

**MaineDOT**

**Mountain Division Feasibility Study**

**Mountain Division Rail Corridor Use Advisory Council**

**March 31, 2022**

# MOUNTAIN DIVISION



Rail Only

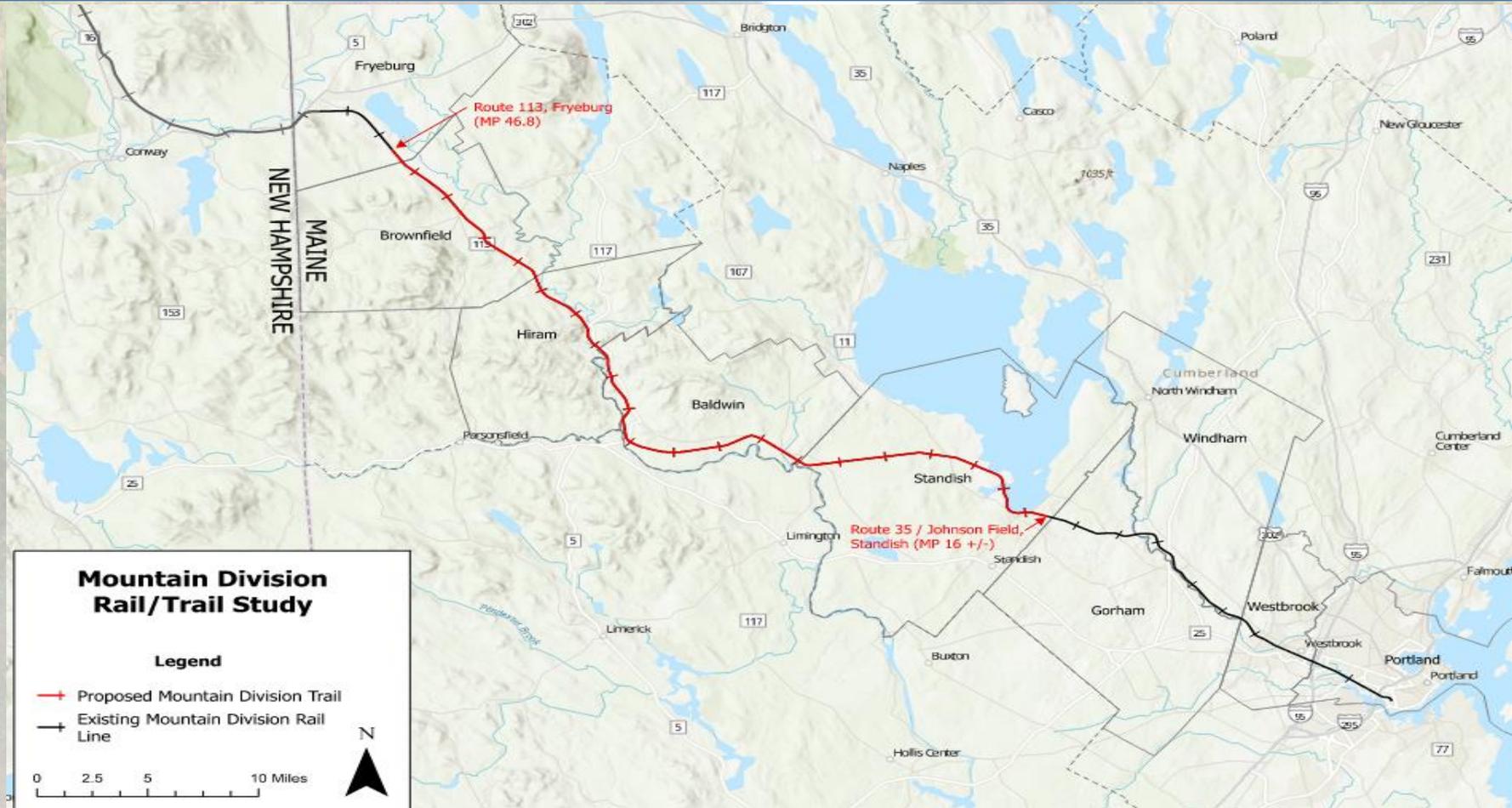


Trail Only



Rail with Trail

# MOUNTAIN DIVISION MAP



## Mountain Division Rail/Trail Study

### Legend

- + Proposed Mountain Division Trail
- + Existing Mountain Division Rail Line

0 2.5 5 10 Miles



# COST ESTIMATES

Table 1-1  
Conceptual Cost Estimate Summary

No.	Potential Use	Total Cost
<b>Rail Use</b>		
1A	Rail (Class 1)	\$ 52,400,000
1B	Rail (Class 2)	\$ 60,100,000
<b>Trail Only Use</b>		
2A	Trail (Paved)	\$ 20,100,000
2B	Trail (Stone Dust)	\$ 16,900,000
<b>Rail with Trail Use</b>		
3A	Rail (Class 1) with Trail (Paved)	\$ 138,100,000
3B	Rail (Class 1) with Trail (Stone Dust)	\$ 134,800,000
3C	Rail (Class 2) with Trail (Paved)	\$ 145,800,000
3D	Rail (Class 2) with Trail (Stone Dust)	\$ 142,500,000

# RAIL USE

## → Rail Use Options:

- Class 1
- Class 2

MAXIMUM ALLOWABLE SPEEDS  
EXCEPTED TRACK TO FRA CLASS 5

FRA CLASS	FREIGHT	PASSENGER
Excepted	10 MPH	Not Allowed
Class 1	10 MPH	15 MPH
Class 2	25 MPH	30 MPH
Class 3	40 MPH	60 MPH
Class 4	60 MPH	80 MPH
Class 5	80 MPH	90 MPH



# TRACK AND ROADBED

## → Current Conditions

- Rail (85 Lb)
- Fouled Ballast
- Timber Crossties
- Roadway Grade Crossings
- Bridge Decks

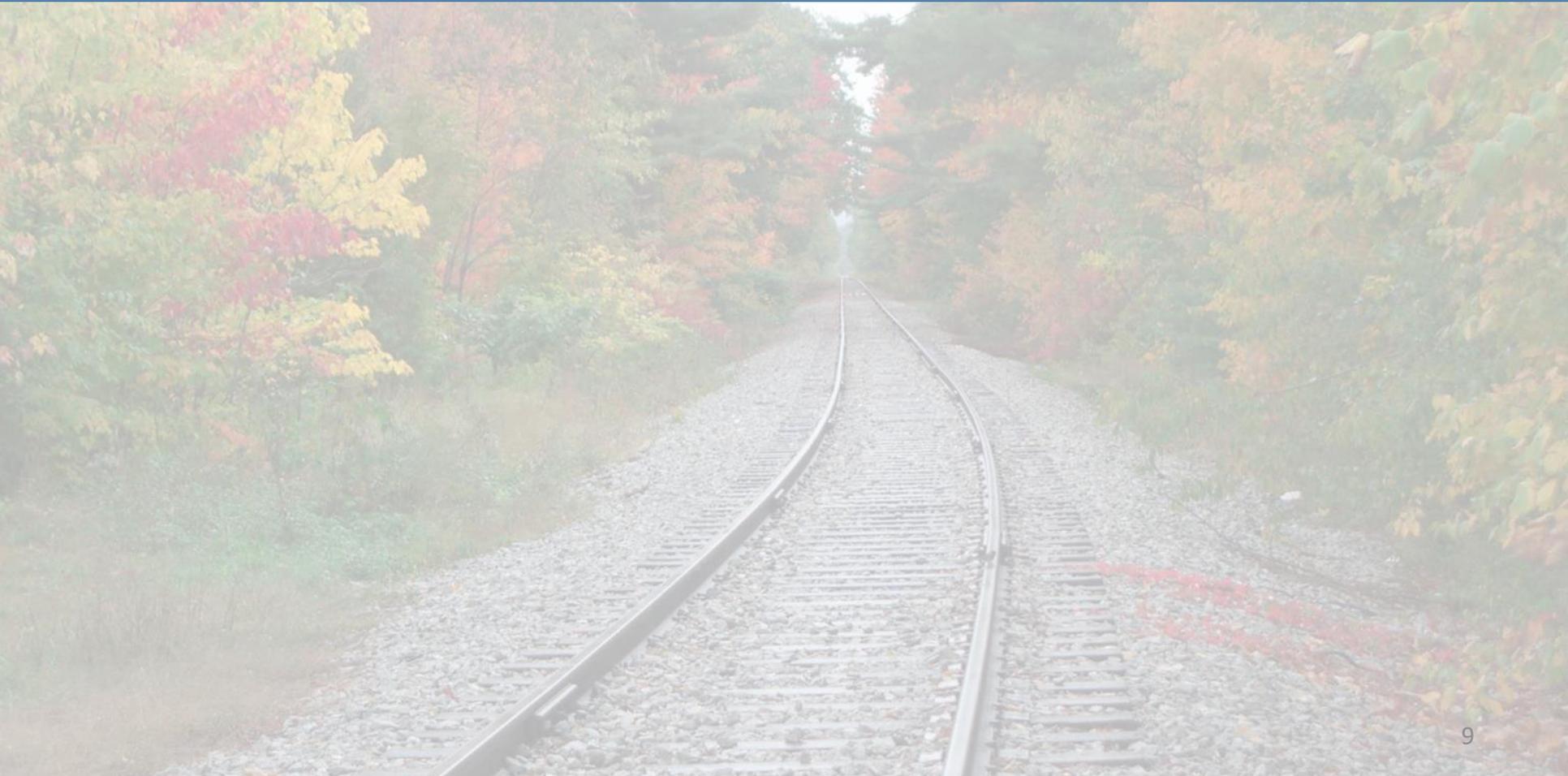




# RAIL BENEFITS SUMMARY

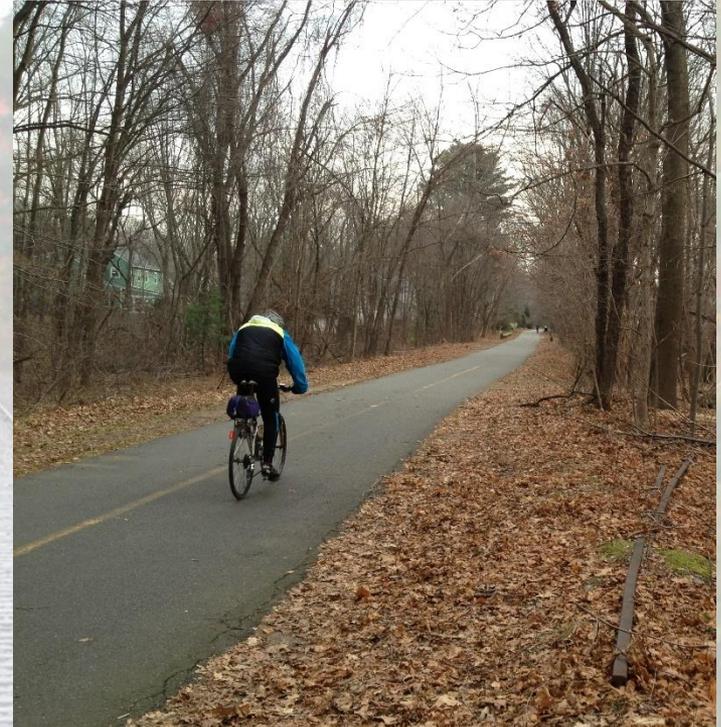


- Job Creation
  - Railroad Employees
  - Other Businesses
- Lower Shipping Costs
- Truck Traffic Reduction
  - Improved Air Quality
  - Reduced Highway Maintenance Costs



# TRAIL USE

- Trail Description
  - Typical Section
  - Jeep trail to Otter Ponds

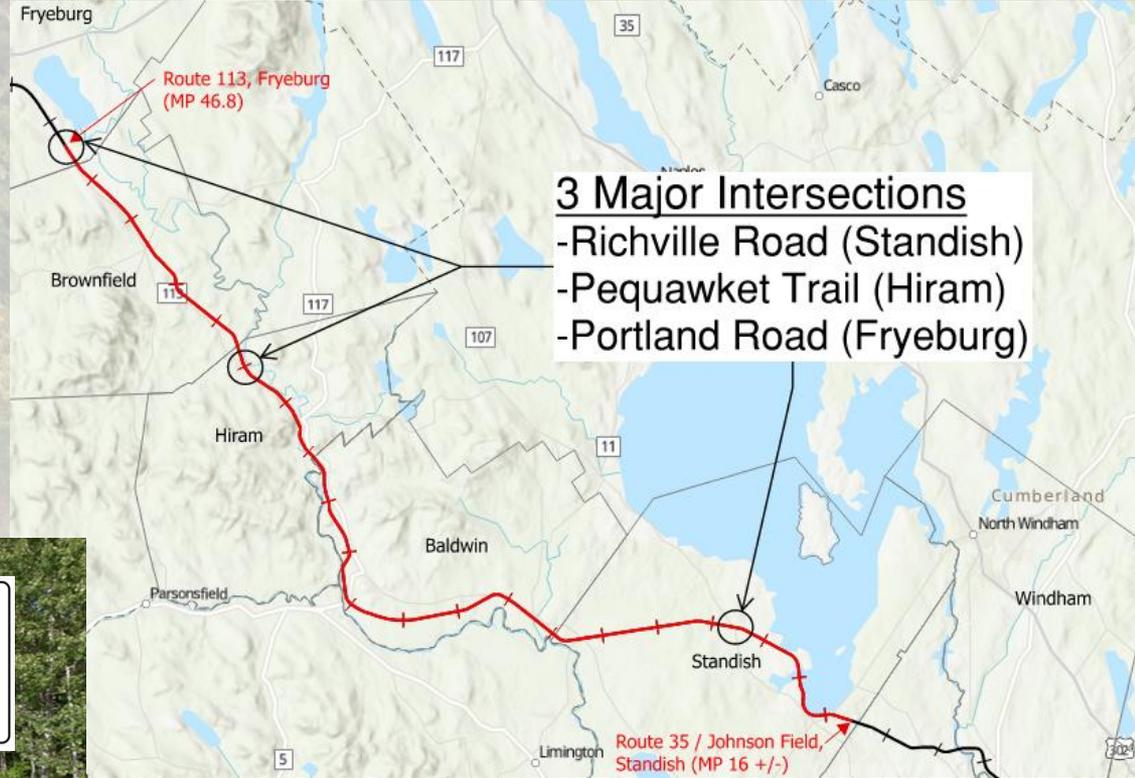


# TRAIL USE

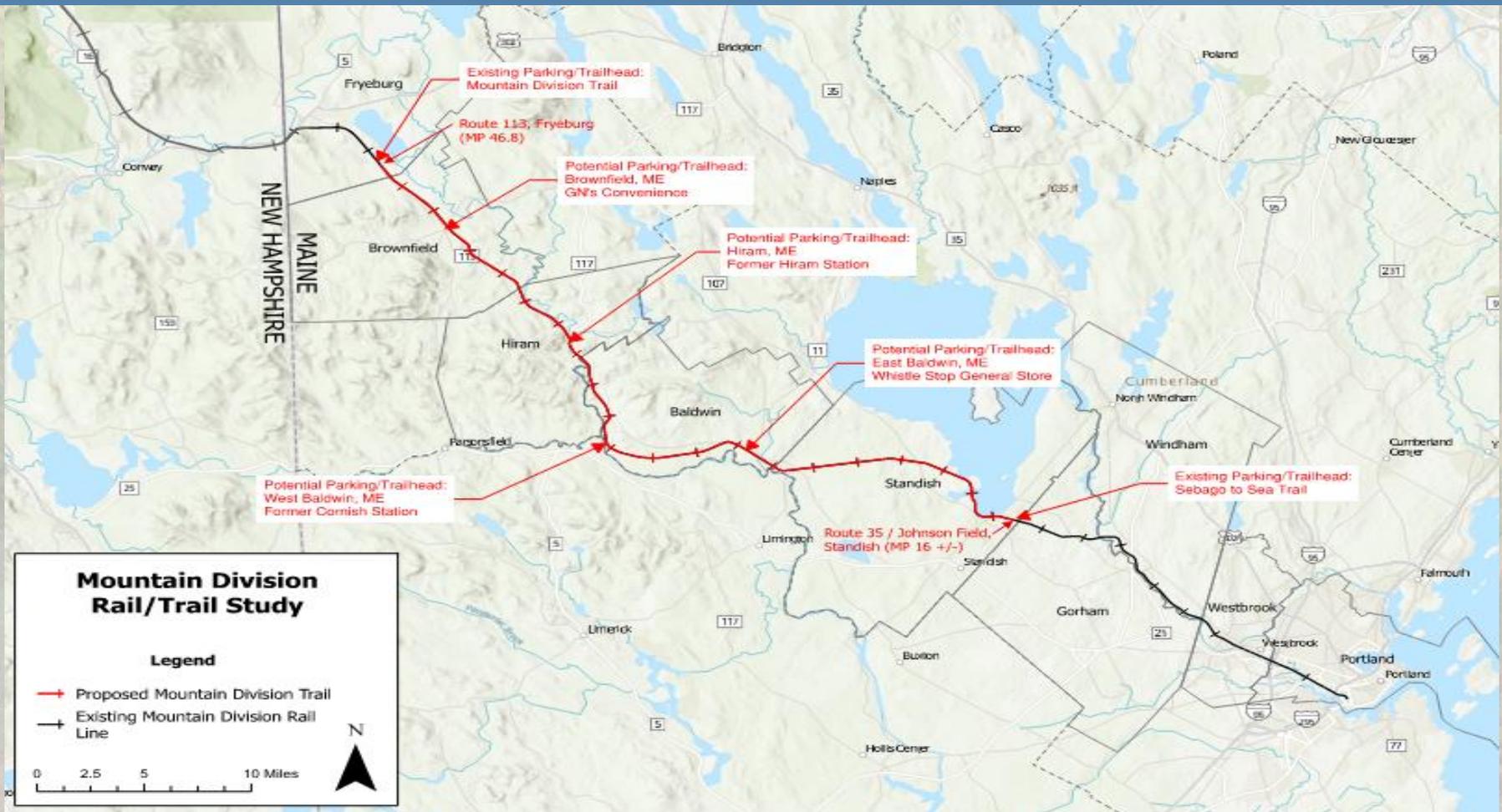
- Constraints

- Roadway Grade Crossings

- Major => 45 mph
    - Minor <45 mph



# PARKING/TRAILHEAD LOCATIONS



# TRAIL USE

- Cost Estimate
  - Stone Dust
  - Paved

## 2A. Trail Use - Paved

Item No.	DESCRIPTION	TOTAL
1	Pave Jeep Trail	\$180,000
2	Common Excavation	\$2,145,207
3	Trail Base (Gravel)	\$2,798,097
4	Trail Surface (Paved)	\$4,041,695
5	Minor Roadway Crossings	\$230,000
6	Major Roadway Crossings	\$1,200,000
7	Bridge Modifications	\$1,610,000
8	Cost to Remove and Salvage Track	\$1,800,000

## 2B. Trail Use - Stone Dust

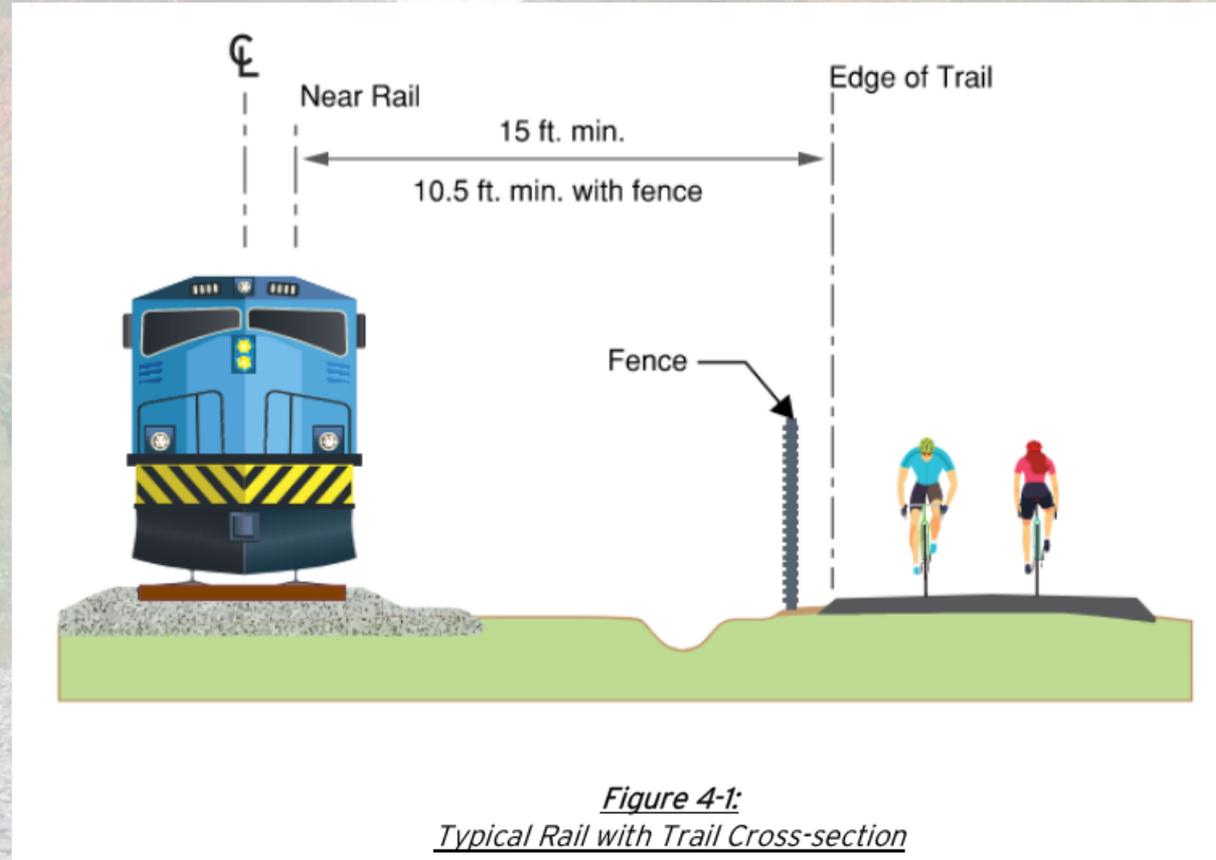
Item No.	DESCRIPTION	TOTAL
1	Pave Jeep Trail	\$180,000
2	Common Excavation	\$2,145,207
3	Trail Base (Gravel)	\$2,798,097
4	Trail Surface (Stone Dust)	\$1,787,673
5	Minor Roadway Crossings	\$230,000
6	Major Roadway Crossings	\$1,200,000
7	Bridge Modifications	\$1,610,000
8	Cost to Remove and Salvage Track	\$1,800,000
<b>Construction Subtotal:</b>		<b>\$11,750,977</b>
Contingency (30%):		\$3,525,293
<b>Construction Total:</b>		<b>\$15,276,270</b>
Design Engineering (6%):		\$916,576
Construction Mgmt. and Engineering (4%):		\$611,051
<b>Subtotal:</b>		<b>\$16,803,897</b>
Round Up		
<b>TOTAL:</b>		<b>\$16,900,000</b>

<b>Construction Subtotal:</b>		<b>\$14,004,999</b>
Contingency (30%):		\$4,201,500
<b>Construction Total:</b>		<b>\$18,206,499</b>
Design Engineering (6%):		\$1,092,390
Construction Mgmt. and Engineering (4%):		\$728,260
<b>Subtotal:</b>		<b>\$20,027,149</b>
Round Up		
<b>TOTAL:</b>		<b>\$20,100,000</b>



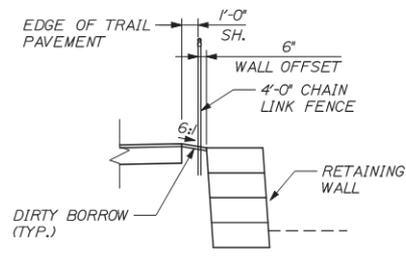
# RAIL WITH TRAIL USE

- Trail Description
  - Typical Section

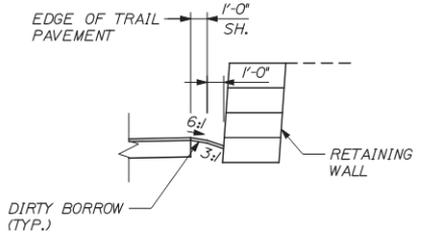


# RAIL WITH TRAIL USE

- Constraints
  - Embankment Widening
  - Water crossings



TYPICAL SECTION  
EXTERIOR FENCE AND  
RETAINING WALL IN FILL



TYPICAL SECTION  
RETAINING WALL IN CUT

# RAIL WITH TRAIL USE

- Cost Estimate
  - Stone Dust
  - Paved

## 3A/3C. Rail with Trail Use - Paved

Item No.	DESCRIPTION	TOTAL
1	Trail Constrained (15%)	\$23,410,741
2	Trail Unconstrained (85%)	\$28,012,056
3	Pave Jeep Trail	\$180,000
4	Trail Surface (Paved 2")	\$4,041,695
5	Minor Roadway Crossings	\$230,000
6	Major Roadway Crossings	\$1,200,000
7	Bridge Modifications	\$2,800,000

**Construction Subtotal:** \$59,874,492

Contingency (30%): \$17,962,348

**Construction Total:** \$77,836,840

Design Engineering (6%): \$4,670,210

Construction Mgmt. and Engineering (4%): \$3,113,474

**Subtotal:** \$85,620,524

Round Up

**TOTAL:** \$85,700,000

<b>Construction Subtotal:</b>		\$59,874,492
Contingency (30%):		\$17,962,348
<b>Construction Total:</b>		\$77,836,840
Design Engineering (6%):		\$4,670,210
Construction Mgmt. and Engineering (4%):		\$3,113,474
<b>Subtotal:</b>		\$85,620,524
Round Up		
<b>TOTAL:</b>		\$85,700,000



## 3B/3D. Rail with Trail Use - Stone Dust

Item No.	DESCRIPTION	TOTAL
1	Trail Constrained (15%)	\$23,410,741
2	Trail Unconstrained (85%)	\$28,012,056
3	Pave Jeep Trail	\$180,000
4	Trail Surface (Stone Dust 4")	\$1,787,673
5	Minor Roadway Crossings	\$230,000
6	Major Roadway Crossings	\$1,200,000
7	Bridge Modifications	\$2,800,000

**Construction Subtotal:** \$57,620,470

Contingency (30%): \$17,286,141

**Construction Total:** \$74,906,611

Design Engineering (6%): \$4,494,397

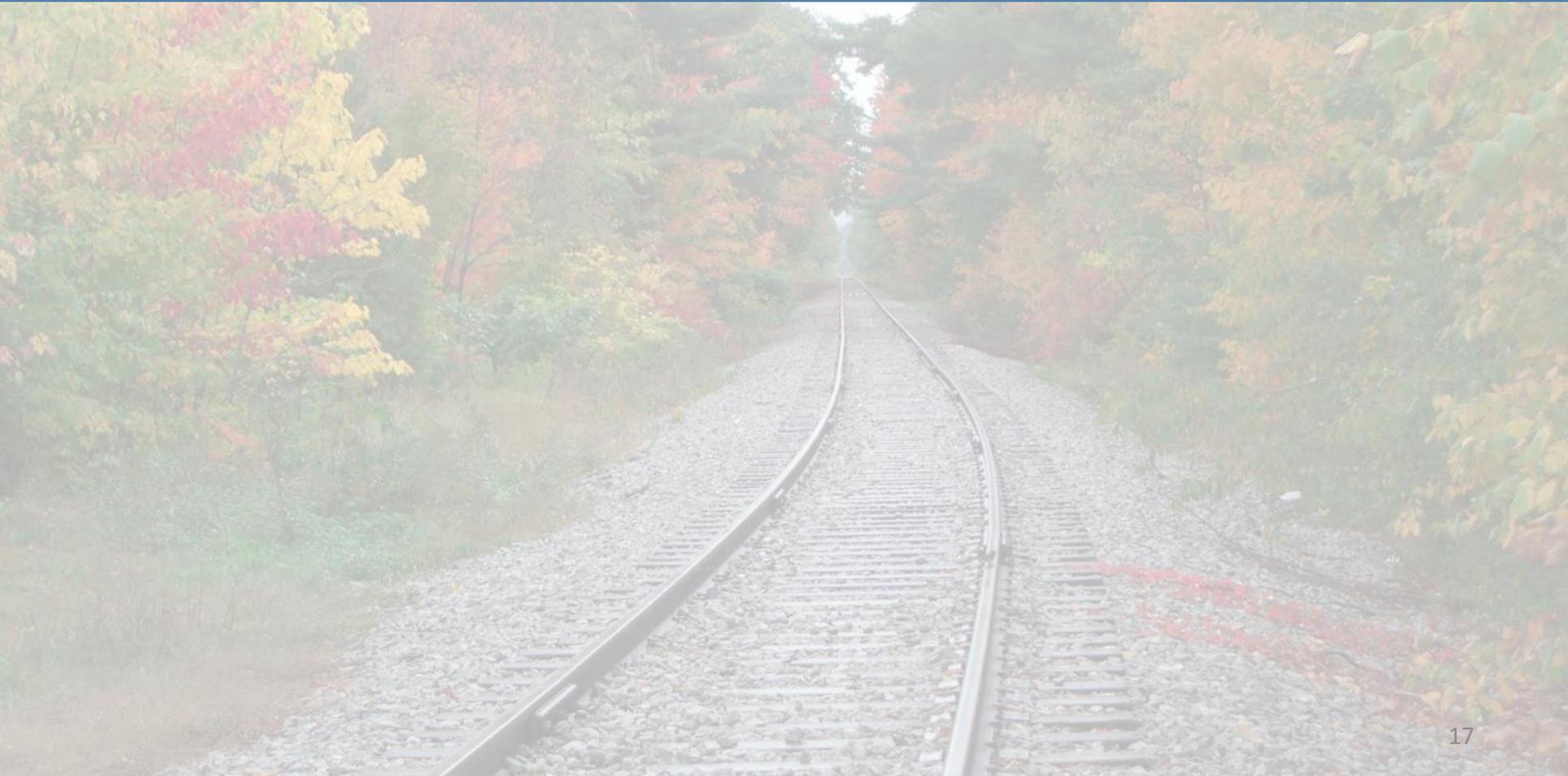
Construction Mgmt. and Engineering (4%): \$2,996,264

**Subtotal:** \$82,397,272

Round Up

**TOTAL:** \$82,400,000

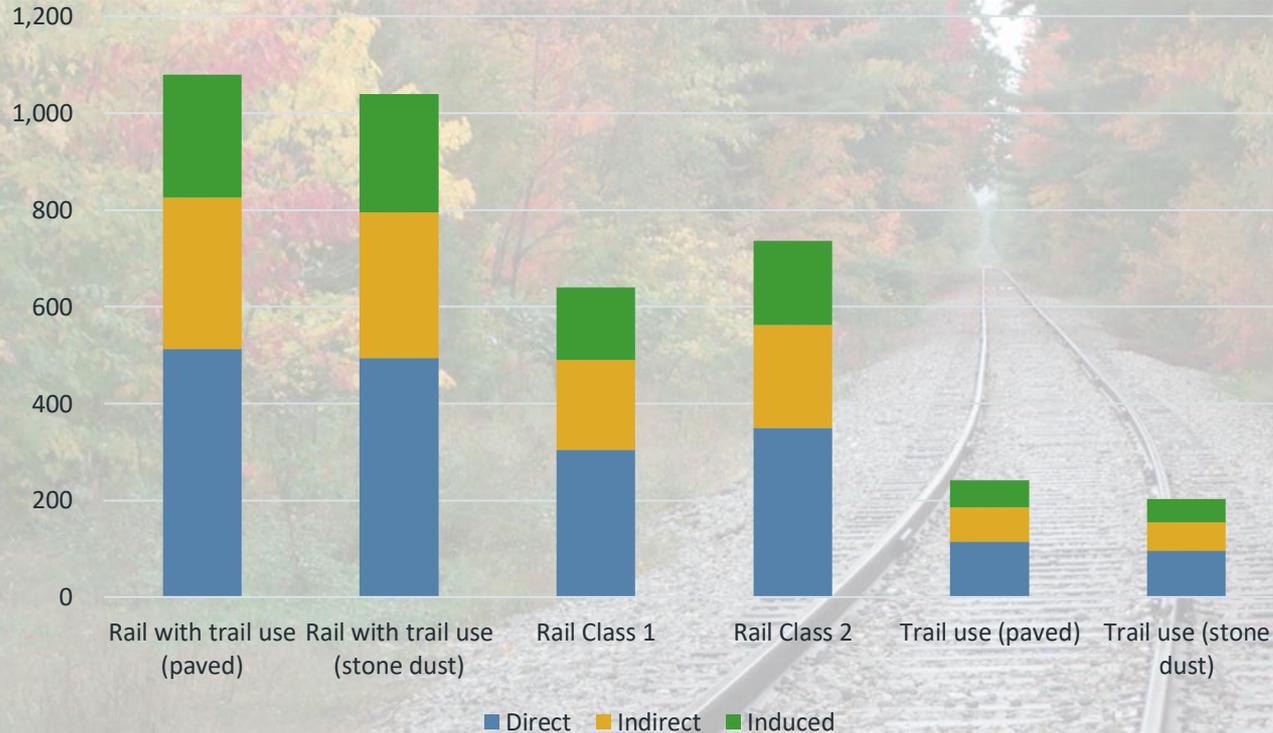
<b>Construction Subtotal:</b>		\$57,620,470
Contingency (30%):		\$17,286,141
<b>Construction Total:</b>		\$74,906,611
Design Engineering (6%):		\$4,494,397
Construction Mgmt. and Engineering (4%):		\$2,996,264
<b>Subtotal:</b>		\$82,397,272
Round Up		
<b>TOTAL:</b>		\$82,400,000



# ECONOMIC BENEFITS ASSOCIATED WITH TRAIL USE AND CONSTRUCTION

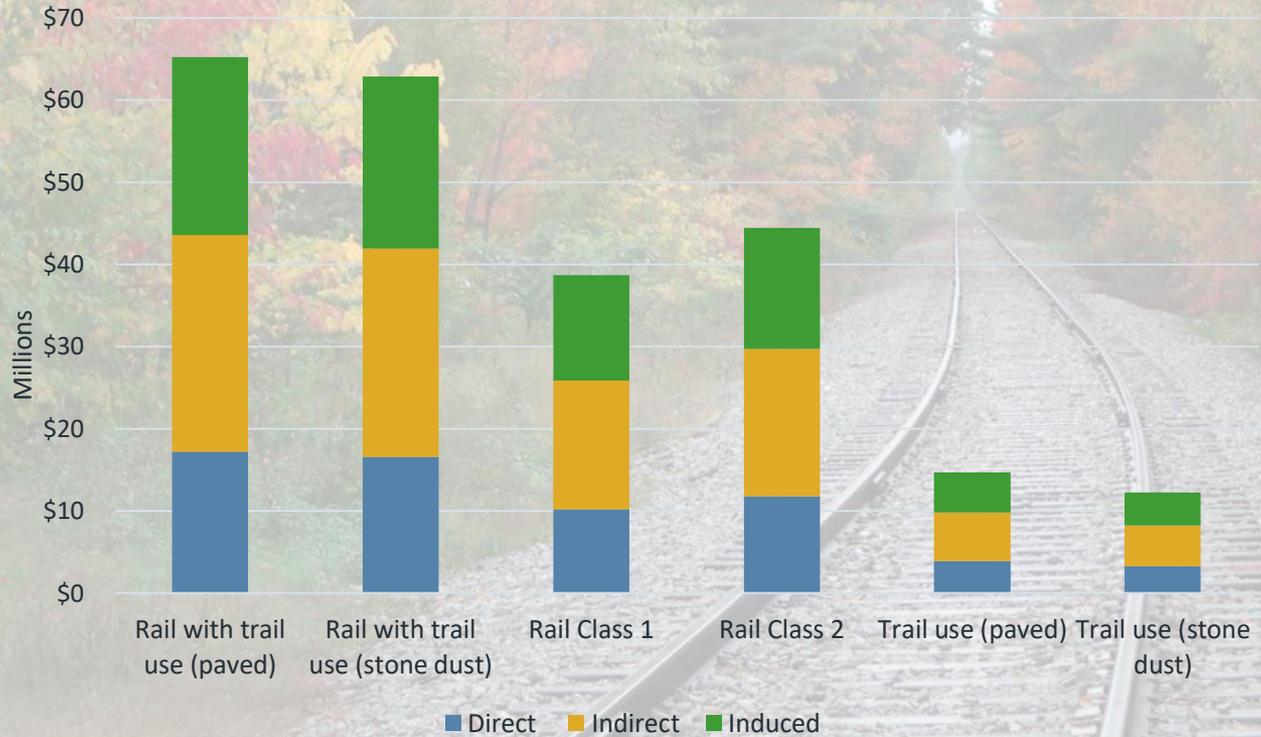
- **Economic Benefits of Trail Construction**
  - Jobs, revenue, and supply chain impacts associated with (temporary) construction activity
- **Economic Benefits of Trail Use**
  - Property value increases
  - Visitor spending
  - Health benefits
  - Direct use benefits
  - Other possible benefits

# EMPLOYMENT IMPACTS SUPPORTED BY SIX ALTERNATIVES (CONSTRUCTION PHASE)



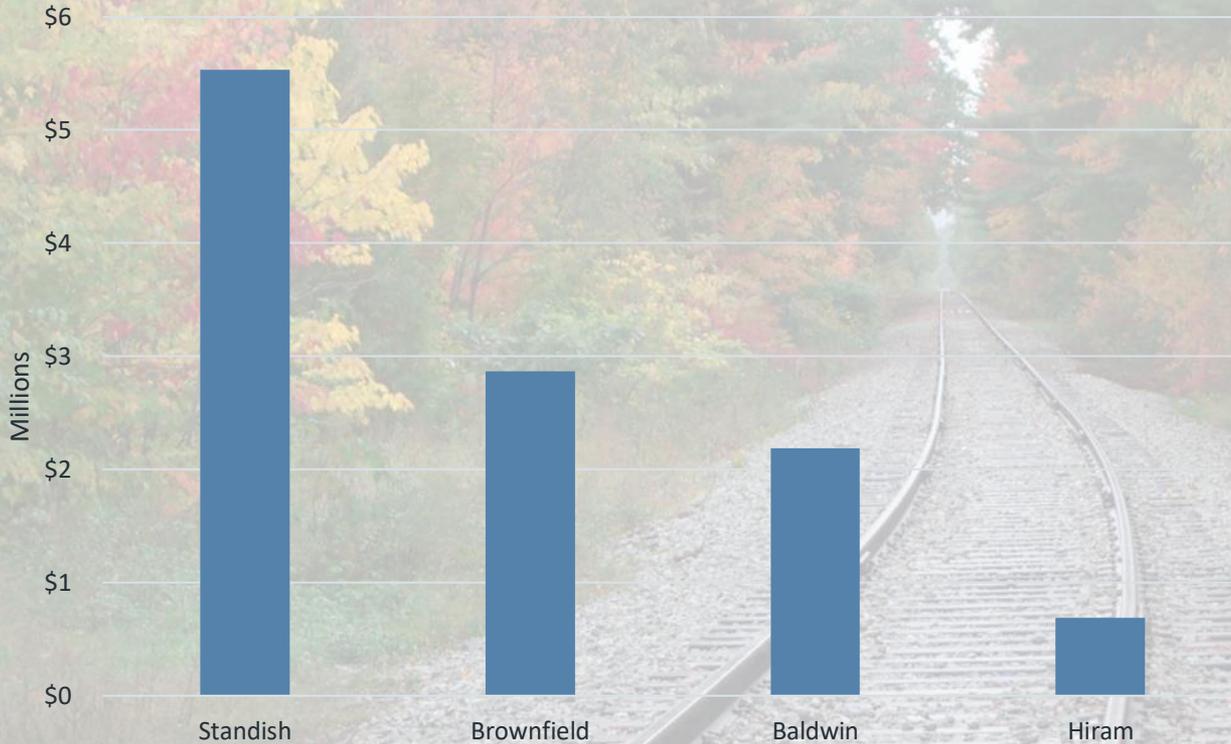
- Note that employment includes both full time and part time.
- Employment is during construction phase only.
- Jobs “supported by” rather than “created by” activity.

# VALUE ADDED (GRP) SUPPORTED BY SIX ALTERNATIVES (CONSTRUCTION PHASE)



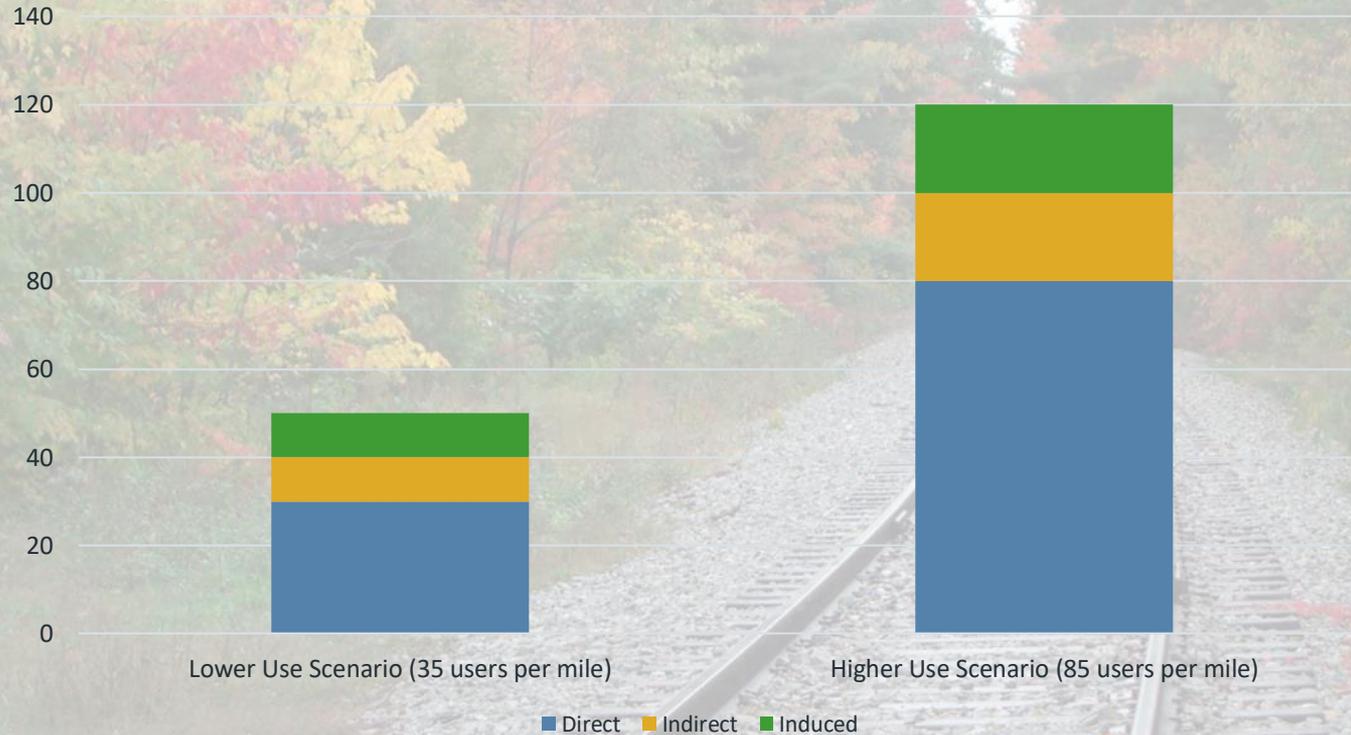
- Value added is the value of total output – value of intermediate inputs.
- It is essentially Gross Regional Product (GRP, similar to GDP).

# ESTIMATED INCREASE IN RESIDENTIAL PROPERTY VALUES



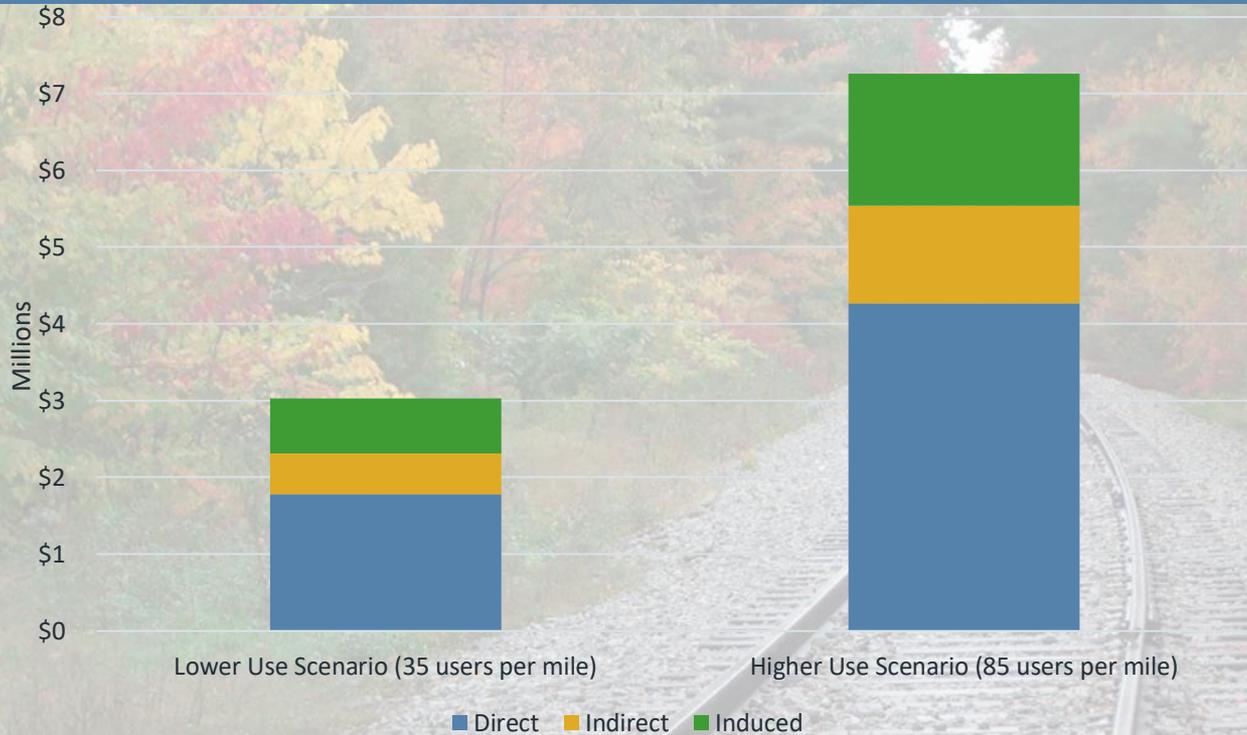
- Assumed that residential properties within  $\frac{1}{2}$  mile of the trail would increase by 4.1% once trail is complete.
- Note that the configuration and uses of the trail may affect that.

# ESTIMATED EMPLOYMENT ASSOCIATED WITH NEW TRAIL VISITS



- Existing portions of the MDRT have 35 users per mile (Gorham) and 85 users per mile (Fryeburg).
- We then looked at the number of new trail visits and multiplied that by the typical trail user spending pattern.

# ESTIMATED VALUE ADDED (GRP) ASSOCIATED WITH NEW TRAIL VISITS



- The previous slide showed employment associated with net new trail visits.
- This slide shows value added associated with net new trail visits.

# OTHER ECONOMIC BENEFITS ASSOCIATED WITH TRAIL USE

- **Recreational Use Value:** \$2.2 million annually associated with new usage (“consumer surplus”).
- **Health Benefits:** Inactive and insufficiently active adults incur approx. \$1,700 and \$850 (respectively) in annual increased health care costs. Proximity to a trail could result in increased activity, leading to decreased health care costs.
- **Climate Change Benefits (if used for commuting).**
- **Employee Retention/Satisfaction.**



QUESTIONS?