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## **MOUNTAIN DIVISION RAIL STUDY**

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### **EXECUTIVE SUMMARY ONLY**

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Maine Department of Transportation Office of Freight Transportation

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Prepared by: HNTB Corporation

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DECEMBER, 2007



## I. INTRODUCTION

The purpose of this Report is to investigate the present condition, potential use of and probable implementation costs for freight and/or passenger services on the 50 mile Mountain Division Rail Corridor within Maine and a 10 mile segment within New Hampshire, to Intervale, within the town of Conway. The essential findings of the Report and summaries of potential implementation costs are included in this summary.

## II. HISTORICAL CONTEXT

The Mountain Division name came to be in the early years of the 20th century when the railroad came under the control of the Maine Central Railroad. Prior to that time, the Mountain Division was known as the Portland and Ogdensburg Railroad, chartered in Maine in 1867 with construction starting in 1869. The original concept of the P&O was never fully realized. Insufficient funds, other railroads that blocked completion of key sections in northwestern Vermont and across the northern reaches of Lake Champlain, and the fact that Ogdensburg never became a major port; all conspired against realization of the ambitious plan. The route did exist, but never under the control of a single carrier.

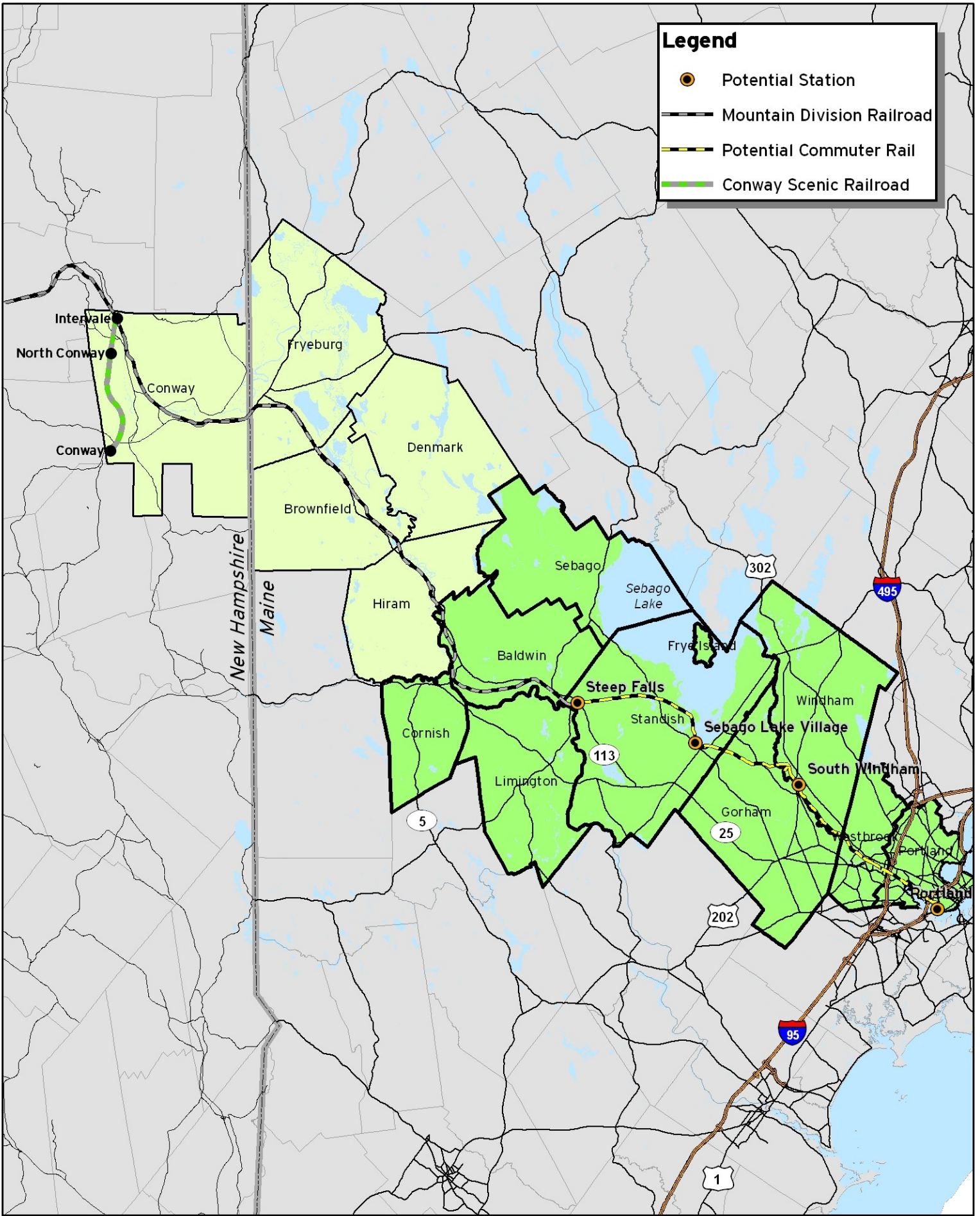
By the early part of the 20<sup>th</sup> century, the expanding Maine Central Railroad absorbed the P&O between Portland and St. Johnsbury, Vermont, a distance of 131 miles, together with a line branching north from Whitefield, New Hampshire deep into Quebec. At St. Johnsbury, the Maine Central connected to the St. Johnsbury and Lake Champlain RR west across the top of Vermont (a piece of the original P&O concept) and a north-south route of the Canadian Pacific RR. The Canadian Pacific had leased this line from the Boston & Maine in 1926 with purchase in 1946. The CP line north out of St. Johnsbury turns west after exiting the top of Vermont, passes through Montreal and then west with connections back into the U. S. in the Detroit area. History now informs us that the CP route was the major outlet for the Mountain Division freight traffic, not the original conceived route west from St. J.

The Mountain Division from Portland to St. Johnsbury seems to purposely avoid any major population or industrial centers. As a result, there never was significant freight or passenger traffic<sup>1</sup> generated along the line. Instead, the Mountain Division functioned mostly as what is known as a “bridge” or “overhead” route for freight traffic in and out of Maine to the U. S. Midwest. Volume levels of this overhead traffic actually increased over time reaching a peak in the 1970’s and holding up fairly well to 1982, the last full year of operation of the Mountain Division. The relatively high volume (about 16% of total Maine Central carloads in 1972) of overhead traffic using this difficult route was due mostly to two factors:

1. The Maine Central got a longer haul and better division of revenue on cars routed this way rather than interchanging to the Boston & Maine at South Portland (Rigby Yard).

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<sup>1</sup> Except during the last half of the 19<sup>th</sup> century and early 20<sup>th</sup> century when in summer, large numbers of patrons came to and from the White Mountain resort hotels on passenger trains.



**Legend**

- Potential Station
- Mountain Division Railroad
- Potential Commuter Rail
- Conway Scenic Railroad



**Mountain Division Railroad Corridor and Potential Commuter Shed**

2. For many years, there existed a “Canadian Differential”; that is a lower cost freight charge on some volume of rail freight moving in and out of Canada. So Maine shippers enjoyed a lower freight rate using this slower route to and from the U. S. Midwest via Canada.

Local freight traffic along the line was always very minimal, the exception being the Portland/Westbrook end, a small paper mill in Gilman, Vermont and interchange to the Boston & Maine Railroad at Whitefield, mostly for traffic to and from the paper mills at Berlin and Groveton.

From the mid 1940’s till the end of passenger service in April of 1958, passenger service was limited to a single round trip from Portland to St. Johnsbury, daily except Sunday. These were trains 162 & 163, generally consisting of a baggage/mail car or two and a single coach. These two trains were supplemented by seasonal trains of the Boston & Maine entering the Mountain Division at Intervale in Conway and Whitefield.

When Pan Am Railway (formerly Guilford) acquired the Maine Central in 1981 and the Boston & Maine in 1983, the Mountain Division’s viability as through route ceased because the combined railroad had a longer haul staying on the B&M rather than the Mountain Division routing. Since it was a very difficult railroad to operate and maintain and with little on-line traffic, Guilford had no incentive to maintain the scenic but difficult passage. The Canadian Pacific interchange point was changed from St. Johnsbury to Mattawamkeag, Maine and 114 years of Mountain Division railroading came to an end.

### **III. CURRENT STATUS AND USE OF THE MOUNTAIN DIVISION**

Currently, the 22 miles in Vermont is in place but overgrown. In New Hampshire, most of the line is cleared and from Whitefield to Redstone (46 miles), just south of North Conway, in service and used to varying degrees by the Conway Scenic Railroad under a lease from the State of New Hampshire. There is a 5 mile segment in New Hampshire, from Redstone to the Maine border, that is not cleared but the tracks are still in place. In Maine, the 40 miles from the state line at Fryeburg to South Windham is cleared and the tracks in place with minimal but important maintenance performed by MEDOT. The grade crossings on the MEDOT owned track are mostly paved over. The last 10 miles from South Windham to Portland are owned by Pan Am Railway. About 4 ½ miles of the track has been removed into Westbrook and from there into Portland in use by Pan Am Railway to access the Sappi paper mill in Westbrook. The Amtrak Downeaster trains use the first half mile or so in Portland to reach the Transportation Center located long the Mountain Division tracks. Currently, MEDOT is negotiating purchase of the unused segment between South Windham and Westbrook, about 5 miles.

### **IV EXISTING CONDITION OF RAILROAD - PORTLAND TO NORTH CONWAY (60 miles)**

#### **A. Track and Roadbed**

The condition of the railroad was assessed through a hi-rail trip of 40 miles of cleared track in Maine and walking inspections of limited but representative segments in New Hampshire and Maine. From those inspections the work program required to bring the Railroad up to three different levels of

improvement on a mile by mile basis was developed. The three levels of improvement relate to track conditions defined by the Federal Railroad Administration (FRA), noted as FRA Class 1, 2 and 3. Those classes correlate to the condition of the track structure in terms of number of good ties per rail length, good tie spacing at rail joints, track surface and alignment tolerances (how smooth and how straight are the rails) and a number of other factors that allows the track to operate at certain speeds shown in Table E-1.

TABLE E-1  
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

Operation of passenger trains above 59 MPH requires that a complete signal system be in place. Since that is not anticipated, at least in initial operations on the Mountain Division, upgrading to a classification higher than Class 3 was not considered nor necessary.

Excepted track is in very poor condition with other restrictions on operation in addition to the speed and no passenger operation is allowed as noted in the table.

The condition of the timber cross ties is the most noticeable deficiency on most of the Mountain Division, along with lack of stone ballast in many areas. The roadway crossings are paved over and the bridge decks (the large bridge timbers and other wooden components that lie between the bridge steel and the rails) are in generally poor condition. The existing rail is relatively light 85 lb per yard material but is in generally good condition, sufficient for a Class 1 and 2 track condition but not for Class 3. Class 3 is generally required for passenger operations and would require new 115 lb per yard rail and other track material such as tie plates, joint bars and rail anchors.

The estimated cost to upgrade the main track for the 50 miles in Maine and the 10 miles in New Hampshire for the three FRA track classifications would be:

TABLE E-2  
SUMMARY OF COST TO UPGRADE  
MAIN LINE TRACK BY CLASS

FRA CLASS.	MAINE	NEW HAMPSHIRE	TOTAL
1	\$17,676,000	\$2,164,000	\$19,840,000
2	\$19,825,000	\$3,057,000	\$22,882,000
3	\$41,934,000	\$7,526,000	\$49,460,000

(All costs in 2007 dollars)

## B. Bridges and Major Culverts

A cursory, visual inspection of the 19 bridges and 3 of the 9 major culverts on the 60 miles was undertaken over a two day period in September, 2007. The inspection revealed that the bridges are typically in good condition. Some of the stone bridge abutments show signs of movement with some stones missing. The bridges should be steam cleaned, repairs made to the stone abutments and other

minor repairs. The timber bridge decks need to be completely replaced, together with the entire track approach structure on both ends of all bridges. The estimated cost for the bridge repairs is about \$750,000 and the bridge deck replacement is estimated at \$1,630,000. Those costs are included in Table E-2.

## V. FREIGHT OPPORTUNITIES

A list of potential shippers and consignees was prepared with the assistance of the Greater Portland Council of Governments. That list was supplemented by internet searches of potential business types that may use rail service, review of recent aerial photography of the Mountain Division Corridor and field inspections. The list was further refined based on the types of industry that typically use carload rail service (versus intermodal containers and piggyback services), and firms that either ship or receive in carload volumes.

Currently, the types of products that move non-intermodal in conventional rail cars can be summarized as follows in bold type with some notes on specific prospects on the Mountain Division.

- 1. Aggregates** from pits and quarries located on or immediately adjacent to the rail line. There are some operations too far removed so they would have to put the material on a truck to move to the railroad. The extra cost of loading on to rail and then unloading from rail at the end of the trip would make rail use by off-line pits and quarries uneconomical, at least for the Portland market.
- 2. Cement** to the Ciment Quebec distribution facility in Mattocks (East Baldwin). This cement is currently trucked from Saint Basile, PQ, located on the north shore of the St. Lawrence River between Trois Rivières and Quebec City.
- 3. Plastic resins** – if Poland Spring/Nestle were to construct a substantial bottling plant at Fryeburg. Currently this seems unlikely. Perhaps some other type of plastic product firm could locate along the Mountain Division.
- 4. Propane** – There are several small facilities that could use rail transport. Two in the Portland area and one at Newhalls<sup>2</sup> have sidings but do not use rail for a number of reasons, mostly due to lower volumes and unreliable delivery times associated with rail. A facility in North Conway is next to the rail line and could build a connecting siding very easily.
- 5. Fuel oil, gasoline, diesel** – There is a large volume of petroleum product moving in trucks from Portland to various locations in the North Country. It may be possible to develop several bulk terminals in Western Maine, Northern New Hampshire and Vermont that would act as transload facilities from rail to truck for local distribution. Possible locations could be Fryeburg, Whitefield, New Hampshire and St. Johnsbury or Lyndonville, Vermont.
- 6. Steel Products** – At least one firm in Maine currently rails re-bars to Ossipee on the New Hampshire North Coast RR and trucks from there to their facility in Fryeburg.
- 6. Lumber and building materials** – Could have potential if a number of retail dealers combined resources to create a shared, centrally located transload facility.

From the list, telephone interviews were conducted of about two dozen of the most likely shippers and receivers. In general, the comments received can be summarized as follows:

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<sup>2</sup> Of course the facility at Newhalls can't use rail service as the railroad is out of service there.

Most were very interested in the prospect of rail freight service but also noted that:

- A. They could not live with the inconsistent delivery time of rail for distant shipments.
- B. Would be cost prohibitive if more than 2 or 3 rail carriers were involved in the shipment.
- C. Do not ship or receive in sufficient volumes to use rail.
- D. Their product or raw material is not presently conducive to rail shipment: too fragile, too dispersed in origin, destination, too time sensitive.

A few thought that rail could be a viable alternative to trucking, depending on cost and factors related to consistent service. Most of the more positive firms were in the aggregate business (sand, gravel and crushed stone).

Based on this exercise and an understanding of current rail freight business, we postulate that the Mountain Division could potentially serve several gravel pits and rock quarries located on and very close to the corridor. Initially, the material would move into the Portland market, if truck competitive in price, or later; the Boston aggregate market if and when existing sources play out or become equal or greater in cost than the delivered cost from Mountain Division sources. Other commodities such as cement, propane, building material and petroleum products have some small potential but not in sufficient volumes and likely not competitive with existing trucking services.

The key to starting a freight service on the Mountain Division would be the commitment of the larger aggregate operations to use rail for most of their shipments to Portland and possibly to Boston when and if that became financially feasible. Since this is seasonal business, it may be that the initial Mountain Division freight operation would not operate during the winter.

The aggregate operators would need to furnish their own rail cars, have a facility to unload the gravel and stone and build sidings both at the loading operation and the discharge point. Thus, an initial and ongoing investment would be necessary and the rate charged by the rail operator would have to be sufficient to sustain the rail operation. Whether or not the overall cost to the aggregate firms would be truck competitive at this time is questionable and would have to be explored in detail with the potential aggregate shippers. Our initial sense is that the delivered cost to the Portland market by rail, including the rental cost of the rail cars, transportation cost of the rail carrier and amortizing some amount of the cost of the unloading facility and track cost, would be in the range of \$7 to \$9 per ton. Indications are that the average trucking cost currently is slightly lower.

There is an existing railroad in New Hampshire, owned by a major aggregate operation in the Boston area that functions similar to the postulated Mountain Division operation. That is the New Hampshire Northcoast Railroad, owned by Boston Sand & Gravel. That line is about 40 miles long running from gravel deposits in Ossipee, New Hampshire to Dover. From Dover to Boston, the gravel moves over Pan Am (formerly Guilford) and MBTA track to Boston, about 67 miles. During the "Big Dig" project 8,000 to 9,000 carloads of aggregate per year were shipped plus a small amount of inbound Propane, steel re-bars and plastic resins. Currently, volumes on the New Hampshire Northcoast are about 3,000 to 4,000 carloads per year.

If the Portland aggregate market can be economically served by rail and some other possible commodities moved, we postulated two initial scenarios for a start-up operation. One is described as “Optimistic” and the second may be described as somewhat less optimistic.

**TABLE E-3  
ANNUAL CARLOAD AND REVENUE ESTIMATES**

**OPTIMISTIC INITIAL FREIGHT TRAFFIC AND REVENUE**

COMMODITY	ANNUAL CARLOADS	REVENUE PER CARLOAD	REVENUE
Aggregates (Sand & Gravel)	3,000	\$600	\$1,800,000
Crushed Stone	500	\$600	\$300,000
Propane	50	\$600	\$30,000
Plastic Resin	200	\$650	\$130,000
Cement	400	\$500	\$200,000
Steel (Rebar)	150	\$550	\$82,500
Fuel Oil, Gasoline, Diesel	400	\$600	\$240,000
Building Materials	100	\$550	\$55,000
<b>TOTAL CARLOADS</b>	<b>4,800</b>	<b>Total Revenue</b>	<b>\$2,837,500</b>
<b>Annual Carloads per Mile*</b>	<b>80</b>		

\*Based on 60 miles - Portland to Intervale, NH

**MINIMUM INITIAL FREIGHT TRAFFIC AND REVENUE**

COMMODITY	ANNUAL CARLOADS	REVENUE PER CARLOAD	REVENUE
Aggregates (Sand & Gravel)	3,000	\$600	\$1,800,000
Crushed Stone	500	\$600	\$300,000
Propane	50	\$600	\$30,000
Steel Rebar	150	\$550	\$82,500
<b>TOTAL CARLOADS</b>	<b>3,700</b>	<b>Total Revenue</b>	<b>\$2,212,500</b>
<b>Annual Carloads per Mile*</b>	<b>62</b>		

\*Based on 60 miles - Portland to Intervale, NH

We also calculated what the railroad operating costs would be for these two scenarios: Those figures were \$2,874,000 and \$2,016,000 respectively. The railroad could at least be self sustaining, and potentially marginally profitable, provided that the level of aggregate traffic equaled our estimates and the revenue per car noted would allow the rail move to be truck competitive. It should also be noted that no rental payments from the rail operator to the State were included in the operating costs. We did assume a minimal amount of maintenance by the rail operator to hold the infrastructure together for some time. A capital program would be required every 5 to 10 years to maintain the FRA track condition. That cost would likely have to be in some form of public support. We also



calculated the rehabilitation cost to bring the Railroad to an FRA Class 2 condition (25 MPH for freight, 30 for passenger). These figures assume no strengthening of the bridges or rail replacement to allow handling of rail cars with a gross weight of 286,000 lbs. The railroad would be limited to 263,000 lb cars. The upgrade to allow heavier cars could be done later if the traffic levels and requirements for the heavier cars warranted it.

All costs are in current (2007 dollars) and would need be inflated to the mid point of construction. We estimated several termination points for upgrading; first all the way from Portland to Intervale, New Hampshire and then cutting back to locations where some of the major aggregate operations are located.

**A. Option – Shortline all the way to Intervale, New Hampshire (Milepost 61.4)**

<b>Item</b>	<b>Maine</b>	<b>New Hampshire</b>
Main Track Rehab	\$20,000,000	\$3,000,000
Additional Operating Track	\$2,125,000	\$36,000
Property Acquisition	\$225,000	
Rail Trail Modifications	\$3,000,000	
Contingency (15%)	<u>\$3,802,000</u>	<u>\$456,000</u>
<b>CAPITAL COST</b>	<b>\$29,152,000</b>	<b>\$3,492,000</b>
Engineering	\$1,458,000	\$175,000
Program & Constr. Mgmt.	<u>\$729,000</u>	<u>\$88,000</u>
<b>PROGRAM COST</b>	<b>\$31,339,000</b>	<b>\$3,755,000</b>

**B. Option – Shortline ending at Brownfield, Maine (Milepost 43.5 ±)**

<b>Item</b>	<b>Maine</b>
Main Track Rehab.	\$17,800,000
Additional Operating Track	\$1,780,000
Property Acquisition	\$225,000
Rail Trail Modifications	\$3,000,000
Contingency (15%)	<u>\$3,421,000</u>
<b>CAPITAL COST</b>	<b>\$26,226,000</b>
Engineering	\$1,311,000
Program & Constr. Mgmt.	<u>\$656,000</u>
<b>PROGRAM COST</b>	<b>\$28,193,000</b>

**C. Option – Shortline ending at East Hiram, Maine (Milepost 37.5 ±)**

Main Track Rehab.	\$15,300,000
Additional Operating Track	\$1,780,000
Property Acquisition	\$225,000
Rail Trail Modifications	\$3,000,000
Contingency (15%)	<u>\$3,046,000</u>
<b>CAPITAL COST</b>	<b>\$23,351,000</b>
Engineering	\$1,168,000
Program & Constr. Mgmt.	<u>\$584,000</u>
<b>PROGRAM COST</b>	<b>\$25,103,000</b>

## VI – PASSENGER OPPORTUNITIES

### A. Summary

We looked at both commuter rail and tourist/excursion potential on the Mountain Division. At this time it appears that there is insufficient population density in the corridor combined with longer commuter travel times versus driving to allow commuter rail to be feasible. This may change over time and become a viable option as the region continues to grow. Any public transportation system will require public support to be viable. The point at which the benefits outweigh the cost of public support is never clear cut. That point may arrive on the Mountain Division as both population and employment densities grow and traffic congestion becomes more widespread and impossible to mitigate by reasonable roadway improvements.

The tourist/excursion potential appears more viable but would require the participation and cooperation of the other northern New England States in developing a regional network of interconnected rail lines. The capital cost to initiate this service on the Maine segment of the Mountain Division would be significant on its own. If either the freight or commuter service were in operation, the incremental cost to add the tourist/excursion service would obviously be less and perhaps become viable.

### B. Commuter Rail Service

For purposes of analysis and cost, a commuter rail operation was assumed running 23 miles from Steep Falls in the Town of Standish to the existing Portland Transportation Center. Intermediate stations would be at Sebago Lake Village (also in the Town of Standish) and South Windham (Little Falls).

For purposes of comparison we looked at two of the smallest commuter rail operations in North America (the Shore Line East serving New Haven, Connecticut - 33 miles long, and the Music City Star – 32 miles long, serving Nashville, Tennessee). In addition, a well established commuter rail line serving Boston from a commuter shed at a similar distance to the postulated Mountain Division service was also investigated.

We first compared the economic demographics of the three samples to the Mountain Division Corridor. It is known that the typical commuter rail patron is affluent and well educated. We found that the Towns of Gorham, Windham, Standish and Sebago exhibited some of the characteristics of the other samples. We also looked at population and housing densities per acre, a key indicator for the suitable type of transit service and ridership forecasting. That indicated that Westbrook and Gorham were the only communities in the Corridor with sufficient population densities. However, Westbrook is too close to Portland and the rail line passes along the northern border of Gorham, removed from its population centers and in the wrong direction for Portland bound commuters.

We also looked at employment densities in Westbrook and Portland and found that the Portland Peninsula is approaching densities that could support commuter rail but not Portland overall nor Westbrook. We also looked at the percentage of potential commuters to the terminal city that were using the commuter rail service in the three examples.

Finally, we looked at what a typical commuter travel time would be from various points in the Mountain Division Corridor into Portland if they used the postulated commuter rail service. Since almost all rail trips would be a three seat ride (car, train, bus) total travel times would be significantly greater than driving door to door. Although there is congestion in segments of the Corridor, most commuters would experience longer trip times using the commuter rail.

Using census data showing the number of Portland bound commuters within the Corridor we estimated the number of commuters that may use a commuter rail service. That indicated that about 90 one-way commuters and about 200 total daily boardings would be anticipated. The operating cost would be about \$4,000,000 annually resulting in an operating subsidy of about \$72 per boarding. Even doubling average daily boardings to 400 would result in an operating subsidy of about \$36 per boarding.

There are several facts that sway us towards a low capture ratio:

- The present Portland Transportation Center is too far removed from the area of Portland with higher employment densities. Most would have to transfer to a local bus.
- The combined total trip time of a three seat ride (car, train, bus) would be substantially greater than a one seat auto trip, even with some traffic congestion along the way.
- The location of the Mountain Division in Gorham (along its northern border) would require almost all Portland bound commuters in Gorham to drive away from Portland to reach the railroad.

A next step may be to perform a more complete analysis of the corridor with projections of growth. In the meantime, communities within the corridor may wish to encourage denser residential development at suitable locations near potential stations. Also, if future extensions of Amtrak service to Brunswick and Auburn happen, another terminal station in Portland, perhaps closer to downtown employment centers, may be considered.

In addition, the capital cost to upgrade the track, provide stations, parking, maintenance facilities and other infrastructure would be as follows:

*NOTE – ALL COSTS ARE IN 2007 DOLLARS. ACTUAL WOULD NEED TO BE INFLATED TO MID POINT OF CONSTRUCTION*

### **Commuter Service Between Portland Transportation Center and Steep Falls**

#### **1. Option A–No Underlying Freight Operation**

##### **Item**

Main Track Rehab	\$19,600,000	
Additional Operating Track	\$1,000,000	
Property Acquisition	\$850,000	
Stations	\$5,300,000	
Additional AHCWS	\$1,500,000	(Automatic Highway Crossing Warning Systems)
DTMF's & Switch Heaters	\$150,000	(Power operated turnouts at passing track locations)

Shop Facility	\$900,000	
Layover Facility	\$1,750,000	
Rail Trail Modifications	\$3,000,000	(Modifications along existing rail trail)
Contingency (15%)	<u>\$5,108,000</u>	
<b>CAPITAL COST</b>	<b>\$39,158,000</b>	
Engineering	\$1,858,000	
Program & Constr. Mgmt.	<u>\$979,000</u>	
<b>PROGRAM COST</b>	<b>\$41,995,000</b>	<b>(About 1.8 million per mile)</b>

## 2. Option B – Shortline Freight Operation in Place (Incremental Cost to add Commuter)

### Item

Main Track Rehab	\$11,100,000
Additional Operating Track	\$1,000,000
Property Acquisition	\$600,000
Stations	\$5,300,000
Additional AHCWS	\$1,500,000
DTMF's & Switch Heaters	\$150,000
Layover Facility	\$1,750,000
Contingency (15%)	<u>\$3,210,000</u>
<b>CAPITAL COST</b>	<b>\$24,610,000</b>
Engineering	\$1,231,000
Program & Constr. Mgmt.	<u>\$615,000</u>
<b>PROGRAM COST</b>	<b>\$26,456,000</b>

### C. Rolling Stock Cost

#### Assumed Equipment Roster for Start-up Commuter and Excursion Services

- 3 Locomotives (or none if new Diesel Multiple Units –DMU's are acquired)
- 3 Cab or control coaches
- 3 Regular coaches (no engineer cab or control)
- 2 Cafe-lounge with glass roofed seating area (bi-level arrangement)

**TABLE E-4**  
**ROLLING STOCK OPTIONS AND COST**

	Used Cost plus Min. Refurbishment	New Cost- Minimal Options	New Cost – Deluxe Options	New DMU's
3 Locos.	\$700,000	\$5,200,000	\$6,600,000	0
3 Cab/control cars	\$250,000	\$4,200,000	\$6,000,000	\$12,300,000
3 Coaches	\$220,000	\$3,600,000	\$5,400,000	\$5,400,000
2 Cafe Lounge/Dome	\$1,000,000	\$7,000,000	\$8,100,000	\$8,100,000
<b>TOTALS</b>	<b>\$2,170,000</b>	<b>\$20,000,000</b>	<b>\$26,100,000</b>	<b>\$25,800,000</b>

The above would provide for both commuter operation and excursion services with the potential to operate up to three trains, two commuter with a cab/control car plus a coach and an excursion train with a cab car, coach and 2 cafe lounge/dome cars.

If commuter service only, deduct the last line (2 Cafe Lounge/Dome cars)

The DMU cab/control cars would be powered units, acting as a locomotive. However they would be limited to pulling no more than 2 cars each so that an excursion train would be limited to 3 cars unless another powered unit was acquired. Pulling two cars, the acceleration would be considerably reduced versus a locomotive hauled train of 3 or 4 cars.

#### **D. Tourist/Excursion Service**

The most significant tourist destination along the Mountain Division Corridor is the Mount Washington Valley centered on North Conway. Following that are the Portland area and the Sebago Lake region. Therefore, any rail tourist operation would need to allow access to North Conway.

We looked at what the cost would be to provide a 1 ½ hour trip with several stops between Portland and North Conway. This could initially be done with some of the equipment used by the commuter rail operation since that equipment would otherwise be idle during the middle of the day.

##### 1. The “Land Cruising” Concept

The experience of “land cruising” through scenic areas by rail is a trend that seems to be gaining momentum. This trend is driven not by economic factors, but a growing awareness that rail travel is less obtrusive to and taxing on the environment. And the scenery can be better appreciated from a rail car designed for sight-seeing and people enjoy riding on a train sharing the camaraderie of other passengers collectively engaged in a pleasant experience.

The Maine passenger rail system is evolving as evidenced by:

- Current frequent Amtrak Downeaster service to and from Boston.
- Possible extension of the Downeaster service to Brunswick and possibly Auburn.
- Current seasonal Maine Eastern passenger operation from Brunswick to Rockland along the coast.
- Portland’s establishment and growth as a major tourist destination
- Portland’s role as a port-of-call for cruise ships

From the above we can postulate that the Mountain Division may have a promising future as a key link in a regional, tourist oriented rail system carrying groups of people enjoying the land cruising experience while participating in varied tourist experiences.

##### 2. Requirements for Tourist Oriented Rail Trips

Separating Americans from their automobiles for any type of rail touring experience is possible only if the overall journey is seamless in terms of mobility at each end of the train ride and the rail journey itself is entertaining. With good planning and regional cooperation of businesses, chambers of

commerce, state and municipal governments; seamless transportation is possible. The proper rail equipment, onboard staff and scenery provides the entertainment.

Although the trip itself is an attraction, a destination or purpose enhances the experience. At Intervale (part of North Conway), rail tourists could easily transfer to the Conway Scenic Railroad's highly scenic run through Crawford Notch, or perhaps stay on the same train that brought them from Portland. Alternatively, local trolley buses or vans from area inns and resorts could transfer the tourists to their establishments or other tourist destinations. And of course, tourists in the Mountains could opt for a rail trip to Portland and coastal Maine using rail.

The concept of "The Crown of New England" a vision promulgated by Jack Sutton of MRG, Inc./DownEast Rail, certainly has merit. That concept is a "land cruise" rail trip connecting the Amtrak Downeaster at Portland to the Amtrak Vermonter<sup>3</sup> at White River Junction, Vermont via a scenic rail trip that would be:

- The Mountain Division Portland to Conway
- Then up through Crawford Notch through Whitefield, New Hampshire and on to St. Johnsbury, Vermont.
- From St. J, south along the very scenic Passumpsic and Connecticut River valleys for 60 miles to White River Junction.

The total length of the run from Portland to White River Jct. would be 190 miles. Establishment of that trip would require the cooperation and investment by all three northern New England States, or a joint, public-private venture. Currently, in New Hampshire, most of the route is open and passable except the very eastern segment into Maine. In Vermont, from the Connecticut River west into St. J, the track is overgrown and would need to be cleared and upgraded. From St. J south to White River Junction, the 60 mile route is currently in operation for freight service.

Combined with other passenger rail options in Maine, as noted above, and additional rail options and links in other states, the market potential and the opportunities for extensive rail touring could be almost limitless.

### 3.. Initial Excursion Options on the Mountain Division

The potential start-up commuter options could allow the same rolling stock to be utilized during the middle of the day for trips between Portland and North Conway. If upgraded to a Class 3 condition (60 MPH max. speed) the 60 mile trip with several stops could be done in 1 ½ hours or a little less. The excursion schedules could allow a stop at Steep Falls for the outbound train to meet a tour bus that could take tourists along the Route 113 corridor to visit the area in a more leisurely manner than the train that would continue on non-stop to Fryeburg. This bus could be an alternative or side trip from the train excursion. Later, the bus would arrive in Fryeburg to put tourists back on the train from Conway and back to Portland.

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<sup>3</sup> The Vermonter runs from New York City to St. Albans Vermont via New Haven, Hartford, and Springfield. Currently patrons are bussed from St. Albans in northwestern Vermont to Montreal but if some cost issues were resolved, the train could run directly to Montreal.

There are a number of different types of tourist and interests that could be marketed and catered to. Eco-tourism is a growing segment of the industry. Mountain bikers currently are the most affluent leisure activity group and winter sports enthusiasts are not far behind in that category. Provisions for convenient carriage of bicycles, skis and luggage would be a pre-requisite. Innovative marketing of various tour packages that included arrangements for local transportation between the train, lodgings and tourist destinations, all provided under a single rate or group package could open up unlimited markets. These initiatives have the potential to grow exponentially as the concept of vacationing without a car becomes viable and an environmentally responsible way to vacation. Europeans “holiday” by train routinely on a dense system of railroads that link most areas of the continent. Whether or not we can do it here is a matter of priorities both at the grass roots and legislative levels.

Major regional attractions would include the trip through Crawford Notch, shopping at the outlets in North Conway, overnight stays in various inns and B&B’s, skiing at all of the ski areas along the route in New Hampshire and Maine, dining at the Mount Washington Hotel, possible “Round the Mountains” train trips such as Portland to Groveton on the St. Lawrence & Atlantic RR then down to Whitefield on the NH owned, New Hampshire Central operated line to the Mountain Division and then back to Portland.<sup>4</sup> The rail trips could be coordinated with local bus trips of other attractions.

With Portland as a hub and realization of other routes from Portland discussed above, tourists could visit the Maine Coast, Portland and other regions, all in the comfort of a train equipped with glass roofs for unequalled viewing, food service and a comfortable, carefree (and car free) experience.

Quantifying what this tourist/excursion market may be is difficult. If we were to assume that initially the Mountain Division were opened to North Conway; in summer there would be day trips from cruise ships, from Portland residents and visiting tourists, possible dinner trains from Portland to some point and back. In the winter, ski trains and people coming along just for the ride through the winter landscape and “Polar Express” family trips. In fall leaf peeping specials of varying durations, perhaps with overnight stays where other activities may be enjoyed. The capital cost to realize this potential may never be fully recovered in fares but the economic benefits to both Maine and New Hampshire’s tourist industry could be significant.

#### **E. Capital Cost Summary for Excursion/Tourist to Conway, NH**

*NOTE – ALL COSTS ARE IN 2007 DOLLARS. ACTUAL WOULD NEED TO BE INFLATED TO MID POINT OF CONSTRUCTION*

#### **Tourist and Excursion between Portland Transportation Center and Intervale, NH – FRA Class 3 Track Condition**

##### 1. Option A – No Other Operation in Place (Commuter or Freight)

<b>Item</b>	<b>Maine</b>	<b>New Hampshire</b>
Main Track Rehab	\$41,935,000	\$7,500,000

<sup>4</sup> The 470 Railroad Club ran trips of this name and itinerary from Portland during the 1960’s and other groups from Boston in the 1950’s

Additional Operating Track	\$1,200,000	\$300,000
Stations	\$2,300,000	\$1,500,000
Additional AHCWS	\$4,700,000	\$700,000
Property Acquisition	\$250,000	
DTMF's & Switch Heaters	\$100,000	\$50,000
Shop Facility	\$900,000	
Layover Facility	\$1,750,000	
Rail Trail Modifications	\$3,000,000	
Contingency (15%)	\$8,420,000	\$1,508,000
<b>CAPITAL COST</b>	<b>\$64,555,000</b>	<b>\$11,558,000</b>
Engineering	\$3,228,000	\$578,000
Program & Constr. Mgmt.	\$1,614,000	\$289,000
<b>PROGRAM COST</b>	<b>\$69,397,000</b>	<b>\$12,425,000</b>

#### 2. Option B – Freight Service in Place all the way to North Conway (Incremental Cost)

Item	Maine	New Hampshire
Main Track Rehab	\$22,109,000	\$4,470,000
Additional Operating Track	\$1,200,000	\$300,000
Stations	\$2,300,000	\$1,500,000
Additional AHCWS	\$4,700,000	\$700,000
Property Acquisition	\$150,000	
DTMF's & Switch Heaters	\$100,000	\$50,000
Layover Facility	\$1,750,000	
Contingency (15%)	\$4,846,000	\$1,053,000
<b>CAPITAL COST</b>	<b>\$37,155,000</b>	<b>\$8,073,000</b>
Engineering	\$1,858,000	\$404,000
Program & Constr. Mgmt.	\$929,000	\$202,000
<b>PROGRAM COST</b>	<b>\$39,942,000</b>	<b>\$8,679,000</b>

#### 3. Option C – Commuter Service in Place – No Freight Operation

Item	Maine	New Hampshire
Main Track Rehab	\$22,274,000	\$7,500,000
Additional Operating Track	\$600,000	\$300,000
Stations	\$750,000	\$1,500,000
Additional AHCWS	\$2,950,000	\$700,000
DTMF's & Switch Heaters	\$50,000	\$50,000
Layover Facility	\$1,750,000	
Contingency (15%)	\$4,256,000	\$1,508,000
<b>CAPITAL COST</b>	<b>\$32,630,000</b>	<b>\$11,558,000</b>
Engineering	\$1,632,000	\$578,000
Program & Constr. Mgmt.	\$816,000	\$289,000
<b>PROGRAM COST</b>	<b>\$35,078,000</b>	<b>\$12,425,000</b>

#### 4. Option D – Commuter Service in Place and Freight Operation to Conway



<b>Item</b>	<b>Maine</b>	<b>New Hampshire</b>
Main Track Rehab	\$13,724,000	\$4,470,000
Additional Operating Track	\$1,200,000	\$300,000
Stations	\$2,300,000	\$1,500,000
Additional AHCWS	\$2,950,000	\$700,000
DTMF's & Switch Heaters	\$50,000	\$50,000
Layover Facility	\$1,750,000	
Contingency (15%)	<u>\$3,296,000</u>	<u>\$1,053,000</u>
<b>CAPITAL COST</b>	<b>\$25,270,000</b>	<b>\$8,073,000</b>
Engineering	\$1,264,000	\$404,000
Program & Constr. Mgmt.	<u>\$632,000</u>	<u>\$202,000</u>
<b>PROGRAM COST</b>	<b>\$27,166,000</b>	<b>\$8,679,000</b>

### **E Excursion Service Operating Costs and Revenue**

Due to the almost unlimited variations possible in excursion services in terms of schedules, operations, rolling stock ownership, fare structures, arrangements with steamship lines, various tour packages, etc.; establishing operating costs and revenues is not possible within the scope of this study.

For example, on the Alaska Railroad, the various steamship lines own the rail cars their patrons ride on and pay a fee to the Alaska Railroad to haul the cars, along with those of several other cruise lines. That may or may not be a way of financing rolling stock for excursions around northern New England. An option may be public/private partnerships between states and major tour companies to acquire equipment and a percentage of the tour package revenue going towards a car mile charge to cover track and vehicle maintenance.

It would seem highly unlikely that revenue from tourist operations alone would cover the cost of rolling stock, staffing and maintenance of the railroad and equipment. Public support would be necessary to some degree with the payback coming from increased tax revenue, employment and other spin offs from increased tourism.

### **VII. CONCLUSIONS AND NEXT STEPS**

A seasonal freight operation may be possible if the movement of aggregate from locations along the Corridor by rail is truck competitive. This possibility needs to be investigated in greater detail with the potential aggregate operators and potential rail service providers to confirm that such movement is economically viable and then determine if the capital cost to upgrade the railroad can be secured. Establishment of a freight service could help to reduce the incremental cost of future passenger initiatives.

Commuter service does not seem viable at this time. Actions that could lead to and facilitate a viable commuter service would be:

1. Encourage denser residential development along the rail corridor, especially in the general vicinity of potential commuter rail stations.
2. Consider a Portland rail terminal closer to the main employment centers on the Peninsula.
3. Complete the purchase of the entire rail corridor.

4. Allow alternative uses of the rail corridor (such as recreational rail trails) *only* if they are designed and built to protect the rail infrastructure and provide adequate separation of rail operations and trail users. Continued trail development without such measures will become increasingly costly to remedy in the event rail service is restored.
5. If and when a freight service is initiated, the incremental cost to add commuter rail will be significantly less than commuter rail alone both in capital and operating cost.
6. Preserve and protect the corridor from encroachments, uses that may degrade it or other uses or improvements that would have to be removed or extensively modified if rail service were resumed.
7. Investigate the use of the corridor for fiber optics or other types of utility corridors, being careful not to impede return to an active rail corridor.

Excursion and tourist rail operations may have great potential if the three northern New England States can partner in establishing a strategic network of scenic rail lines linking key tourist destinations. Public/private partnerships with cruise lines and the tourist industry may be a means to partially finance appropriate rail equipment and part of the operating and maintenance cost of the rail system. Public support would be justified because of the payback coming from increased tax revenue, employment and other spin offs from increased tourism. Add to that the fact that increased rail travel will result in less demand on the regions highway system and the environment; public support is a reasonable consideration. Such an endeavor will require financial participation and considerable planning and cooperation among the various states. How and when this may happen is not clear but the rising cost of energy, concern for the environment, an aging population less inclined to drive long distances and an increased awareness of the pleasures of travel by rail may collectively provide the will to enable a reincarnated Mountain Division as part of regional passenger rail system. These multi-state discussions and planning should be implemented while simultaneously engaging elements of the tourist industry that may benefit from this initiative.

