Lower Road Rail Corridor

RAIL USE ADVISORY COUNCIL MEETING

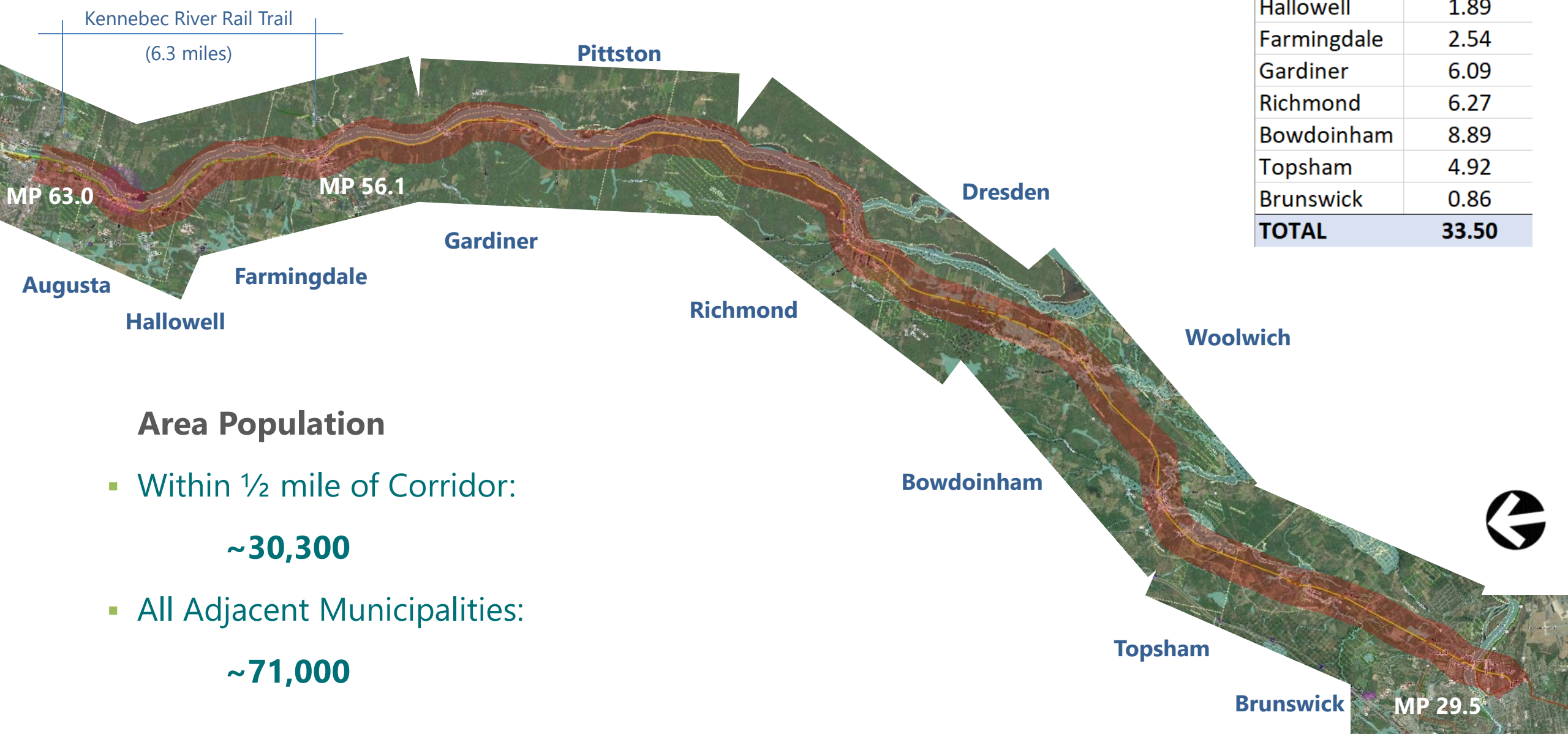
January 25, 2023

MaineDOT

vhb

Lower Road Rail Corridor Context

Town	Miles
Augusta	2.05
Hallowell	1.89
Farmingdale	2.54
Gardiner	6.09
Richmond	6.27
Bowdoinham	8.89
Topsham	4.92
Brunswick	0.86
TOTAL	**33.50**



Area Population

- Within ½ mile of Corridor:

  ~30,300

- All Adjacent Municipalities:

  ~71,000

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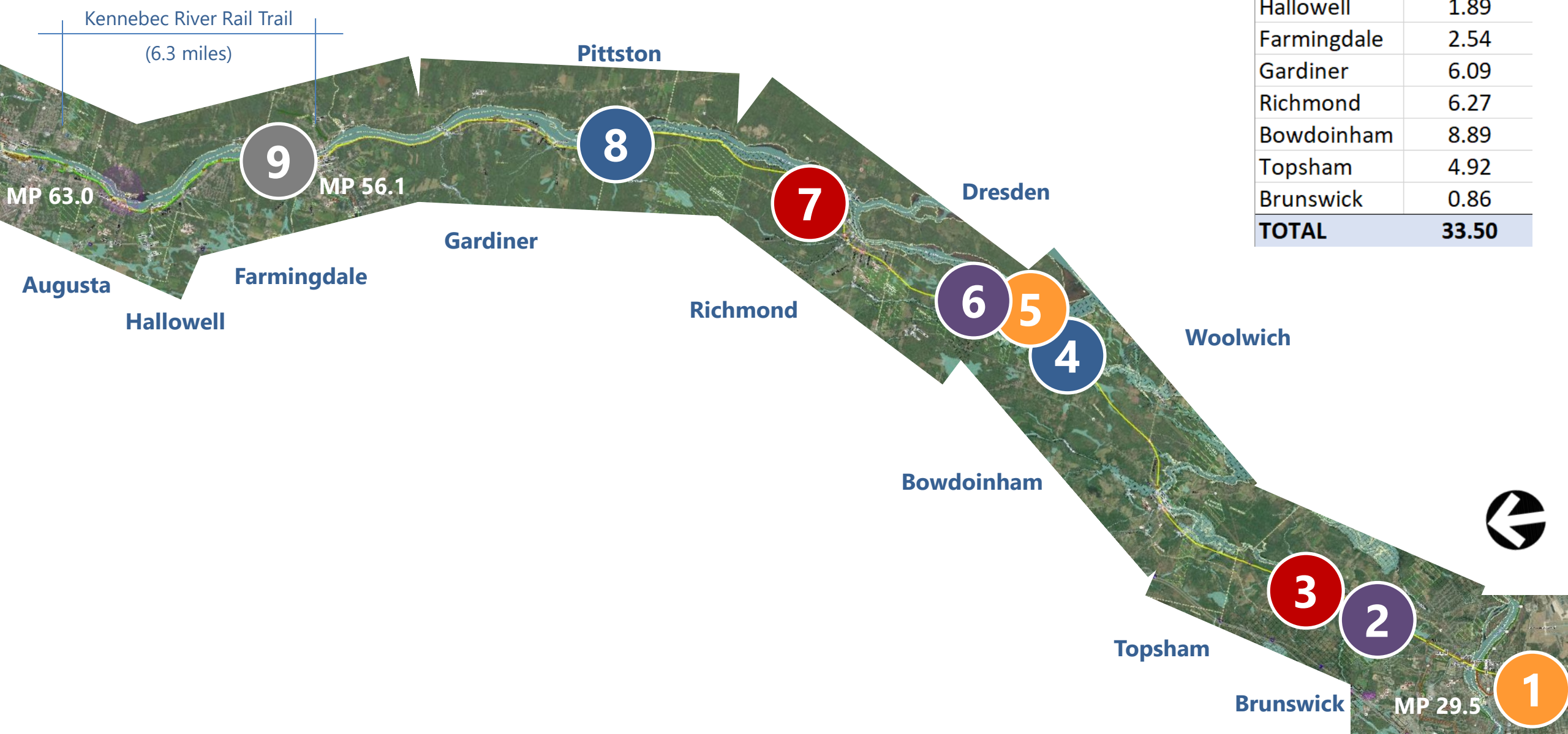

Lower Road Rail Corridor MP 29.5

Corridor terminus near Federal Street (MP 29.5)

Androscoggin River

Brunswick Golf Club

Sea Dog Brewing Company Topsham

Androscoggin Swinging Bridge

Lewiston Lower Branch

Augusta Lower Road

The UPS Store

Brunswick

Main St

Pleasant St

Hannaford

Comfort Inn Brunswick

Church Rd

Brunswick Branch (Main Line)

Amtrak Station

Joshua L. Chamberlain Museum

Temporarily closed

Rockland Branch

Bowdoin College Museum of Art

Sills Dr

1 Federal St. to Water St., Brunswick

Key Characteristic: RR Cut in Residential Area

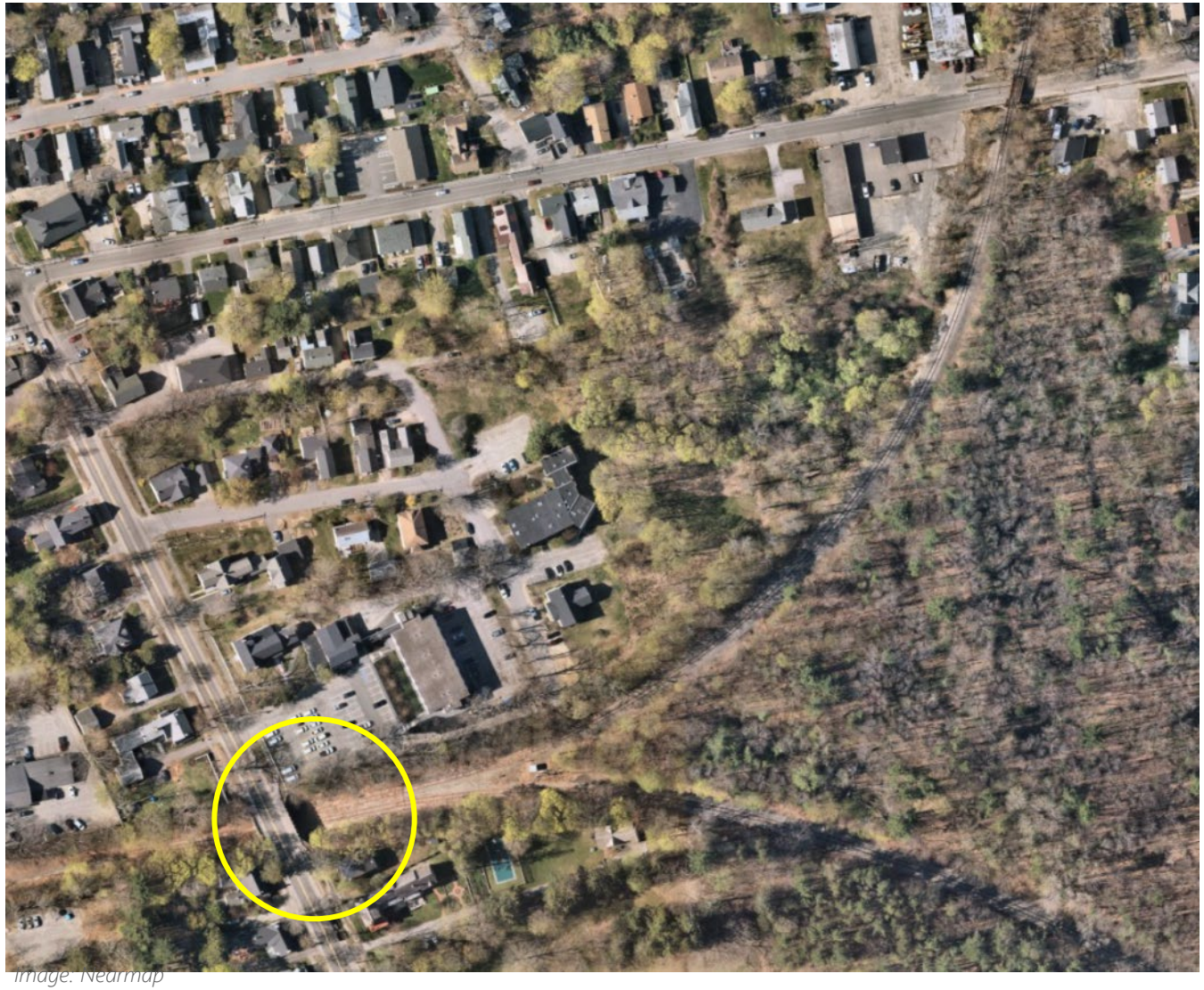

Image: Nearmap

Facing West

Image: Google Maps

Facing North

Location reference: https://goo.gl/maps/inrxU1TZE2zpSabKA

2 Cathance Rd. Crossing, Topsham

Key Characteristic: Unsignalized Rural Road Crossing, Former Double Track Area

Image: Nearmap

Image: Google Maps

Facing north

Image: Google Maps

Facing northwest

Location reference: https://goo.gl/maps/RonYuQwyPtRjDKMf6

3 Tedford Rd. Grade Crossing, Topsham

Key Characteristic: Unsignalized Rural Road Crossing, Intersecting Roads Nearby

Image: Nearmap

Facing north

Image: Google Maps

Facing southwest

Image: Google Maps

Location reference: https://goo.gl/maps/pPPi7DBhQ4YJ2oBn7

3 Topsham near Tedford Road, N of Rt. 196

Key Characteristic: Unsignalized Rural Road Crossing, Constrained ROW

Option 1: Restoration of Rail Service

Lower Road Corridor*, Topsham
SECTION A1: View looking north adjacent to Tedford Rd. (between Tedford Rd. and Rt. 196.)

DRAFT Concept
For Demonstration Purposes Only

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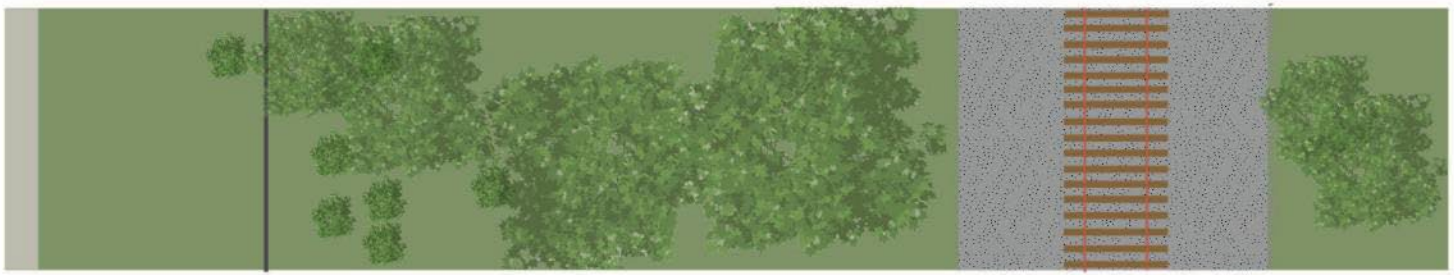

3 Topsham near Tedford Road, N of Rt. 196

Key Characteristic: Unsignalized Rural Road Crossing, Constrained ROW

Option 2: Trail Until Rail

Lower Road Corridor*, Topsham
SECTION A2: View looking north adjacent to Tedford Rd. (between Tedford Rd. and Rt. 196.)

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3 Topsham near Tedford Road, N of Rt. 196

Key Characteristic: Unsignalized Rural Road Crossing, Constrained ROW

Option 3: Rail with Trail

Lower Road Corridor*, Topsham
SECTION A3: View looking north adjacent to Tedford Rd. (between Tedford Rd. and Rt. 196.)

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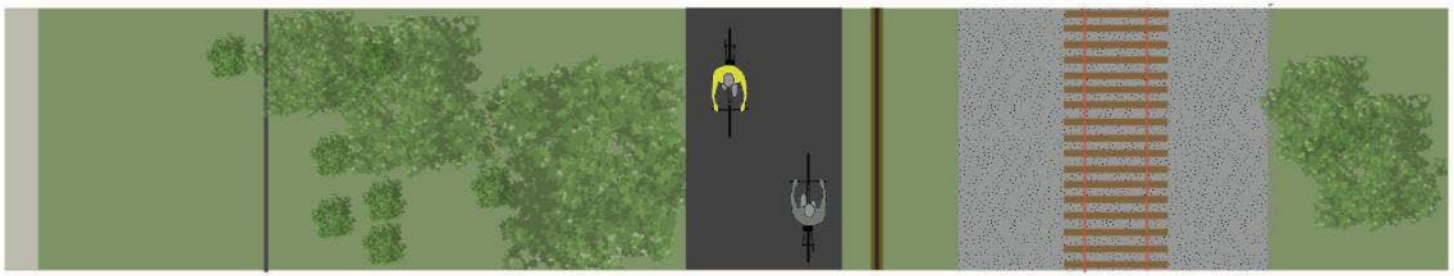

4 River Rd. Crossing, Bowdoinham

Key Characteristic: Signalized (and aging) Town Road Crossing (Typical Example)

Image: Google Maps

Image: Google Maps

Facing west

Image: Google Maps

Facing west

Location reference: https://goo.gl/maps/HjP77EumpfgdERpF6

5 Bowdoinham Embankment along Rt. 24

Key Characteristic: Embankment segment, Constrained ROW

Image: Nearmap

Image: Google Maps

Facing east

Location reference: https://goo.gl/maps/NXEbRty7FieLNSEx6

5

Bowdoinham Embankment along Rt. 24

Key Characteristic: Embankment Segment, Constrained ROW

Lower Road Corridor*, Bowdoinham
SECTION B1: View looking north adjacent to River Rd. (just north of Cathance River)

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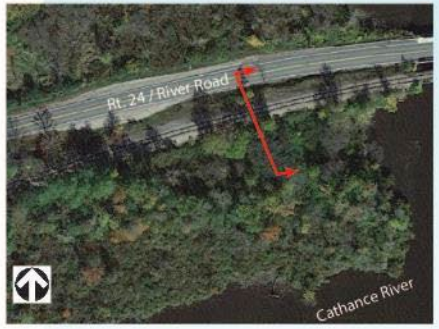

Option 1: Restoration of Rail Service

5

Bowdoinham Embankment along Rt. 24

Key Characteristic: Embankment Segment, Constrained ROW

Option 2: Trail Until Rail

Lower Road Corridor*, Bowdoinham
SECTION B2: View looking north adjacent to River Rd. (just north of Cathance River)

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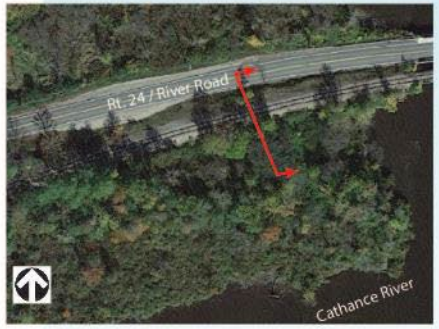

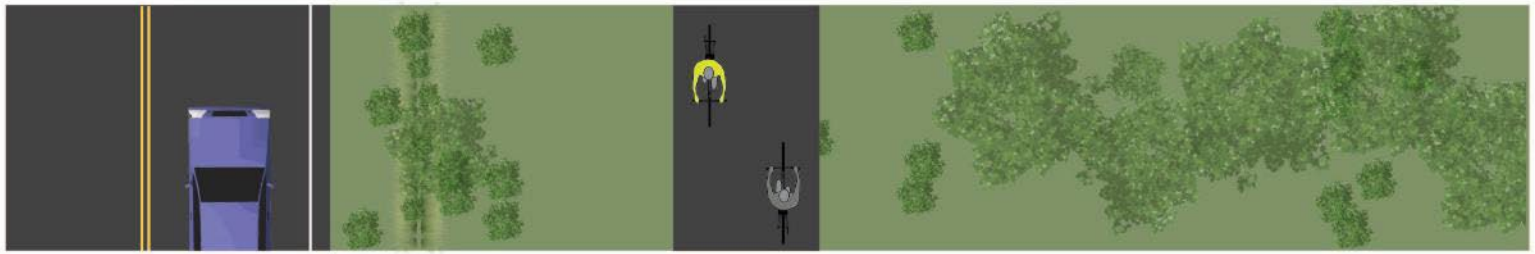

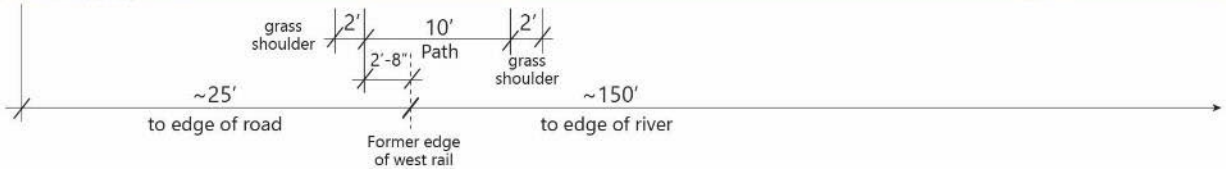

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Bowdoinham Embankment along Rt. 24

Key Characteristic: Embankment Segment, Constrained ROW

Option 3: Rail with Trail

Lower Road Corridor*, Bowdoinham
SECTION B3: View looking north adjacent to River Rd. (just north of Cathance River)

DRAFT Concept
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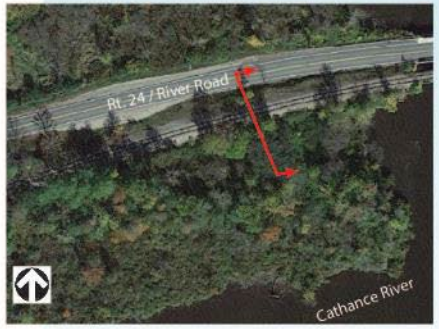

6 Browns Point Rd. Crossing, Bowdoinham

Key Characteristic: Signalized Rural Road Crossing

Image: Nearmap

Image: Google Maps

Facing north

Image: Google Maps

Facing west

Location reference: https://goo.gl/maps/R9TJKsNqj3WRmbYR6

7 Main Street Crossing, Richmond

Key Characteristic: Signalized Urban Road Crossing, ROW Encroachments

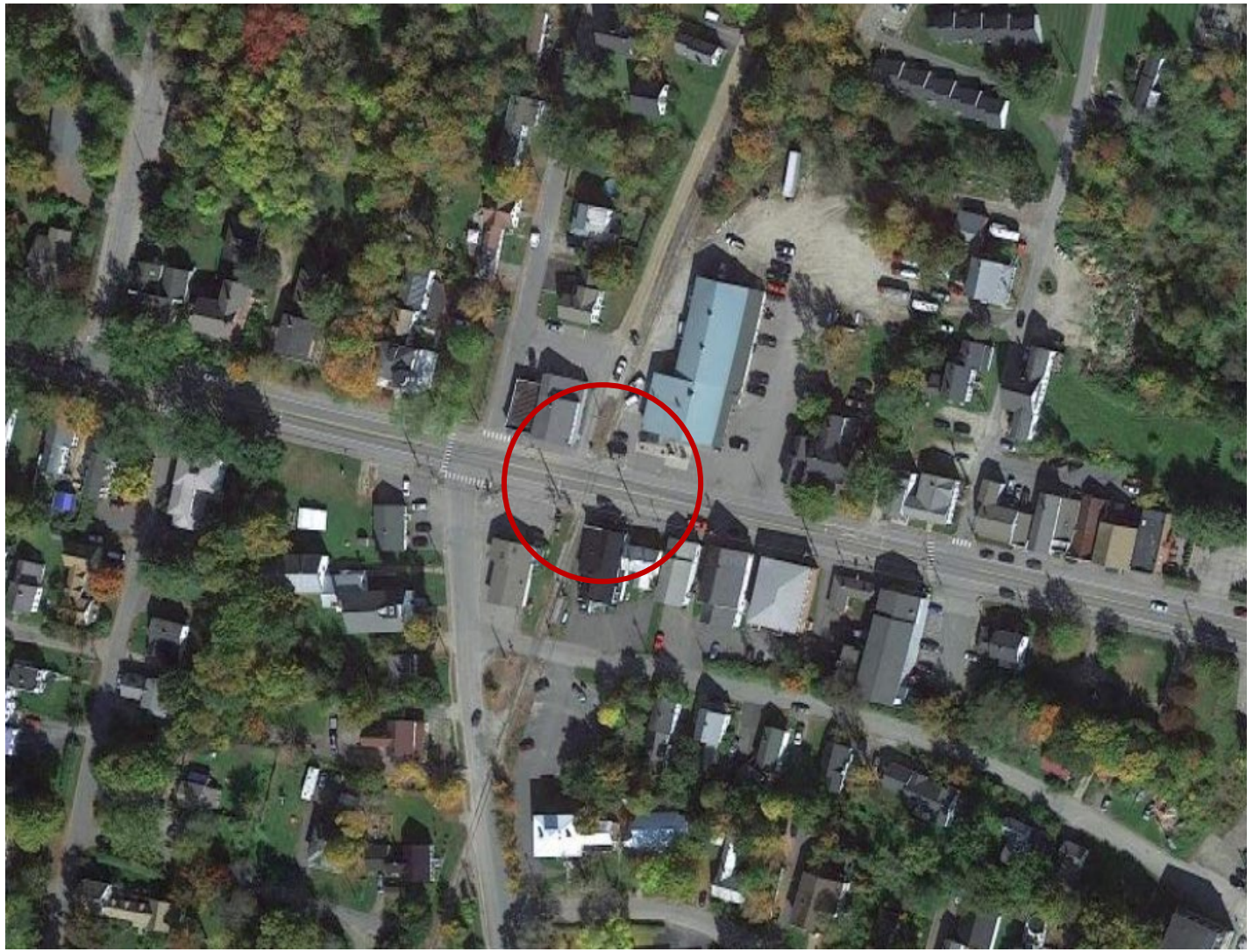

Image: Nearmap

Facing east

Image: Google Maps

Facing north

Image: Google Maps

Location reference: https://goo.gl/maps/RdSyRjmczaFjK3Zf9

7

Main Street Crossing, Richmond

Key Characteristic: Signalized Urban Road Crossing, Constrained ROW

Option 1: Restoration of Rail Service

Lower Road Corridor*, Richmond
SECTION C1: View looking north adjacent to Summer Ln. (between Main St. and Kimball St.)

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For Demonstration Purposes Only

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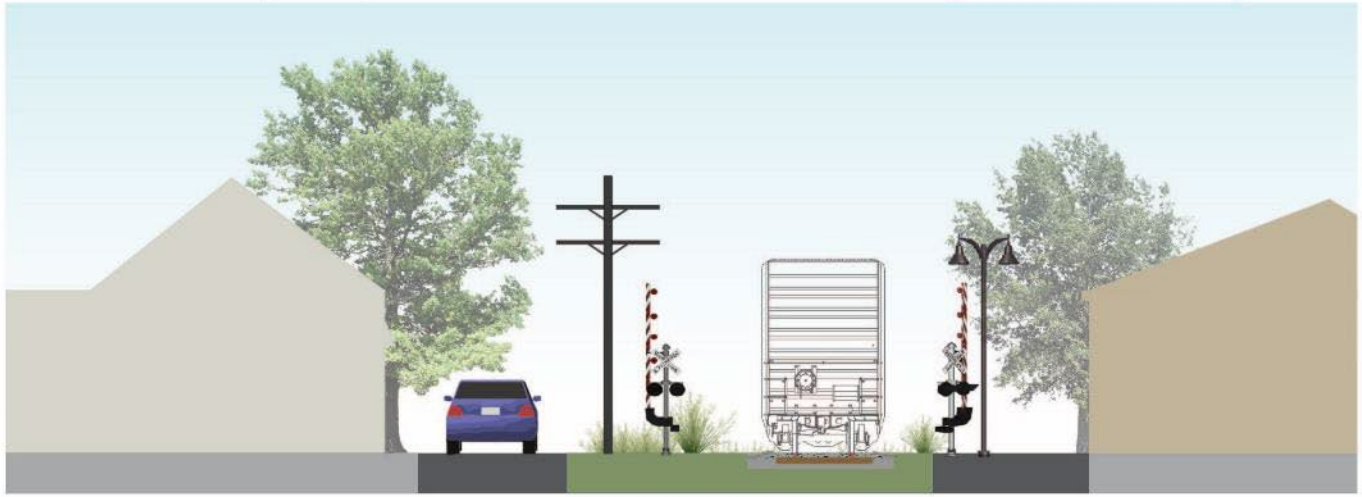

~27'
to property line

~16'
to property line

7

Main Street Crossing, Richmond

Key Characteristic: Signalized Urban Road Crossing, Constrained ROW

Option 2: Trail Until Rail

Lower Road Corridor*, Richmond
SECTION C2: View looking north adjacent to Summer Ln. (between Main St. and Kimball St.)

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For Demonstration Purposes Only

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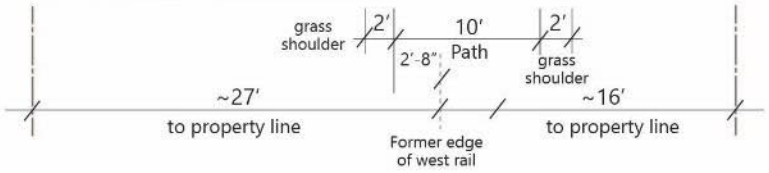

7

Main Street Crossing, Richmond

Key Characteristic: Signalized Urban Road Crossing, Constrained ROW

Option 3: Rail with Trail

Lower Road Corridor*, Richmond
SECTION C3: View looking north adjacent to Summer Ln. (between Main St. and Kimball St.)

DRAFT Concept
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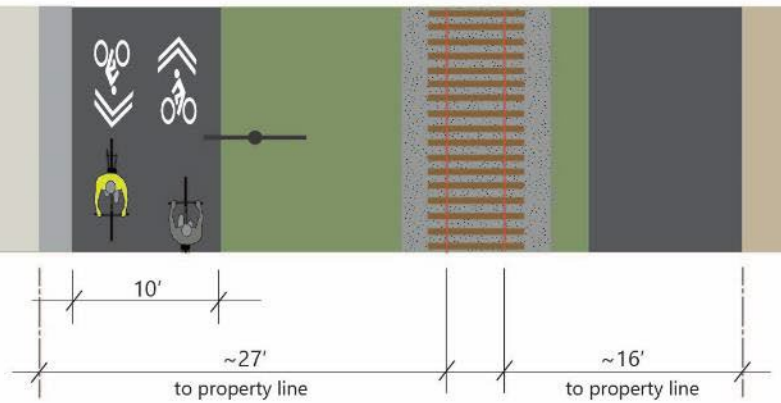

8 Route 24 / River Ave, Gardiner

Image: Nearmap

Facing north

Image: Google Maps

Facing south

Image: Google Maps

Location reference: https://goo.gl/maps/6zRZWb7fRzVtaQyc7 ; https://goo.gl/maps/xPX6saRPrhdWTS8RA

8

Route 24 / River Ave, Gardiner

Key Characteristic: Narrow Corridor between Road and River

Option 1: Restoration of Rail Service

Lower Road Corridor*, Gardiner
SECTION D1: View looking north adjacent to Rt. 24/River Rd. and Kennebec River

DRAFT Concept
For Demonstration Purposes Only

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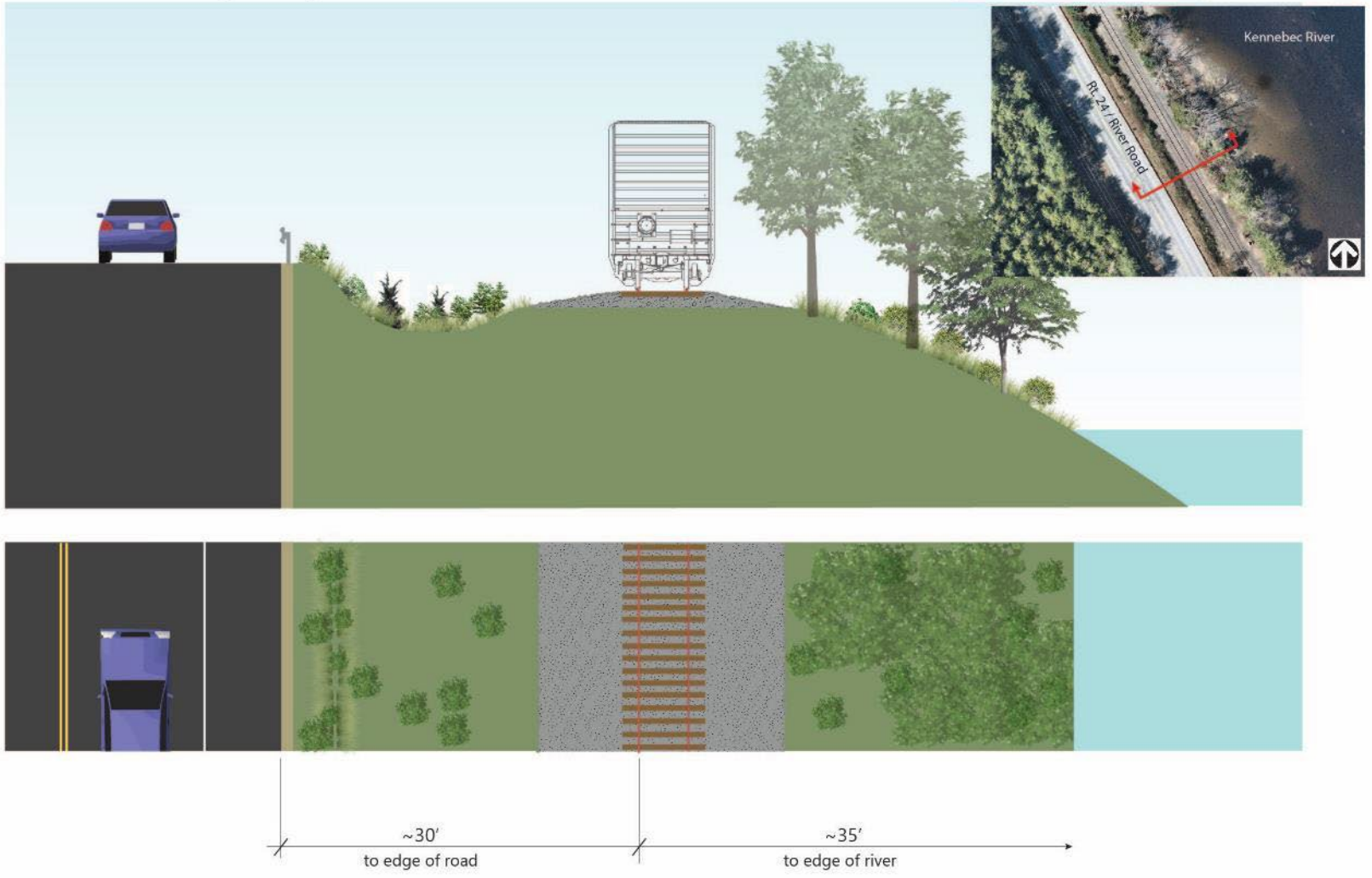

8

Route 24 / River Ave, Gardiner

Key Characteristic: Narrow Corridor between Road and River

Option 2: Trail Until Rail

Lower Road Corridor*, Gardiner
SECTION D2: View looking north adjacent to Rt. 24/River Rd. and Kennebec River

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For Demonstration Purposes Only

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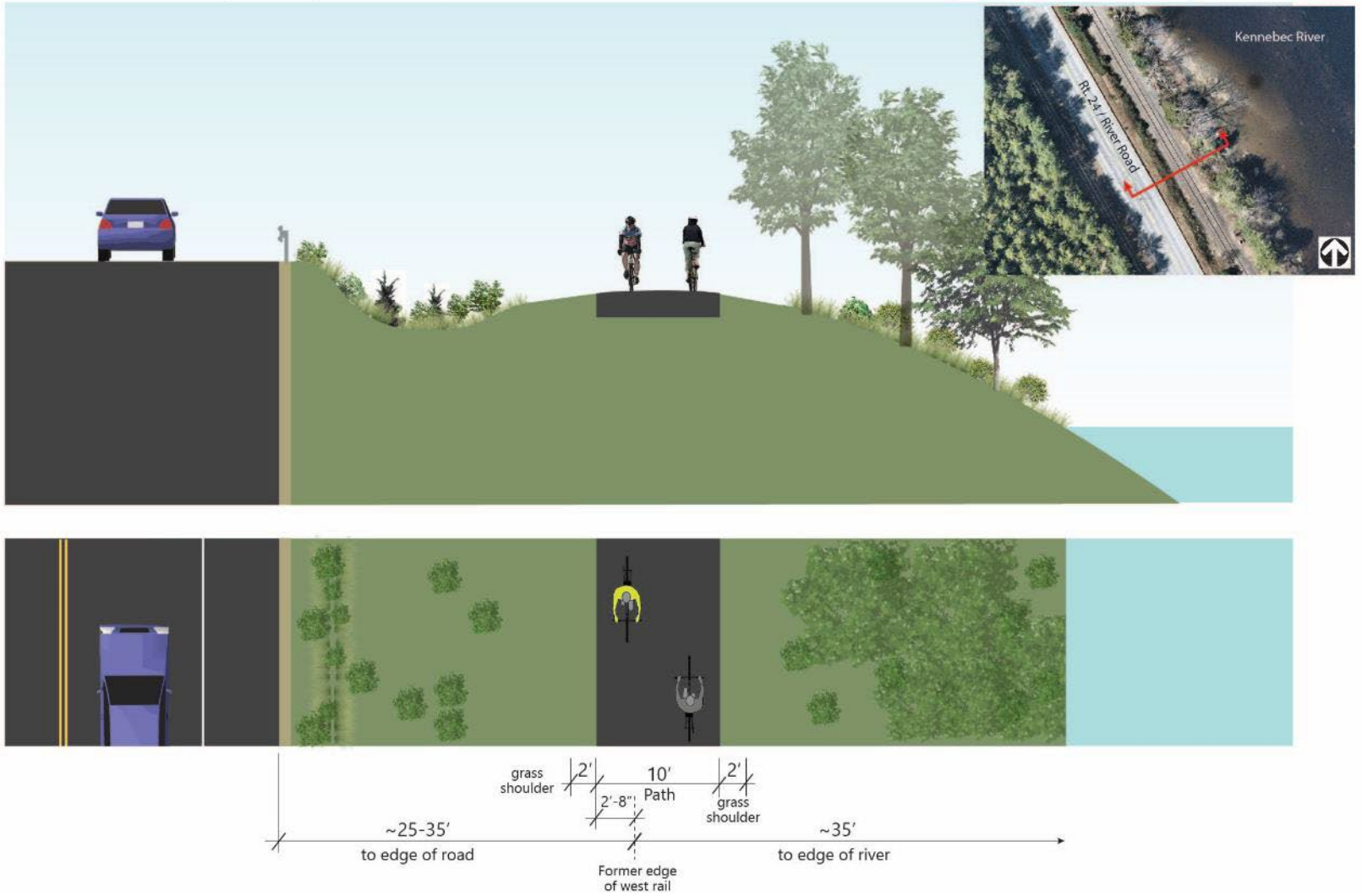

8

Route 24 / River Ave, Gardiner

Key Characteristic: Narrow Corridor between Road and River

Option 3a: Rail with Trail

Lower Road Corridor*, Gardiner
SECTION D3: View looking north adjacent to Rt. 24/River Rd. and Kennebec River

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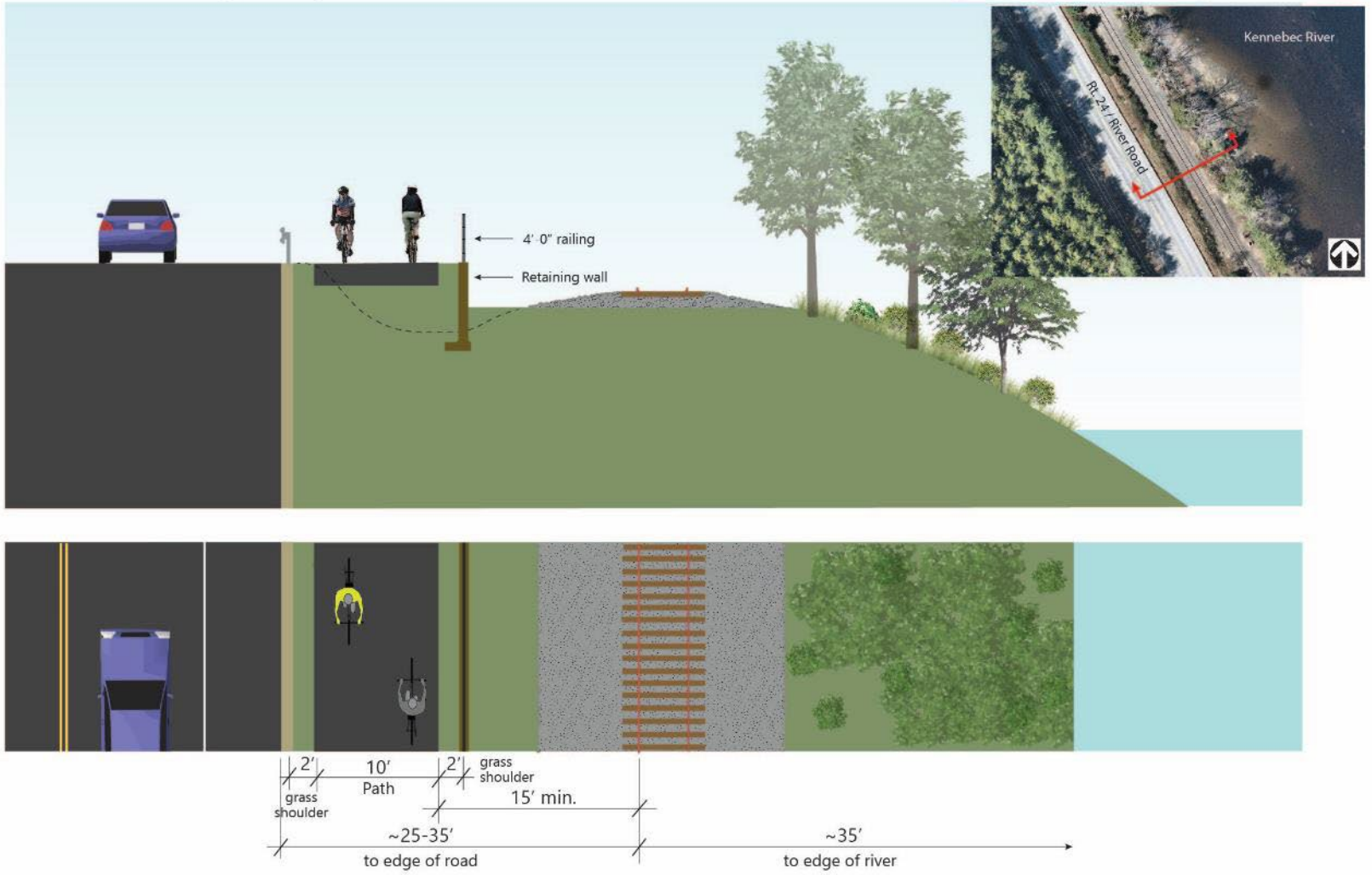

9 Existing Kennebec River Rail Trail, Farmingdale

Key Characteristic: Existing Rail with Trail

Image: Nearmap

Image: Google Maps

Facing south

Image: VHB

Location reference: https://goo.gl/maps/tVu7DMDdbb2B4rkT7

Lower Road Rail Corridor

PRELIMINARY COST ESTIMATES

MaineDOT

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Preliminary Cost Estimates

Order of Magnitude Cost Estimates*

1. Restoration of Rail Service (In Process)
   - Option 1A: Freight Only - Class 1 Track
     - Maximum Authorized Speed (MAS) = 20 mph
   - Option 1B: Passenger Service - Class 3 Track
     - MAS = 60 mph, Passenger / 40 mph, Freight
2. Interim Trail Configuration
3. Rail with Trail Configuration
4. Annual Maintenance Costs

Route 24 / River Road crossing in Bowdoinham

- includes 30% contingency, 10% design, and 15% construction administration

- Preliminary Cost Estimates will NOT include typical track patrol and maintenance activities currently performed by MaineDOT or other maintenance currently performed by non-rail users (considered baseline for RUAC).

Restoration of Freight Service: MP 29.5 to MP 63.0

Key Components/Assumptions

- Single Mainline Track (similar to existing)
  - Maintain to Class 1 conditions (20 mph Freight Only)
  - No mainline signal system
- Tie & Rail Replacement (TBD)
- Track Resurfacing Alignment & Grade (TBD)
- Rehab Roadway at-grade XINGS (select locations)
  - Track/Pavement Surface
  - Install/Upgrade ACHW devices
- Culvert work (minor rehab to total replacement)
- Excludes future siding install/construction costs

View from Gardiner Street crossing in Richmond

Restoration of Freight Service: MP 29.5 to MP 63.0

Route 24 – Bowdoinham (Good Condition)

Browns Point Road – Bowdoinham (Old AHCW Devices

Chestnut St. crossing, Hallowell (Roadway Grade)

Bridge Street / Parking Area – Augusta (Tracks Removed)

1A. Restoration of Freight Service

Cost Estimate

- xxx
  - xxx

	Freight Only Service - LOW	Freight Only Service - HIGH
Total Cost	**x**	**x**

1B. Upgrades for Passenger Service: MP 29.5 to MP 63.0

Key Components/Assumptions

- Operate at Class 3 track conditions
- Double track at select locations (TBD) to allow for operation of multiple train sets
- Tie Replacement (TBD)
- Replace existing jointed rail with CWR
- Install CAB signal system with PTC/ATC
- Rehab all public roadway at-grade XINGS
  - New Track, Pavement, Active ACHW Devices
- Replace Timber Decks at all private/farm XINGS
- Culvert work (minor rehab to total replacement)
- Excludes improvements/costs for passenger station construction

Farm road crossing in Topsham

Restoration of Passenger Service: MP 29.5 to MP 63.0

Route 196 – Topsham (Single Track Bridge)

Center Street– Bowdoinham (Former 2 Track ROW)

Weymouth Road – Richmond (Former Platform & Signal)

Kennebec River Bridge – Augusta (OOS - 1 Track Removed)

1B. Upgrades for Passenger Service

Cost Estimate

- x
  - x

	Passenger Only Service - LOW	Passenger Only Service - HIGH
Total Cost	**x**	**x**

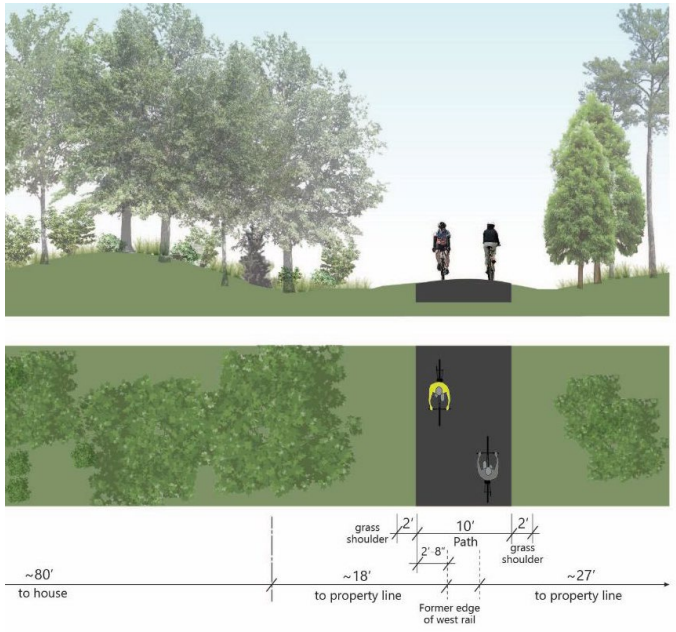
2. Interim Trail *and* 3. Rail with Trail (RWT) Configurations

Cost Estimates Include:

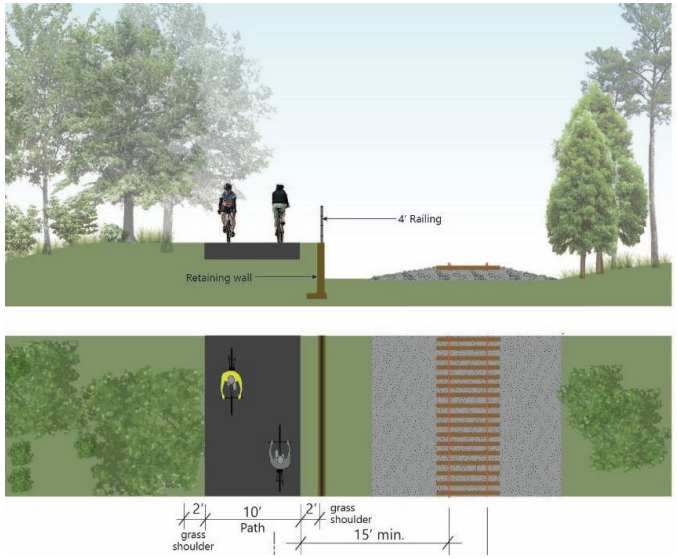
- Trail construction
- Grade crossing upgrades
  - marked crosswalks
  - warning signs, and potential flashing beacons
- Bridge improvements
  - Interim Trail: 23 bridges
  - RWT: 25 bridges

Not Included:

- Environmental mitigation costs
- Parking or other trailhead improvements (e.g., info kiosks)



Interim Trail



Rail with Trail

2. Interim Trail Configuration: MP 29.5-56.3 & 62.3-63.0

Cost Estimating Assumptions

- Trail construction includes:
  - Removal of existing tracks
  - Resurfacing/regrading of ballast
  - Replacement with stonedust/gravel or asphalt pavement trail surface
- Bridge improvements include:
  - New timber trail surface
  - Timber bridge railings

MP 29.5 - 56.3 & 62.3 - 63.0	Stonedust/Gravel Path	Paved Path
Interim Trail	$34,200,000	$42,900,000

3. Rail with Trail Configuration: MP 29.5-56.3 & 62.3-63.0

Cost Estimating Assumptions

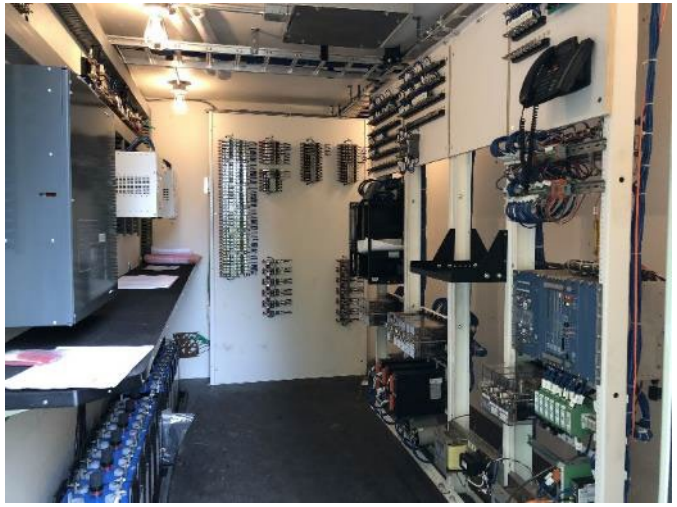
- Trail incorporates min. 15’ offset from the nearest rail
- Retaining walls, etc. used to ensure design stays within state-owned ROW
- Bridge carrying the rail tracks includes new adjacent structure to carry trail
- Roadway bridges over rail corridor to be rebuilt, as needed, to accommodate rail and trail if horizontal clearance is not sufficient
- More detailed feasibility study required to look at on-road bypass of constrained areas
- Restoration of rail service NOT included

MP 29.5 - 56.3 & 62.3 - 63.0	Stonedust/Gravel Path	Paved Path
Interim Trail	$34,200,000	$42,900,000
Rail with Trail	$146,300,000	$151,800,000

4. RAIL: Routine Maintenance Cost Estimates

- Cost includes routine track/signal system inspection and cyclic maintenance
- Track maintenance generally includes:
  - Surfacing
  - Cross tie replacement
  - Grade crossing panel replacement
  - Switch maintenance
  - Brushcutting
- Signal system maintenance generally includes:
  - Correcting signal malfunctions
  - Repairs to crossing safety equipment
  - Upgrades to obsolete components

Tamper for Track Surfacing



Signal Bungalow Interior

4. RAIL: Routine Maintenance Cost Estimates

	Annual Cost (per Track Mile)	Annual Cost (33.5-mile corridor)
Freight Service	$82,000	$2,747,000
Passenger Service	$90,000	$3,015,000

NOTES:

- Costs are based on maintenance of similar services in New England
- Higher cost for passenger service is due to additional signal system requirements

4. TRAIL: Routine Maintenance Cost Estimates

	Annual Cost (per mile)	Annual Cost (26.8-mile corridor)
Gravel Path	$3,500 - $5,500	$93,800 - $147,400
Paved Path	$3,000 - $5,000	$80,400 - $134,000

NOTES:

- Maintenance costs can vary widely depending on context, trail design, and seasonal conditions
- Estimated costs are based on 2015 study by the Rail to Trails Conservancy and Pennsylvania Dept. of Conservation and Natural Resources
- MaineDOT policy for other trails across the state typically have agreements with local municipalities or non-profit entities to fund maintenance of the trail

RUAC Support Study Next Steps

- Restoration of rail service options: cost estimates
- On-going assessment of existing corridor conditions
- High-level environmental assessment
- Analysis of economic benefits
  - Demographics of potential trail users
  - Economic impacts of restoration of rail service (construction jobs, economic output, use of rail compared to other freight modes)
  - Real estate impact of rail service and/or new trail
  - Tourism impacts

Rail with Trail segment in Farmingdale