



## **Agenda**

### **Public Hearing and Board of Selectmen's Meeting Town of Damariscotta, Maine November 17, 2021; 5:30 PM Damariscotta Town Hall**

- I. Pledge of Allegiance**
- II. Public Hearing – General Assistance Ordinance Amendments**
- III. Call to Order**
- IV. Action on Public Hearing Item**
- V. Minutes**
  1. November 3 Meeting
- VI. Financial Reports**
  1. Payroll Warrant #
  2. Accounts Payable Warrant #
- VII. Presentations**
  1. Maine Department of Transportation Presentation on Belvedere Road/ US 1 Bypass Intersection
  2. Further Review of Waterfront Improvement Project 60% Design Drawings- Wright Pierce and SLR Consultants
- VIII. Citizen Comments and General Correspondence**
  1. Request for Board resolution on Proposed Amendment to State Constitution Re: Right to Clean Air, Clean Water and Healthy Environment- Audrey Hufnagel
- IX. Town Manager Items**
  1. Note on Contract for Assessing Services
  2. Main Street Sidewalk Project Update

**X. Official Action Items**

1. Waterfront improvement Project 60% Design Plans
2. Contracts for Fuel Oil and Propane
3. Acceptance of Grant Award for Police Department

**XI. Selectmen's Discussion Items**

**XII. Adjournment**

# Town Manager Notes for November 17, 2021

## Board of Selectmen's Meeting

### Public Hearing/Action on Public Hearing Items

- 1. Public Hearing on Amendments to General Assistance (GA) Ordinance**-The General Assistance Ordinance amendments are periodically required due to programmatic changes enacted by the State Legislature during the previous legislative session. The Board must formally adopt the changes for Damariscotta's GA program. I have asked the Town's General Assistance Administrator Cheryl Pinkham to attend Wednesday's meeting to review the changes with the Board. The appendices will incorporate changes to the benefit payment schedule.  
**Recommended Action: Approve the State-required amendments to the General Assistance Ordinance appendices.**

### Presentations

- 1. Maine Department of Transportation staff** – Recently, Selectmen Anderson and Hagar, Police Chief Jason Warlick and I met with staff from the Maine Department of Transportation's Traffic Safety Division. The main discussion item was the intersection of Belvedere Road and Extension with US 1 Bypass. The number and severity of accidents at this intersection have been a major concern for decades. Although some intermediate steps have been taken to address the safety issues, this continues to be one of the worst rural intersections in the State. During the meeting the MDOT staff reviewed a number of alternatives and their plan for a solution. The Department has included in the third year (2024) of their three-year plan the construction of a \$3.1 million roundabout at the intersection. The analysis conducted by the Department shows that there will be a significant reduction in the number of accidents with this improvement with minimal impact on what the analysts refer to as the mobility factor.

Two other intersections that the Town has asked to have reviewed - the intersection of School Street and Main Street (US 1 B) and School Street and Bristol Road -were also addressed during this meeting.

Following up on the Board's request at your November 3 meeting, Dennis Emidy and Jeff Pulver from MDOT will have a PowerPoint presentation to make at Wednesday's meeting.

- 2. Review of Waterfront Improvement Project 60% Design Drawings**- At your November 3 meeting Jan Wiegman from Wright Pierce and Mike Zarba from SLR Consultants reviewed the 60% design plans for the balance of the improvements in the Waterfront Project. Board members requested that you have additional time to review the design drawings prior to approving the design plans.

Attached are the documents that you received by email prior to the November 3 meeting. Please be sure to bring the hard copies of the plans that you have from the last meeting.

## Citizen Comments and General Correspondence

1. **Request for Board resolution on Proposed Amendment to State Constitution Re: Right to Clean Air, Clean Water and Healthy Environment-** Audrey Hufnagel is requesting that the Board take formal action in support of this legislation sponsored by State Senator Maxmin. Attached is Audrey's request and the thread of emails between her and me.

## Town Manager Notes (verbal reports)

### Official Action Items

1. **Waterfront improvement Project 60% Design Plans**  
**Recommended Action: Approve the 60% Design Plans for the Waterfront Improvement Project with any changes in the plans that the Board agreed on during the presentations portion of this Board meeting.**
2. **Contracts for Fuel Oil and Propane-** I have not yet received this from Colby and Gale.
3. **Acceptance of Grant for the Police Department-** The Board previously approved the Police Department's application for a grant to replace five bullet proof vests. The Department recently received notification that it had received a grant for \$3,199 which is half the cost of the new vests.  
**Recommended Action: Accept the grant and approve the expenditure of grant funds for the purchase of five bullet-proof vests for the Police Department.**



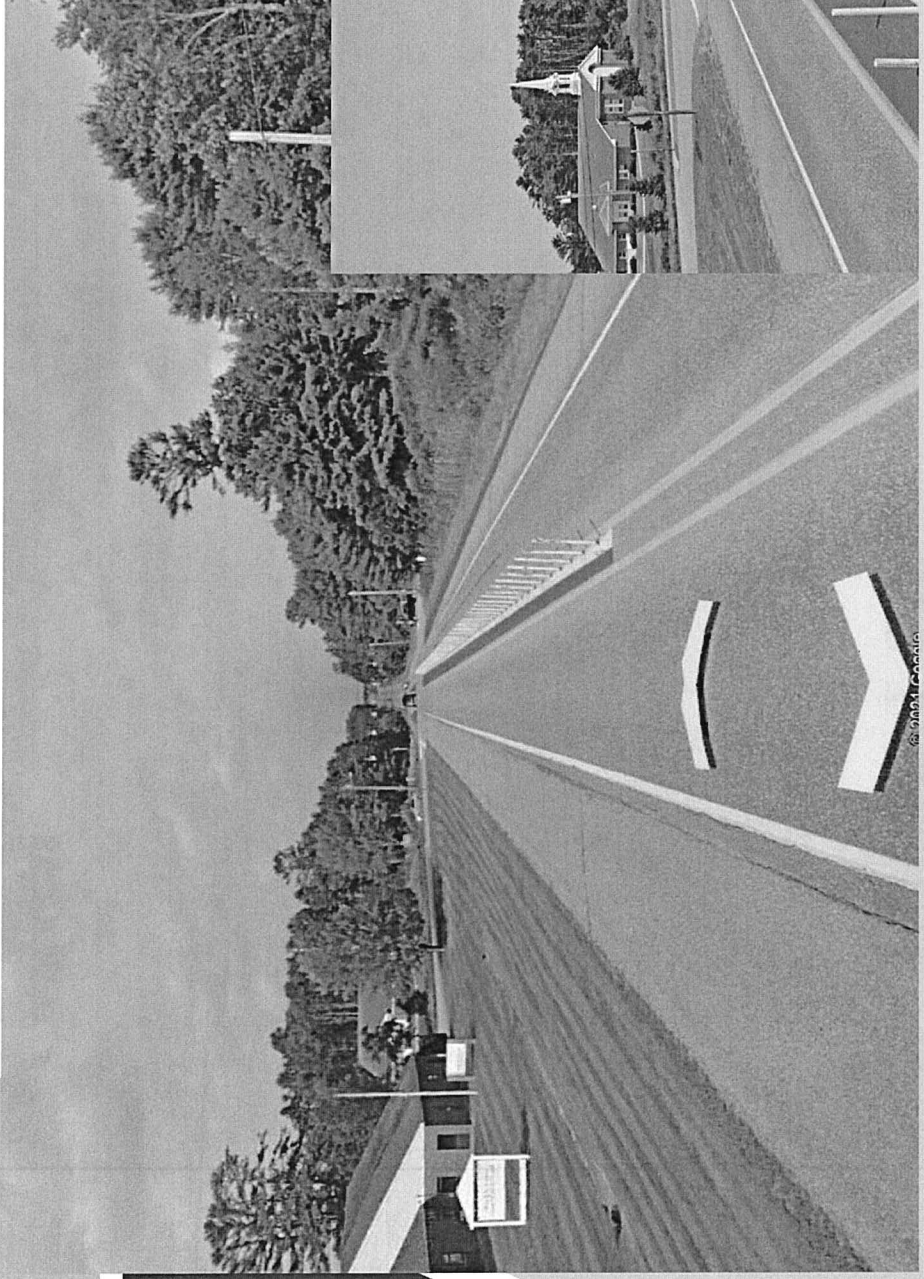
# Damariscotta Intersection of Route 1 with Belvedere Road

Safety/Mobility Analysis

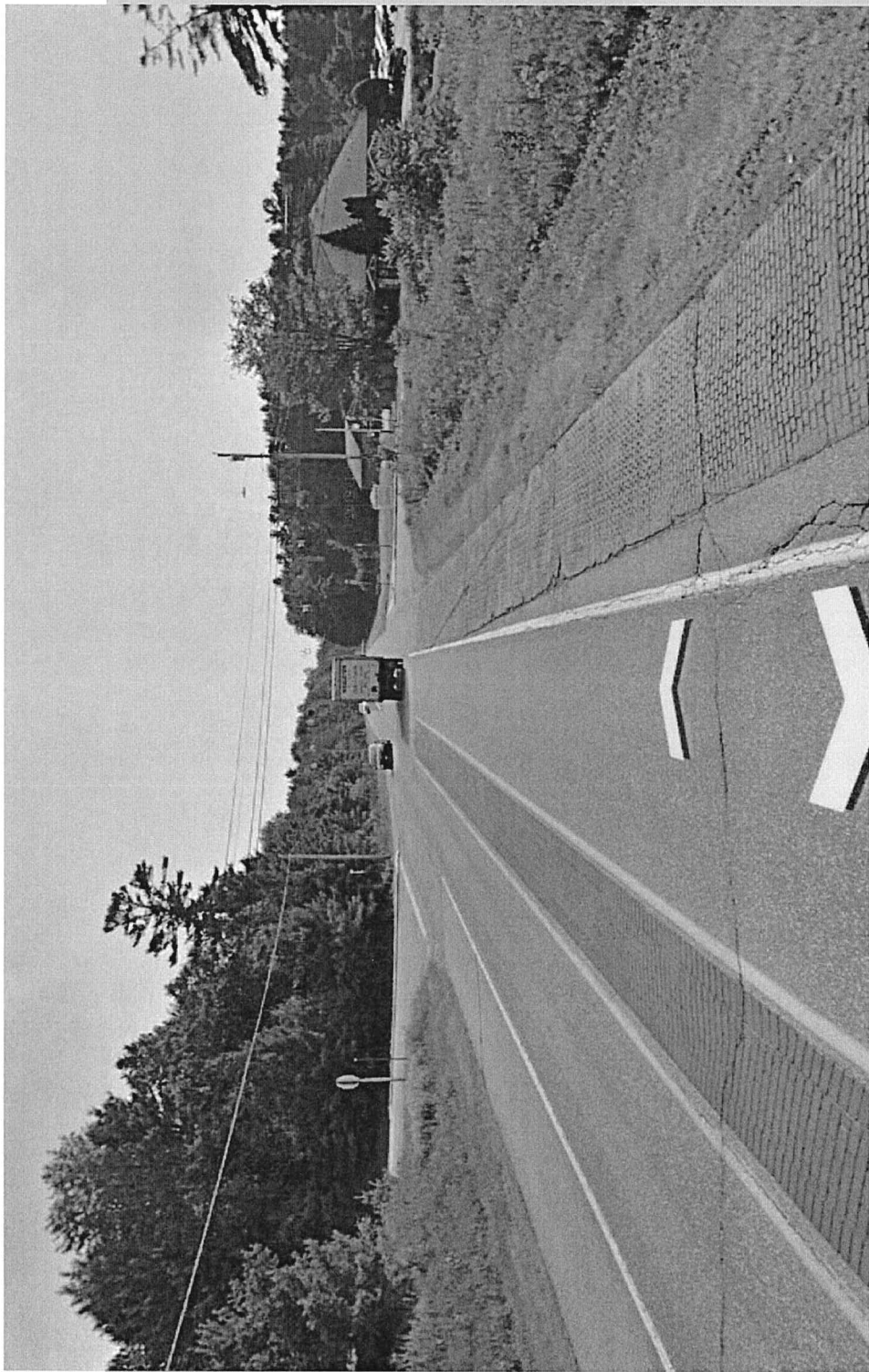
# Current Configuration



# Route 1 NB

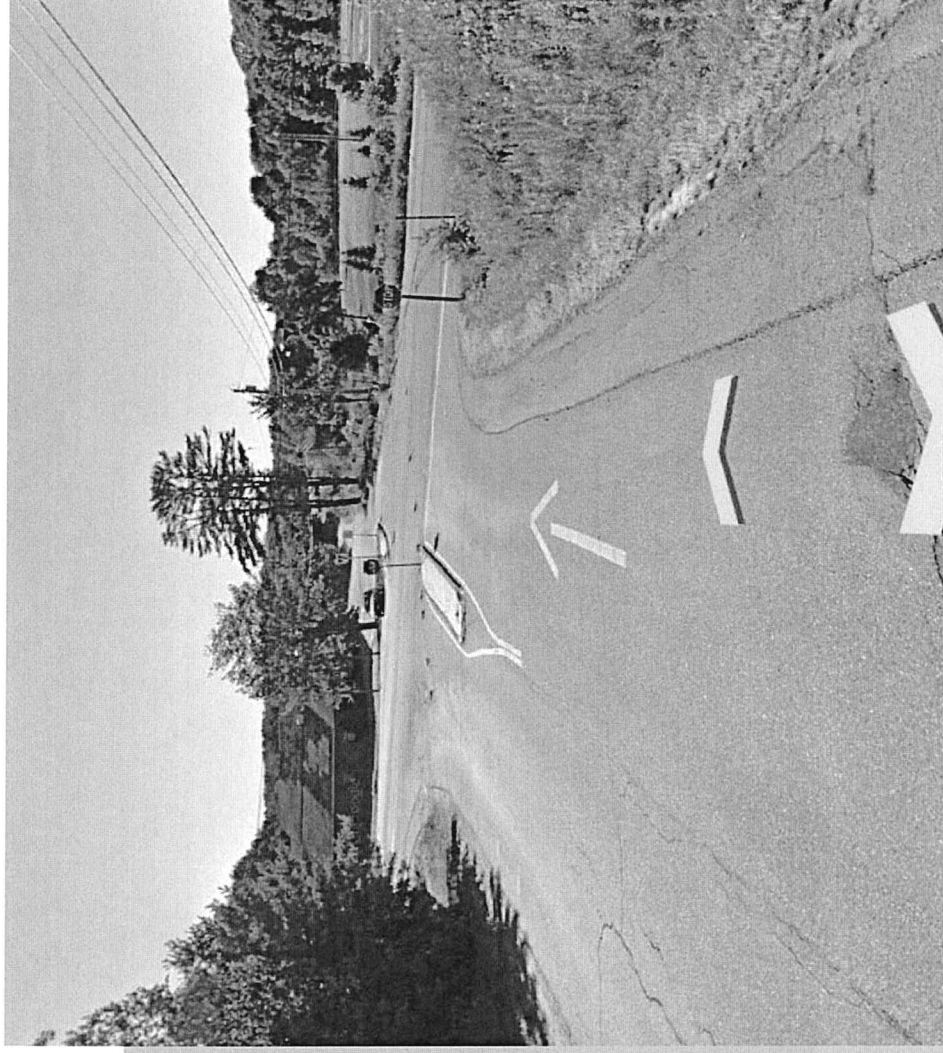
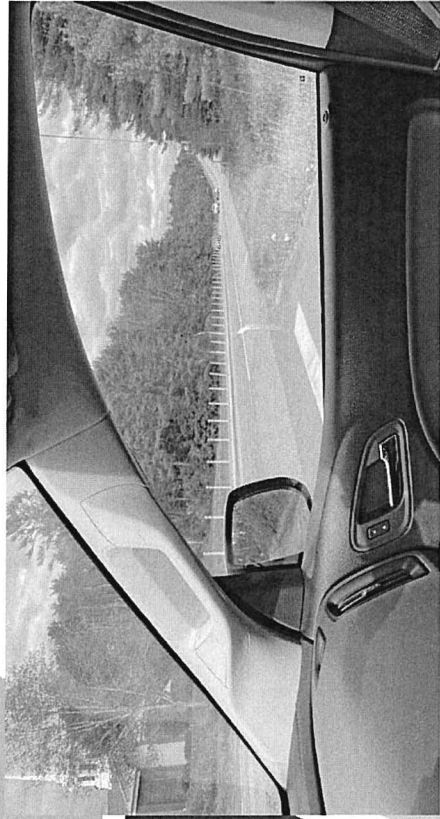


# Route 1 SB

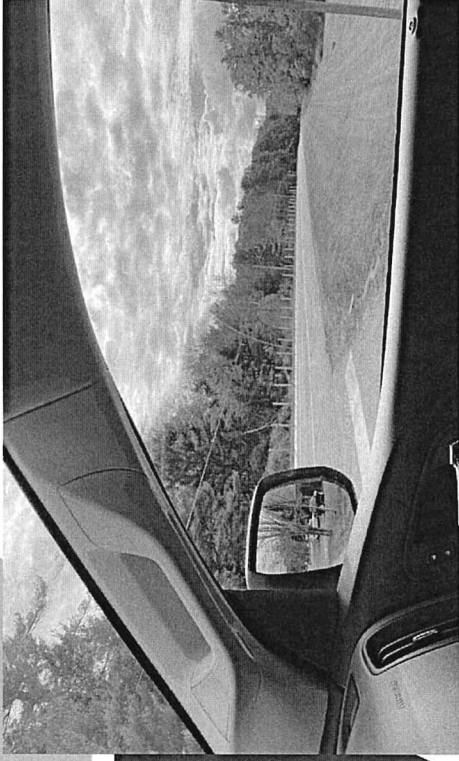




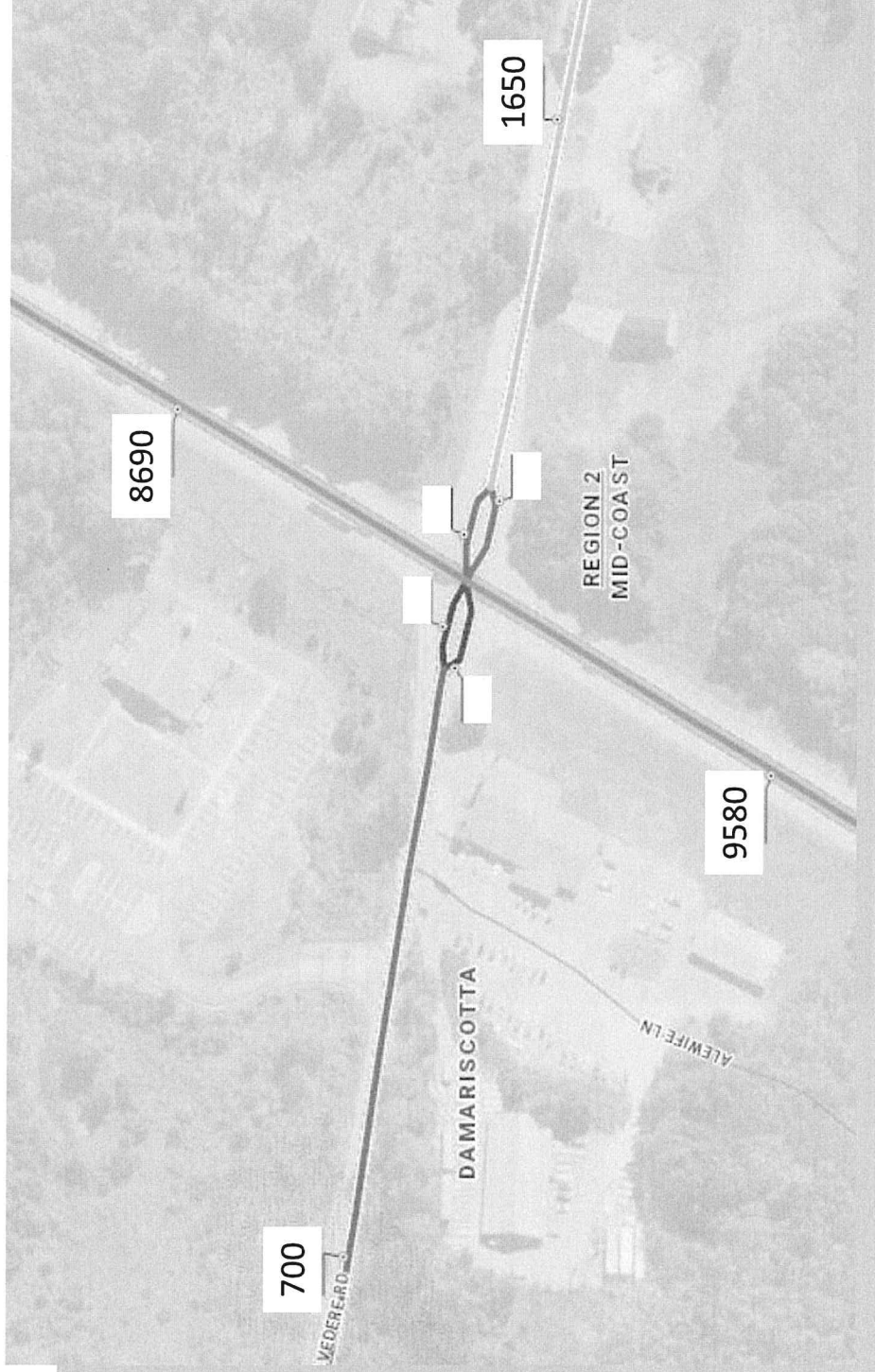
# Belvedere Road WB



# Belvedere Road EB



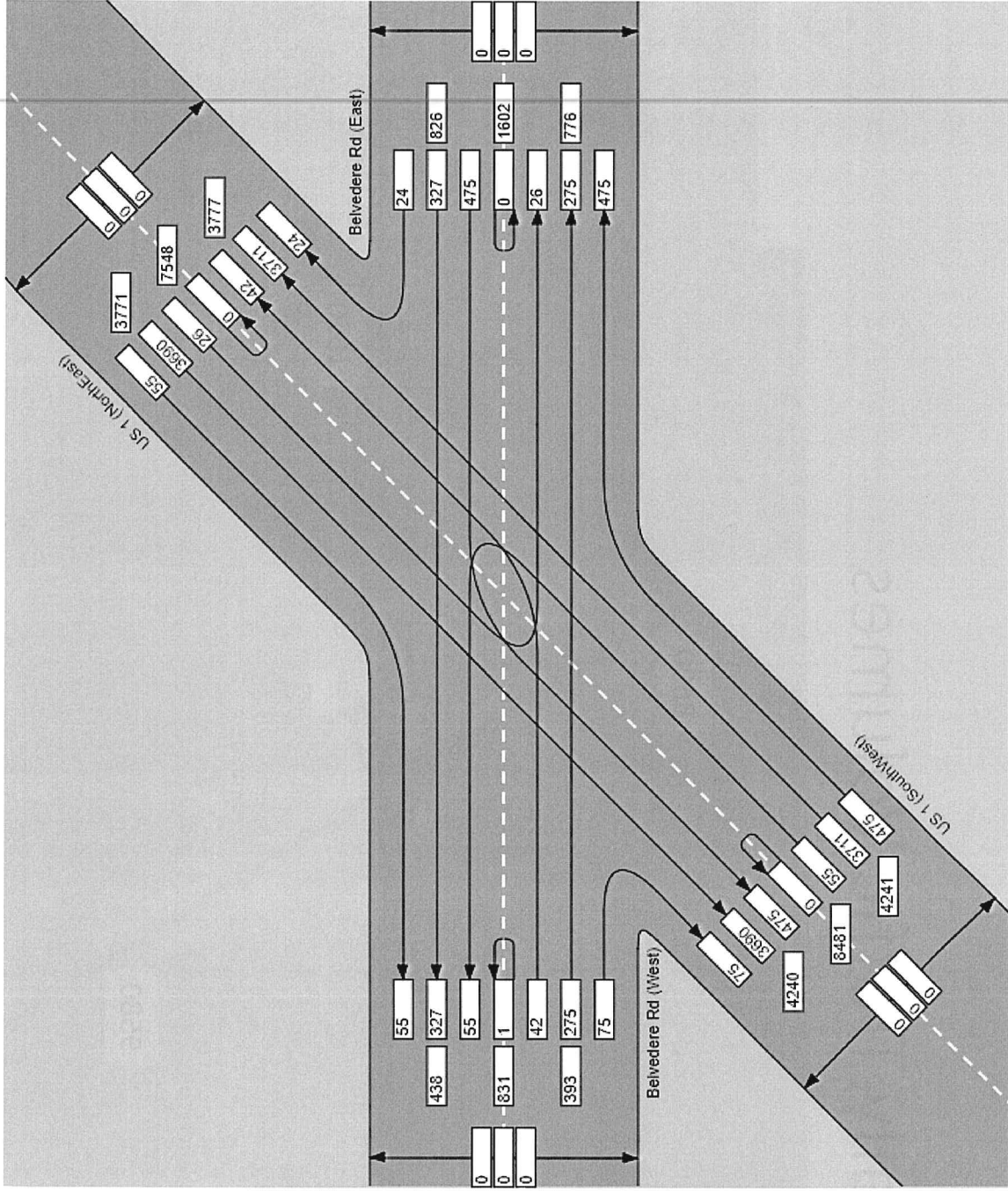
# Average Daily Traffic Volumes





# 2021 Turning Movement Count

12-Hour Count  
Volumes  
June 15<sup>th</sup>, 2021



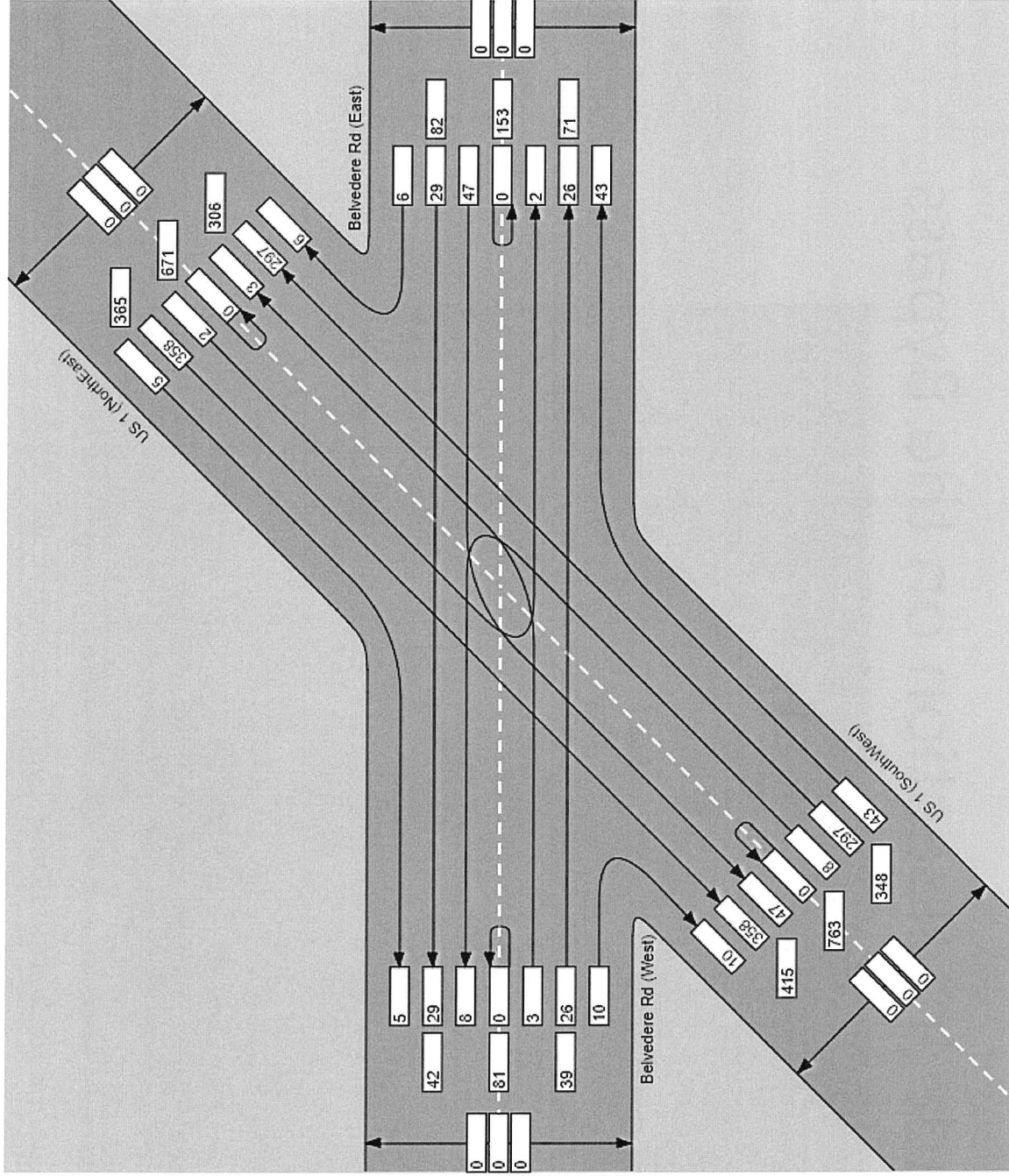






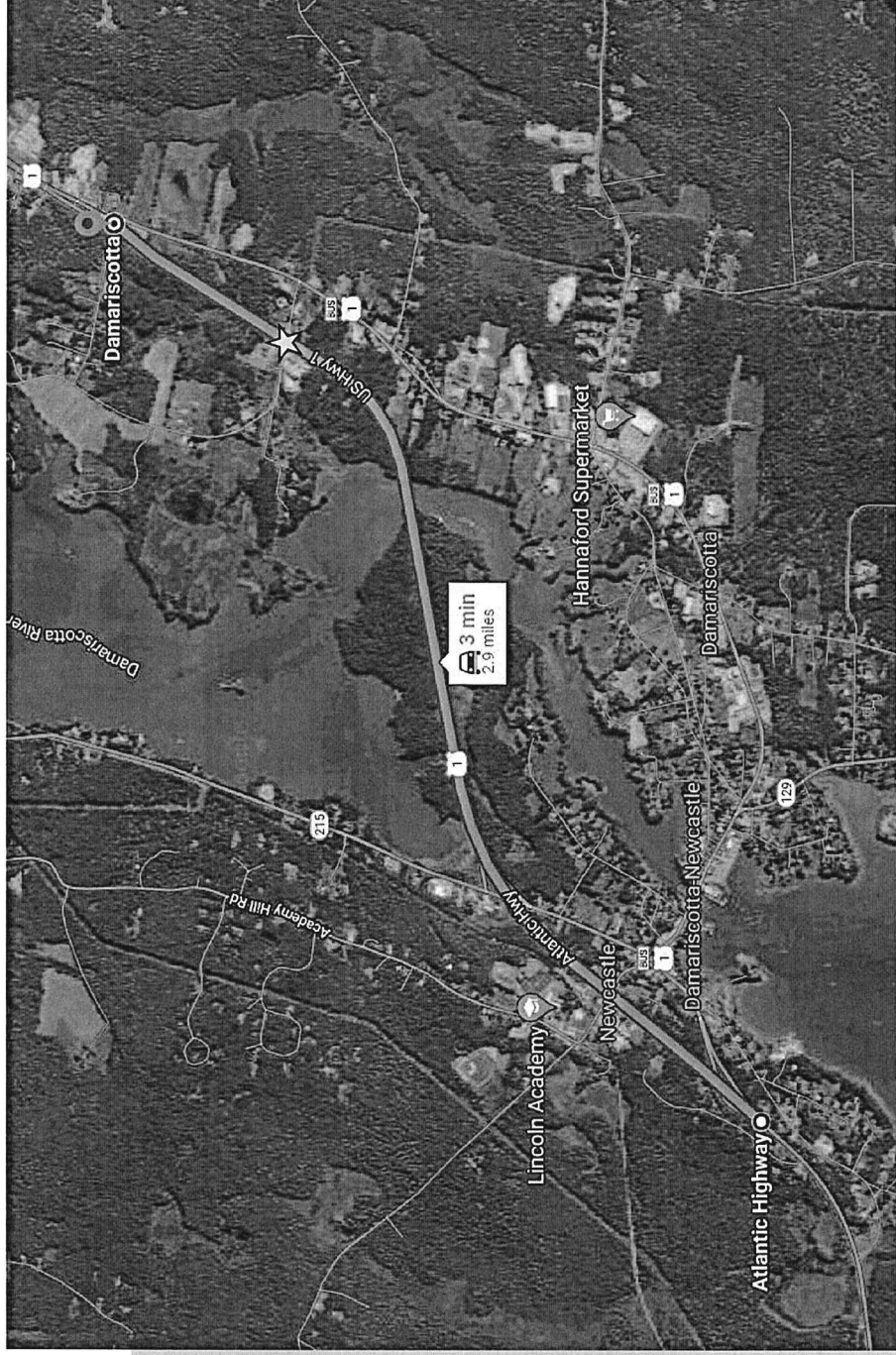
# 2021 Turning Movement Count

AM Peak Hour  
11:00 AM – 12:00 PM





# Only At-Grade Intersection on the Bypass



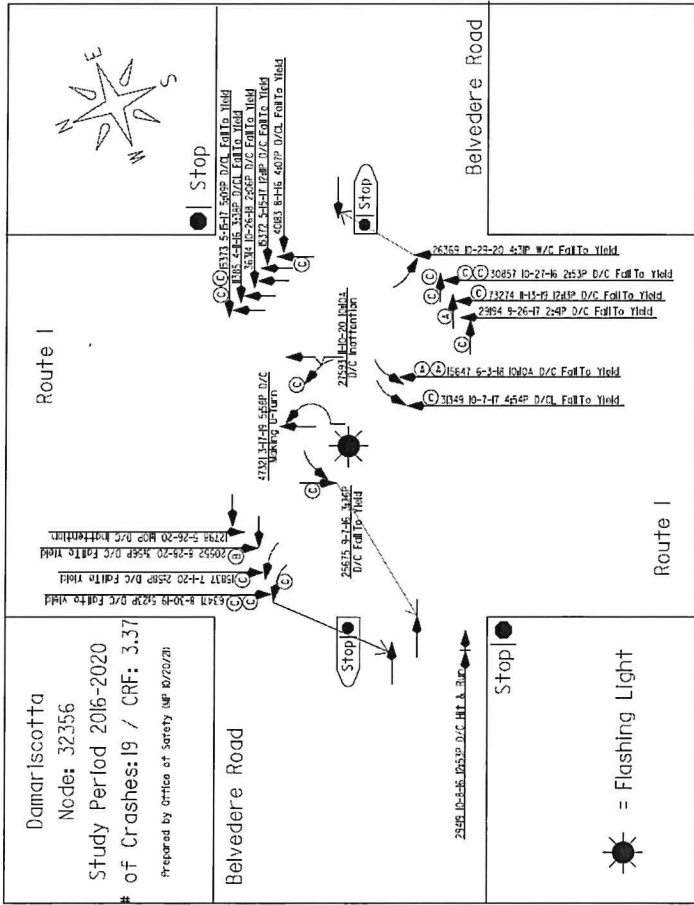
*The only true 4-leg intersection on Route 1 over a 6.6-mile stretch*

# Current Crash Patterns

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

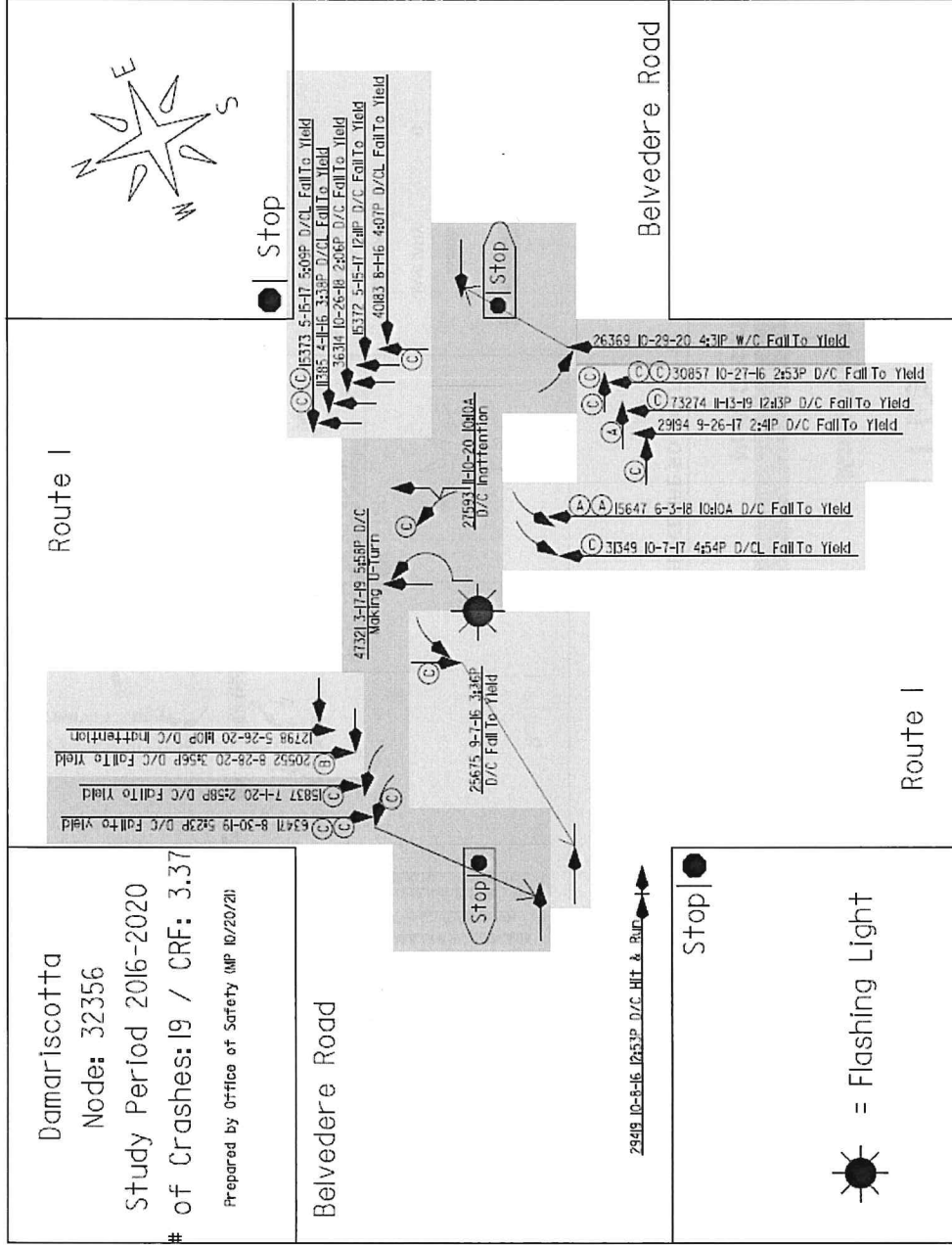
Node	Route - MP	Node Description	Nodes		Crashes by Year and Month													
			U/R	Total	Injury Crashes			Percent Injury										
					K	A	B	C	PD									
32356	0001X - 103.47	Int of BELVEDERE RD ROUTE 1	1	19	0	2	1	9	7	63.2								

**NODE TOTALS:** 19 0 2 1 9 7 63.2



Month	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Total
JANUARY	0	0	0	0	0	0	0	0	0	0	0
FEBRUARY	0	0	1	0	0	0	0	0	0	0	1
MARCH	0	0	1	0	0	0	0	0	1	0	2
APRIL	0	0	1	0	0	1	0	0	0	0	2
MAY	1	0	0	0	0	0	2	0	0	1	4
JUNE	0	1	0	0	0	0	0	1	0	0	2
JULY	1	0	0	0	0	0	0	0	0	1	2
AUGUST	0	1	0	1	0	1	0	0	1	1	5
SEPTEMBER	0	0	0	0	0	1	1	0	0	0	2
OCTOBER	0	0	1	0	0	2	1	1	0	1	6
NOVEMBER	0	0	0	1	0	0	0	0	1	1	3
DECEMBER	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>2</b>	<b>2</b>	<b>4</b>	<b>2</b>	<b>0</b>	<b>5</b>	<b>4</b>	<b>2</b>	<b>3</b>	<b>5</b>	<b>29</b>

# Current Crash Patterns



- Angle crashes involving vehicles turning left or crossing from Belvedere Road pulling out in front of Route 1 traffic
- 13 Crashes (2016-2020)
- Route 1 left turn and U-turn crashes
- 5 Crashes (2016-2020)
- One minor road rear end

# Current Safety Screening Lists and Rankings

- High Crash Location (HCL)
- Current HCL – 10 crashes and CRF of 2.6 (2018-2020)
- HCL for 8 three-year periods since 2007

Years	Number of Crashes	Critical Rate Factor
2018-2020	10	2.60
2017-2019	9	2.12
2016-2018	11	2.77
2015-2017	9	2.21
2012-2014	9	2.89
2011-2013	8	2.80
2006-2008	8	2.17
2005-2007	9	2.49



## Current Safety Screening Lists and Rankings

- Excess Crash Cost Ranking (2018-2020) – **48<sup>th</sup>** Among Rural Intersections
- Observed – Predicted Injury Crashes (2018-2020) – **25<sup>th</sup>** Among Rural Intersections
- 3-Year K+A Ranking (2018-2020)– **Tied for 3<sup>rd</sup> most** (One of 13 intersections with 2 or more K+A crashes)
  - “A” injury crashes in 2018 and 2019, “B” injury crashes in 2020 and 2021



# Identified Issues with Intersection

- Many high-speed angle crashes
  - Angle crashes at 55 mph are one of the most concerning crash patterns
- Most drivers are stopping at the stop signs, then pulling out in front of Route 1 vehicles
  - Drivers pull onto the wide shoulder to turn right from Route 1, sometime blocking the sight distance for Belvedere drivers looking left
  - Drivers on Belvedere Road may misjudge the speed of Route 1 vehicles
  - During high-volume summer traffic, drivers pulling out from Belvedere may become impatient and enter the intersection before there is an adequate gap
  - Shadows from tall pine trees may impact visibility of approaching Route 1 vehicles at times
    - 6 of 19 crashes 2015-19 occurred with significant shadowing on the road

# Alternatives Analysis

- Analyzing multiple alternatives based on:
  - Safety benefit
  - Mobility benefit
  - Estimated cost
- Alternatives Include
  - Traffic Signal
  - Median with Turn Lanes and Jughandles
  - Median: Right-in / Right-out Only
  - Roundabout

# Alternatives Analysis

Traffic Signal





# Alternatives Analysis

Median with Turn Lanes and Jughandles



# Alternatives Analysis

Median with Turn Lanes and Jughandles



# Alternatives Analysis

Median with Turn Lanes and Jughandles





# Alternatives Analysis

## Median Right-In Right-Out



# Cross Traffic Comparison



*Concept presented at Route 1B / School Street*

**Significantly more crossing and left turning traffic than the School Street intersection:**

- Belvedere Road: 1,119 minor road vehicles crossing or turning left in 12-hr count
- School Street: 355 minor road vehicles crossing or turning left in 12-hr count
- 802 of 826 vehicles approaching Route 1 on Belvedere WB turned left or crossed
  - (97% of approaching vehicles)



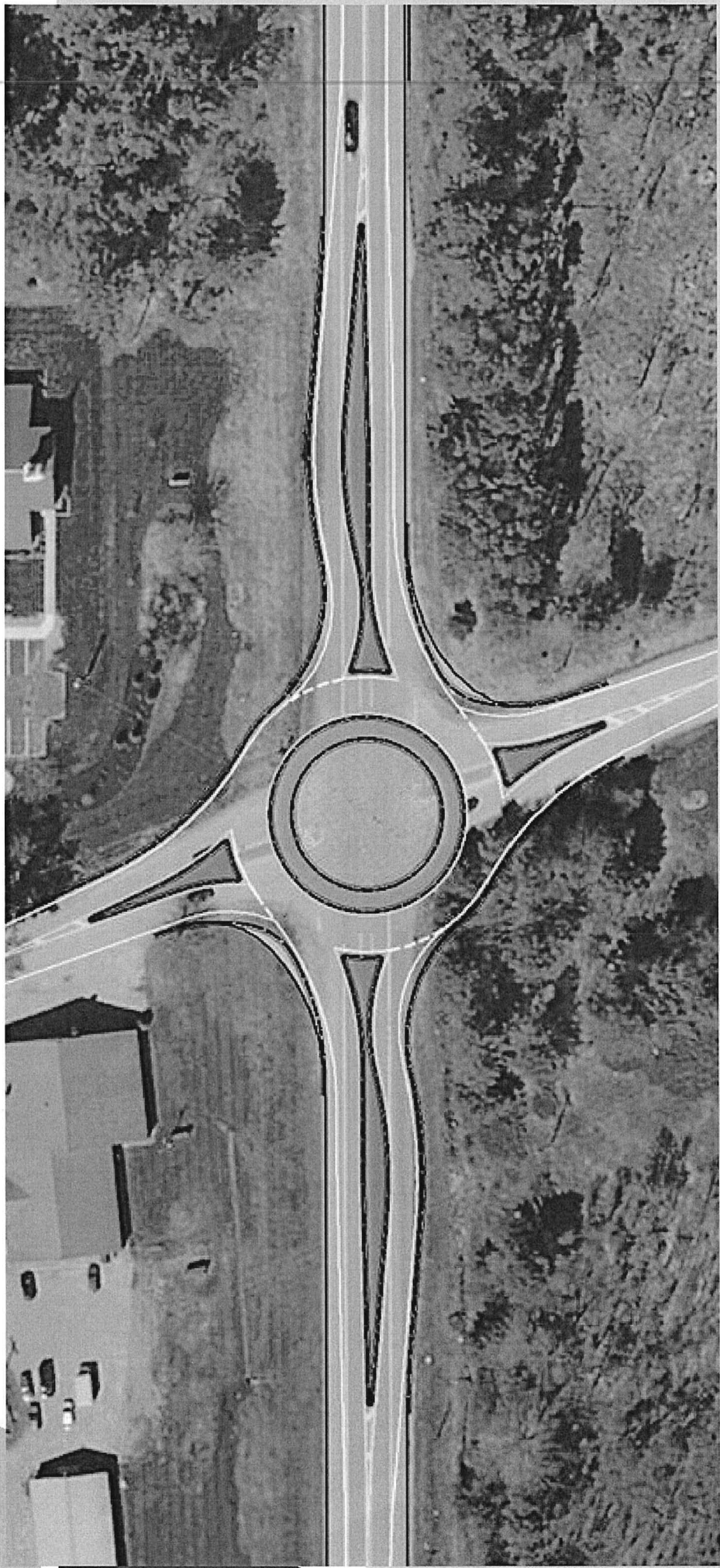
# Alternatives Analysis

## Roundabout



# Alternatives Analysis

## Roundabout



# Alternatives Analysis

## Alternatives Benefit-Cost Analysis

Alternative	Analysis Duration	Safety Benefit	Mobility Benefit	Net Benefit	Cost Estimate	Net Benefit-Cost
Signal	10 Years	\$3,439,398	-\$86,596	\$3,352,802	\$1,200,000	2.79
Median and Jughandles	20 Years	\$3,538,618	-\$44,984	\$3,493,634	\$2,900,000	1.20
Median Right-In Right-Out	10 Years	\$2,270,681	-\$2,981,440	-\$710,759	\$300,000	-2.37
Roundabout	20 Years	\$6,108,594	-\$33,738	\$6,074,856	\$3,100,000	1.96

## Incremental Benefit-Cost Analysis

Alternatives		Incremental	
More Expensive	Less Expensive	Net Benefit	Net Benefit-Cost
Signal	No Build	\$3,352,802	2.79
Median and Jughandles	Signal	\$140,832	0.08
Roundabout	Median and Jughandles	\$2,581,222	12.91
Roundabout	Signal	\$2,722,054	1.43

# Alternatives Analysis

## Alternatives Benefit-Cost Analysis

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## Incremental Benefit-Cost Analysis

Alternatives		Incremental	
More Expensive	Less Expensive	Net Benefit	Cost Estimate
Signal	No Build	\$3,352,802	\$1,200,000
Median and Jughandles	Signal	\$140,832	\$1,700,000
Roundabout	Median and Jughandles	\$2,581,222	\$200,000
Roundabout	Signal	\$2,722,054	\$1,900,000
		Net Benefit-Cost	Net Benefit-Cost
		2.79	0.08
		12.91	1.43

Additional benefit outweighs the cost increase to build a roundabout

# Facts about Maine Modern Roundabouts

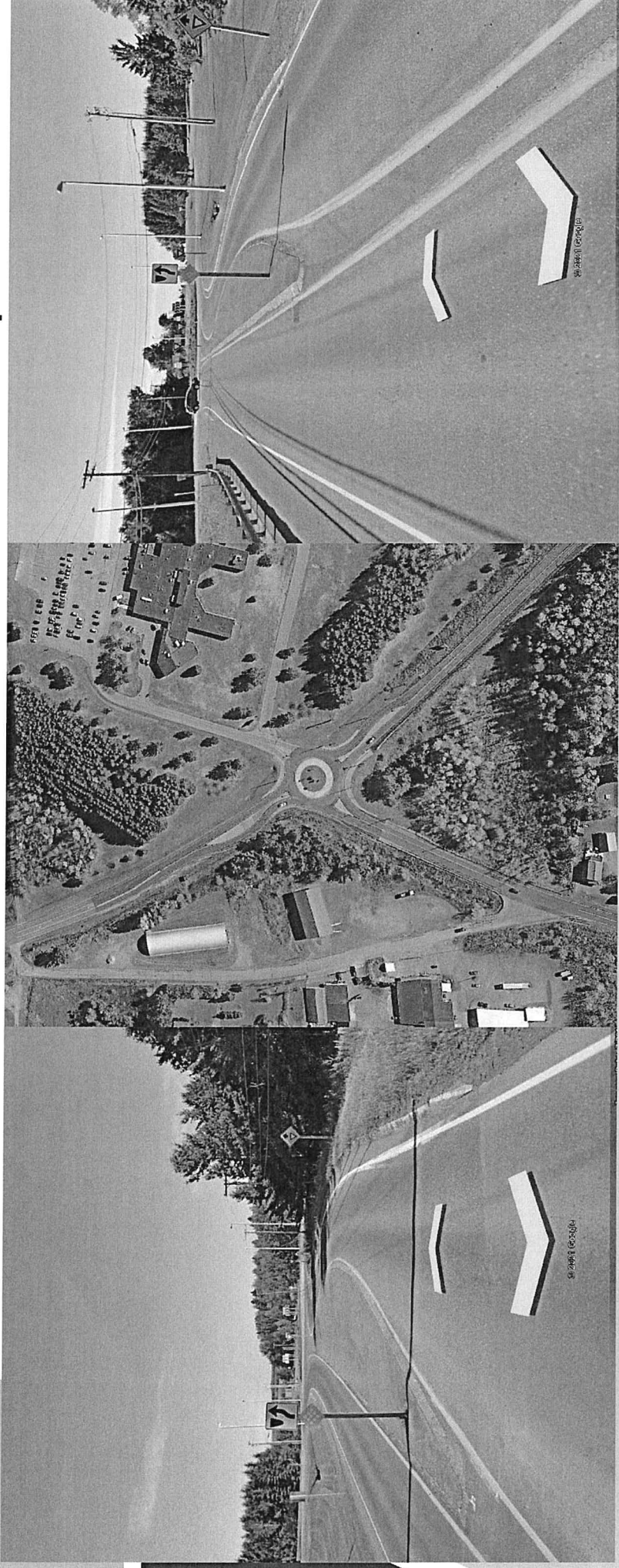
- Total Crashes have been Reduced by 48 %
- Injury Crashes have been Reduced by 69 %
- Crash Costs have been Reduced by 70%



## Relevant Roundabout National Studies

- 2020 Study of Rural 4-leg 55 mph Intersections converted to Single-lane Roundabouts with diameter 100 ft to 160 ft
  - **43%** crash reduction
  - **79%** injury crash reduction
  - Study included 9 sites in NC
- 2012 Study of High-speed (40 mph to 65 mph) Rural 4-leg Intersections converted to Single-lane Roundabouts
  - **74%** crash reduction
  - **89%** injury crash reduction
  - Study included 83 sites in KS, MD, MN, OR, WA, WI

# Caribou – US Route 1 & North Main St /Hospital



**5 Crashes/ Year To 2: 60% Reduction in Crashes**  
**2.0 Injury Crashes/ Year To 0.33: 84% Reduction in Injury Crash**  
**\$ 1.1M / Year To \$33,000 : 97% Reduction in Crash Cost**

## West Gardiner – Route 9 / I-95 / Service Plaza



**4.3 Crashes/ Year To 1.67: 61% Reduction in Crashes**

**1.3 Injury Crashes/ Year To 0.0: 100% Reduction in Injury Crash**

**\$247,000 / Year To \$18,000 : 93% Reduction in Crash Cost**

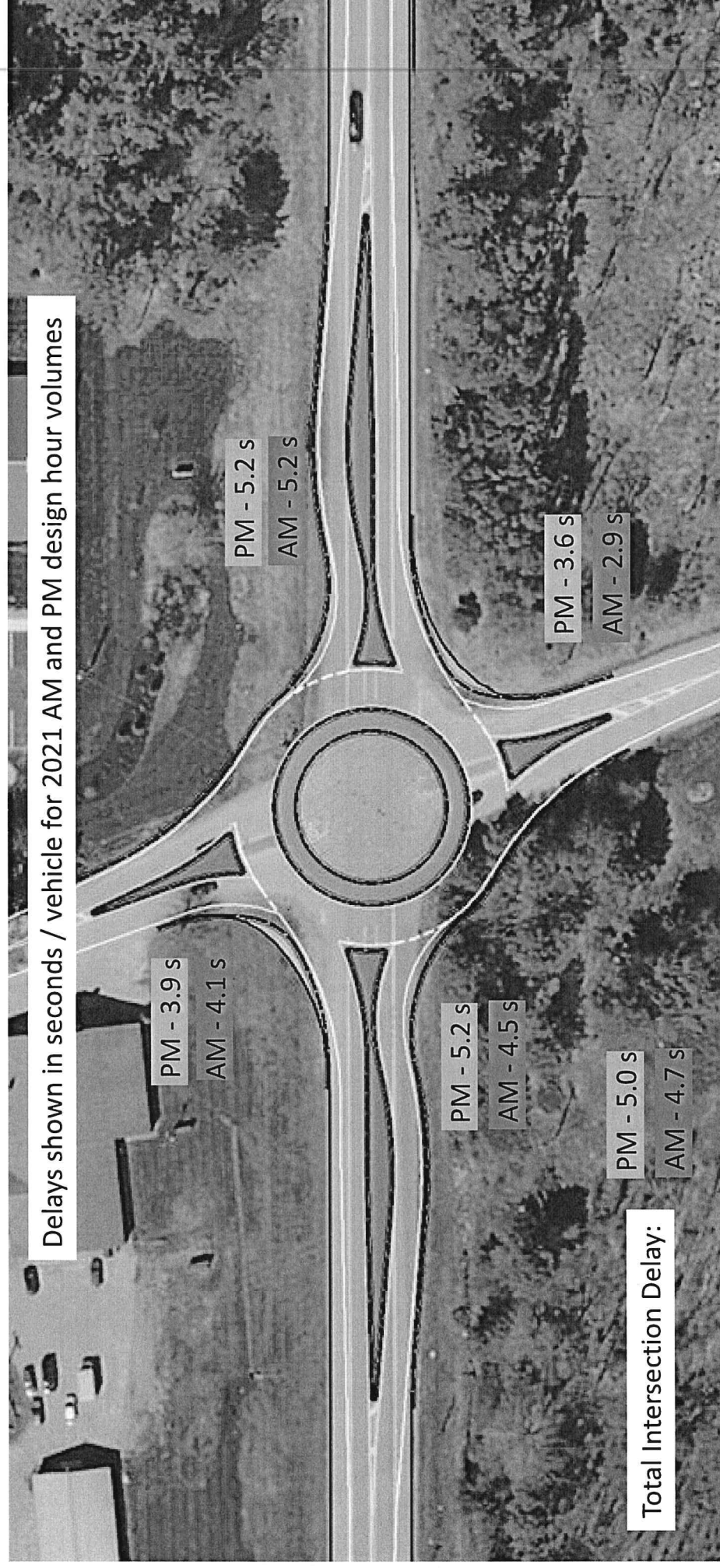


# Overall Experience in Maine has Shown that Modern Roundabouts:

- The Lowest Percentage of Crashes resulting in Injury of any Intersection Type.
- The Lowest Severity of Injury Crashes of any Intersection Type.
- 1 Fatality (Medical Issue) in 24 Years of Experience on Maine Modern Roundabouts.

# Roundabout Forecast Delays

Method 1: Synchro / SimTraffic Model Results



# Roundabout Forecast Delays

## Method 2: HCM Calculated Results





# Roundabout Forecast Delays

## Levels of Service (LOS)





# Alternative Pros and Cons

## Traffic Signal

- Pros
  - Lowest cost
- Cons
  - Route 1 traffic needs to stop at times
  - Highest delays of the three alternatives
  - High speed signals have risk of severe crashes, particularly with ran red light crashes
  - Traffic signals have higher injury percentages than roundabouts
  - Installing a signal on a bypass is not ideal

## Median and Jughandles

- Pros
  - Route 1 would remain free flow (no stop or yield)
  - Crossing and left turning Belvedere Road traffic only has to deal with one lane of traffic at a time
- Cons
  - Almost as expensive as a roundabout with a much lower safety benefit
  - Jughandles extend far off roadway, potentially leading to environmental impacts, clearing, blasting, or significant fill material.
  - Requires re-paving 1/3 of a mile plus many long raised islands and roadway widening

## Roundabout

- Pros
  - Highest safety benefit
  - Significantly reduces the possibility of fatal and severe injury crashes
  - All movements are forecast to operate at LOS A during all hours for 2021 volumes
- Cons
  - Highest cost alternative
  - Requires Route 1 bypass traffic to slow and yield through intersection

## Summary

- MaineDOT's recommended alternative is installing a roundabout
- Modern Roundabouts are one of our Most Effective methods of Improving Safety at Problem Intersections.
- More than 27 Modern Roundabouts have been installed in Maine since 1997 and more are being designed and built.



# Major Belvedere Road Uses

- Going between **Route 1 south of Damariscotta** and:
  - Great Salt Bay School
    - Serves Damariscotta, Newcastle, and Bremen
  - Grocery
  - Hardware/Retail Stores
  - Food that isn't downtown
    - McDonald's, Dunkin', etc.
  - Residents in Camps in southeast Damariscotta and Bremen
    - Near Biscay Pond, Pemaquid Pond, etc.





# Major Belvedere Road Uses

- Going between **Damariscotta Mills area** and:
  - The same places as the previous slide.
- On Belvedere Road North of this intersection
  - Church
  - Hospice Center
    - And other buildings in that lot
  - Wildlife Preserve
  - Wedding and Event Venue



# Alternatives Analysis

## Traffic Signal

### Signal Warrant Analysis

- Signal warrant analysis was completed for this intersection based on the turning movement count collected June 15<sup>th</sup>, 2021 adjusted to average day volumes
- 8-hour Traffic Volumes – Signal Warrant 1B was met
- Crash History – Signal Warrant 7 was met
  - Volume criteria met for 9 hours
  - 5 correctable crashes in 12 months from November 2019 to October 2020
  - Adequate trials of alternatives include overhead flashing beacon, stamped pavement, lane narrowing, seasonal delineator posts, minor road channelization islands with supplemental stop signs
- This means a traffic signal can be considered as an alternative

# Alternatives Analysis

The following table shows the approximate delays for key movements in the 4 alternatives:

Movement	Delay Per Vehicle (s) (PM Peak – 2021 Design Hour)			
	Existing	Signal	Median and Jughandles	Roundabout
Belvedere WB Left	23.5	10.9	10.0*	3.1
Belvedere WB Through	22.1	11.2	10.6*	3.4
Belvedere EB Left	16.4	8.3	11.6*	2.5
Belvedere EB Through	19.4	10.0	11.4*	4.2
Route 1 NB Left	2.1	14.00	9.7*	3.9
Route 1 NB Through	--	5.9	--	5.5
Route 1 SB Left	4.3	13.9	10.2*	3
Route 1 SB Through	--	5.9	--	5.3
Entire Network	10.9	13.3	11.7	11.5

\* This value includes delay at multiple intersections since the movement requires multiple stops.

# Roundabout PM Delays Current and Future

Movement	PM Peak – 2021 Design Hour				PM Peak - 2041 Design Hour (Assumed 20% growth)	
	SimTraffic (Traffic Simulation)		HCM (Calculation)		HCM (Calculation)	
	Delay/Vehicle (s)	LOS	Delay/Vehicle (s)	LOS	Delay/Vehicle (s)	LOS
Route 1 NB	5.2	A	9.3	A	11.7	B
Route 1 SB	5.2	A	8.3	A	10.1	B
Belvedere Rd WB	3.6	A	7.2	A	8.7	A
Belvedere Rd EB	3.9	A	5.5	A	6.2	A
Total Intersection	5.0	A	8.6	A	10.6	B



Dear Selectman Fraser,

My name is Audrey Hufnagel. I am a sophomore at Lincoln Academy and a resident of Damariscotta. I am writing to ask you and the town Board of Selectmen to consider a resolution endorsing the Pine Tree Amendment.

The Pine Tree Amendment is a bill proposed by Senator Chloe Maxmin that will be considered in the upcoming session of the Maine legislature. It has received bipartisan support from the house and the senate. If passed, it would amend the Maine constitution to protect the right to clean air, clean water, and a healthy environment for all people.

Some of the things that I love most about Damariscotta and the state of Maine are the beautiful forests, rivers, lakes and other natural places that are so abundant. I love taking boat trips on the Damariscotta River, seeing the seals and the birds and the oyster farms, and I enjoy hiking on surrounding trails and seeing the diverse wildlife. I want all of this to be protected, and the Pine Tree Amendment will help do so.

Having the Pine Tree Amendment would benefit Damariscotta. Clean air, clean water and a healthy environment are good for the health of the people of Damariscotta, especially children. The Amendment also helps preserve the wildlife and land, which makes this area a more appealing place to live, as well as attracting tourists who fuel the local economy and support small business. Also, Damariscotta oyster farmers rely on clean water to grow oysters. All of these things would be protected by the Pine Tree Amendment.

The states of Pennsylvania and Montana both have amendments like the Pine Tree Amendment that have been used successfully to protect the environment and stop environmentally harmful projects.

I understand that the Damariscotta Board of Selectmen do not usually consider endorsements such as this, but I believe that this bill is crucial to the future of our town and our state. Two other municipalities, Brunswick and Camden, have passed similar resolutions. Voting in favor of this resolution would not bind the town of Damariscotta to anything, but it would signal local support for this issue, which would help get the bill passed. I therefore urge you to consider passing a resolution in support of the Pine Tree Amendment.

Sincerely,  
Audrey Hufnagel

P.S. Below is a sample script for a resolution about the Pine Tree Amendment. I do not know how resolutions are formatted in Damariscotta, but this includes some of the language that could be included in a possible resolution.

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**RESOLUTION IN SUPPORT OF A “PINE TREE AMENDMENT” TO  
THE MAINE STATE CONSTITUTION**

WHEREAS, the right of people in Maine to a clean and healthy environment is not given any protection in the State of Maine’s Constitution;

WHEREAS, a clean and healthy environment sustains healthy lives and is fundamental to preserving Maine’s heritage for future generations, as well as protecting industries that depend on natural resources;

WHEREAS, the State of Maine has a long history of environmental protection and leadership to protect the health and environment of people in Maine;

WHEREAS, while environmental laws are designed to manage pollution, clean up and remediate contamination, and conserve natural resources, these laws do not support the notion that a clean and healthy environment is a fundamental, inalienable right;

WHEREAS, there are still a multitude of issues threatening Maine’s water, air, natural resources, such as climate change; emerging contaminants, such as PFAS and PFOA, in our drinking water supplies; poor to failing air quality; and disproportionate environmental impacts on environmental justice and frontline communities.

WHEREAS, in recognition of these facts, the Pine Tree Amendment (LD489) has been introduced in the Maine State Senate and House by Senator Chloe Maxmin, and among those co-sponsoring are Senator Richard Bennett, Senator Russell Black, Representative Bill Pluecker, Representative H. Landry, Representative Margaret O’Neil, Representative Laurie Osher, and Representative Rachel Talbot Ross on a tri-partisan basis. The bill states:

*“The people of the State have the right to a clean and healthy environment and to the preservation of the natural, cultural and healthful qualities of the environment. The State may not infringe upon these rights. The State shall conserve, protect and maintain the State’s natural resources, including, but not limited to, its air, water, land and ecosystems for the benefit of all the people, including generations yet to come.”*

WHEREAS, in recognition that to enact a Pine Tree Amendment in the Maine Constitution the above-mentioned bill must be passed by the Maine State Legislature and then be voted on as part of a statewide referendum;

WHEREAS, if the Pine Tree Amendment is passed by the Senate and the House, and if it is agreed to by the voters in a public question ballot referendum, this "Pine Tree Amendment" will be added to Article 1, the Declaration of Rights, of the Maine State Constitution;

WHEREAS, the town of Damariscotta hereby supports the Pine Tree Amendment (LD489); so that the voters may choose whether to add environmental rights to the Declaration of Rights of the Maine State Constitution, and further

RESOLVED, that the town of Damariscotta supports the passage of the Pine Tree Amendment by the Maine State Legislature in 2022 in time to be on the ballot in November 2022;

RESOLVED, that the town of Damariscotta encourages its County based legislative delegation to support LD489 for full passage by the Senate and House, so that the voters of our great State and great County may choose whether to add the right to a clean and healthy environment to the Declaration of Rights of the Maine State Constitution;

RESOLVED, that a copy of this resolution be forwarded to our State Legislative Delegation, the Pine Tree Amendment coalition\*, and county elected officials.

\*Pine Tree Amendment coalition: [pinetreeamendment@gmail.com](mailto:pinetreeamendment@gmail.com)

