'

11'

12'

11'

5'±

46+00

47+00

48+00

(SPEED LIMIT 55 MPH)

A

100'

75'

6'±

11'

11'

12'

11'

7'±

49+00

RESTRIPE FOR CENTER TURN LANE

MATCHLINE SEE BELOW

NORTH EAST CREDIT UNION

UNNAMED COMMERCIAL DEVELOPMENT

RESIDENTIAL

RESIDENTIAL

SHOEM ROADWAY SERVICES

RECOMMENDED: REMOVE GRAVELS, CLOSE DRIVEWAY, ADD LOAM AND SEED

RECOMMENDED: REMOVE GRAVELS, CLOSE DRIVEWAY, ADD LOAM AND SEED

RECOMMENDED: REMOVE PAVEMENT, CLOSE DRIVEWAY, ADD LOAM AND SEED

DRIVEWAY TO REMAIN

DRIVEWAY TO REMAIN

MATCHLINE SEE ABOVE

50+00

51+00

52+00

53+00

54+00

55+00

56+00

57+00

58+00

PORTLAND STREET (ROUTE 4)

(SPEED LIMIT 55 MPH)

A

C D

B

6'±

11'

12'

11'

6'±

RESTRIPE FOR CENTER TURN LANE

MATCHLINE SEE SHEET 5

RAISED MEDIAN, CONSIDER OVERHEAD ILLUMINATION (TYP.)

APPROXIMATE RIGHT-OF-WAY (TYP.)

UNDEVELOPED

GRIND CANNABIS CO.

25 0 12.5 25 50
1 inch = 25' ft.

NOTE: CONCEPTUAL ONLY. NOT FOR CONSTRUCTION.

NOTES

1. SHOULDER STRUCTURE TO BE INVESTIGATED PRIOR TO RESTRIPING. POTENTIAL SHOULDER RECONSTRUCTION NECESSARY.
2. GUARDRAIL LENGTH OF NEED SHALL BE EVALUATED PRIOR TO RESTRIPING TRAVELWAY.
3. ADEQUATE CLEAR ZONE SHALL BE CONFIRMED PRIOR TO RESTRIPING.
4. UTILITY POLE OFFSETS SHOULD BE CONFIRMED PRIOR TO STRIPING.
5. RIGHT-OF-WAY IS APPROXIMATE ONLY.

ROUTE 4 INFORMATION

- APPROXIMATELY 10,000 AADT
- MOBILITY CORRIDOR
- CLASSIFIED RURAL
- STATE HIGHWAY
- MINOR ARTERIAL
- CORRIDOR PRIORITY 2

SIGN LEGEND

R3-9cP 30"x 12" R3-9a 30"x 36" R4-1 24"x30"	R3-9dP 30"x 12" R3-9a 30"x 36"	R4-7 24"x 30"	OM-1 30"x 30"	R1-1 30"x30"	R3-2 24"x24"	SPECIAL ORDER SIGN 36"x48"
A	B	C	D	E	F	G

Rev.	Date	Revision

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File Name: 4037 SITEPLAN.dwg

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Project: Route 4 Traffic and Safety Study
Berwick, Maine

Client: KACTS
110 Main Street, Suite 1400, Saco, ME 04072

Drawing No. 4

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UNDEVELOPED

J.E. VERLY SALON AND WELLNESS

IRWIN LANE

330'

STRIPED MEDIAN (TYP.)

MATCHLINE SEE SHEET 4

10'±

12'±

12'±

9'±

38+00

59+00

60+00

C D

61+00

62+00

63+00

64+00

65+00

66+

PORTLAND STREET (ROUTE 4)

(SPEED LIMIT 55 MPH)

12" EDGE LINE, POSSIBLE DEMONSTRATION PROJECT

MATCHLINE SEE BELOW

RAISED MEDIAN, CONSIDER OVERHEAD ILLUMINATION (TYP.)

MATCH EXISTING STRIPING

G

SIGN NEEDS TO BE APPROVED BY INLAND FISHERIES AND WILDLIFE (TYP.)

RESIDENTIAL

UNDEVELOPED

APPROXIMATE RIGHT-OF-WAY (TYP.)

RICKER'S OUTDOOR STORAGE

RESIDENTIAL

9/2/2014
FATALITY
REAR END/SIDESWIPE
DRIVEWAY

3/18/2019
SERIOUS INJURY
REAR END/SIDESWIPE
DRIVEWAY

ANDERSON LANE

12" EDGE LINE, POSSIBLE DEMONSTRATION PROJECT

MATCHLINE SEE ABOVE

66+00

67+00

68+00

69+00

70+00

71+00

72+00

73+00

PORTLAND STREET (ROUTE 4)

(SPEED LIMIT 55 MPH)

MATCHLINE SEE SHEET 6

RESIDENTIAL

RESIDENTIAL

CANINE ACADEMY

APPROXIMATE RIGHT-OF-WAY (TYP.)

RESIDENTIAL

NOTES

1. SHOULDER STRUCTURE TO BE INVESTIGATED PRIOR TO RESTRIPING. POTENTIAL SHOULDER RECONSTRUCTION NECESSARY.
2. GUARDRAIL LENGTH OF NEED SHALL BE EVALUATED PRIOR TO RESTRIPING TRAVELWAY.
3. ADEQUATE CLEAR ZONE SHALL BE CONFIRMED PRIOR TO RESTRIPING.
4. UTILITY POLE OFFSETS SHOULD BE CONFIRMED PRIOR TO STRIPING.
5. RIGHT-OF-WAY IS APPROXIMATE ONLY.

ROUTE 4 INFORMATION

- APPROXIMATELY 10,000 AADT
- MOBILITY CORRIDOR
- CLASSIFIED RURAL
- STATE HIGHWAY
- MINOR ARTERIAL
- CORRIDOR PRIORITY 2

SIGN LEGEND

A: BEGIN ONLY / DO NOT PASS — R3-9cP 30"x 12" R3-9a 30"x 36" R4-1 24"x30"

B: END ONLY — R3-9dP 30"x 12" R3-9a 30"x 36"

C: R4-7 24"x 30"

D: OM-1 30"x 30"

E: R1-1 30"x30"

F: R3-2 24"x24"

G: CAUTION DEER (RIGHT) AHEAD — SPECIAL ORDER SIGN 36"x48"

25 0 12.5 25 50

1 inch = 25' ft.

NOTE: CONCEPTUAL ONLY. NOT FOR CONSTRUCTION.

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Project: Route 4 Traffic and Safety Study
Berwick, Maine

Client: KACTS
110 Main Street, Suite 1400, Saco, ME 04072

Drawing No. 5

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RESIDENTIAL

SIGN NEEDS TO BE APPROVED BY INLAND FISHERIES AND WILDLIFE (TYP.)

12" EDGE LINE, POSSIBLE DEMONSTRATION PROJECT

MATCHLINE SEE SHEET 5

74+00 75+00 76+00 77+00 78+00 79+00 80+00 81+00

PORTLAND STREET (ROUTE 4)

(SPEED LIMIT 55 MPH)

MATCHLINE SEE BELOW

RECOMMENDED: REMOVE GRAVELS, NARROW DRIVEWAY, ADD LOAM AND SEED

30'

APPROXIMATE RIGHT-OF-WAY (TYP.)

UNDEVELOPED

RESIDENTIAL

RAILROAD

APPROXIMATE RIGHT-OF-WAY (TYP.)

6/9/2018
FATALITY
HEAD-ON/SIDESWIPE
CURVED ROAD

12" EDGE LINE, POSSIBLE DEMONSTRATION PROJECT

MATCHLINE SEE ABOVE

82+00 83+00 84+00 85+00 86+00 87+00 88+00 89+00

PORTLAND STREET (ROUTE 4)

(SPEED LIMIT 55 MPH)

MATCHLINE SEE SHEET 7

RESIDENTIAL

RESIDENTIAL

NOTES

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3. ADEQUATE CLEAR ZONE SHALL BE CONFIRMED PRIOR TO RESTRIPING.
4. UTILITY POLE OFFSETS SHOULD BE CONFIRMED PRIOR TO STRIPING.
5. RIGHT-OF-WAY IS APPROXIMATE ONLY.

ROUTE 4 INFORMATION

- APPROXIMATELY 10,000 AADT
- MOBILITY CORRIDOR
- CLASSIFIED RURAL
- STATE HIGHWAY
- MINOR ARTERIAL
- CORRIDOR PRIORITY 2

SIGN LEGEND

BEGIN ONLY / DO NOT PASS	END ONLY			STOP		CAUTION SIGN AHEAD	
R3-9aP 30"x 12" R3-9a 30"x 36" R4-1 24"x30"	R3-9dP 30"x 12" R3-9a 30"x 36"	R4-7 24"x 30"	OM-1 30"x 30"	R1-1 30"x30"	R3-2 24"x24"	SPECIAL ORDER SIGN 36"x48"	
A	B	C	D	E	F	G	

25 0 12.5 25 50

1 inch = 25' ft.

NOTE: CONCEPTUAL ONLY. NOT FOR CONSTRUCTION.

Rev.	Date	Revision

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Project: **Route 4 Traffic and Safety Study**
Berwick, Maine

Client: **KACTS**
110 Main Street, Suite 1400, Saco, ME 04072

Drawing No. 6

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RAILROAD

APPROXIMATE RIGHT–OF–WAY (TYP.)

12" EDGE LINE, POSSIBLE DEMONSTRATION PROJECT

REMOVE AND RESET MAILBOXES

MATCHLINE SEE SHEET 6

MATCHLINE SEE BELOW

90+00 91+00 92+00 93+00 94+00 95+00 96+00 97+00

PORTLAND STREET (ROUTE 4)

(SPEED LIMIT 55 MPH)

JUNCTION ROAD

RECOMMENDED: REMOVE GRAVELS, NARROW CURB CUT, ADD LOAM AND SEED

RESIDENTIAL

DEAD HORSE LANE

RESIDENTIAL

RAILROAD

APPROXIMATE RIGHT–OF–WAY (TYP.)

SIGN NEEDS TO BE APPROVED BY INLAND FISHERIES AND WILDLIFE (TYP.)

4/10/2013
FATALITY
HEAD–ON/SIDESWIPE
STRAIGHT ROAD

12" EDGE LINE, POSSIBLE DEMONSTRATION PROJECT

MATCHLINE SEE ABOVE

MATCHLINE SEE SHEET 8

98+00 99+00 100+00 101+00 102+00 103+00 104+00 105+00

PORTLAND STREET (ROUTE 4)

(SPEED LIMIT 55 MPH)

RESIDENTIAL

UNDEVELOPED

HERBAL PATHWAYS
RECREATIONAL
MARIJUANA STORE

25 0 12.5 25 50
1 inch = 25' ft.

NOTE: CONCEPTUAL ONLY. NOT FOR CONSTRUCTION.

NOTES

1. SHOULDER STRUCTURE TO BE INVESTIGATED PRIOR TO RESTRIPING. POTENTIAL SHOULDER RECONSTRUCTION NECESSARY.
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3. ADEQUATE CLEAR ZONE SHALL BE CONFIRMED PRIOR TO RESTRIPING.
4. UTILITY POLE OFFSETS SHOULD BE CONFIRMED PRIOR TO STRIPING.
5. RIGHT-OF-WAY IS APPROXIMATE ONLY.

ROUTE 4 INFORMATION

- APPROXIMATELY 10,000 AADT
- MOBILITY CORRIDOR
- CLASSIFIED RURAL
- STATE HIGHWAY
- MINOR ARTERIAL
- CORRIDOR PRIORITY 2

SIGN LEGEND

A	B	C	D	E	F	G
R3–9cP 30"x 12" R3–9a 30"x 36" R4–1 24"x30"	R3–9dP 30"x 12" R3–9a 30"x 36"	R4–7 24"x 30"	OM–1 30"x 30"	R1–1 30"x30"	R3–2 24"x24"	SPECIAL ORDER SIGN 36"x48"

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Project: Route 4 Traffic and Safety Study
Berwick, Maine

Client: KACTS
110 Main Street, Suite 1400, Saco, ME 04072

Drawing No. 7

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RAILROAD

APPROXIMATE RIGHT–OF–WAY (TYP.)

12" EDGE LINE, POSSIBLE DEMONSTRATION PROJECT

MATCHLINE SEE SHEET 7

106+00 107+00 108+00 109+00 110+00 111+00 112+00 113+00

PORTLAND STREET (ROUTE 4) (SPEED LIMIT 55 MPH)

MATCHLINE SEE BELOW

BERWICK STORAGE

UNDEVELOPED

RAILROAD

SIGN NEEDS TO BE APPROVED BY INLAND FISHERIES AND WILDLIFE (TYP.)

APPROXIMATE RIGHT–OF–WAY (TYP.)

12" EDGE LINE, POSSIBLE DEMONSTRATION PROJECT

G

330'

MATCHLINE SEE SHEET 9

114+00 115+00 116+00 117+00 118+00 119+00 120+00 121+00

PORTLAND STREET (ROUTE 4) (SPEED LIMIT 55 MPH)

6'± 12'± 9'±

MATCHLINE SEE ABOVE

POTENTIAL FUTURE DRIVEWAY

30'

MATCH EXISTING STRIPING

UNDEVELOPED

NOTES
1. SHOULDER STRUCTURE TO BE INVESTIGATED PRIOR TO RESTRIPING. POTENTIAL SHOULDER RECONSTRUCTION NECESSARY.
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4. UTILITY POLE OFFSETS SHOULD BE CONFIRMED PRIOR TO STRIPING.
5. RIGHT-OF-WAY IS APPROXIMATE ONLY.

ROUTE 4 INFORMATION
• APPROXIMATELY 10,000 AADT
• MOBILITY CORRIDOR
• CLASSIFIED RURAL
• STATE HIGHWAY
• MINOR ARTERIAL
• CORRIDOR PRIORITY 2

SIGN LEGEND

A	B	C	D	E	F	G
R3–9cP 30"x 12" R3–9a 30"x 36" R4–1 24"x30"	R3–9dP 30"x 12" R3–9a 30"x 36"	R4–7 24"x 30"	OM–1 30"x 30"	R1–1 30"x30"	R3–2 24"x24"	SPECIAL ORDER SIGN 36"x48"

1 inch = 25' ft.

NOTE: CONCEPTUAL ONLY. NOT FOR CONSTRUCTION.

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Drawing Name: Conceptual Roadway Improvements Plan

Project: Route 4 Traffic and Safety Study
Berwick, Maine

Client: KACTS
110 Main Street, Suite 1400, Saco, ME 04072

Drawing No. 8

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MAGGIE'S DINE AND DRIVE

RECOMMENDED: REMOVE GRAVELS, CLOSE DRIVEWAY, ADD LOAM AND SEED

330'

30'

50'

WIDEN DRIVEWAY

RESIDENTIAL

1/10/2018
FATALITY
REAR END/SIDESWIPE
STRAIGHT ROAD

SALMON FALLS NURSERY

RECOMMENDED: REMOVE GRAVELS, CLOSE DRIVEWAY, ADD LOAM AND SEED

OLD PORTLAND STREET (ROUTE 4)

STRIPED MEDIAN (TYP.)

MATCHLINE SEE SHEET 8

PORTLAND STREET (ROUTE 4)

122+00 123+00 124+00 125+00 126+00 127+00 128+00 129+00

(SPEED LIMIT 55 MPH)

11' 4' 12' 11' 4'

MATCHLINE SEE BELOW

TRAVERSABLE FLUSH CONCRETE MEDIAN STAMPED WITH BRICK PATTERN (OR SIMILAR), CONSIDER OVERHEAD ILLUMINATION

APPROXIMATE LIMIT OF SHOULDER WIDENING IF NEEDED

MAINTAIN MINIMUM 4' CLEARANCE TO GUARDRAIL

SHOULDER WIDENING ON BOTH SIDES OF THE ROAD MAY BE REQUIRED TO PROVIDE ADEQUATE SHOULDER WIDTHS PRIOR TO RESTRIPING

APPROXIMATE RIGHT-OF-WAY (TYP.)

RESTRIPE FOR CENTER TURN LANE

UNDEVELOPED

COLLINS SHEET METAL

8/14/2022
FATALITY
HEAD-ON/SIDESWIPE
THREE LEG INTERSECTION

TRICANN

RESTRIPE FOR CENTER TURN LANE

APPROXIMATE RIGHT-OF-WAY (TYP.)

RESIDENTIAL

RESIDENTIAL

OLD PORTLAND STREET (ROUTE 4)

MATCHLINE SEE ABOVE

PORTLAND STREET (ROUTE 4)

130+00 131+00 132+00 133+00 134+00 135+00 136+00 137+00

(SPEED LIMIT 55 MPH)

11' 4' 12' 11' 4'

MATCHLINE SEE SHEET 10

APPROXIMATE LIMIT OF SHOULDER WIDENING IF NEEDED

SHOULDER WIDENING ON BOTH SIDES OF THE ROAD MAY BE REQUIRED TO PROVIDE ADEQUATE SHOULDER WIDTHS PRIOR TO RESTRIPING

RAISED MEDIAN, CONSIDER OVERHEAD ILLUMINATION (TYP.)

UNDEVELOPED

NOTES

1. SHOULDER STRUCTURE TO BE INVESTIGATED PRIOR TO RESTRIPING. POTENTIAL SHOULDER RECONSTRUCTION NECESSARY.
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ROUTE 4 INFORMATION

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- MOBILITY CORRIDOR
- CLASSIFIED RURAL
- STATE HIGHWAY
- MINOR ARTERIAL
- CORRIDOR PRIORITY 2

SIGN LEGEND

A	B	C	D	E	F	G
R3-9cP 30"x 12" R3-9a 30"x 36" R4-1 24"x30"	R3-9dP 30"x 12" R3-9a 30"x 36"	R4-7 24"x 30"	OM-1 30"x 30"	R1-1 30"x30"	R3-2 24"x24"	SPECIAL ORDER SIGN 36"x48"

25 0 12.5 25 50

1 inch = 25' ft.

NOTE: CONCEPTUAL ONLY. NOT FOR CONSTRUCTION.

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Project: Route 4 Traffic and Safety Study, Berwick, Maine
Client: KACTS, 110 Main Street, Suite 1400, Saco, ME 04072

Drawing No. 9

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RESIDENTIAL

RON'S AUTOBODY

RECOMMENDED:
REMOVE PAVEMENT,
NARROW WIDE DRIVEWAY,
ADD LOAM AND SEED

APPROXIMATE RIGHT-OF-WAY (TYP.)

42'

MATCHLINE SEE SHEET 9

PORTLAND STREET (ROUTE 4)

(SPEED LIMIT 55 MPH)

138+00 139+00 140+00 141+00 142+00 143+00 144+00 145+00

4' 11' 12' 11' 13' 4'

RESTRIPE FOR
CENTER TURN LANE

SHIFT RIGHT TURN
LANE OVER AS NEEDED

MATCHLINE SEE BELOW

STONE LANE

WM SHAPLEIGH AND SON
CONSTRUCTION CO.

42'

INDUSTRY DRIVE

RECOMMENDED:
REMOVE PAVEMENT,
NARROW DRIVEWAY,
ADD LOAM AND SEED

REDIMIX COMPANIES

APPROXIMATE RIGHT-OF-WAY (TYP.)

LOWERY'S LAWN AND
PATIO FURNITURE

2/11/2015
SERIOUS INJURY
REAR END/SIDESWIPE
DRIVEWAY

MATCHLINE SEE ABOVE

PORTLAND STREET (ROUTE 4)

(SPEED LIMIT 55 MPH)

145+00 146+00 147+00 148+00 149+00 150+00 151+00 152+00 153+00

4' 11' 12' 11' 4'

A B C D

RESTRIPE FOR
CENTER TURN LANE

MATCHLINE SEE SHEET 11

MBW TRACTOR SALES

UNMARKED COMMERCIAL
DEVELOPMENT

RESIDENTIAL

RAISED MEDIAN,
CONSIDER OVERHEAD
ILLUMINATION (TYP.)

25 0 12.5 25 50
1 inch = 25' ft.

NOTE: CONCEPTUAL ONLY.
NOT FOR CONSTRUCTION.

NOTES

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ROUTE 4 INFORMATION

- APPROXIMATELY 10,000 AADT
- MOBILITY CORRIDOR
- CLASSIFIED RURAL
- STATE HIGHWAY
- MINOR ARTERIAL
- CORRIDOR PRIORITY 2

SIGN LEGEND

A	B	C	D	E	F	G
R3-9cP 30"x 12" DO NOT PASS R3-9a 30"x 36" R4-1 24"x30"	R3-9dP 30"x 12" R3-9a 30"x 36"	R4-7 24"x 30"	OM-1 30"x 30"	R1-1 30"x30"	R3-2 24"x24"	SPECIAL ORDER SIGN 36"x48"

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Project: Route 4 Traffic and Safety Study
Berwick, Maine

Client: KACTS
110 Main Street, Suite 1400, Saco, ME 04072

Drawing No. 10

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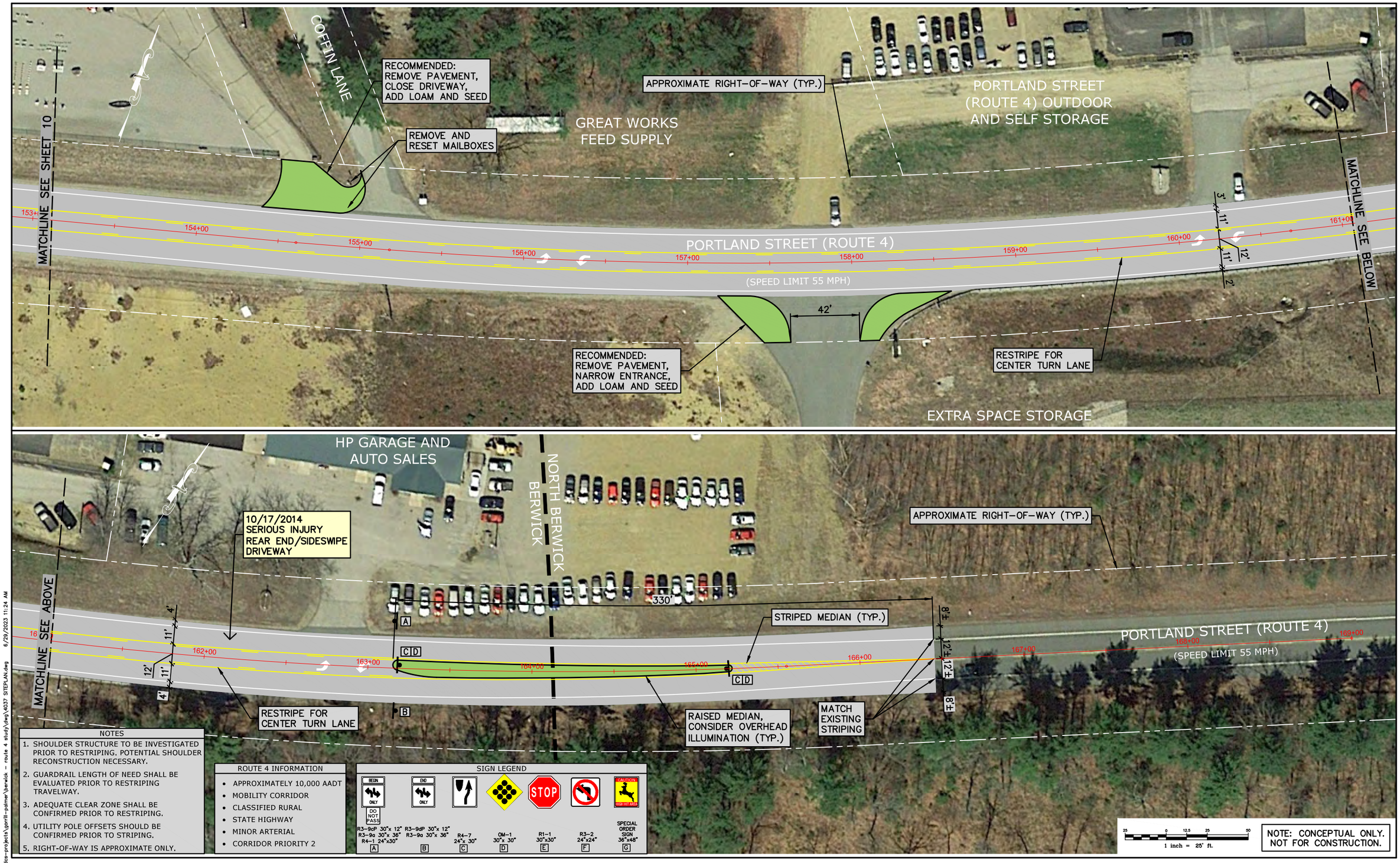

NOTES

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2. GUARDRAIL LENGTH OF NEED SHALL BE EVALUATED PRIOR TO RESTRIPING TRAVELWAY.
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ROUTE 4 INFORMATION

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- CLASSIFIED RURAL
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- CORRIDOR PRIORITY 2

SIGN LEGEND

R3-9cP 30"x 12" R3-9a 30"x 36" R4-1 24"x30" A
R3-9dP 30"x 12" R3-9a 30"x 36" B
R4-7 24"x 30" C
OM-1 30"x 30" D
R1-1 30"x30" E
R3-2 24"x24" F
SPECIAL ORDER SIGN 36"x48" G

25 0 12.5 25 50
1 inch = 25' ft.

NOTE: CONCEPTUAL ONLY. NOT FOR CONSTRUCTION.

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Project: Route 4 Traffic and Safety Study
Berwick, Maine
Client: KACTS
110 Main Street, Suite 1400, Saco, ME 04072

Drawing No. 11

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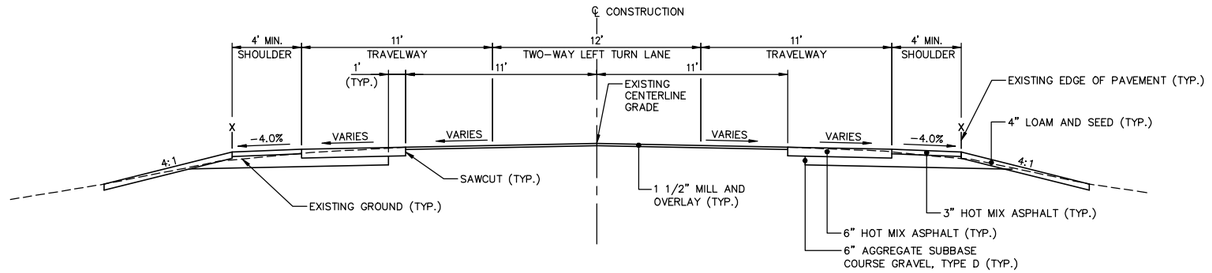
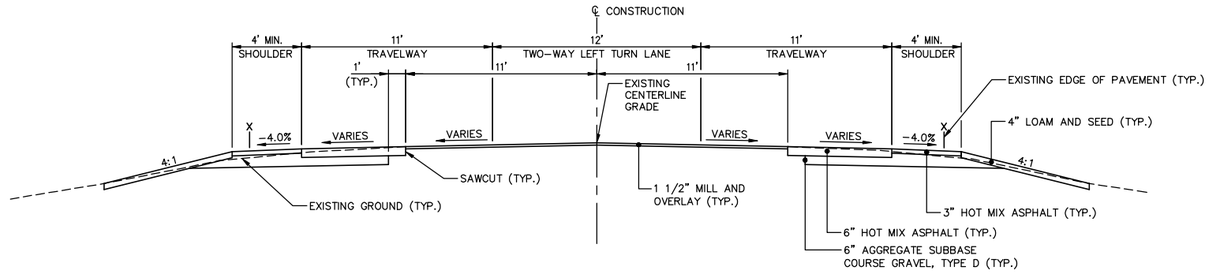


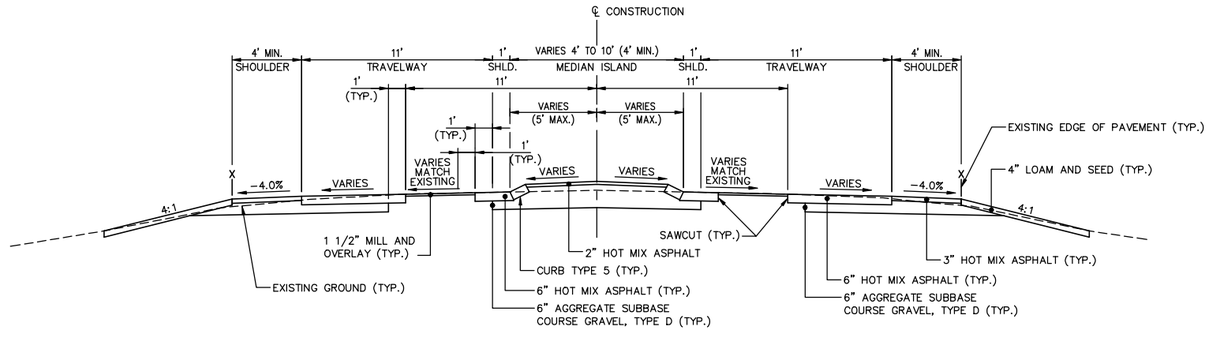
TYPICAL ROADWAY SECTION WITH TWO-WAY LEFT TURN LANE

(SHOULDER RECONSTRUCTION)
NOT TO SCALE



TYPICAL ROADWAY SECTION WITH SHOULDER WIDENING AND TWO-WAY LEFT TURN LANE

(SHOULDER RECONSTRUCTION)
NOT TO SCALE



TYPICAL ROADWAY SECTION WITH MEDIAN ISLAND

(SHOULDER RECONSTRUCTION)
NOT TO SCALE

TYPICAL SECTIONS ARE SUBJECT TO CHANGE

NOTE: CONCEPTUAL ONLY. NOT FOR CONSTRUCTION.

SHLD. = SHOULDER

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Drawing Name: Conceptual Roadway Typical Sections
Project: Route 4 Traffic and Safety Study, Berwick, Maine
Client: KACTS, 110 Main Street, Suite 1400, Saco, ME 04072

Drawing No. 12

Appendix G
Turn Lane Evaluations

Figure 2 - 5. Guideline for determining the need for a major-road left-turn bay at a two-way stop-controlled intersection.

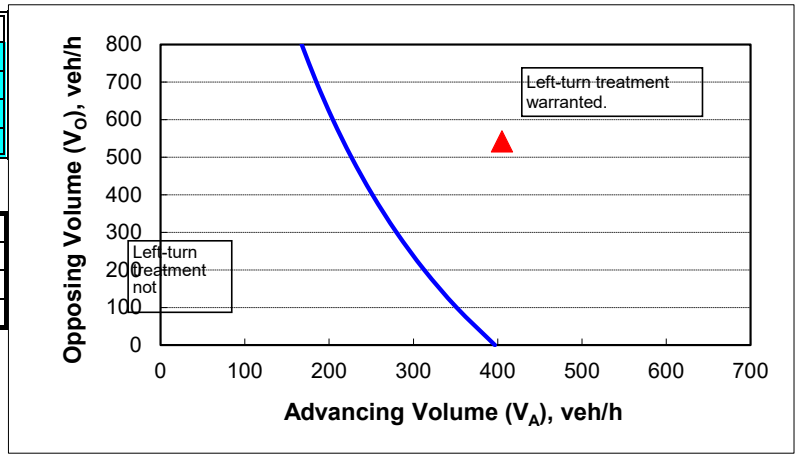
2-lane roadway (English)

INPUT

Variable	Value
85th percentile speed, mph:	55
Percent of left-turns in advancing volume (V_A), %:	14%
Advancing volume (V_A), veh/h:	405
Opposing volume (V_O), veh/h:	542

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	217
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

Figure 2 - 5. Guideline for determining the need for a major-road left-turn bay at a two-way stop-controlled intersection.

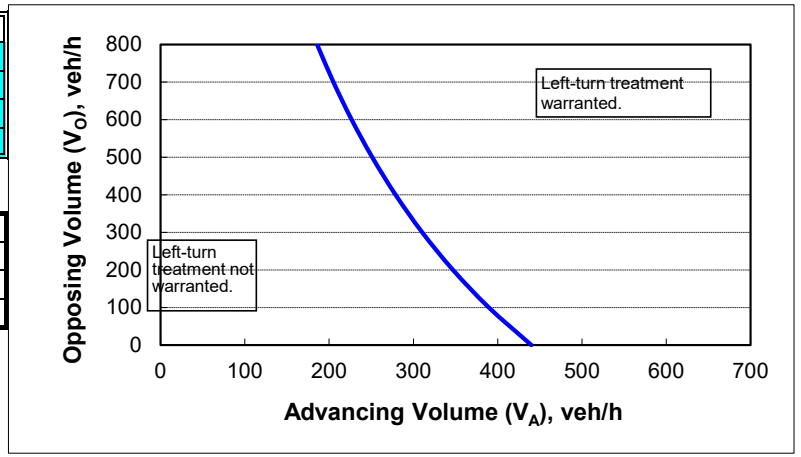
2-lane roadway (English)

INPUT

Variable	Value
85th percentile speed, mph:	55
Percent of left-turns in advancing volume (V_A), %:	11%
Advancing volume (V_A), veh/h:	723
Opposing volume (V_O), veh/h:	526

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	245
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

Figure 2 - 6. Guideline for determining the need for a major-road right-turn bay at a two-way stop-controlled intersection.

INPUT

Roadway geometry:	2-lane roadway

Variable	Value
Major-road speed, mph:	55
Major-road volume (one direction), veh/h:	542
Right-turn volume, veh/h:	29

OUTPUT

Variable	Value
Limiting right-turn volume, veh/h:	15
Guidance for determining the need for a major-road right-turn bay for a 2-lane roadway:	
Add right-turn bay.	

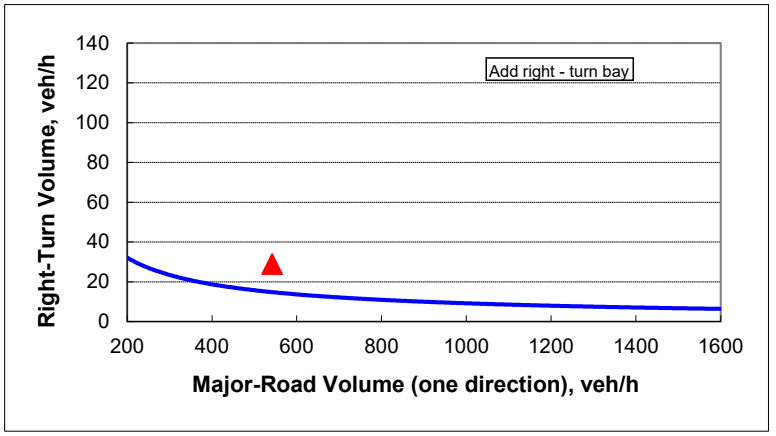


Figure 2 - 6. Guideline for determining the need for a major-road right-turn bay at a two-way stop-controlled intersection.

INPUT

Roadway geometry:	2-lane roadway

Variable	Value
Major-road speed, mph:	55
Major-road volume (one direction), veh/h:	526
Right-turn volume, veh/h:	48

OUTPUT

Variable	Value
Limiting right-turn volume, veh/h:	15
Guidance for determining the need for a major-road right-turn bay for a 2-lane roadway:	
Add right-turn bay.	

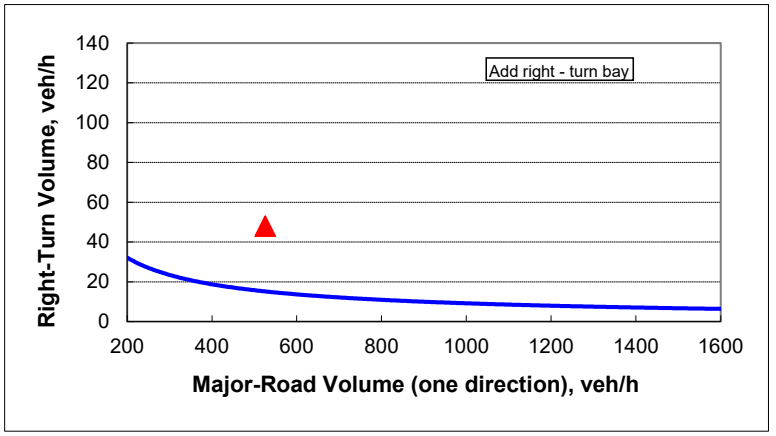


Figure 2 - 5. Guideline for determining the need for a major-road left-turn bay at a two-way stop-controlled intersection.

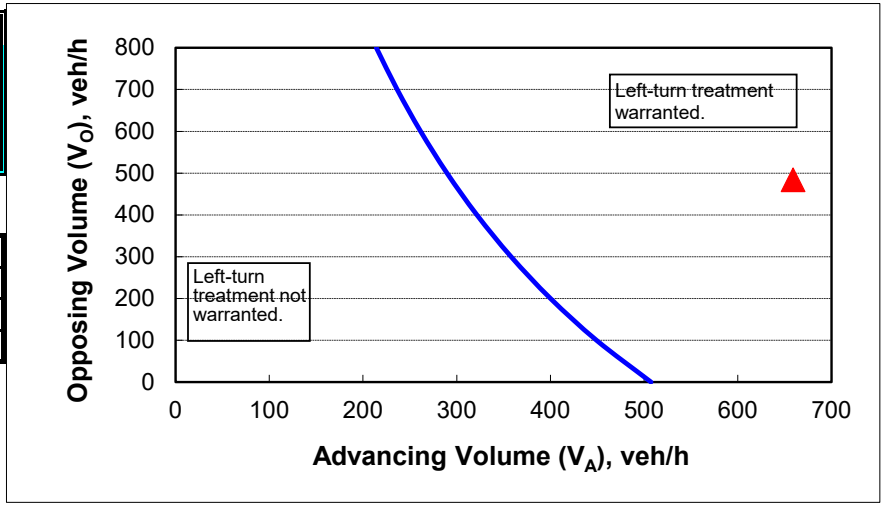
2-lane roadway (English)

INPUT

Variable	Value
85th percentile speed, mph:	55
Percent of left-turns in advancing volume (V_A), %:	8%
Advancing volume (V_A), veh/h:	659
Opposing volume (V_O), veh/h:	484

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	294
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

Figure 2 - 6. Guideline for determining the need for a major-road right-turn bay at a two-way stop-controlled intersection.

INPUT

Roadway geometry:	2-lane roadway

Variable	Value
Major-road speed, mph:	55
Major-road volume (one direction), veh/h:	484
Right-turn volume, veh/h:	24

OUTPUT

Variable	Value
Limiting right-turn volume, veh/h:	16
Guidance for determining the need for a major-road right-turn bay for a 2-lane roadway:	
Add right-turn bay.	

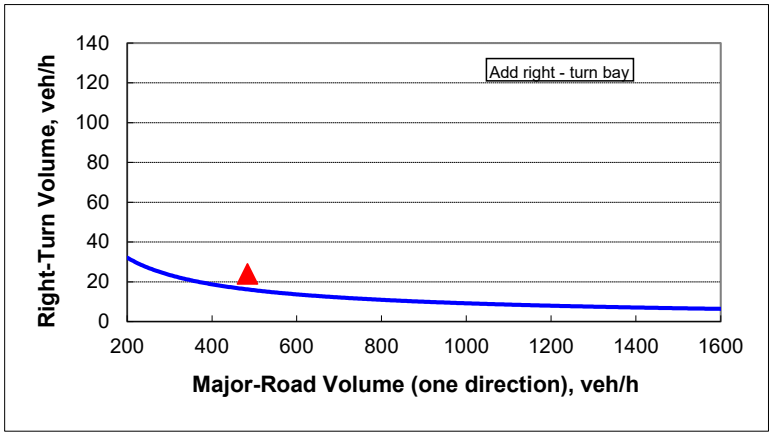


Figure 2 - 5. Guideline for determining the need for a major-road left-turn bay at a two-way stop-controlled intersection.

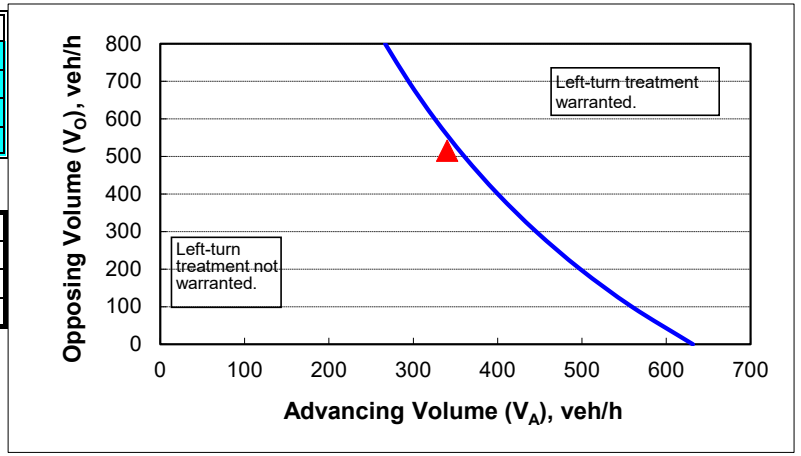
2-lane roadway (English)

INPUT

Variable	Value
85th percentile speed, mph:	55
Percent of left-turns in advancing volume (V_A), %:	5%
Advancing volume (V_A), veh/h:	340
Opposing volume (V_O), veh/h:	515

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	355
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment NOT warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

Figure 2 - 5. Guideline for determining the need for a major-road left-turn bay at a two-way stop-controlled intersection.

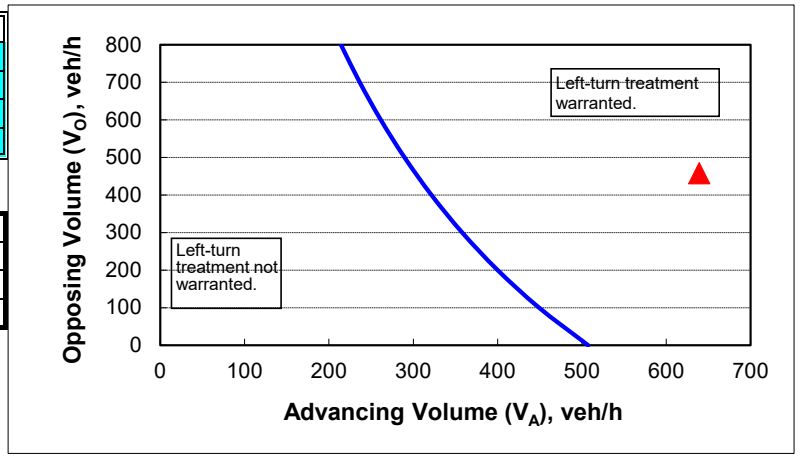
2-lane roadway (English)

INPUT

Variable	Value
85th percentile speed, mph:	55
Percent of left-turns in advancing volume (V_A), %:	8%
Advancing volume (V_A), veh/h:	639
Opposing volume (V_O), veh/h:	458

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	303
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

Figure 2 - 6. Guideline for determining the need for a major-road right-turn bay at a two-way stop-controlled intersection.

INPUT

Roadway geometry:	2-lane roadway

Variable	Value
Major-road speed, mph:	55
Major-road volume (one direction), veh/h:	515
Right-turn volume, veh/h:	14

OUTPUT

Variable	Value
Limiting right-turn volume, veh/h:	15
Guidance for determining the need for a major-road right-turn bay for a 2-lane roadway:	
Do NOT add right-turn bay.	

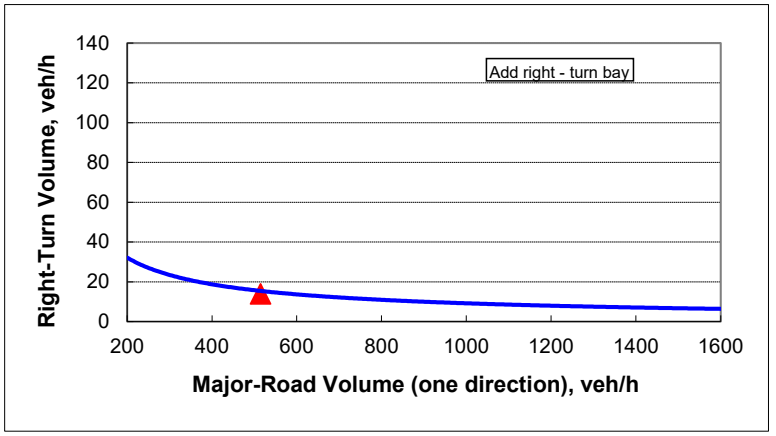


Figure 2 - 6. Guideline for determining the need for a major-road right-turn bay at a two-way stop-controlled intersection.

INPUT

Roadway geometry:	2-lane roadway

Variable	Value
Major-road speed, mph:	55
Major-road volume (one direction), veh/h:	458
Right-turn volume, veh/h:	23

OUTPUT

Variable	Value
Limiting right-turn volume, veh/h:	17
Guidance for determining the need for a major-road right-turn bay for a 2-lane roadway:	
Add right-turn bay.	

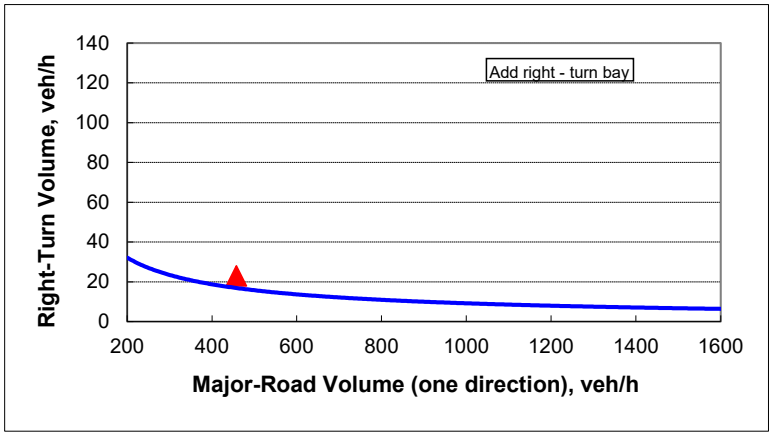


Figure 2 - 5. Guideline for determining the need for a major-road left-turn bay at a two-way stop-controlled intersection.

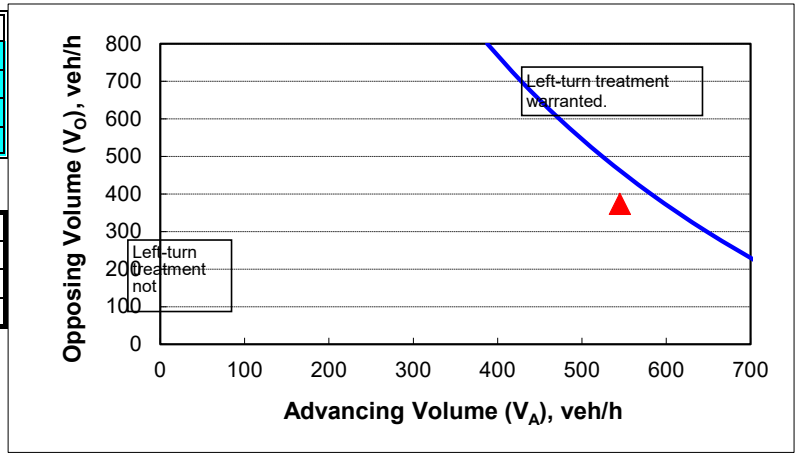
2-lane roadway (English)

INPUT

Variable	Value
85th percentile speed, mph:	55
Percent of left-turns in advancing volume (V_A), %:	2%
Advancing volume (V_A), veh/h:	545
Opposing volume (V_O), veh/h:	374

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	598
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment NOT warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

Figure 2 - 5. Guideline for determining the need for a major-road left-turn bay at a two-way stop-controlled intersection.

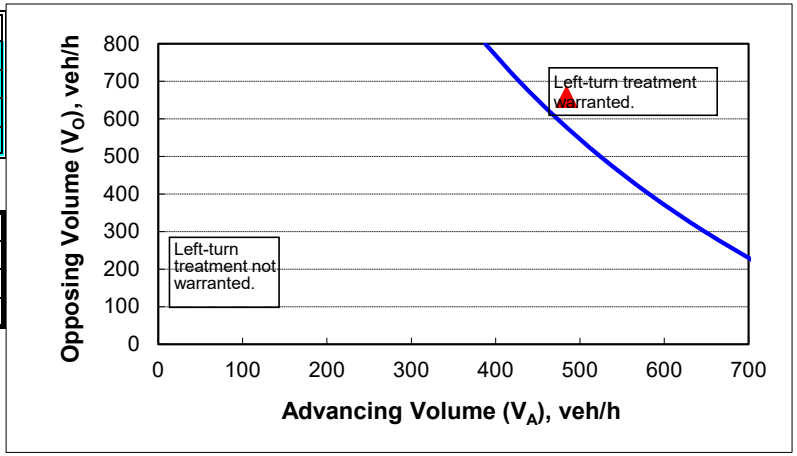
2-lane roadway (English)

INPUT

Variable	Value
85th percentile speed, mph:	55
Percent of left-turns in advancing volume (V_A), %:	2%
Advancing volume (V_A), veh/h:	484
Opposing volume (V_O), veh/h:	659

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	446
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

Figure 2 - 6. Guideline for determining the need for a major-road right-turn bay at a two-way stop-controlled intersection.

INPUT

Roadway geometry:	2-lane roadway

Variable	Value
Major-road speed, mph:	55
Major-road volume (one direction), veh/h:	415
Right-turn volume, veh/h:	9

OUTPUT

Variable	Value
Limiting right-turn volume, veh/h:	18
Guidance for determining the need for a major-road right-turn bay for a 2-lane roadway:	
Do NOT add right-turn bay.	

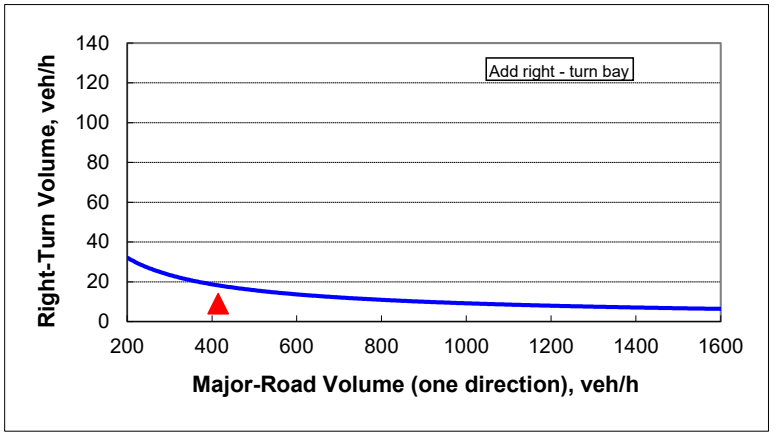


Figure 2 - 6. Guideline for determining the need for a major-road right-turn bay at a two-way stop-controlled intersection.

INPUT

Roadway geometry:	2-lane roadway

Variable	Value
Major-road speed, mph:	55
Major-road volume (one direction), veh/h:	374
Right-turn volume, veh/h:	8

OUTPUT

Variable	Value
Limiting right-turn volume, veh/h:	20
Guidance for determining the need for a major-road right-turn bay for a 2-lane roadway:	
Do NOT add right-turn bay.	

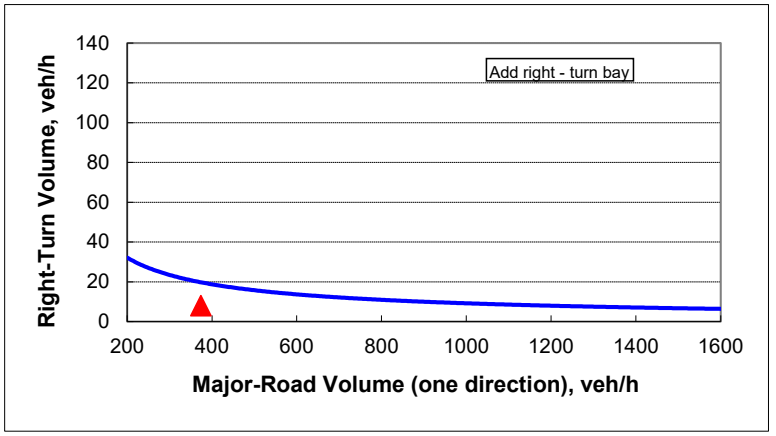


Figure 2 - 6. Guideline for determining the need for a major-road right-turn bay at a two-way stop-controlled intersection.

INPUT

Roadway geometry:	2-lane roadway

Variable	Value
Major-road speed, mph:	55
Major-road volume (one direction), veh/h:	732
Right-turn volume, veh/h:	9

OUTPUT

Variable	Value
Limiting right-turn volume, veh/h:	12
Guidance for determining the need for a major-road right-turn bay for a 2-lane roadway:	
Do NOT add right-turn bay.	

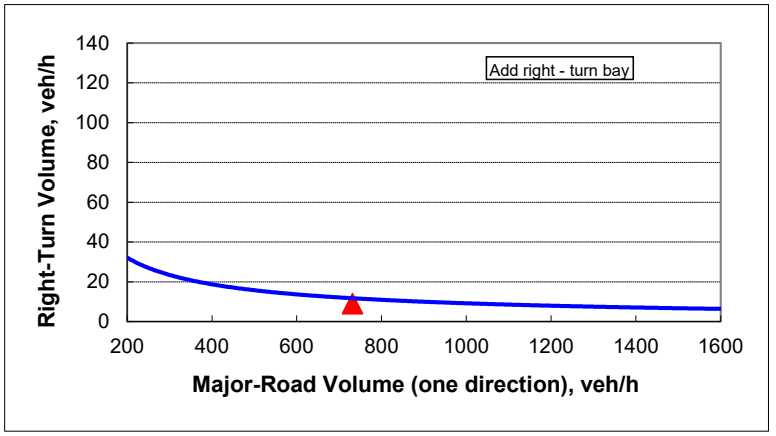


Figure 2 - 6. Guideline for determining the need for a major-road right-turn bay at a two-way stop-controlled intersection.

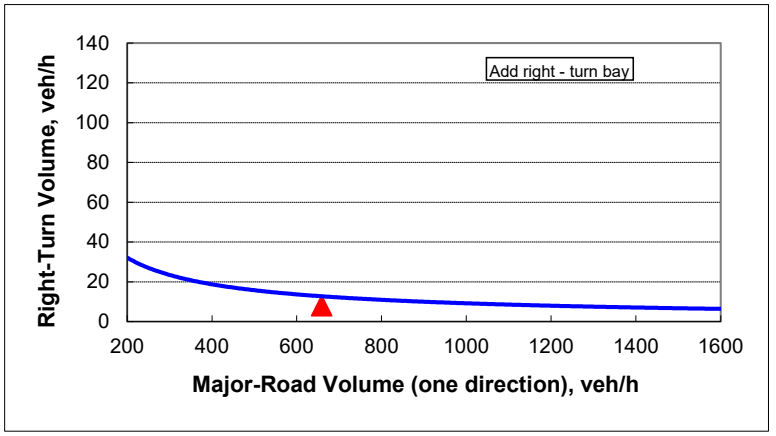
INPUT

Roadway geometry:	2-lane roadway

Variable	Value
Major-road speed, mph:	55
Major-road volume (one direction), veh/h:	659
Right-turn volume, veh/h:	8

OUTPUT

Variable	Value
Limiting right-turn volume, veh/h:	13
Guidance for determining the need for a major-road right-turn bay for a 2-lane roadway:	
Do NOT add right-turn bay.	



Appendix H
Computer Printouts

2023 Scenario

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	6:55	6:55	6:55	6:55	6:55	6:55
End Time	8:00	8:00	8:00	8:00	8:00	8:00
Total Time (min)	65	65	65	65	65	65
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	2029	2050	1995	1956	1957	1996
Vehs Exited	2017	2054	1979	1960	1966	1996
Starting Vehs	15	31	17	28	31	22
Ending Vehs	27	27	33	24	22	23
Travel Distance (mi)	989	998	967	955	954	973
Travel Time (hr)	28.5	28.9	27.9	27.5	27.4	28.0
Total Delay (hr)	3.2	3.3	3.2	3.0	2.9	3.1
Total Stops	237	263	253	232	237	245
Fuel Used (gal)	27.1	27.7	26.8	26.4	26.1	26.8

Interval #0 Information Seeding

Start Time	6:55
End Time	7:00
Total Time (min)	5

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	7:00
End Time	8:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	2029	2050	1995	1956	1957	1996
Vehs Exited	2017	2054	1979	1960	1966	1996
Starting Vehs	15	31	17	28	31	22
Ending Vehs	27	27	33	24	22	23
Travel Distance (mi)	989	998	967	955	954	973
Travel Time (hr)	28.5	28.9	27.9	27.5	27.4	28.0
Total Delay (hr)	3.2	3.3	3.2	3.0	2.9	3.1
Total Stops	237	263	253	232	237	245
Fuel Used (gal)	27.1	27.7	26.8	26.4	26.1	26.8

5: Route 4 & Kind Farms Access/Pond Street Performance by lane

Lane	EB	WB	NB	SB	All
Movements Served	LTR	LTR	LTR	LTR	
Denied Del/Veh (s)					0.2
Total Del/Veh (s)	11.2	10.0	2.8	1.4	2.3

7: Route 4 & Old Route 4 Performance by lane

Lane	NB	SB	SE	All
Movements Served	LT	TR	LR	
Denied Del/Veh (s)				0.4
Total Del/Veh (s)	3.1	3.2	8.2	3.4

9: Route 4 & Blackberry Hill Road Performance by lane

Lane	EB	NB	SB	All
Movements Served	LR	LT	TR	
Denied Del/Veh (s)				0.1
Total Del/Veh (s)	8.2	2.9	3.3	3.5

Total Network Performance

Denied Del/Veh (s)	0.3
Total Del/Veh (s)	5.2

Intersection: 5: Route 4 & Kind Farms Access/Pond Street

Movement	EB	WB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	30	58	47
Average Queue (ft)	2	22	4
95th Queue (ft)	14	48	22
Link Distance (ft)	443	782	1403
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 7: Route 4 & Old Route 4

Movement	NB	SE
Directions Served	LT	LR
Maximum Queue (ft)	86	55
Average Queue (ft)	11	18
95th Queue (ft)	45	38
Link Distance (ft)	1125	664
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 9: Route 4 & Blackberry Hill Road

Movement	EB	NB	SB
Directions Served	LR	LT	TR
Maximum Queue (ft)	61	122	4
Average Queue (ft)	23	28	0
95th Queue (ft)	47	81	3
Link Distance (ft)	812	815	846
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Network Summary

Network wide Queuing Penalty: 0

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	6:55	6:55	6:55	6:55	6:55	6:55
End Time	8:00	8:00	8:00	8:00	8:00	8:00
Total Time (min)	65	65	65	65	65	65
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	2530	2552	2450	2454	2524	2503
Vehs Exited	2533	2550	2452	2458	2522	2504
Starting Vehs	27	40	42	33	35	34
Ending Vehs	24	42	40	29	37	30
Travel Distance (mi)	1227	1250	1187	1188	1229	1216
Travel Time (hr)	38.4	39.0	36.2	36.5	38.2	37.6
Total Delay (hr)	6.4	6.6	5.4	5.6	6.2	6.0
Total Stops	475	451	377	370	405	415
Fuel Used (gal)	36.0	36.4	34.2	34.3	35.5	35.3

Interval #0 Information Seeding

Start Time	6:55
End Time	7:00
Total Time (min)	5

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	7:00
End Time	8:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	2530	2552	2450	2454	2524	2503
Vehs Exited	2533	2550	2452	2458	2522	2504
Starting Vehs	27	40	42	33	35	34
Ending Vehs	24	42	40	29	37	30
Travel Distance (mi)	1227	1250	1187	1188	1229	1216
Travel Time (hr)	38.4	39.0	36.2	36.5	38.2	37.6
Total Delay (hr)	6.4	6.6	5.4	5.6	6.2	6.0
Total Stops	475	451	377	370	405	415
Fuel Used (gal)	36.0	36.4	34.2	34.3	35.5	35.3

5: Route 4 & Kind Farms Access/Pond Street Performance by lane

Lane	EB	WB	NB	SB	All
Movements Served	LTR	LTR	LTR	LTR	
Denied Del/Veh (s)					0.2
Total Del/Veh (s)	11.0	14.8	5.5	2.8	5.1

7: Route 4 & Old Route 4 Performance by lane

Lane	NB	SB	SE	All
Movements Served	LT	TR	LR	
Denied Del/Veh (s)				0.4
Total Del/Veh (s)	4.8	2.9	9.0	4.2

9: Route 4 & Blackberry Hill Road Performance by lane

Lane	EB	NB	SB	All
Movements Served	LR	LT	TR	
Denied Del/Veh (s)				0.3
Total Del/Veh (s)	19.1	5.2	3.7	5.3

Total Network Performance

Denied Del/Veh (s)	0.5
Total Del/Veh (s)	8.1

Intersection: 5: Route 4 & Kind Farms Access/Pond Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	86	58	124	137
Average Queue (ft)	38	21	21	12
95th Queue (ft)	68	48	76	93
Link Distance (ft)	443	782	846	1403
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 7: Route 4 & Old Route 4

Movement	NB	SE
Directions Served	LT	LR
Maximum Queue (ft)	98	36
Average Queue (ft)	31	13
95th Queue (ft)	82	31
Link Distance (ft)	1125	664
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 9: Route 4 & Blackberry Hill Road

Movement	EB	NB	SB
Directions Served	LR	LT	TR
Maximum Queue (ft)	96	186	4
Average Queue (ft)	26	54	0
95th Queue (ft)	65	134	4
Link Distance (ft)	812	815	846
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Network Summary

Network wide Queuing Penalty: 0

2045 No Build Scenarios

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	6:55	6:55	6:55	6:55	6:55	6:55
End Time	8:00	8:00	8:00	8:00	8:00	8:00
Total Time (min)	65	65	65	65	65	65
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	2172	2218	2196	2197	2220	2200
Vehs Exited	2190	2222	2185	2200	2220	2203
Starting Vehs	41	36	27	29	25	30
Ending Vehs	23	32	38	26	25	28
Travel Distance (mi)	1066	1088	1075	1070	1082	1076
Travel Time (hr)	31.2	32.0	30.9	31.6	31.7	31.5
Total Delay (hr)	3.9	4.2	3.5	4.2	4.0	3.9
Total Stops	272	300	254	302	296	284
Fuel Used (gal)	29.2	30.1	29.2	29.8	29.9	29.6

Interval #0 Information Seeding

Start Time	6:55
End Time	7:00
Total Time (min)	5

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	7:00
End Time	8:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	2172	2218	2196	2197	2220	2200
Vehs Exited	2190	2222	2185	2200	2220	2203
Starting Vehs	41	36	27	29	25	30
Ending Vehs	23	32	38	26	25	28
Travel Distance (mi)	1066	1088	1075	1070	1082	1076
Travel Time (hr)	31.2	32.0	30.9	31.6	31.7	31.5
Total Delay (hr)	3.9	4.2	3.5	4.2	4.0	3.9
Total Stops	272	300	254	302	296	284
Fuel Used (gal)	29.2	30.1	29.2	29.8	29.9	29.6

5: Route 4 & Kind Farms Access/Pond Street Performance by lane

Lane	EB	WB	NB	SB	All
Movements Served	LTR	LTR	LTR	LTR	
Denied Del/Veh (s)					0.3
Total Del/Veh (s)	13.8	12.5	3.2	1.6	2.7

7: Route 4 & Old Route 4 Performance by lane

Lane	NB	SB	SE	All
Movements Served	LT	TR	LR	
Denied Del/Veh (s)				0.4
Total Del/Veh (s)	3.2	3.4	8.8	3.6

9: Route 4 & Blackberry Hill Road Performance by lane

Lane	EB	NB	SB	All
Movements Served	LR	LT	TR	
Denied Del/Veh (s)				0.1
Total Del/Veh (s)	11.3	3.7	3.5	4.3

Total Network Performance

Denied Del/Veh (s)	0.4
Total Del/Veh (s)	6.0

Intersection: 5: Route 4 & Kind Farms Access/Pond Street

Movement	EB	WB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	34	75	67
Average Queue (ft)	2	23	6
95th Queue (ft)	16	50	38
Link Distance (ft)	443	782	1403
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 7: Route 4 & Old Route 4

Movement	NB	SE
Directions Served	LT	LR
Maximum Queue (ft)	90	66
Average Queue (ft)	12	20
95th Queue (ft)	58	43
Link Distance (ft)	1125	664
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 9: Route 4 & Blackberry Hill Road

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	97	138
Average Queue (ft)	28	39
95th Queue (ft)	64	102
Link Distance (ft)	812	815
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 0

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	6:55	6:55	6:55	6:55	6:55	6:55
End Time	8:00	8:00	8:00	8:00	8:00	8:00
Total Time (min)	65	65	65	65	65	65
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	2810	2769	2775	2752	2762	2772
Vehs Exited	2803	2772	2768	2747	2772	2771
Starting Vehs	35	50	43	35	49	42
Ending Vehs	42	47	50	40	39	40
Travel Distance (mi)	1364	1351	1344	1333	1352	1349
Travel Time (hr)	44.7	44.2	42.5	43.2	43.1	43.5
Total Delay (hr)	9.3	9.2	7.6	8.4	7.9	8.5
Total Stops	508	565	429	492	437	485
Fuel Used (gal)	40.3	40.0	39.2	39.1	38.9	39.5

Interval #0 Information Seeding

Start Time	6:55
End Time	7:00
Total Time (min)	5

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	7:00
End Time	8:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	2810	2769	2775	2752	2762	2772
Vehs Exited	2803	2772	2768	2747	2772	2771
Starting Vehs	35	50	43	35	49	42
Ending Vehs	42	47	50	40	39	40
Travel Distance (mi)	1364	1351	1344	1333	1352	1349
Travel Time (hr)	44.7	44.2	42.5	43.2	43.1	43.5
Total Delay (hr)	9.3	9.2	7.6	8.4	7.9	8.5
Total Stops	508	565	429	492	437	485
Fuel Used (gal)	40.3	40.0	39.2	39.1	38.9	39.5

5: Route 4 & Kind Farms Access/Pond Street Performance by lane

Lane	EB	WB	NB	SB	All
Movements Served	LTR	LTR	LTR	LTR	
Denied Del/Veh (s)					0.2
Total Del/Veh (s)	18.2	24.7	6.7	2.4	6.2

7: Route 4 & Old Route 4 Performance by lane

Lane	NB	SB	SE	All
Movements Served	LT	TR	LR	
Denied Del/Veh (s)				0.5
Total Del/Veh (s)	5.8	3.2	17.1	5.1

9: Route 4 & Blackberry Hill Road Performance by lane

Lane	EB	NB	SB	All
Movements Served	LR	LT	TR	
Denied Del/Veh (s)				0.4
Total Del/Veh (s)	36.7	7.5	3.7	7.5

Total Network Performance

Denied Del/Veh (s)	0.5
Total Del/Veh (s)	10.3

Intersection: 5: Route 4 & Kind Farms Access/Pond Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	108	66	150	74
Average Queue (ft)	44	22	26	8
95th Queue (ft)	85	50	88	38
Link Distance (ft)	443	782	846	1403
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 7: Route 4 & Old Route 4

Movement	NB	SB	SE
Directions Served	LT	TR	LR
Maximum Queue (ft)	159	4	66
Average Queue (ft)	42	0	17
95th Queue (ft)	113	3	46
Link Distance (ft)	1125	995	664
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 9: Route 4 & Blackberry Hill Road

Movement	EB	NB	SB
Directions Served	LR	LT	TR
Maximum Queue (ft)	136	304	9
Average Queue (ft)	38	75	0
95th Queue (ft)	97	205	4
Link Distance (ft)	812	815	846
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Network Summary

Network wide Queuing Penalty: 0

2045 Build Scenarios

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	6:55	6:55	6:55	6:55	6:55	6:55
End Time	8:00	8:00	8:00	8:00	8:00	8:00
Total Time (min)	65	65	65	65	65	65
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	2172	2217	2195	2197	2220	2199
Vehs Exited	2189	2222	2184	2200	2220	2203
Starting Vehs	40	36	28	29	25	31
Ending Vehs	23	31	39	26	25	28
Travel Distance (mi)	1065	1088	1074	1070	1081	1076
Travel Time (hr)	30.8	31.7	30.8	31.1	31.5	31.2
Total Delay (hr)	3.6	3.9	3.4	3.6	3.7	3.6
Total Stops	243	270	246	264	262	257
Fuel Used (gal)	28.7	29.6	28.7	29.2	29.5	29.1

Interval #0 Information Seeding

Start Time	6:55
End Time	7:00
Total Time (min)	5

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	7:00
End Time	8:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	2172	2217	2195	2197	2220	2199
Vehs Exited	2189	2222	2184	2200	2220	2203
Starting Vehs	40	36	28	29	25	31
Ending Vehs	23	31	39	26	25	28
Travel Distance (mi)	1065	1088	1074	1070	1081	1076
Travel Time (hr)	30.8	31.7	30.8	31.1	31.5	31.2
Total Delay (hr)	3.6	3.9	3.4	3.6	3.7	3.6
Total Stops	243	270	246	264	262	257
Fuel Used (gal)	28.7	29.6	28.7	29.2	29.5	29.1

5: Route 4 & Kind Farms Access/Pond Street Performance by lane

Lane	EB	WB	NB	SB	SB	SB	All
Movements Served	LTR	LTR	TR	L	T	R	
Denied Del/Veh (s)							0.3
Total Del/Veh (s)	19.5	15.6	2.4	2.8	1.2	0.0	2.3

7: Route 4 & Old Route 4 Performance by lane

Lane	NB	NB	SB	SE	All
Movements Served	L	T	TR	LR	
Denied Del/Veh (s)					0.4
Total Del/Veh (s)	4.9	2.6	3.3	9.6	3.5

9: Route 4 & Blackberry Hill Road Performance by lane

Lane	EB	NB	NB	SB	SB	All
Movements Served	LR	L	T	T	R	
Denied Del/Veh (s)						0.3
Total Del/Veh (s)	15.0	6.5	0.9	3.3	0.0	3.6

Total Network Performance

Denied Del/Veh (s)	0.5
Total Del/Veh (s)	5.3

Intersection: 5: Route 4 & Kind Farms Access/Pond Street

Movement	EB	WB	SB
Directions Served	LTR	LTR	L
Maximum Queue (ft)	30	72	20
Average Queue (ft)	2	25	3
95th Queue (ft)	14	54	15
Link Distance (ft)	430	776	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			100
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 7: Route 4 & Old Route 4

Movement	NB	SE
Directions Served	L	LR
Maximum Queue (ft)	36	70
Average Queue (ft)	7	20
95th Queue (ft)	28	43
Link Distance (ft)		658
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	100	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 9: Route 4 & Blackberry Hill Road

Movement	EB	NB	SB
Directions Served	LR	L	R
Maximum Queue (ft)	110	61	15
Average Queue (ft)	32	23	1
95th Queue (ft)	73	50	9
Link Distance (ft)	792		
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)		200	50
Storage Blk Time (%)			0
Queuing Penalty (veh)			0

Network Summary

Network wide Queuing Penalty: 0

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	6:55	6:55	6:55	6:55	6:55	6:55
End Time	8:00	8:00	8:00	8:00	8:00	8:00
Total Time (min)	65	65	65	65	65	65
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	2810	2769	2774	2753	2762	2772
Vehs Exited	2811	2776	2768	2743	2772	2773
Starting Vehs	34	48	42	34	44	42
Ending Vehs	33	41	48	44	34	39
Travel Distance (mi)	1367	1351	1342	1332	1351	1349
Travel Time (hr)	41.4	41.4	40.9	40.9	41.4	41.2
Total Delay (hr)	5.9	6.3	6.0	6.2	6.2	6.1
Total Stops	347	355	341	359	349	350
Fuel Used (gal)	38.6	38.4	38.1	37.8	37.7	38.1

Interval #0 Information Seeding

Start Time	6:55
End Time	7:00
Total Time (min)	5

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	7:00
End Time	8:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	2810	2769	2774	2753	2762	2772
Vehs Exited	2811	2776	2768	2743	2772	2773
Starting Vehs	34	48	42	34	44	42
Ending Vehs	33	41	48	44	34	39
Travel Distance (mi)	1367	1351	1342	1332	1351	1349
Travel Time (hr)	41.4	41.4	40.9	40.9	41.4	41.2
Total Delay (hr)	5.9	6.3	6.0	6.2	6.2	6.1
Total Stops	347	355	341	359	349	350
Fuel Used (gal)	38.6	38.4	38.1	37.8	37.7	38.1

5: Route 4 & Kind Farms Access/Pond Street Performance by lane

Lane	EB	WB	NB	NB	SB	SB	SB	All
Movements Served	LTR	LTR	L	TR	L	T	R	
Denied Del/Veh (s)								0.3
Total Del/Veh (s)	16.4	29.3	3.0	3.6	5.4	1.9	0.0	4.3

7: Route 4 & Old Route 4 Performance by lane

Lane	NB	NB	SB	SE	All
Movements Served	L	T	TR	LR	
Denied Del/Veh (s)					0.7
Total Del/Veh (s)	3.7	4.0	3.2	16.9	4.1

9: Route 4 & Blackberry Hill Road Performance by lane

Lane	EB	NB	NB	SB	SB	All
Movements Served	LR	L	T	T	R	
Denied Del/Veh (s)						0.6
Total Del/Veh (s)	33.6	6.5	1.8	3.5	0.0	4.2

Total Network Performance

Denied Del/Veh (s)	0.8
Total Del/Veh (s)	7.1

Intersection: 5: Route 4 & Kind Farms Access/Pond Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	L	L
Maximum Queue (ft)	95	67	41	32
Average Queue (ft)	39	24	14	5
95th Queue (ft)	76	55	37	20
Link Distance (ft)	430	776		
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)			170	100
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 7: Route 4 & Old Route 4

Movement	NB	SB	SE
Directions Served	L	TR	LR
Maximum Queue (ft)	42	8	67
Average Queue (ft)	20	0	17
95th Queue (ft)	43	4	47
Link Distance (ft)		993	658
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	100		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 9: Route 4 & Blackberry Hill Road

Movement	EB	NB	SB
Directions Served	LR	L	R
Maximum Queue (ft)	124	80	21
Average Queue (ft)	36	29	1
95th Queue (ft)	87	57	13
Link Distance (ft)	792		
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)		200	50
Storage Blk Time (%)			0
Queuing Penalty (veh)			0

Network Summary

Network wide Queuing Penalty: 0

Appendix I
Preliminary Opinions of Cost

Job Number: 4037
Project Name: Berwick Route 4 Traffic and Safety Study
Project Location: Berwick, Maine
Comments: Opinion of Probable Cost - Concept Plans - Construction Cost Estimate
Date: 6/30/2023

Calculated By: D. Burgess
Checked By: M. Richard

Notes:
1. The opinion of probable cost does not include engineering, construction inspection, right of way, environmental, or utility costs.
2. The opinion of probable cost is based on the Final Concept Plans dated June 30, 2023
3. The unit prices are based upon recently constructed and/or bid projects from the Maine DOT.
4. We assume that existing guardrail will remain and there will be no proposed guardrail.
5. We assume that there will be no clearing on this project.
6. We assume that there will be no open or closed drainage on this project.
7. We assume that the field office will be evenly split across the different sections of the job.
8. We are assuming a 20% contingency at this stage of design.
7. Traffic control items have been estimated for the entire project and have been evenly divided among the sections.
8. We assume all seeding will be method 1.

Berwick Route 4 Traffic and Safety Study - Berwick, ME

Section 1: STA. 26+00 to STA. 48+50

	Item	Item Description	Unit	Quantity	Unit Price	Amount
	201.23	REMOVING SINGLE TREE TOP ONLY	EA	5	$ 700.00	$ 3,500.00
	201.24	REMOVING STUMP	EA	5	$ 700.00	$ 3,500.00
SP	202.202	REMOVING PAVEMENT SURFACE	SY	9000	$ 10.00	$ 90,000.00
	203.20	COMMON EXCAVATION	CY	1650	$ 55.00	$ 90,750.00
SP	304.10	AGGREGATE SUBBASE COURSE - GRAVEL	CY	1025	$ 60.00	$ 61,500.00
SP	403.208	HOT MIX ASPHALT - 12.5MM NOMINAL MAXIMUM SIZE	T	875	$ 175.00	$ 153,125.00
SP	403.209	HOT MIX ASPHALT, 9.5 MM NOMINAL MAXIMUM SIZE (SIDEWALKS, DRIVES, ISLANDS & INCIDENTALS)	T	60	$ 250.00	$ 15,000.00
SP	403.211	HOT MIX ASPHALT, 9.5 MM NOMINAL MAXIMUM SIZE (SHIMMING)	T	250	$ 200.00	$ 50,000.00
SP	403.213	HOT MIX ASPHALT, 12.5 MM NOMINAL MAXIMUM SIZE (BASE AND INTERMEDIATE BASE COURSE)	T	1000	$ 200.00	$ 200,000.00
	409.15	BITUMINOUS TACK COAT, APPLIED	G	625	$ 5.00	$ 3,125.00
	609.34	CURB TYPE 5	LF	1200	$ 45.00	$ 54,000.00
	609.35	CURB TYPE 5 - CIRCULAR	LF	60	$ 130.00	$ 7,800.00
	615.07	LOAM	CY	45	$ 100.00	$ 4,500.00
	618.13	SEEDING METHOD NUMBER 1	UN	41	$ 80.00	$ 3,280.00
	619.12	MULCH	UN	41	$ 80.00	$ 3,280.00
	627.733	4" WHITE OR YELLOW PAINTED PAVEMENT MARKING LINE	LF	8350	$ 0.50	$ 4,175.00
	627.75	WHITE OR YELLOW PAVEMENT & CURB MARKING	SF	510	$ 3.00	$ 1,530.00
	627.77	REMOVING EXISTING PAVEMENT MARKING	SF	200	$ 3.00	$ 600.00
	627.78	TEMPORARY 4" PAINTED PAVEMENT MARKING LINE, WHITE OR YELLOW	LF	4500	$ 0.50	$ 2,250.00
	629.05	HAND LABOR, STRAIGHT TIME	HR	10	$ 55.00	$ 550.00
	631.12	ALL PURPOSE EXCAVATOR (INCLUDING OPERATOR)	HR	5	$ 200.00	$ 1,000.00
	631.172	TRUCK - LARGE (INCLUDING OPERATOR)	HR	5	$ 100.00	$ 500.00
	631.32	CULVERT CLEANER (INCLUDING OPERATORS)	HR	5	$ 250.00	$ 1,250.00
	639.18	FIELD OFFICE, TYPE A	EA	0.25	$ 12,500.00	$ 3,125.00
	645.292	REGULATORY, WARNING, CONFIRMATION AND ROUTE MARKER ASSEMBLY SIGNS TYPE II	SF	95	$ 45.00	$ 4,275.00
	652.33	DRUM	EA	40	$ 50.00	$ 2,000.00
	652.34	CONE	EA	25	$ 25.00	$ 625.00
	652.35	CONSTRUCTION SIGNS	SF	125	$ 15.00	$ 1,875.00
	652.36	MAINTENANCE OF TRAFFIC CONTROL DEVICES	CD	30	$ 500.00	$ 15,000.00
	652.38	FLAGGERS	HR	650	$ 55.00	$ 35,750.00
	652.41	PORTABLE-CHANGEABLE MESSAGE SIGN	EA	0.5	$ 10,000.00	$ 5,000.00
	656.75	TEMPORARY SOIL EROSION AND WATER POLLUTION CONTROL	LS	1	$ 15,000.00	$ 15,000.00
	658.20	ACRYLIC LATEX COLOR FINISH (GREEN)	SY	525	$ 30.00	$ 15,750.00
	659.10	MOBILIZATION	LS	1	$ 85,000.00	$ 85,000.00
				CONSTRUCTION TOTAL FOR SECTION 1		$ 938,615.00

Section 2: STA. 48+50 TO STA. 60+56

	Item	Item Description	Unit	Quantity	Unit Price	Amount
	201.23	REMOVING SINGLE TREE TOP ONLY	EA	5	$ 700.00	$ 3,500.00
	201.24	REMOVING STUMP	EA	5	$ 700.00	$ 3,500.00
SP	202.202	REMOVING PAVEMENT SURFACE	SY	6500	$ 10.00	$ 65,000.00
	203.20	COMMON EXCAVATION	CY	1275	$ 55.00	$ 70,125.00
SP	304.10	AGGREGATE SUBBASE COURSE - GRAVEL	CY	800	$ 60.00	$ 48,000.00
SP	403.208	HOT MIX ASPHALT - 12.5MM NOMINAL MAXIMUM SIZE	T	525	$ 175.00	$ 91,875.00

	Berwick Route 4 Traffic and Safety Study - Berwick, ME						
SP	403.209	HOT MIX ASPHALT, 9.5 MM NOMINAL MAXIMUM SIZE (SIDEWALKS, DRIVES, ISLANDS & INCIDENTALS)	T	20	$ 250.00	$	5,000.00
SP	403.211	HOT MIX ASPHALT, 9.5 MM NOMINAL MAXIMUM SIZE (SHIMMING)	T	175	$ 200.00	$	35,000.00
SP	403.213	HOT MIX ASPHALT, 12.5 MM NOMINAL MAXIMUM SIZE (BASE AND INTERMEDIATE BASE COURSE)	T	475	$ 200.00	$	95,000.00
	409.15	BITUMINOUS TACK COAT, APPLIED	G	500	$ 5.00	$	2,500.00
	609.34	CURB TYPE 5	LF	425	$ 45.00	$	19,125.00
	609.35	CURB TYPE 5 - CIRCULAR	LF	15	$ 130.00	$	1,950.00
	615.07	LOAM	CY	25	$ 100.00	$	2,500.00
	618.13	SEEDING METHOD NUMBER 1	UN	26	$ 80.00	$	2,080.00
	619.12	MULCH	UN	26	$ 80.00	$	2,080.00
	627.733	4" WHITE OR YELLOW PAINTED PAVEMENT MARKING LINE	LF	5000	$ 0.50	$	2,500.00
	627.75	WHITE OR YELLOW PAVEMENT & CURB MARKING	SF	100	$ 3.00	$	300.00
	627.78	TEMPORARY 4" PAINTED PAVEMENT MARKING LINE, WHITE OR YELLOW	LF	2450	$ 0.50	$	1,225.00
	629.05	HAND LABOR, STRAIGHT TIME	HR	10	$ 55.00	$	550.00
	631.12	ALL PURPOSE EXCAVATOR (INCLUDING OPERATOR)	HR	5	$ 200.00	$	1,000.00
	631.172	TRUCK - LARGE (INCLUDING OPERATOR)	HR	5	$ 100.00	$	500.00
	631.32	CULVERT CLEANER (INCLUDING OPERATORS)	HR	5	$ 250.00	$	1,250.00
	639.18	FIELD OFFICE, TYPE A	EA	0.25	$ 12,500.00	$	3,125.00
	645.292	REGULATORY, WARNING, CONFIRMATION AND ROUTE MARKER ASSEMBLY SIGNS TYPE II	SF	40	$ 45.00	$	1,800.00
	652.33	DRUM	EA	40	$ 50.00	$	2,000.00
	652.34	CONE	EA	25	$ 25.00	$	625.00
	652.35	CONSTRUCTION SIGNS	SF	125	$ 15.00	$	1,875.00
	652.36	MAINTENANCE OF TRAFFIC CONTROL DEVICES	CD	30	$ 500.00	$	15,000.00
	652.38	FLAGGERS	HR	650	$ 55.00	$	35,750.00
	652.41	PORTABLE-CHANGEABLE MESSAGE SIGN	EA	0.5	$ 10,000.00	$	5,000.00
	656.75	TEMPORARY SOIL EROSION AND WATER POLLUTION CONTROL	LS	1	$ 15,000.00	$	15,000.00
	658.20	ACRYLIC LATEX COLOR FINISH (GREEN)	SY	175	$ 30.00	$	5,250.00
	659.10	MOBILIZATION	LS	1	$ 54,000.00	$	54,000.00
					CONSTRUCTION TOTAL FOR SECTION 2	$	593,985.00

	Section 3: STA. 60+56 to STA. 120+66						
	Item	**Item Description**	**Unit**	**Quantity**	**Unit Price**		**Amount**
	203.20	COMMON EXCAVATION	CY	125	$ 55.00	$	6,875.00
SP	304.10	AGGREGATE SUBBASE COURSE - GRAVEL	CY	75	$ 60.00	$	4,500.00
SP	403.209	HOT MIX ASPHALT, 9.5 MM NOMINAL MAXIMUM SIZE (SIDEWALKS, DRIVES, ISLANDS & INCIDENTALS)	T	5	$ 250.00	$	1,250.00
	615.07	LOAM	CY	5	$ 100.00	$	500.00
	618.13	SEEDING METHOD NUMBER 1	UN	1	$ 80.00	$	80.00
	619.12	MULCH	UN	1	$ 80.00	$	80.00
	627.18	12" SOLID WHITE PAVEMENT MARKING LINE	LF	12050	$ 1.00	$	12,050.00
	627.733	4" WHITE OR YELLOW PAINTED PAVEMENT MARKING LINE	LF	6050	$ 0.50	$	3,025.00
	627.77	REMOVING EXISTING PAVEMENT MARKING	SF	4025	$ 3.00	$	12,075.00
	639.18	FIELD OFFICE, TYPE A	EA	0.25	$ 12,500.00	$	3,125.00
	645.292	REGULATORY, WARNING, CONFIRMATION AND ROUTE MARKER ASSEMBLY SIGNS TYPE II	SF	40	$ 45.00	$	1,800.00
	652.33	DRUM	EA	40	$ 50.00	$	2,000.00
	652.34	CONE	EA	25	$ 25.00	$	625.00
	652.35	CONSTRUCTION SIGNS	SF	125	$ 15.00	$	1,875.00
	652.36	MAINTENANCE OF TRAFFIC CONTROL DEVICES	CD	30	$ 500.00	$	15,000.00
	652.38	FLAGGERS	HR	650	$ 55.00	$	35,750.00
	652.41	PORTABLE-CHANGEABLE MESSAGE SIGN	EA	0.5	$ 10,000.00	$	5,000.00
	659.10	MOBILIZATION	LS	1	$ 11,000.00	$	11,000.00
					CONSTRUCTION TOTAL FOR SECTION 3	$	116,610.00

	Section 4: STA. 120+66 to STA. 166+46						
	Item	**Item Description**	**Unit**	**Quantity**	**Unit Price**		**Amount**
	201.23	REMOVING SINGLE TREE TOP ONLY	EA	5	$ 700.00	$	3,500.00
	201.24	REMOVING STUMP	EA	5	$ 700.00	$	3,500.00
SP	202.202	REMOVING PAVEMENT SURFACE	SY	21500	$ 10.00	$	215,000.00
	203.20	COMMON EXCAVATION	CY	3850	$ 55.00	$	211,750.00
SP	304.10	AGGREGATE SUBBASE COURSE - GRAVEL	CY	2400	$ 60.00	$	144,000.00
SP	402.341	STRUCTURAL CONCRETE ROADWAY MEDIAN	CY	30	$ 1,000.00	$	30,000.00
SP	403.208	HOT MIX ASPHALT - 12.5MM NOMINAL MAXIMUM SIZE	T	1800	$ 175.00	$	315,000.00
SP	403.209	HOT MIX ASPHALT, 9.5 MM NOMINAL MAXIMUM SIZE (SIDEWALKS, DRIVES, ISLANDS & INCIDENTALS)	T	30	$ 250.00	$	7,500.00
SP	403.211	HOT MIX ASPHALT, 9.5 MM NOMINAL MAXIMUM SIZE (SHIMMING)	T	600	$ 200.00	$	120,000.00

	Berwick Route 4 Traffic and Safety Study - Berwick, ME						
SP	403.213	HOT MIX ASPHALT, 12.5 MM NOMINAL MAXIMUM SIZE (BASE AND INTERMEDIATE BASE COURSE)	T	1925	$	200.00	$ 385,000.00
	409.15	BITUMINOUS TACK COAT, APPLIED	G	1600	$	5.00	$ 8,000.00
	609.34	CURB TYPE 5	LF	650	$	45.00	$ 29,250.00
	609.35	CURB TYPE 5 - CIRCULAR	LF	65	$	130.00	$ 8,450.00
	615.07	LOAM	CY	95	$	100.00	$ 9,500.00
	618.13	SEEDING METHOD NUMBER 1	UN	95	$	80.00	$ 7,600.00
	619.12	MULCH	UN	95	$	80.00	$ 7,600.00
	627.733	4" WHITE OR YELLOW PAINTED PAVEMENT MARKING LINE	LF	18650	$	0.50	$ 9,325.00
	627.75	WHITE OR YELLOW PAVEMENT & CURB MARKING	SF	415	$	3.00	$ 1,245.00
	627.78	TEMPORARY 4" PAINTED PAVEMENT MARKING LINE, WHITE OR YELLOW	LF	9200	$	0.50	$ 4,600.00
	629.05	HAND LABOR, STRAIGHT TIME	HR	10	$	55.00	$ 550.00
	631.12	ALL PURPOSE EXCAVATOR (INCLUDING OPERATOR)	HR	5	$	200.00	$ 1,000.00
	631.172	TRUCK - LARGE (INCLUDING OPERATOR)	HR	5	$	100.00	$ 500.00
	631.32	CULVERT CLEANER (INCLUDING OPERATORS)	HR	5	$	250.00	$ 1,250.00
	639.18	FIELD OFFICE, TYPE A	EA	0.25	$	12,500.00	$ 3,125.00
	645.292	REGULATORY, WARNING, CONFIRMATION AND ROUTE MARKER ASSEMBLY SIGNS TYPE II	SF	160	$	45.00	$ 7,200.00
	652.33	DRUM	EA	40	$	50.00	$ 2,000.00
	652.34	CONE	EA	25	$	25.00	$ 625.00
	652.35	CONSTRUCTION SIGNS	SF	125	$	15.00	$ 1,875.00
	652.36	MAINTENANCE OF TRAFFIC CONTROL DEVICES	CD	30	$	500.00	$ 15,000.00
	652.38	FLAGGERS	HR	650	$	55.00	$ 35,750.00
	652.41	PORTABLE-CHANGEABLE MESSAGE SIGN	EA	0.5	$	10,000.00	$ 5,000.00
	656.75	TEMPORARY SOIL EROSION AND WATER POLLUTION CONTROL	LS	1	$	15,000.00	$ 15,000.00
	658.20	ACRYLIC LATEX COLOR FINISH (GREEN)	SY	300	$	30.00	$ 9,000.00
	659.10	MOBILIZATION	LS	1	$	160,000.00	$ 160,000.00
					CONSTRUCTION TOTAL FOR SECTION 4		$ 1,778,695.00

CONSTRUCTION TOTAL	$ 3,427,905.00
PROJECT CONTINGENCY (20%)	$ 685,581.00
TOTAL CONSTRUCTION COST	$ 4,113,486.00
ROUNDED	**$ 4,114,000.00**

SP : Special Provision

Relationships.
Responsiveness.
Results.

GORRILL PALMER