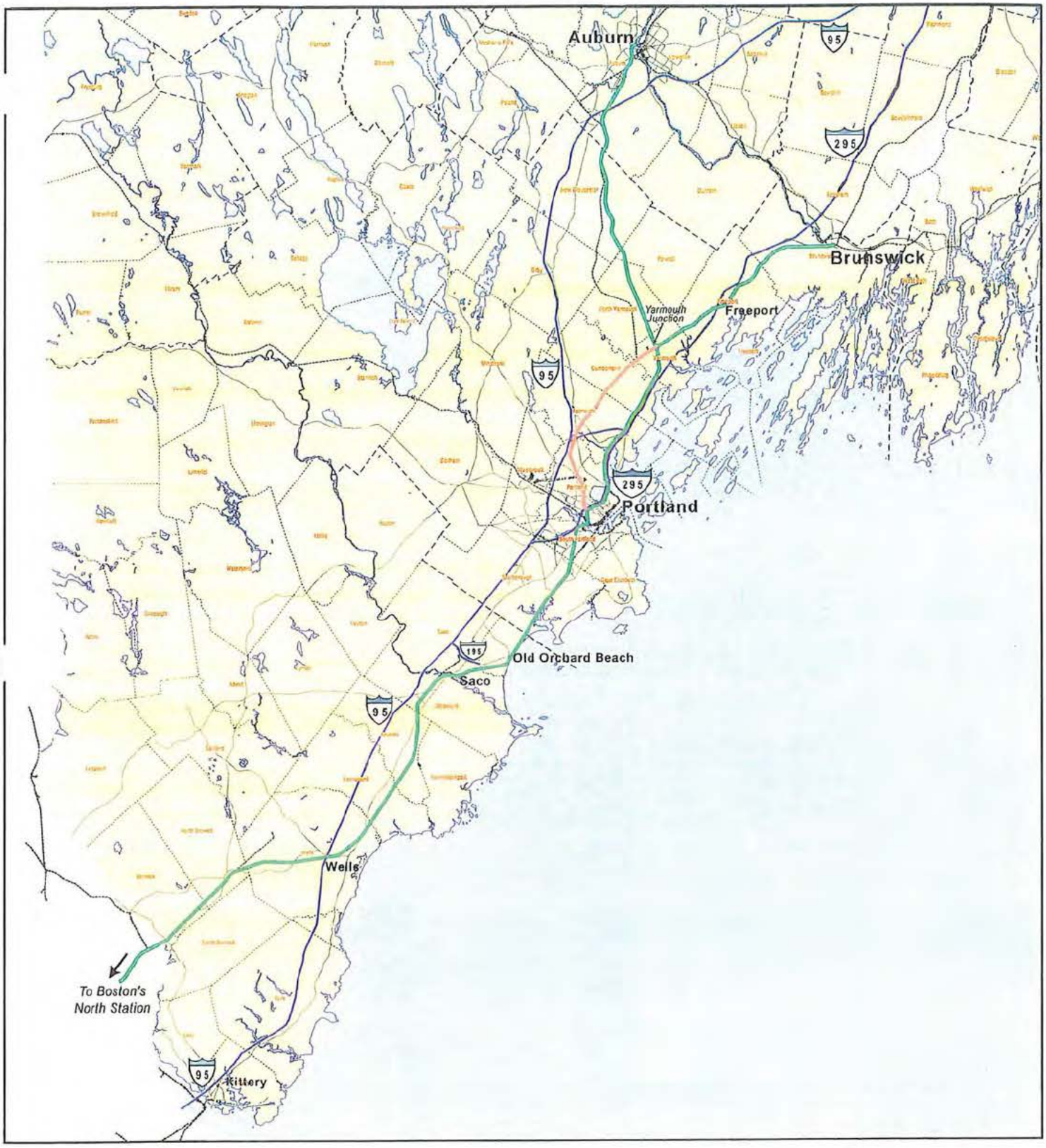
DOWNEASTER
BUSINESS PLAN

March 2005

Prepared by
MAINEDOT and
Northern New England
Passenger Rail Authority



Southern Maine's Passenger Rail Corridor

Current Amtrak Line (border to Portland), plus proposed extension (Portland to Brunswick and Auburn)

Guilford Transportation Industries' Main Line

Interstate Highway System

Map Scale 1:167484

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Maine Department of Transportation
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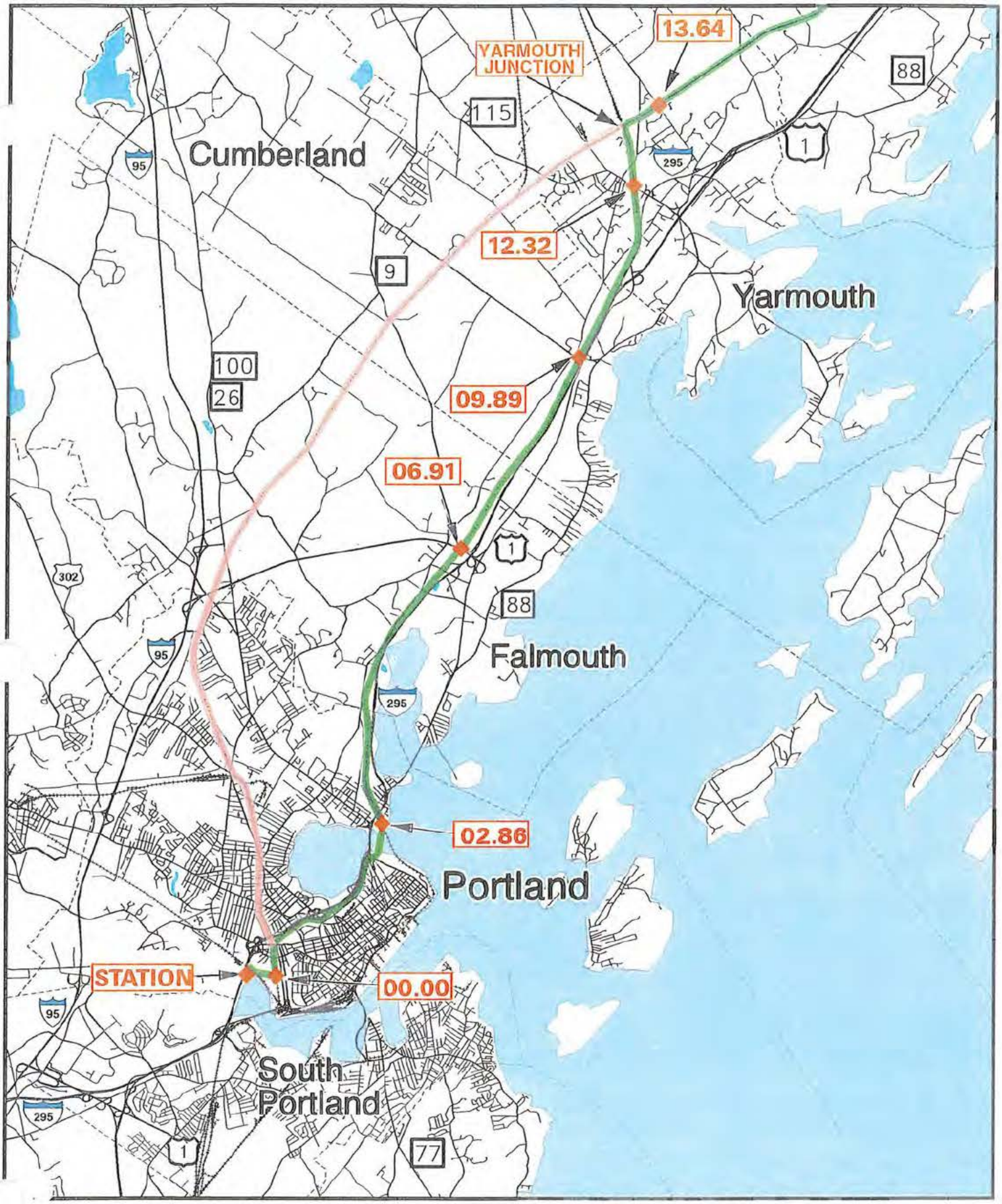

Portland to Yarmouth Rail Corridor

November 27, 2001

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ROAD TYPE LEGEND
- Railroad Tracks
- Proposed Passenger Rail Route through Yarmouth Jct.
- Guilford Transportation Industries' Main Line
- State Highway & State Aid Roads
- Other Public Roads

Map Scale 1:43628

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State of Maine
Department of Transportation
Prepared by
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Introduction

The Maine Department of Transportation (MaineDOT) and the Northern New England Passenger Rail Authority (NNEPRA) have developed this Business Plan to ensure the financial stability of the *Downeaster* rail service. This Plan offers strategies to increase ridership and farebox revenues, as well as to address long term operating and capital support.

Purpose and Need

Over the next two decades, Maine will experience growing highway congestion and demographic changes that will impact our transportation system. Traffic congestion is growing in Maine and the rest of the nation. By 2013, I-95 in York and Cumberland Counties is anticipated to reach unacceptable levels of congestion. During this time, I -295 in the Greater Portland area will also reach similar congestion levels. Social, environmental and economic concerns, as well as state and federal laws, require us to look at a variety of modal options to move people and goods. Reliance on increasing highway capacity to address congestion issues can no longer serve as the default solution. Congestion in New Hampshire and Massachusetts will also affect Maine's economic health, as access to Boston and other major economic centers to our south are factors in our future economic prosperity.

Maine's population is aging. By 2020, over 20% of Maine's population will be senior citizens. This will bring new challenges in meeting mobility demand. Older citizens will prefer, or depend upon, alternatives to driving automobiles.

Passenger rail service can play an important role in Maine's future economic competitiveness. It adds to Maine's attractiveness to employers, employees, residents, and visitors. It is an important tool in supporting a vibrant economy and assists us in meeting state and federal transportation policies. Investments in the passenger rail system will benefit freight services, as they use the same track infrastructure.

State and Federal mandates, such as Maine's Sensible Transportation Policy Act and the U.S. DOT's Transportation Efficiency Act-21, require MaineDOT to evaluate all reasonable alternatives before increasing highway capacity. In addition, the Federal Clean Air Act Amendments require actions to mitigate any increased air emissions from highway projects. Passenger rail service is one alternative that meets these requirements and supports Maine's investments in our highway system.

The policy of the Maine Department of Transportation (MaineDOT) calls for the development of a connected system of travel options to address Maine's current and future mobility needs that is cost effective, supports a vibrant economy and is environmentally sensitive.

The Challenge

As with all modes of transportation, passenger rail service relies upon public support, as farebox revenues cannot cover operating and capital costs. The gap between *Downeaster* farebox revenues and operating expenses in FY 2005 is projected to be $5.88M. The *Downeaster's* annual deficit is projected to grow to $7.3M in 2010. Like all other modes of transportation, the *Downeaster* relies upon government subsidies to address these deficits. To date Federal

Congestion Mitigation Air Quality (CMAQ) has been used to cover 80% of the deficit. However, the length of time CMAQ funds are available is limited and the *Downeaster* is facing increased costs from Amtrak for provision of service due to the expiration of the cost cap incorporated in the original contract. While we are optimistic that a two year extension to CMAQ funds for the *Downeaster* will be forthcoming, this plan is designed to prepare for the time when this funding source terminates in 2007. We believe that MaineDOT can cover the gap with available, non general fund, resources into FY07. After that our current options are limited, with a transfer of Surface Transportation Program (STP) funds one possibility. In comparison to CMAQ covering 80% of the deficit, we forecast that STP funds will cover less than 50% of the deficit. The State and local share will increase from the current 20% to 53%.

In addition, a decision is needed regarding the expansion of rail service North of Portland. As long as the *Downeaster* service is dependent on CMAQ funds for operating support, we have limited ability to use these funds for the Portland North service expansion. We cannot go north until we have a sustainable source of capital and operating funding for the core service or a commitment to fund the service.

We must bring ongoing financial stability to the *Downeaster*. This Business Plan puts forth strategies to meet the immediate needs of the *Downeaster* and to develop a refined and expanded service that delivers substantial transportation and economic benefits.

Background

The *Downeaster* passenger rail service was created in response to a citizens' mandate in 1991 regarding the development of transportation alternatives for the State of Maine. NNEPRA was created in 1995 to operate the *Downeaster*. Investments in the service included $70M to rehabilitate the rail line between Portland and Boston and to build stations or platforms in Maine, New Hampshire, and Massachusetts. Service began in December 2001 and has experienced strong ridership and public popularity. Ridership for FY 2003 was 262,692, with a monthly average of 21,891. While the *Downeaster* has proven the potential for rail service, the current level of service is inadequate to fully maximize rail's ability to attract riders. Travel time is long, only four round trips a day are provided, and the schedule is not convenient for many business and leisure travelers.

Table 1 *Downeaster* Performance

Fiscal Year (July 1- June 30)	2002*	2003	2004	2005**
Ridership	164,620	262,692	260,296	262,899
Revenues	$2.5M	$3.9M	$4.2M	$4.3M
Costs	$3.5M	$7.3M	$8.1M	$10.1M
Shortfall	$1.0M	$3.4M	$3.8M	$5.9M

* 6.5 months of service ** Estimate

Focus of Business Plan

In order to facilitate the long term viability of passenger rail service, Maine needs to make investments and changes to make the *Downeaster* a vital element of the State's transportation program and a routine part of state government. As with all other forms of transportation, the *Downeaster* depends upon public operating assistance and continued capital investments. This Business Plan identifies opportunities to improve the service and meet future funding requirements. The Plan includes strategies to stabilize the *Downeaster* by increasing ridership and revenues, and securing stable funding.

The plan recommends strategies to:

Improve Portland to Boston Service
Expand Service
Address Funding Needs

Additionally, a decision must be made regarding the extension of service to Freeport and Brunswick. The capital needs for this project are currently identified as $63.6M. Funds that had been identified for this project are now programmed for improvements to the Portland to Boston track to reduce trip time and to cover the *Downeaster's* operating costs. This leaves an estimated shortfall of $51M which must be covered by future bonds or earmarks. While this plan includes a projected start up for Portland North service, start up is dependent upon securing capital funding consistent with the proposed schedule.

RECOMMENDATIONS

1. Service Options

There are a variety of possible service options to consider for the future of the service, ranging from significantly expanded frequencies to maintaining bare minimums. After consideration of the existing market conditions, contractual commitments with the Federal Transit Administration, station communities and Amtrak; two service options were developed for further consideration. They are maintaining the status quo or implementing the recommended program for expansion of services.

Status Quo is:

- Four round trips a day Portland to Boston
- 2 hour and 40 minute trip length
- No extension of service North of Portland

Recommended service improvements are:

- Increase Portland to Boston service to five round trips per day, using existing equipment.
- Reduce trip time to 2 hours and 30 minutes.
- Procurement by lease or purchase of an additional train set.
- Service extension to Freeport and Brunswick.
- An additional sixth roundtrip between Portland and Boston once additional equipment is in service.
- Invest in Safety and Security Technology

- Develop an aggressive fare structure to increase farebox revenues.

Table 2 Status Quo

	FY 04	FY 05	FY 06	FY 07	FY 08	FY 09	FY 10
Passengers	260,296	262,899	272,241	274,964	277,713	280,490	283,295
Revenues	$4.2M	$4.3M	$4.5M	$4.6M	$4.7M	$4.8M	$4.9M
Costs	$8.1M	$10.1M	$11.3M	$11.5M	$11.8M	$12M	$12.3M
Shortfall	**$3.8M**	**$5.9M**	**$6.8M**	**$6.9M**	**$7.1M**	**$7.2M**	**$7.4M**

Table 3 Recommended Enhancements

	FY 04	FY 05	FY 06	FY 07	FY 08	FY XX	FY XX+1
Passengers	260,296	262,899	309,574	336,492	340,271	507,452	514,768
Revenues	$4.2M	$4.3M	$5.1M	$5.4M	$5.5M	$7.2M	$8.5M
Costs	$8.1M	$10.1M	$12M	$12.6M	$12.8M	$5.3M	$15.6M
Shortfall	**$3.8M**	**$5.9M**	**$6.9M**	**$7.2M**	**$8.1M**	**$7.1M**	**$7.1M**

It is important to note that the recommended enhancements will increase ridership and fares, resulting in a reduction of average cost per passenger and subsidy per passenger. In the second year of Portland North service, they will increase ridership by over 230,000 passengers (82%), with a fare box increase of $ 36M (73%). With an aggressive regional marketing program, these improvements could result in the same, or slightly lower, shortfall as the Status Quo for that year. With the same level of annual support ($7.1M) we can make service improvements that have the potential to double ridership, while maintaining the subsidy per passenger at $14.

2. Capital Plan

In the development of the *Downeaster* capital plan, priority was given:

- First to operations improvements in the Portland to Boston corridor of the current *Downeaster* service, cost of $2.2M. These support a reduced travel time.
- Second to needed capital improvements in the Portland to Boston corridor, with an estimated cost of $3.73M. These support an additional daily trip.
- Third to the expansion of the service to Freeport and Brunswick, estimated cost of $63,569,856

The MaineDOT currently has identified $12,345,000 in funding for the Portland North project. Before this project can go forward, funding for the remaining $51million must be secured.

In addition to the improvements of the rail corridor outlined in Appendix B, an additional train set will be required for this service at a purchase price of $13-$18 million. Another option would be to lease this train set at a cost of approximately $1.5 million annually.

3. **Secure Stable Funding**
   - **Identify a dependable, consistent, and stable funding source to support operational enhancements and capital improvements.**
     Financial support of passenger rail service in Maine cannot be completely met by the MaineDOT and crosses multiple jurisdictions. It is recommended that a task force be appointed by Governor Baldacci to identify potential funding strategies and mechanisms.

   - **Coordinated regional marketing**
     Implementing the recommended enhancements is projected to significantly increase ridership and revenues, resulting in a lower shortfall than the status quo. However, it must be noted that a significant marketing campaign will be required to reach these ridership and revenue projections.

Conclusion

The *Downeaster* can play a critical role in meeting Maine's travel demand over the next twenty years. Investments should be made to enhance the service to attract more riders and serve a larger part of Maine. The MaineDOT and NNEPRA recommend a program of expanded and enhanced services along with the capital investments and operating support to ensure the future vitality of passenger rail service in Maine.

Downeaster 10 Year Outlook with Portland North — 24-Feb-05 — Feb-05

RIDERSHIP	FY04	FY 05	FY 06*	FY 07	FY 08	FY XX	FY X1	FY X2	FY X3	FY X4	FY X5	FY X6	Total	* reflects DNC in 2005
Base Ridership	260,296	262,899	272,241	274,964	277,713	280,490	283,295	286,128	288,989	291,879	294,798	297,746	3,371,439	Base net growth of 1% annually
Reduce Travel Time to 2 hr 30 Mins			13,405	13,673	13,947	14,225	14,510	14,800	15,096	15,398	15,706	16,020	146,781	Est growth of 2% annually
10 Trains Daily			23,928	47,855	48,812	49,788	50,784	51,800	52,836	53,893	54,970	56,070	490,736	Est growth of 2% annually
Portland-Freeport-Brunswick						12,362	12,609	12,862	13,140	13,403	13,671	13,944	92,081	Est growth of 2% annually
Boston-Freeport-Brunswick						26,618	27,150	27,693	28,247	28,812	29,388	29,976	197,886	Est growth of 2% annually
12 Trains Daily						54,767	55,863	56,980	58,119	59,282	60,467	61,677	407,155	Est of 110% of 10 trains
Portland-Brunswick from Rockland							24,490	24,980	25,479	25,989	26,509	27,039	154,486	
Boston-Brunswick from Rockland							38,730	39,505	40,295	41,101	41,923	42,761	244,314	
TOTAL RIDERSHIP	**260,296**	**262,899**	**309,574**	**336,492**	**340,472**	**438,271**	**507,452**	**514,768**	**522,202**	**529,756**	**537,432**	**545,233**	**5,104,847**	

COSTS	FY04	FY 05	FY 06*	FY 07	FY 08	FY XX	FY X1	FY X2	FY X3	FY X4	FY X5	FY X6	Total	
Train Operations														
Amtrak	$ 6,250,790	$ 6,875,308	$ 8,000,000	$ 8,160,000	$ 8,323,200	$ 8,489,664	$ 8,659,457	$ 8,832,646	$ 9,009,299	$ 9,189,485	$ 9,373,275	$ 9,560,741	$ 100,723,866	Est growth of 2% after 2007
Guilford Rail System		$ 764,749	$ 780,044	$ 795,645	$ 811,558	$ 827,789	$ 844,345	$ 861,232	$ 878,456	$ 896,025	$ 913,946	$ 932,225	$ 9,306,013	Costs increase 2% annually
MBTA		$ 120,000	$ 122,400	$ 124,848	$ 127,345	$ 129,892	$ 132,490	$ 135,139	$ 137,842	$ 140,599	$ 143,411	$ 146,279	$ 1,460,246	Costs increase 2% annually
Capital Maintenance (Guilford)		$ 400,000	$ 408,000	$ 416,160	$ 424,483	$ 432,973	$ 441,632	$ 450,465	$ 459,474	$ 468,664	$ 478,037	$ 487,598	$ 4,867,486	Costs increase 2% annually
Platform Leases GRS	$ 14,877	$ 15,175	$ 15,478	$ 15,788	$ 16,103	$ 16,425	$ 16,754	$ 17,089	$ 17,431	$ 17,779	$ 18,135	$ 18,498	$ 199,532	Costs increase 2% annually
Platform Liability Insurance	$ 293,980	$ 212,610	$ 233,871	$ 257,258	$ 282,984	$ 311,282	$ 342,411	$ 376,652	$ 414,317	$ 455,748	$ 501,323	$ 551,456	$ 4,233,891	Costs increase 15% annually
Portland Layover Facility Oper.	$ 70,290	$ 70,290	$ 71,696	$ 73,130	$ 74,592	$ 76,084	$ 77,606	$ 79,158	$ 80,741	$ 82,356	$ 84,003	$ 85,683	$ 925,629	Costs increase 2% annually
Portland Station/Concord Trailways		$ 70,000	$ 71,400	$ 72,828	$ 74,285	$ 75,770	$ 77,286	$ 78,831	$ 80,408	$ 82,016	$ 83,656	$ 85,330	$ 851,810	Costs increase 2% annually
Food Service Operations	$ 580,070	$ 591,671	$ 603,505	$ 615,575	$ 627,886	$ 640,444	$ 653,253	$ 666,318	$ 679,644	$ 693,237	$ 707,102	$ 721,244	$ 7,779,951	Costs increase 2% annually
Operation Subtotal	**$ 7,210,007**	**$ 9,119,803**	**$ 10,306,394**	**$ 10,531,231**	**$ 10,762,436**	**$ 11,000,324**	**$ 11,245,233**	**$ 11,497,530**	**$ 11,757,613**	**$ 12,025,911**	**$ 12,302,889**	**$ 12,589,053**	**$ 130,348,424**	
Administration														
Personnel	$ 349,074	$ 384,500	$ 392,190	$ 400,034	$ 408,034	$ 416,195	$ 424,519	$ 433,009	$ 441,670	$ 450,503	$ 459,513	$ 468,703	$ 5,027,945	2% increase
Administration	$ 229,496	$ 233,800	$ 240,814	$ 248,038	$ 255,480	$ 263,144	$ 271,038	$ 279,169	$ 287,545	$ 296,171	$ 305,056	$ 314,208	$ 3,223,959	3% increase
Marketing	$ 300,000	$ 335,748	$ 347,679	$ 351,156	$ 354,667	$ 358,214	$ 361,796	$ 365,414	$ 369,068	$ 372,759	$ 376,487	$ 380,252	$ 4,273,241	Budget is 9% of base farebox
Administration Subtotal	**878,570**	**954,048**	**980,683**	**999,228**	**1,018,182**	**1,037,553**	**1,057,354**	**1,077,593**	**1,098,283**	**1,119,433**	**1,141,056**	**1,163,163**	**12,525,145**	
Total Base Costs	**$ 8,088,577**	**$ 10,073,851**	**$ 11,287,077**	**$ 11,530,459**	**$ 11,780,618**	**$ 12,037,877**	**$ 12,302,587**	**$ 12,575,124**	**$ 12,855,896**	**$ 13,145,344**	**$ 13,443,945**	**$ 13,752,215**	**$ 142,873,569**	
Cost of Enhancements														
10 Trains Daily			$ 675,000	$ 918,000	$ 936,360	$ 955,087	$ 974,189	$ 993,673	$ 1,013,546	$ 1,033,817	$ 1,054,493	$ 1,075,583	$ 9,629,749	Costs increase 2% annually
Food Service (based on 10-12 daily trains)			$ 65,013	$ 121,224	$ 122,048	$ 239,583	$ 241,175	$ 242,798	$ 244,454	$ 246,143	$ 247,866	$ 249,624	$ 2,019,930	
12 Trains Daily						$ 859,578	$ 876,770	$ 894,305	$ 912,192	$ 930,435	$ 949,044	$ 968,025	$ 6,390,350	90% of 10 trains
Portland North	$ -	125,000	$ -	$ -	$ -	$ 1,200,000	$ 1,224,000	$ 1,248,480	$ 1,273,450	$ 1,298,919	$ 1,324,897	$ 1,351,395	$ 9,045,140	Costs increase 2% annually
Total Enhancement Costs	**$ -**	**$ 125,000**	**$ 740,013**	**$ 1,039,224**	**$ 1,058,408**	**$ 3,254,249**	**$ 3,316,134**	**$ 3,379,257**	**$ 3,443,642**	**$ 3,509,315**	**$ 3,576,301**	**$ 3,644,627**	**$ 27,085,169**	
TOTAL COSTS	**$ 8,088,577**	**$ 10,198,851**	**$ 12,027,090**	**$ 12,569,683**	**$ 12,839,026**	**$ 15,292,126**	**$ 15,618,721**	**$ 15,954,380**	**$ 16,299,538**	**$ 16,654,658**	**$ 17,020,246**	**$ 17,396,842**	**$ 169,959,738**	

REVENUES	FY04	FY 05	FY 06*	FY 07	FY 08	FY XX	FY X1	FY X2	FY X3	FY X4	FY X5	FY X6	Total	
Farebox														
Base Farebox	$ 3,693,795	$ 3,730,537	$ 3,863,101	$ 3,901,732	$ 3,940,750	$ 3,980,157	$ 4,019,959	$ 4,060,158	$ 4,100,760	$ 4,141,768	$ 4,183,185	$ 4,225,017	$ 47,840,725	Baseline fare of $14.19 per passenger
Avg Base fare increase	$ -	$ -	$ 68,060	$ 68,741	$ 138,857	$ 140,245	$ 212,471	$ 214,596	$ 288,989	$ 291,879	$ 368,498	$ 372,183	$ 2,164,519	incremental pp increase .25-.50-.75-$1.00-$1.25
Farebox Subtotal	**$ 3,693,795**	**$ 3,730,537**	**$ 3,931,162**	**$ 3,970,473**	**$ 4,079,606**	**$ 4,120,402**	**$ 4,232,430**	**$ 4,274,755**	**$ 4,389,749**	**$ 4,433,647**	**$ 4,551,683**	**$ 4,597,200**	**$ 50,005,245**	
Other Revenues														
Food Service	$ 367,017	$ 370,688	$ 383,860	$ 387,699	$ 416,570	$ 420,735	$ 439,108	$ 443,499	$ 462,383	$ 467,007	$ 486,417	$ 491,281	$ 4,753,730	$1.41 per base passenger, $1.50, $1.55, $1.60, $1.65
Advertising	$ 40,000	$ 44,000	$ 50,000	$ 50,000	$ 55,000	$ 55,000	$ 60,000	$ 60,000	$ 65,000	$ 65,000	$ 70,000	$ 70,000	$ 684,000	
Municipal Insurance Reimbursement	$ 136,374	$ 176,388	$ 127,566	$ 140,323	$ 154,355	$ 169,790	$ 186,769	$ 205,446	$ 225,991	$ 248,590	$ 273,449	$ 300,794	$ 2,345,836	Revenue is 80% of total insurance cost
Other Revenue Subtotal	**$ 543,391**	**$ 591,076**	**$ 561,426**	**$ 578,021**	**$ 625,925**	**$ 645,526**	**$ 685,877**	**$ 708,945**	**$ 753,374**	**$ 780,597**	**$ 829,866**	**$ 862,075**	**$ 7,783,565**	
Enhancements														* reperesents years with fare increases
Reduced Travel Time (farebox)			$ 227,885	$ 232,443	$ 240,578	$ 245,390	$ 253,925	$ 259,004	$ 267,958	$ 273,317	$ 282,710	$ 288,364	$ 2,571,572	$17-$17.25-$17.50-$17.75-$18.00
10 Trains Daily (farebox)			$ 311,064	$ 622,115	$ 646,760	$ 659,696	$ 685,585	$ 699,297	$ 726,492	$ 741,022	$ 769,585	$ 784,977	$ 6,646,593	$13-$13.25-$13.50-$13.75-$14.00
Food Service (food sales 10-12 trains)			$ 52,640	$ 86,755	$ 94,138	$ 178,172	$ 187,793	$ 191,549	$ 201,682	$ 205,716	$ 216,387	$ 220,715	$ 1,635,545	New ridership xaverage food purchase
12 Trains Daily						$ 785,909	$ 810,007	$ 826,207	$ 851,449	$ 868,478	$ 894,917	$ 912,816	$ 5,949,782	$14.26 $14.55 $14.85 $15.89
Portland-Freeport-Brunswick						$ 61,910	$ 63,148	$ 64,411	$ 68,584	$ 70,364	$ 75,189	$ 76,693	$ 480,700	$5-$5.25-$5.50-$5.75
Boston-Freeport-Brunswick						$ 665,450	$ 678,759	$ 692,334	$ 706,181	$ 720,304	$ 734,711	$ 749,405	$ 4,947,144	50%
Portland-Brunswick from Rockland							$ 122,450	$ 124,899	$ 133,767	$ 136,442	$ 145,798	$ 148,714	$ 812,070	$5-$5.25-$5.50-$5.75
Boston-Brunswick from Rockland		$ -	$ -	$ -	$ -	$ -	$ 968,250	$ 987,615	$ 1,007,367	$ 1,027,515	$ 1,048,065	$ 1,069,026	$ 6,107,838	50%
Enhancement Revenue Subtotal	**$ -**	**$ -**	**$ 591,589**	**$ 941,312**	**$ 981,477**	**$ 2,596,526**	**$ 3,769,917**	**$ 3,845,315**	**$ 3,963,880**	**$ 4,043,158**	**$ 4,167,362**	**$ 4,250,709**	**$ 29,151,244**	
TOTAL REVENUES	***$ 4,237,186***	***$ 4,321,612***	***$ 5,084,176***	***$ 5,421,066***	***$ 5,548,151***	***$ 7,222,209***	***$ 8,475,753***	***$ 8,614,419***	***$ 8,818,014***	***$ 8,965,522***	***$ 9,180,413***	***$ 9,337,801***	***$ 84,775,535***	
Shortfall	3,851,391	$ *5,877,239*	$ *6,942,914*	$ *7,148,617*	$ *7,290,875*	$ *8,069,917*	$ *7,142,968*	$ *7,339,961*	$ *7,481,523*	$ *7,689,136*	$ *7,839,832*	$ *8,059,041*	$ 84,733,415	
CMAQ (80% of deficit)	3,081,113	$ *4,701,791*	$ *5,554,331*	$ *2,716,475*	$ *200,000*	$ *200,000*	200,000	200,000	200,000	200,000	200,000	200,000	$ 17,653,709	
Gap	770,278	$ 1,175,448	$ 1,388,583	$ 4,432,143	$ 7,090,875	$ 7,869,917	$ 6,942,968	$ 7,139,961	$ 7,281,523	$ 7,489,136	$ 7,639,832	$ 7,859,041	$ 67,079,706	

BENCHMARKS	FY04	FY 05	FY 06*	FY 07	FY 08	FY XX	FY X1	FY X2	FY X3	FY X4	FY X5	FY X6	Total
Cost per passenger	$ 31.07	$ 38.79	$ 38.85	$ 37.36	$ 37.71	$ 34.89	$ 30.78	$ 30.99	$ 31.21	$ 31.44	$ 31.67	$ 31.91	$ 33.29
Revenues per passenger	$ 16.28	$ 16.44	$ 16.42	$ 16.11	$ 16.30	$ 16.48	$ 16.70	$ 16.73	$ 16.89	$ 16.92	$ 17.08	$ 17.13	$ 16.61
Subsidy per passenger	$ 14.80	$ 22.36	$ 22.43	$ 21.24	$ 21.41	$ 18.41	$ 14.08	$ 14.26	$ 14.33	$ 14.51	$ 14.59	$ 14.78	$ 16.60
Cost recovery	52%	42%	42%	43%	43%	47%	54%	54%	54%	54%	54%	54%	50%
Average Fare per Passenger	$ 14.19	$ 14.19	$ 14.44	$ 14.34	$ 14.59	$ 14.92	$ 15.40	$ 15.40	$ 15.61	$ 15.61	$ 15.82	$ 15.82	$ 15.19

CAPITAL	FY04	FY 05	FY 06*	FY 07	FY 08	FY XX	FY X1	FY X2	FY X3	FY X4	FY X5	FY X6	Total
Passenger Improvements		500,000	$ 300,000										800,000
5th Round Trip		2,250,000	$ 3,730,000										5,980,000
Portland - Brunswick Track					$ 20,000,000	$ 43,000,000							63,000,000
12 Trains Daily (3rd train set)						$ 1,500,000	$ 1,500,000	$ 1,500,000	$ 1,500,000	$ 1,500,000	$ 1,500,000	$ 1,500,000	10,500,000
Total Capital Costs		**$ 2,750,000**	**$ 4,030,000**	**$ -**	**$ 20,000,000**	**$ 44,500,000**	**$ 1,500,000**	**$ 1,500,000**	**$ 1,500,000**	**$ 1,500,000**	**$ 1,500,000**	**$ 1,500,000**	**80,280,000**

Downeaster 10 Year Outlook Status Quo — 24-Feb-05 — Feb-05

RIDERSHIP	FY04	FY 05	FY 06*	FY 07	FY 08	FY XX	FY X1	FY X2	FY X3	FY X4	FY X5	FY X6	Total	* reflects DNC in 2005
Base Ridership	260,296	262,899	272,241	274,964	277,713	280,490	283,295	286,128	288,989	291,879	294,798	297,746	**3,371,439**	Base net growth of 1% annually
Reduce Travel Time to 2 hr 30 Mins			13,405	13,673	13,947	14,225	14,510	14,800	15,096	15,398	15,706	16,020	**146,781**	Est growth of 2% annually
TOTAL RIDERSHIP	**260,296**	**262,899**	**285,646**	**288,637**	**291,660**	**294,716**	**297,805**	**300,928**	**304,086**	**307,277**	**310,504**	**313,766**	**3,518,220**	
COSTS														
Train Operations														
Amtrak	$ 6,250,790	$ 6,875,308	$ 8,000,000	$ 8,160,000	$ 8,323,200	$ 8,489,664	$ 8,659,457	$ 8,832,646	$ 9,009,299	$ 9,189,485	$ 9,373,275	$ 9,560,741	$ **100,723,866**	Est growth of 2% after 2007
Guilford Rail System		$ 764,749	$ 780,044	$ 795,645	$ 811,558	$ 827,789	$ 844,345	$ 861,232	$ 878,456	$ 896,025	$ 913,946	$ 932,225	$ **9,306,013**	Costs increase 2% annually
MBTA		$ 120,000	$ 122,400	$ 124,848	$ 127,345	$ 129,892	$ 132,490	$ 135,139	$ 137,842	$ 140,599	$ 143,411	$ 146,279	$ **1,460,246**	Costs increase 2% annually
Capital Maintenance (Guilford)		$ 400,000	$ 408,000	$ 416,160	$ 424,483	$ 432,973	$ 441,632	$ 450,465	$ 459,474	$ 468,664	$ 478,037	$ 487,598	$ **4,867,486**	Costs increase 2% annually
Platform Leases GRS	$ 14,877	$ 15,175	$ 15,478	$ 15,788	$ 16,103	$ 16,425	$ 16,754	$ 17,089	$ 17,431	$ 17,779	$ 18,135	$ 18,498	$ **199,532**	Costs increase 2% annually
Platform Liability Insurance	$ 293,980	$ 212,610	$ 233,871	$ 257,258	$ 282,984	$ 311,282	$ 342,411	$ 376,652	$ 414,317	$ 455,748	$ 501,323	$ 551,456	$ **4,233,891**	Costs increase 15% annually
Portland Layover Facility Oper.	$ 70,290	$ 70,290	$ 71,696	$ 73,130	$ 74,592	$ 76,084	$ 77,606	$ 79,158	$ 80,741	$ 82,356	$ 84,003	$ 85,683	$ **925,629**	Costs increase 2% annually
Portland Station/Concord Trailways		$ 70,000	$ 71,400	$ 72,828	$ 74,285	$ 75,770	$ 77,286	$ 78,831	$ 80,408	$ 82,016	$ 83,656	$ 85,330	$ **851,810**	Costs increase 2% annually
Food Service Operations	$ 580,070	$ 591,671	$ 603,505	$ 615,575	$ 627,886	$ 640,444	$ 653,253	$ 666,318	$ 679,644	$ 693,237	$ 707,102	$ 721,244	$ **7,779,951**	Costs increase 2% annually
Operation Subtotal	**$ 7,210,007**	**$ 9,119,803**	**$ 10,306,394**	**$ 10,531,231**	**$ 10,762,436**	**$ 11,000,324**	**$ 11,245,233**	**$ 11,497,530**	**$ 11,757,613**	**$ 12,025,911**	**$ 12,302,889**	**$ 12,589,053**	$ **130,348,424**	
Administration														
Personnel	$ 349,074	$ 384,500	$ 392,190	$ 400,034	$ 408,034	$ 416,195	$ 424,519	$ 433,009	$ 441,670	$ 450,503	$ 459,513	$ 468,703	$ **5,027,945**	2% increase
Administration	$ 229,496	$ 233,800	$ 240,814	$ 248,038	$ 255,480	$ 263,144	$ 271,038	$ 279,169	$ 287,545	$ 296,171	$ 305,056	$ 314,208	$ **3,223,959**	3% increase
Marketing	$ 300,000	$ 335,748	$ 347,679	$ 351,156	$ 354,667	$ 358,214	$ 361,796	$ 365,414	$ 369,068	$ 372,759	$ 376,487	$ 380,252	$ **4,273,241**	Budget is 9% of base farebox
Administration Subtotal	**878,570**	**954,048**	**980,683**	**999,228**	**1,018,182**	**1,037,553**	**1,057,354**	**1,077,593**	**1,098,283**	**1,119,433**	**1,141,056**	**1,163,163**	**12,525,145**	
TOTAL COSTS	**$ 8,088,577**	**$ 10,073,851**	**$ 11,287,077**	**$ 11,530,459**	**$ 11,780,618**	**$ 12,037,877**	**$ 12,302,587**	**$ 12,575,124**	**$ 12,855,896**	**$ 13,145,344**	**$ 13,443,945**	**$ 13,752,215**	$ **142,873,569**	
REVENUES														
Farebox														
Base Farebox	$ 3,693,795	$ 3,730,537	$ 3,863,101	$ 3,901,732	$ 3,940,750	$ 3,980,157	$ 4,019,959	$ 4,060,158	$ 4,100,760	$ 4,141,768	$ 4,183,185	$ 4,225,017	$ 47,840,725	Baseline fare of $14.19 per passenger
Avg Base fare increase	$ -	$ -	$ 68,060	$ 68,741	$ 138,857	$ 140,245	$ 212,471	$ 214,596	$ 288,989	$ 291,879	$ 368,498	$ 372,183	$ **2,164,519**	Incremental pp increase .25-.50-.75-$1.00-$1.25
Farebox Subtotal	**$ 3,693,795**	**$ 3,730,537**	**$ 3,931,162**	**$ 3,970,473**	**$ 4,079,606**	**$ 4,120,402**	**$ 4,232,430**	**$ 4,274,755**	**$ 4,389,749**	**$ 4,433,647**	**$ 4,551,683**	**$ 4,597,200**	$ **50,005,245**	
Other Revenues														
Food Service	$ 367,017	$ 370,688	$ 383,860	$ 387,699	$ 416,570	$ 420,735	$ 439,108	$ 443,499	$ 462,383	$ 467,007	$ 486,417	$ 491,281	$ 4,753,730	$1.41 per base passenger, $1.50, $1.55, $1.60, $1.65
Advertising	$ 40,000	$ 44,000	$ 50,000	$ 50,000	$ 55,000	$ 55,000	$ 60,000	$ 60,000	$ 65,000	$ 65,000	$ 70,000	$ 70,000	$ **684,000**	
Municipal Insurance Reimbursement	$ 136,374	$ 176,388	$ 127,566	$ 140,323	$ 154,355	$ 169,790	$ 186,769	$ 205,446	$ 225,991	$ 248,590	$ 273,449	$ 300,794	$ **2,345,836**	Revenue is 60% of total insurance cost
Other Revenue Subtotal	**$ 543,391**	**$ 591,076**	**$ 561,426**	**$ 578,021**	**$ 625,925**	**$ 645,526**	**$ 685,877**	**$ 708,945**	**$ 753,374**	**$ 780,597**	**$ 829,866**	**$ 862,075**	$ **7,783,565**	
TOTAL REVENUES	***$ 4,237,186***	***$ 4,321,612***	***$ 4,492,588***	***$ 4,548,495***	***$ 4,705,531***	***$ 4,765,928***	***$ 4,918,307***	***$ 4,983,699***	***$ 5,143,123***	***$ 5,214,244***	***$ 5,381,549***	***$ 5,459,275***	***$ 57,788,810***	
Shortfall	3,851,391	5,752,239	6,794,489	6,981,965	7,075,087	7,271,949	7,384,279	7,591,424	7,712,772	7,931,100	8,062,396	8,292,940	85,084,759	
CMAQ (80% of deficit)	3,081,113	*$ 4,601,791*	*$ 5,435,591*	*$ 2,653,147*	*$ 200,000*	*$ 200,000*	200,000	200,000	200,000	200,000	200,000	200,000	$ 17,371,642	
Gap	770,278	$ 1,150,448	$ 1,358,898	$ 4,328,818	$ 6,875,087	$ 7,071,949	$ 7,184,279	$ 7,391,424	$ 7,512,772	$ 7,731,100	$ 7,862,396	$ 8,092,940	$ 67,330,390	
BENCHMARKS														
Cost per passenger	$ 31.07	$ 38.32	$ 39.51	$ 39.95	$ 40.39	$ 40.85	$ 41.31	$ 41.79	$ 42.28	$ 42.78	$ 43.30	$ 43.83	$ 40.61	
Revenues per passenger	$ 16.28	$ 16.44	$ 15.73	$ 15.76	$ 16.13	$ 16.17	$ 16.52	$ 16.56	$ 16.91	$ 16.97	$ 17.33	$ 17.40	$ **16.43**	
Subsidy per passenger	$ 14.80	$ 21.88	$ 23.79	$ 24.19	$ 24.26	$ 24.67	$ 24.80	$ 25.23	$ 25.36	$ 25.81	$ 25.97	$ 26.43	$ **24.18**	
Cost recovery	52%	43%	40%	39%	40%	40%	40%	40%	40%	40%	40%	40%	**40%**	
Average Fare per Passenger	$ 14.19	$ 14.19	$ 13.76	$ 13.76	$ 13.99	$ 13.98	$ 14.21	$ 14.21	$ 14.44	$ 14.43	$ 14.66	$ 14.65	$ 14.21	

APPENDIX A
OPERATING PLAN

There are a variety of possible service options to consider for the future of the service, ranging from significantly expanded frequencies to reducing service levels to bare minimums. After consideration of the existing market conditions, contractual commitments with the Federal Transit Administration, station communities and Amtrak; two service options were developed for further consideration. They are a status quo and a program for expansion of services.

Status Quo.

The status quo, or "do nothing" option, is considered as it continues to provide the service that customers and the communities have come to expect and rely upon, and there are no significant risks or expectations beyond the current service conditions.

- 4 round trips a day Portland to Boston
- 2 hour, 40 minute trip length
- No extension of service North of Portland

Based on these presumed service elements, the difference in operating costs and revenues will increase to more than $7M million in 2010 with only an 8.8% increase in ridership. The cost per passenger increases by 40% as Amtrak costs continue to be passed through to NNEPRA without a corresponding revenue enhancement opportunity beyond basic fare increases.

Downeaster Schedule as of August 1, 2004

SOUTHBOUND		NORTHBOUND	
Dep POR	ArrBON	Dep BON	Arr POR
6:10am	8:50am	9:45am	12:30pm
8:50am	11:30am	12noon	2:45pm
2:00pm	4:45pm	6:15pm	9:00pm
4:05pm	6:45pm	10:20pm	1:05am

Service Expansion and Enhancement Option.

The NNEPRA and MaineDOT staff consensus is to provide an expanded service to Freeport and Brunswick and to increase service frequency to Boston.

Reduce travel time.

The current travel time between Portland and Boston, 2 hours and 40 minutes, is uncompetitive with the automobile. The plan is that construction / maintenance agreements be developed between Amtrak, GRS and the MBTA to decrease trip duration time by a minimum of 15 minutes. This reduction in travel time is expected to increase ridership by approximately 13,400 riders the first year, generating more than $225,000 in additional revenues.

Increase service frequency to ten trains daily utilizing existing equipment base and revise schedules.

The current four daily round trips present a number of limitations to ridership growth. From the perspective of commuters and business travelers to Boston, the first train arrives too late (8:50am) for connections to work and/or meetings. There is only

one departure from Boston (6:15pm) between 12:00 noon and 10:20pm. This train carries 25% of all *Downeaster* riders. This limits the number of options for commuters and business travelers leaving Boston and creates an imbalance of available inventory between inbound and outbound service.

Business travelers and tourists to Maine are also constrained with the existing eight trips. The first train arrives in Portland mid-day (12:30pm), with the next train arriving at 2:45pm. The last departure south from Portland is currently 4:00pm Monday-Friday and 6:30pm Saturday-Sunday. This short time frame limits the appeal of a day trip to Portland and prohibits visitors from taking advantage of afternoon sporting events, cultural performances and other events.

This plan proposes that a fifth round trip be added to the schedule, using available rolling stock. With a total of ten trips daily, commuter, business and leisure travelers will arrive in Boston earlier and have two "rush hour" departure options from Boston. Leisure and business travelers to Maine will also arrive earlier, and enjoy a longer stay.

Although existing rolling stock can be used for the fifth round trip, improvements in track infrastructure are critical to an increased service frequency from eight to ten trains daily. In addition, expanded coordination would be required with GRS, MBTA and Amtrak for efficient and expanded use of right-of-way.

This service enhancement is expected to generate more than 47,000 riders annually, contributing over $600,000 in additional fares annually.

Downeaster Schedule proposed for April 2005

SOUTHBOUND		NORTHBOUND	
Dep POR	Arr BON	Dep BON	Arr POR
5:20am	7:50am	8:45am	11:15am
8:30am	11:00am	12noon	2:30pm
1:00pm	3:30pm	4:45pm	7:15pm
3:00pm	5:30pm	6:15pm	8:45pm
8:00pm	10:30pm	11:00pm	1:30pm

Procure an additional train set by lease or purchase.

A third train set would be required to operate service North of Portland and to increase frequency to six daily round-trips between Portland and Boston, including service to Brunswick.

Extend service to Freeport and Brunswick.

The capital needs for this project are currently identified as $63.6M. Funds that had been identified for this project are now programmed for improvements to the Portland to Boston track to reduce trip time and to cover the *Downeaster's* operating costs. This leaves an estimated shortfall of $51M which must be covered by future bonds or earmarks. Start up for Portland North service is dependant upon securing capital funding.

This service enhancement would generate riders on the Portland to Brunswick segment, and contribute new riders to the Portland to Boston segment. The total ridership impact is estimated to be about 39,000 riders and more than $700,000 in farebox revenues annually. Connecting to seasonal service between Brunswick and Rockland, by another provider, is projected in increase ridership from Portland by an additional 24,000 and from Boston by 38,700. This connectivity will increase the *Downeaster's* farebox by $1M.

Introduce a sixth roundtrip between Portland and Boston once additional equipment is in service.

This increased frequency will generate over 56,000 new riders and $800,000 in farebox revenues annually.

Improve passenger safety, security and communication facilities.

With the exception of Boston and Portland, *Downeaster* facilities are not staffed. With an increased focus on passenger safety and security, it is recommended that passenger information systems be deployed. These systems would:

- Provide waiting passengers real time information on status or the extent of any delays.
- Allow for special service and emergency notifications to stations.
- Notify connecting transit services and hotel shuttles of delays and whether to wait for connecting passengers.
- Provide exact location of train if a security or emergency occurs on the train.
- Provide security cameras or perimeter alarms for passenger, parking or sensitive areas.

The following are the phases for this proposed system.
1. Automated train status and passenger notification system
2) Station Wide Area Network (SWAN) System & Camera Deployment
3) "SmartTrain" Train Local Area Network System (TLAN) & Camera Deployment

Identify a dependable, consistent, and stable funding source to support operational enhancements and capital improvements.

Financial support of passenger rail service in Maine cannot be completely met by the MaineDOT and crosses multiple jurisdictions. It is recommended that a task force be appointed by Governor Baldacci to identify potential funding strategies and mechanisms.

While representing significant capital investment requirements to operate to Brunswick, the ultimate operating cost is modest relative to the increased ridership, market share and operating efficiencies that can be derived from an expanded service. The operating cost for these expanded service options is approximately $3.5M more than the status quo option, or 27% more operating cost (excluding capital debt service). However, ridership is projected to increase by 226,581, or 80%, in 2010 with the extension and increase in service frequency over the status quo option.

More importantly, the projected revenues from all enhancements are projected to exceed that of status quo by over $4.7 M, or 103%. This will result in the same short fall for the enhancements as for status quo. **It must be noted that a significant marketing campaign will be required to reach these ridership and revenue projections.**

Portland North.

Service to Freeport and Brunswick will open the midcoast region to rail service. Amtrak service to and from Boston will provide access to Freeport, Maine's leading tourist destination. In Brunswick, travelers will be able to transfer to trains going on to Bath, Wiscasset, and Rockland. And there is the potential for commuter rail service to Portland in the very congested I-295 corridor from a park and ride facility in Cumberland. In the future, service could be extended to Lewiston - Auburn, and eventually to Montreal.

The Portland North extension will provide two round trips between Portland and Brunswick, continuing existing *Downeaster* runs and offering passengers a one-seat ride between Boston and Brunswick. One station stop is currently planned between Portland and Brunswick, in Freeport. The total one-way travel time for this extension will be approximately 60 minutes. An additional train set is required for this service.

APPENDIX B
CAPITAL PLAN

In order to support the existing Portland to Boston service and implement the strategies contained in the business plan, capital improvements will be required in the Portland to Boston corridor. The attached Portland to Boston capital plan (Attachment 1) was part of a proposal by Guilford Rail System and recommended by AMTRAK to keep the rail corridor in a state of good repair. These improvements will increase the capacity of the line, improve operating reliability and efficiency and maintain the rail line integrity.

The capital plan for the extension of the *Downeaster* service to Freeport and Brunswick is also attached (Attachment 2). This plan includes estimates for the rail corridor improvements to make this service viable. In addition to the improvements of the rail corridor outlined in the attachment, an additional train set will be required for this service at a purchase price of $13M-$18M. Another option would be to lease this train set at a cost of approximately $1.5M annually.

In the development of the *Downeaster* business plan and capital plans, priority was given first to continuing operations of the current *Downeaster* service, next to needed capital improvements in the Portland to Boston corridor and lastly to the expansion of the service to Freeport and Brunswick.

In addition $800,000 in capital funds are required for investments to improve passenger safety, security and communication facilities.

CAPITAL PLAN for DOWNEASTER SERVICE IN PORTLAND TO BOSTON CORRIDOR

		Estimated Cost	Remarks/Benefits
1. CAPITAL / OPERATING IMPROVEMENTS:			
[A]	Rail Grinding (1st pass on new CWR)	$ 115,000	Maintain rail integrity and extend the life of the rail, system-wide on 78 miles of GRS track.
[B]	Track Modulus Improvements	$ 698,400	Improved ride quality and maintain planned operating speed (79 MPH) and reducing sections currently slow-ordered
[C]	CWR Installation (Replace "gas plant" CWR)	$ 615,000	Maintain rail integrity and increased speed by replacing short sections of older CWR not replaced in original rehab project
[D]	Signal & Communication Improvements	$ 226,500	Improve operating reliability, capacity and on time performance.
[E]	Out-of-Face Surfacing Program	$ 600,000	5-year out-of-face surfacing cycle to maintain track geometry and planned operating speeds (79 MPH). Keeping rail corridor in good state of repair
TOTAL CAPITAL / OPERATING IMPROVEMENTS:		**$ 2,254,900**	
2. CAPACITY IMPROVEMENTS:			
[A]	Controlled Passing Siding Improvements (Dover to Rollinsford)	$ 1,061,260	Increase line capacity and improve operating reliability. Improvements to sidings in NH for trains to pass allowing better schedules and more round trips for passenger trains.
[B]	Controlled Passing Siding Improvements (Wells)	$ 700,000	Increase line capacity and improve operating reliability. Passing track improvements to the existing Wells, Maine passing track allowing for operating efficiencies and more corridor capacity.
[C]	Controlled Passing Siding Improvements (CPF 211 & CPF 226)	$ 980,000	Increase line capacity and improve operating reliability. Improvements to an existing passing siding in Old Orchard Beach and further expansion of Wells passing siding.
[D]	Controlled Passing Siding Construction (CPF 218 to CPF 220)	$ 990,210	Increase line capacity and improve operating reliability. Construction of new passing track in Arundel to increase capacity of the line allowing for better schedules and more trains.
TOTAL CAPACITY IMPROVEMENTS:		**$ 3,731,470**	
TOTAL INFRASTRUCTURE INVESTMENT:		**$ 5,986,370**	

Attachment 2

Portland North Construction Budget

	Project Budget	Contingency	Adjusted Budget
		10%	
Portland Wye	$3,750,000	$375,000	$4,125,000
Portland Layover Expansion	$2,000,000	$200,000	$2,200,000
Union Branch Connection	$500,000	$50,000	$550,000
Park Street & Royal River Bridges	$2,850,000		$2,850,000
Union Branch	$5,900,000	$590,000	$6,490,000
Back Cove Rail Bridge	$7,500,000		$7,500,000
Presumpscot River Bridge	$1,450,000		$1,450,000
SLR Upgrade	$10,500,000		$10,500,000
Yarmouth Junction Connection	$1,000,000	$100,000	$1,100,000
GRS Brunswick Branch Upgrade	$13,000,000	$1,300,000	$14,300,000
Layover Facility	$1,500,000	$150,000	$1,650,000
Brunswick Platform	$500,000	$50,000	$550,000
Freeport Platform	$500,000	$50,000	$550,000
Sub Total	$50,950,000	$2,865,000	$53,815,000
PE	$3,800,000		$3,800,000
CE	$2,700,000		$2,700,000
Acquisition of Union Branch	$3,254,856		$3,254,856
Total	**$60,704,856**		**$63,569,856**

Edited on: 5/19/2004

Sections with completed Preliminary Design Reports don't have a contingency adjustment

Exclusions

Passing Track - North	$5,400,000
Brunswick Layover Expansion	$1,000,000
SLR Acquisition	$5,000,000

Amtrak Cost Cap

Amtrak supported the start of the *Downeaster* by agreeing to cap operating costs for the first three years of service to the costs agreed to in 1996. This agreement also expires in December, 2004, with an estimate of $1.4M in additional operating costs in 2006. These additional costs previously had been borne by Amtrak but are now being passed on to its states partners. These cost increases are being established without any corresponding service improvements or offsetting revenue benefits.

Current Sources of Funding

Currently the *Downeaster* relies upon Federal and State funding for capital investments and operating support. These funds come from the following programs.

- The Taxpayer Relief Act of 1997 (TRA). Maine was eligible because we were a state without Amtrak service. We received the $23,230,000 in two equal payments, one in FY1998, and the next in FY 1999. These funds were used for a variety of projects, but the two most significant were to provide the match to federal capital investments and operating subsidies. This source was available only once.

- Congestion Mitigation Air Quality (CMAQ) Funds. This federal funding source can be used to develop and implement programs to reduce auto use and the resulting air emissions. Funds may be used for capital and the first three years of operating support. Currently a 20% state and/or local match is required. Maine's congressional delegation has included a provision in the Senate version of the upcoming Transportation Act Reauthorization to extend the *Downeaster's* eligibility for an additional two years.

Potential Federal Fund Sources

- STP Transfer. Federal regulations allow the transfer of State Transportation Program (STP) from highway to transit programs. Given the current backlog of highway and bridge projects, the MaineDOT is reluctant to flex funds away from the highway program. Additionally, rail projects would then have to directly compete with roadway projects for funding.

- Fixed Guideway funds. By being identified as a commuter rail service, the *Downeaster* will be eligible for urban FTA urban programs, such as the Fixed Guideway program. It is predicted that the Greater Portland Area's population will exceed 200,000 by the 2010 Census. This will make the *Downeaster* eligible for FTA Fixed Guideway Funding.

- Transportation Act Reauthorization. Initial operating support for the *Downeaster* has been provided by the U.S. DOT's Congestion Mitigation Air Quality (CMAQ) program. This program supports the development of transportation programs to reduce congestion. Currently the use of these funds is limited to the first three years of service. The *Downeaster* service reaches this deadline in December 2004. Maine's congressional delegation is working to include language in the upcoming highway reauthorization bill that will

extend this funding source for the *Downeaster* an additional two years. While we are confident that this extension will become a reality, we must plan now for how to make up for the loss of these funds in 2006.

- In addition, the upcoming reauthorization of the U.S. Transportation Act will include significant changes to Amtrak. While the outcome of this is currently unknown, one likely result will be an increasing dependency on states for operating and capital support.

Other Sources

- Farebox Revenues. A fare structure will be developed to ensure that the *Downeaster* is attractive and competitive with other transportation modes in the corridor, including the automobile. In addition to the standard one-way and round trip fares, there are currently monthly fares and multi-ride fares that cover a 45-day period, and FlexPass, a ticket interchange program with Concord Trailways.

  The current fare structure is based on a one-way tariff, with the round-trip tariff being equal to the one-way tariff. Discount fares are available to seniors, students and children under age 15. Group fares are available for a discount also, based on size of group and travel period.

- General Fund Bonds. The use of state backed bond for capital investments will be needed to extend the service to Brunswick, as CMAQ funds are now being used for operating assistance and track improvements on the Portland to Boston Service. Given the existing pressures on the General Funds, we do not propose using this as a source for operating subsidies.

- State of New Hampshire. Currently the only New Hampshire investment in the *Downeaster* is the rail stations in Dover, Durham, and Exeter. New Hampshire has not made any investments in the rail line, nor provided operating support. MaineDOT, NNEPRA, TrainRiders Northeast and other advocacy groups should encourage NH to invest a portion of its CMAQ funds in the *Downeaster*. This plan does not call for the State of Maine to make any investments that would only benefit New Hampshire residents.

- Massachusetts Bay Transportation Authority. Currently the MBTA supports the *Downeaster* by charging a low rate for the use of its tracks. The possibility for costs savings by contracting with the MBTA for train maintenance and other services should be investigated.

- Creation of Transportation Alternatives Fund. Maine's Constitution limits the expenditures of funds received from fuel taxes to highway and bridge investments and maintenance. If we are committed to developing a transportation system that includes all modes of travel, we must find a source of continuing funding for these programs. This cannot just be a transfer of critically needed fuel taxes and general funds. Possible funding sources to be

evaluated include vehicle surcharges, impact fees and Transportation Investment Funding and Transportation Oriented Development. **This plan recommends the creation of a Governor appointed task force to evaluate funding opportunities.**

- Regional Transportation Entities and Communities. Outreach to Metropolitan Planning Organizations (MPO) in the corridor is necessary to ensure the full utilization of all funds.

- Private industry. The private sector benefits from rail service in the corridor. This includes railroads, lodging and restaurants, and retail. The above mentioned task force must include representatives from these sectors to identify strategies that are mutually beneficial, such as cooperative marketing and tour packages.

APPENDIX D
INVESTMENTS TO DATE

Capital investments made to date on the Portland to Boston rail corridor include investments in track and signal infrastructure on the GRS line from Portland, ME to Plaistow, NH; track and signal upgrades to the MBTA Wildcat Branch; construction of four rail station platforms and related station infrastructure in Maine; construction of a layover/light maintenance facility to service passenger equipment in Portland, ME and rehabilitation of three Cab control cars for train operations. The breakdown of funding is as follows:

Track/Signal Rehab	**FTA**	**State Bond**	**TRA***	**TOTAL**
Portland to Plaistow, NH (GRS Line)	$48,110,900	$ 5,500,000	$10,392,100	$64,003,000
MBTA Wildcat Branch	800,000		200,000	1,000,000
Station construction				
Portland			1,730,000	
Old Orchard Beach*	150,000			
Saco*	411,200			
Wells*	1,000,000			3,291,200
Portland Layover Facility				
Thompson's Pt. Facility	602,400		150,600	753,000
Rehab Cab/Control cars				
Rehab/10yr. lease Three F40 Control cars	636,000		159,000	795,000
TOTAL Investment	**$ 51,710,500**	**$5,500,000**	**$ 12,631,700**	**69,842,200**

* FTA funds matched by municipal funds in Saco and OOB and by the Maine Turnpike Authority in Wells.

Beyond the sheer size of this investment of Federal and State funds, there is a potential liability with the Federal Transit Administration (FTA) funds that have been spent. The Federal Grant Agreements NNEPRA signed contain the following provision:

> "The recipient agrees that Project property, equipment, and supplies shall be used for the provision of mass transportation service for the duration of their useful life, as defined by FTA. Should the recipient fail to use Project property, equipment or supplies during their useful life, the Recipient agrees that FTA may require the Recipient to return the entire amount of Federal assistance expended on property, equipment and supplies."

The improvements funded with FTA funds carry a useful life, as defined by FTA, of 20 years. In FTA funded projects any determination of payback is made on a case by case basis. Even if payback of funds were not required due to discontinuation of the *Downeaster* Rail Service, any discontinuation of service would have a negative impact on future funding requests to the FTA in general and for Passenger rail in particular.

APPENDIX E
EXISTING SERVICE

Management

The Northern New England Passenger Rail Authority (NNEPRA) is a State of Maine public benefit corporation established in 1995 to promote passenger rail service in and to Maine. Today NNEPRA oversees operation of this rail service as provided by Amtrak and its other business partners. Funding for the capital and operating needs of the service is provided by the Maine DOT. NNEPRA contracts with Amtrak to provide the transportation service and for track access from Guilford Transportation and the MBTA.

Downeaster related agreements and their costs are:

- AMTRAK- NNEPRA Service Agreement
  YR1 - $5,350,000
  YR2 - $5,500,000
  YR3 - $5,700,000
  Operations from Portland to Boston by AMTRAK, includes track maintenance payments to GRS and MBTA.

  Amendments to above with operating cost implications:
  1. Additional AMTRAK insurance (included in Service Agreement Cost)
  3. Cab Car Insurance $20,000/yr
  4. AMTRAK reservation/information system $180,000/yr
  10. Use of additional coaches $1,000/day (expired 9/30/03)
  12. Portland ticketing $280,000/yr

- Food Service Agreement (NNEPRA and L.P.M. Holding Co.) $240,000/yr estimated. NNEPRA covers all losses on sale of food on train.

- NNEPRA – Suburban Propane lease
  $7,800/yr building and storage rent for mechanical services contractor at Portland Layover facility (required by AMTRAK agreement).

- Platform Leases – GRS
  $15,000/yr required for operations

- Portland Station – CCL
  $70,000/yr estimated, NNEPRA/MDOT cover ½ of maintenance and operational costs of Portland Station after parking income is deducted.

Current Operations

The *Downeaster* operates four round trips daily between Portland and Boston, serving eight intermediate stations in Maine, New Hampshire and Massachusetts. Ridership in the first year of operation averaged almost 29,000 passengers per month – almost 1,000 riders each day. Ridership in FY 2004 totaled 260,696 with a monthly average of 21,700.

Amtrak's *Downeaster* rail route uses 36 miles of the route in Massachusetts belonging to the Massachusetts Bay Transportation Authority (MBTA) and 78 miles of

the route in New Hampshire and Maine are property of Guilford Transportation Industries (Guilford).

The *Downeaster's* four daily round trips between Portland and Boston are presently scheduled to make the114-mile trip in 2 hours and 40 minutes for an average end-to-end service velocity of 41 miles per hour. Most of the investment made by MaineDOT, NNERPA, and Amtrak to restore passenger service focused on improving the condition of Guilford track in New Hampshire and Maine. Since 1999, Amtrak and NNEPRA have been seeking to enforce a contractual commitment with Guilford to operate 79mph service on 115 pound continuously welded rail. It is anticipated that 79mph on Guilford track will cut up to10 minutes from the overall running time.

The *Downeaster* Fleet

The *Downeaster* service operates with two push-pull train sets. Train sets are configured to consist of 3 coaches, one food service car, one locomotive and one cab car with a total seating capacity of 217. Amtrak has provided extra coaches under contract to provide additional capacity during seasonal peak periods. This raises the total seating capacity by 60 seats for each departure.

Surveys of riders show a high level of satisfaction with the service. In addition, a recent phone survey of Maine residents demonstrated strong public support for the service, even by those who had yet to ride the *Downeaster.*

The *Downeaster* is a very efficiently run rail service. It has one of the highest on time performance records in the Amtrak network. In a comparison with seven similar rail services, the *Downeaster* had the highest operating cost recovery ration, with farebox covering 58% of costs. The average of all peers was 31%. The *Downeaster* cost per passenger miles was the third lowest, at $0.29 per passenger miles; the peer average was $0.52. In part these reflect the costs caps agreed to by Amtrak which keep costs at the 1996 levels for the first three years of service.

APPENDIX F
PEER REVIEW

As an element of the Portland North Environmental Assessment, KKO & Associates Consultants compared the existing *Downeaster* service to peer services. A total of 13 performance measures relating to the operational and economic efficiency of the *Downeaster* were developed and calculated for the Maine service and seven roughly similar US passenger rail services. The seven peers served routes ranging in length from 72 to 234 miles (the *Downeaster* route is 114 miles); ranging in service velocity from 31 to 58 mph (the *Downeaster* averages 42 mph); and trip frequency ranging between six and 28 trains per weekday (the *Downeaster* operates eight). The peers include five regional Amtrak services ranging between 86 and 234 route miles and two long distance commuter rail routes (72 miles each). The key findings include:

- In its first year of operation, the *Downeaster* carried substantially fewer passengers than any of the peer services.
- In its first year of operation, the *Downeaster* collected less passenger revenue than any of the peers. Revenue trends for the peers have been overwhelmingly positive.
- On time performance for the *Downeaster* is comparable to all the peer services operating routes of less than 125 miles.
- Considering the ratio of passenger revenues to operating costs, the *Downeaster* reported the most favorable cost recovery ratio of all the peers (58%). This strong performance is partially due to the *Downeaster's* operating costs for its first three years of operation being capped by a 1996 agreement with Amtrak.
- Considering operating efficiency in terms of operating costs per passenger mile, the *Downeaster's* costs are the lowest among all the Amtrak operated peers. Only the two "no frills" commuter rail services have lower operating costs per passenger.
- The *Downeaster* reports the lowest operating cost per passenger of all Amtrak operated services in the peer group.
- The *Downeaster* scores favorably within the peer group for operating efficiency measures related to unit operating costs per train and seat mile.
- The *Downeaster* lags the two older Amtrak regional services that link Harrisburg with Philadelphia and Milwaukee with Chicago in terms of revenue per passenger mile, revenue per seat mile, and revenue per train mile. The *Downeaster's* performance on these measures is roughly equivalent to the other Amtrak peers. All Amtrak regional services outperform the commuter rail services on revenue efficiency measures.
- The *Downeaster* operates with fewer empty seat miles than several of the peers. However, the Milwaukee –Chicago service and the Portland – Seattle peers both do a somewhat better job of matching seating capacity to demand. Overall, the benchmarking analysis suggests that when compared to its peers, the *Downeaster* service is a relatively low cost, low ridership service. As the service matures, it is expected that ridership will grow but operating costs will grow faster. The

Downeaster's performance on revenue measures is generally comparable to other Amtrak regional services, but slightly lags the revenue performance of the more mature, higher density Milwaukee – Chicago and Harrisburg – Philadelphia routes.

- Except for its temporarily low operating costs, the benchmarking analysis does not reveal any substantial differences between the *Downeaster* and its Amtrak peers.

APPENDIX G
MANDATES

Recent changes in State and Federal regulations require transportation departments to evaluate the social and environmental impacts of transportation investments and the effectiveness of alternative modes in meeting demand. These include:

The Sensible Transportation Policy Act (STPA)

The STPA was passed by voter referendum to ensure that transportation decisions and the substantial commitments of public funds resulting from them are made in the context of a comprehensive, statewide transportation policy. The STPA as a component of MaineDOT's transportation planning process:

- Requires evaluation of the full range of alternatives prior to building a new highway or adding new through lanes to existing highways and gives preference to nonconstruction alternatives, such as traffic management and public transit systems, to meet transportation needs;
- Minimizes public health and environmental impacts of transportation decisions;
- Establishes a public participation process for municipal and citizen involvement in transportation planning and decisions;
- Promotes use of energy-efficient forms of transportation and discourages transportation modes reliant on foreign oil;
- Integrates land use planning decisions with transportation planning decisions; and
- Ensures that the State's transportation network meets the diverse needs of rural and urban populations, as well as the mobility requirements of the elderly and the disabled.

The Intermodal Surface Transportation Equity Act of 1991 (ISTEA) and Transportation Equity Act for the 21st Century (TEA-21)

ISTEA was landmark federal legislation for surface transportation in America requiring each state to carry out a continuing, comprehensive, and intermodal statewide transportation planning process which continued with its reauthorization under TEA-21. TEA-21 was set to expire on September 30, 2003 but was extended under a continuing resolution. Congress is currently working on a long-term, anticipated six year reauthorization bill.

The Clean Air Act Amendments (CAAA)

The Clean Air Act of 1970 and the subsequent amendments, including the Clean Air Act Amendments of 1990 (42 USC 7401, et seq.) is the primary Federal law that protects the nation's air resources. This act establishes a comprehensive set of standards, planning processes, and requirements to address air pollution problems and reduce emissions from major sources of pollutants.

The CAAA, together with ISTEA, require State and local transportation agencies to ensure that their actions promote attainment of air quality goals. The CAAA further requires that all transportation projects conform to State plans for meeting mandated air quality standards. In response to the CAAA, the U.S. Environmental Protection Agency established National Ambient Air Quality Standards (NAAQS) for various pollutants, known as "criteria" pollutants (e.g., ozone, volatile organic compounds, oxides of nitrogen, particulate matter, carbon monoxide, sulfur dioxide, and lead) that adversely affect human health and welfare.

Mitigation

Passenger Rail service can be used to mitigate, or offset, the emissions from automobile traffic. The MaineDOT is required to perform a Conformity Analysis for its highway program to insure that projects in the non attainment areas (Coastal Maine) will not result in an increase in overall emissions. Without mitigation, any project that increases highway capacity is prohibited.

APPENDIX H
PUBLIC POPULARITY OF THE *DOWNEASTER* PROGRAM

Initial Public Support

The creation of the *Downeaster* is the direct result of public demand for passenger rail service. In 1989, at the urging of TrainRiders Northeast, the Maine legislature ordered a Passenger Rider Survey and petitioned the White House for support. This resulted in a 1990 feasibility study. In 1990 and 1991 TrainRiders collected nearly 90,000 signatures to initiate a legislative bill. On July 14, 1991 this became Maine's first citizen initiated bill to be adopted by the Maine State Legislature.

Longwoods Report.

In 2000 the MaineDOT contracted with Longwoods International to conduct a survey of interest in passenger rail service between Portland and Montréal. A survey of the Montréal market identified a potential for 300,000 seasonal visitors coming to Maine from Montréal by train.

MaineDOT Poll

Maine DOT recently commissioned a research project to evaluate consumer attitudes regarding the potential expansion of passenger rail service North of Portland. The project was conducted in April and May 2003 by Swardlick Marketing Group of Portland, and the results were presented to the Department in June 2003. The research project had two objectives:

1. Evaluate consumer attitudes as one part of exploring the feasibility of Amtrak rail service from Portland to Brunswick, with a stop in Freeport.
2. Evaluate the interest level and potential for commuter rail service between Exit 16 in Yarmouth and Portland.

   To achieve these research objectives, two comprehensive telephone surveys were conducted. One survey (called the "Amtrak survey") included questions pertaining to the expansion of passenger rail service from Portland to Brunswick, with a stop in Freeport. For this survey, a random sample of 300 adult residents of Central- and Mid-Coast Maine were interviewed. The second survey (called the "Commuter survey") addressed questions pertaining to commuter rail service between Exit 16 Yarmouth and Portland. For this survey, a random sample of 250 residents of Yarmouth and contiguous towns were interviewed, all of whom identified themselves as currently being commuters from the relevant towns into Greater Portland.

   The following are the key findings from the Executive Summary of this research project:

- In both survey groups, most people (about 9 in 10) feel it is important for the state to plan for and provide more public transportation to Mainers, with the most important benefit of public transportation being cited as the reduction of congestion and the fact that it is good for the environment.

- In both surveys, respondents named "extending rail service to Northern and Central Maine" as one of the top public desired improvements to Maine's public transportation system.
- Both sets of survey respondents indicated very high support for the current passenger rail service from Portland to Boston. In the "Amtrak survey," respondents indicated similarly high levels of support for extending passenger rail service to other communities North of Portland. Supporters feel this service will reduce traffic, be convenient, and provide an easy alternative to driving. Similarly, a large majority of respondents to the "Amtrak survey" feel that extending passenger rail service North of Portland will have a positive impact on both the economic development of and the quality of life in Greater Central and Mid Coast Maine.
- In the "Commuter Survey," nearly eight in ten respondents indicated support for the proposed commuter rail service from Yarmouth to Portland. Supporters of the proposal feel that it would help reduce traffic and offer an alternative to driving.
- Approximately one-half of those surveyed regarding commuter service report that they are likely to use the proposed service. Of those who indicate they are unlikely to use the service, many feel that the train station is not convenient or note that they need a vehicle at work.
- Overall in the "Commuter survey," almost three-fourths of the respondents feel that commuter rail service would have a positive impact on the community's quality of life and a majority of respondents feel that it is important for the state to begin to provide this service to Maine residents.

Public Opinion Polls (Passenger Surveys)

The *Northern New England Passenger Rail Authority* conducted passenger surveys in May 2002 and November 2003. Between the two surveys, a total of 1248 individuals participated. Questions differed slightly from the May 2002, August 2002 and November 2003 surveys. Respondents were asked their order of preference in some November 2003 survey questions. *Complete survey material for the following data is available upon request.*

APPENDIX H
PUBLIC POPULARITY OF THE *DOWNEASTER* PROGRAM

Excerpts from survey results are as follows:

DOWNEASTER SURVEY	May '02	Aug '02	Nov '03
Likeliness to ride again (Definitely & very likely)	90%	87%	77%
Overall comfort of the train			
Excellent	47%	37%	63%
Very Good	34%	48%	28%
Satisfactory	8%	13%	3%
Purpose of your trip			
Leisure travel	57%	64%	39%
Visit friends	10%	11%	14%
Shopping	6%	10%	34%
Commute to work	8%	6%	0%
Business	7%	4%	1%
Reason to use the Downeaster:			
Uniqueness of the train	37%	33%	5th
Avoid hassle of traffic	25%	31%	2nd
Comfort	5%	5%	1st
Schedule	2%	6%	4th
Price	2%	1%	6th
Option to read or work onboard	3%	5%	3rd
Factors influencing future decision to ride			
Cost			1st
Increase frequency			2nd
Shorter travel time			3rd
Unreserved			4th
Specials & travel packages			5th
Newer trains			6th
Better connections			7th
Improved service			8th
More amenities			9th

DOWNEASTER SURVEY (cont.)	5/2002	8/2002	11/2003
Gender			
Male	**34%**	**40%**	**33%**
Female	**66%**	**60%**	**66%**
Age			
17 or under	**2%**	**4%**	**5%**
18-25	**8%**	**8%**	**10%**
26-40	**15%**	**20%**	**25%**
41-60	**42%**	**49%**	**40%**
61 or over	**32**	**18%**	**21%**
Household Income			
Under $9,999	**3%**	**3%**	**1%**
$10,000-$19,999	**4%**	**13%**	**6%**
$20,000-$29,999	**10%**	**3%**	**12%**
$30,000-$49,999	**21%**	**26%**	**15%**
$50,000-$74,999	**28%**	**27%**	**25%**
$75,000 or more	**34%**	**28%**	**21%**

Public Opinion Poll (Telephone Survey)

"Report to the Maine Department of Transportation / Market Research on Public Transportation Issues" – June 2003

The complete results of the research project are summarized in *Report to the Maine Department of Transportation / Market Research on Public Transportation Issues – June 2003* by Strategic Marketing Services (a division of Pan Atlantic Consultants) of Portland, Maine. *The total results of the telephone survey (550 polled) command statistical validity at the 95% confidence level with a margin of error of +/- 5.65%.*

The Maine Department of Transportation, Office of Passenger Transportation recognizes that rail transportation is a key component of the continued development of the passenger transportation infrastructure in Maine. The strategic value of rail service is believed to be significant not only in contributing to the quality of life of Maine people, but also as a vehicle of economic development.

The research project was completed in April and May, 2003 and measured specific items in three categories:

General – Public Transportation

- Perceptions of current and anticipated levels of congestion on roads and highways in Southern Maine
- Use of public transportation in Maine during the past six months
- Ratings of the level and quality of public transportation available in Maine
- Importance of the State in planning for the provision of more public transportation
- Desired improvements to Maine's public transportation system
- Awareness and use of passenger rail service in Maine
- Satisfaction levels with passenger rail service (of those who have used it)
- Evaluation of and support for the current passenger rail service
- Media use/information sources

Amtrak Passenger Rail Service:

- Support levels for extending passenger rail service to other Maine communities North of Portland
- Perceived effect of the extended passenger rail service on the economic development and quality of life in the communities north of Portland
- Importance of having the State continue to support passenger rail service

Commuter Passenger Rail Service:

- Perceptions of rush-hour congestion on I-295/I-95
- Current commuting information
- Support for commuter rail, Yarmouth to Portland
- Likelihood of using commuter rail and what price willing to pay
- Perceived effect of the commuter service on the quality of life in the communities surveyed
- Importance of continued state support

APPENDIX H
PUBLIC POPULARITY OF THE *DOWNEASTER* PROGRAM

The following questions/tables contain excerpts from the market research report:

How would you rate the success of the Portland to Boston passenger rail service? Of the respondents who are aware of the Portland to Boston passenger rail service, more than three-fourths feel the service has been successful.

Very unsuccessful	1.8 %
Somewhat unsuccessful	2.9 %
Neither	2.6 %
Somewhat successful	34.9 %
Very successful	**41.2 %**
Don't know	16.5 %

To what extent do you support or oppose the current passenger rail service from Portland to Boston?

There is very high support for the current passenger rail service from Portland to Boston. Eighty-eight percent (88.3%) of respondents support ("somewhat" or "strongly") the current passenger rail service.

Strongly oppose	1.3 %
Somewhat oppose	1.7 %
Neutral	4.7 %
Somewhat support	28.3 %
Strongly support	**60.0 %**
Don't know	4.0 %

To what degree do you support or oppose extending passenger rail service to other Maine communities north of Portland?

Eighty-nine percent (89.0%) of respondents support ("somewhat" or "strongly") extending passenger rail service to other Maine communities north of Portland.

Strongly oppose	2.3 %
Somewhat oppose	3.3 %
Neutral	4.3 %
Somewhat support	25.0 %
Strongly support	**64.0 %**
Don't know	1.0 %

1. **Why are you supportive of extending passenger rail service to other Maine communities? [Unaided; multiple responses were recorded.]**

Reduction of cars on the road	18.0 %
Convenience	13.9 %
Easier than/ Alternative to driving	11.2 %
Access for more people in Maine	8.2 %
Tourism	8.2 %
I would use it more often	7.1 %
Improve economy	7.1 %
Good form of transportation	5.6 %

There is very high support for extending passenger rail service to other Maine communities north of Portland. Supporters feel this service will reduce traffic, be convenient, and will provide an easy alternative to driving.

2. **How important do you believe it is for the state to continue to support passenger rail service for the citizens of Maine?**

1 – Not at all important	4.0 %
2 – Not very important	3.0 %
3 – Somewhat important	31.3 %
4 – Very important	59.3 %
Don't know	2.3 %

Respondents feel it is very important for the state to continue to support passenger rail service for the citizens of Maine. Nine out of ten respondents (90.6%) feel it is important (31.3% - "somewhat important" and 59.3% - "very important") for the state to continue to support passenger rail service for the citizens of Maine.

3. **How would having this passenger rail service affect the quality of life in the Greater Central Maine and Mid Coast area?**

1 – Very negative	0.0 %
2 – Somewhat negative	1.7 %
3 – Neutral	13.7 %
4 – Somewhat positive	44.0 %
5 – Very positive	39.0 %
Don't know	1.7 %

Eighty-three percent (83.0%) of those surveyed stated that having this passenger rail service would have a positive (44.0% - "somewhat positive" and 39.0% - "very positive") effect on the quality of life in the Greater Central Maine and Mid Coast area.

4. **Of the following factors, which do you believe to be the most important benefit of public transportation in Maine?**

Aids economic development, including promoting tourism	23.3 %
Is good for the environment in that it reduces congestion and emissions	38.2 %
Elevates the quality of life in Maine and is a convenient way to travel	32.8 %
Other	1.5 %
Don't know	4.2 %

Almost nine in ten respondents feel it is important for the state to plan for and provide more public transportation to Mainers with the most important benefit of public transportation being cited as the reduction of congestion / the fact that it is good for the environment.

5. How important do you believe it is for the state to provide the proposed commuter rail service to the residents of Maine?

1 – Not at all important	5.2 %
2 – Not very important	6.8 %
3 – Somewhat important	44.4 %
4 – Very important	39.6 %
Don't know	4.0 %

Nine out of ten respondents (90.6%) feel it is important (31.3% - "somewhat important" and 59.3% - "very important") for the state to continue to support passenger rail service for the citizens of Maine.

APPENDIX I
HIGHWAY CONGESTION

Since World War II, the United States has experienced a rapid increase in automobile vehicle miles traveled (VMT). Today almost everyone eligible to have a driver's license has one. In addition, families no longer rely on just one automobile, making cars more available for drivers. Land use patterns have resulted in longer work commutes and other trips. Regional malls have replaced local downtown stores. Residential growth in suburban and rural areas increases our dependency on automobiles. As a result our roadways are carrying more traffic than they were designed for. Traffic congestion is no longer just an urban issue, but one effecting Maine and other rural states.

Trends and Prospects for Highway Congestion in Maine

As indicated below, traffic on I-95, I-295 and other highways will continue to grow. Unless highway capacity is increased or alternative means of transportation become available and utilized, many highways will approach capacity, at least during peak hours, over the next 20 years. To ensure continued transportation mobility and safety, MaineDOT maintains a comprehensive multimodal planning process and coordinates with the Maine Turnpike Authority (MTA) to plan cost effective improvements to the state transportation system.

Vehicle-Miles Traveled (VMT) is the principal measure of the overall use of the highway system. VMT is useful in tracking growth in highway travel, which affects overall system condition, performance, and fuel use and air quality. In York and Cumberland Counties, VMT has increased approximately 61% and 55% respectively since 1985 and will likely continue to increase in the future.

The Maine Turnpike Authority (MTA) is responsible for 110.5 mainline miles including the approximate 42 miles of I-95 from just beyond the New Hampshire border to South Portland. Table A from the MTA's 10 Year Planning Report shows Level of Service (LOS) in 2002 and projects LOS for 2013 at several locations along I-95. LOS is a qualitative measure of the operational characteristics of a roadway that provides a means of evaluating existing and proposed operating conditions (i.e. speed, travel time, traffic interruptions, freedom to maneuver, safety, driving comfort and convenience) presented to a motorist. LOS ratings range from A to F, with A representing ideal driving conditions and F the poorest. The MTA considers LOS D the threshold of acceptable conditions for the existing mainline. As indicated in Table A, I-95 between Exits 44-48 is anticipated to exceed LOS D by 2013.

Table A MTA Mainline	2002		2013	
	2-Way Volume	LOS	2-Way Volume	LOS
York Toll to Exit 19 – Wells	44,836	C	62,063	C
Exit 19 - Wells to Exit 25 - Kennebunk	46,495	F	64,360	C
Exit 25 - Kennebunk to Exit 32 - Biddeford	48,879	F	67,661	C
Exit 32 - Biddeford to Exit 36 - Saco	58,854	F	81,468	C
Exit 36 - Saco to Exit 42 - Scarborough	66,246	C	91,700	C
Exit 42 - Scarborough to Exit 44 - (I-295)	64,942	C	89,896	C
Exit 44 - (I-295) to Exit 45 - South Portland	44,661	C	61,821	E
Exit 45 – So. Portland to Exit 46 - Jetport	42,500	C	58,831	E
Exit 46 - Jetport to Exit 47 – Rand Road	46,623	D	64,537	F
Exit 47 - Rand Rd. to Exit 48 - Westbrook	46,623	D	64,537	F
Exit 48 - Westbrook to Exit 52 - Falmouth	40,635	C	56,248	F
Exit 52 - Falmouth to Exit 53 - West Falmouth	30,577	C	42,325	C

MaineDOT reviewed traffic growth trends on I-295 between Portland and Brunswick to estimate future traffic volumes and operating conditions. Traffic growth trends were examined on I-295 between Exit 17 and Exit 19 because it has traffic volumes representative of this corridor. The main conclusions are that traffic volumes will continue to increase and congestion may become unacceptable within 10 years. As indicated in Table B, LOS in this corridor is currently between C-D and is projected to reach E within 10 years.

Table B I-295 Exit 17 to Exit 19 Representing Portland to Brunswick Corridor			
Year	2000	2010	2020
AADT	50,000	62,500	75,000
Level of Service	C-D	E	F
% Reduction to Reach LOS B (borderline B-C)	29%	43%	53%
% Reduction to Reach LOS C (borderline C-D)	1%	21%	34%
% Reduction to Reach LOS D (borderline D-E)	n/a	5%	21%

While the same level of detailed information regarding LOS is not available for all highways in the passenger rail corridor, review of current and projected traffic counts particularly in sections of the Route One Corridor between Ogunquit and Wells,

Biddeford to Old Orchard Beach and Saco to South Portland provide evidence that non-interstate highways will also likely reach capacity, at least seasonally during peak hours, over the next 20 years. Route One in the Mid Cost area, Sagadahoc, Lincoln, Knox, and Waldo counties, is also experiencing seasonal congestion.

Highway congestion causes increased auto emissions, delays, and safety concerns. Increasing highway capacity is costly and often controversial. In cities and rural towns it often requires the elimination of neighborhoods, village centers, and local businesses. In rural areas the environmental impacts and loss of rural character are major concerns. The current economic climate makes it difficult for federal, state, and local government to maintain its existing infrastructure. The social, financial, and environmental costs of highway construction are high. We can no longer just build our way out of congestion. We need a new, comprehensive approach to managing travel demand that will reduce the burdens on our highway network.

Role of Passenger Rail In Transportation System

Nationwide, passenger transportation is now seen as one way to control the growing demand on highways. In Maine we have rail lines parallel to the interstate highway and Route One, our most congested roadways. This gives us the opportunity to develop a transportation corridor approach to meet our growing mobility needs. Shifting a proportion of travelers and freight to rail service will help reduce current congestion and delay the need to expand highways. In 2003 the *Downeaster* removed over 15 million VMT from highways in Maine, New Hampshire, and Massachusetts.

Passenger rail corridors provide viable alternatives when existing highway corridors are interrupted, either temporarily by weather or emergency closures. The Downeaster provides access to Boston's Logan Airport when the Portland Jetport is closed and regularly carries stranded passengers from all points in the Northeast during winter storms.

Maine is a leader in the development of an integrated, multimodal transportation network. We are looking to our underutilized rail lines and marine highway to help provide mobility while preserving our quality of life. The restoration of passenger rail service between Boston and Portland was a first step in reaching this goal. The *Downeaster* has been a successful experiment in testing rail's potential as a worthwhile element in our transportation system.

The *Downeaster*, a Successful Beginning

The MaineDOT utilized federal funds for the initial capital investments and operating support needed to start the *Downeaster*. By relying on these non-state funds, Maine limited its investments in, and commitment to, the service. A 'bare bones' approach to providing service was adopted, with only four round trips a day. The service was not developed to maximize ridership, but to test the market and to gauge public support.

The *Downeaster* has proven the market demand and public support for rail service in northern New England. The *Downeaster* began service in December, 2001, as the United States was entering an economic downturn. Ridership in the first year of service exceeded 290,000 passengers, within one percentage point of the original projections for the service. Revenues exceeded projections by 44%, reflecting a high number of Portland – Boston trips. In 2003 the *Downeaster* carried over 21million passenger miles, the equivalent of over 15million VMT on highways. Surveys of riders show a high level of satisfaction with the service. In addition, a recent phone survey of Maine residents demonstrated strong public support for the service, even by those who had yet to ride the *Downeaster.*

The *Downeaster* is a very efficiently run rail service. It has one of the highest on time performance records in the Amtrak network. In a comparison with seven similar rail services, the *Downeaster* had the highest operating cost recovery ration, with farebox covering 58% of costs. The average of all peers was 31%. The *Downeaster* cost per passenger miles was the third lowest, at $0.29 per passenger miles; the peer average was $0.52. In part these reflect the costs caps agreed to by Amtrak which keep costs at the 1996 levels for the first three years of service.

Ridership on the *Downeaster* is strong for a start up service. Unfortunately ridership levels declined in the second year of service. Some of this was the result of Sept. 11, 2001 terrorist acts, a weak economy, a record cold winter, and wet early summer. More importantly, the ridership originating in Maine declined. Some of this can be attributed to the met demand of the curious 'one time only' riders. Another factor is that the first train arriving in Boston is not early enough (8:45AM) to meet the demands of business travelers. While tourists were envisioned to be a major component of ridership, ridership from the Boston area has been below expectations. Ridership into Maine is hampered by the current schedule, which prohibit day trips for the Boston area.

The essence of good management is to learn as you implement and to make appropriate changes and adjustments. This Plan includes service changes to make the *Downeaster* more attractive to both commuters and visitors to Maine. These strategies are vital to increasing the utility of the *Downeaster* and making it a valued element of Maine's transportation network.

Costs

Increasing highway capacity is costly and often controversial. In cities and rural towns it often requires the elimination of neighborhoods, village centers, and local businesses. In rural areas the environmental impacts and loss of rural character are major concerns. The current economic climate makes it difficult for federal, state, and local government to maintain its existing infrastructure. Projects such as the turnpike widening may cost more than $100 million and represent only one potential strategy to alleviate congestion. Any future highway capacity project in Maine must compete for funding with other projects statewide. New highway capacity projects often take over ten years from early planning stages to project completion.

The costs of a new lane of highway and a rail line are similar, at approximately $1M a mile. However in many areas the social and environmental impacts of widening a highway are unacceptable. Improvements to an existing, parallel rail line can have a similar impact on providing mobility with fewer negative impacts on neighborhoods or natural resources.

APPENDIX J
ECONOMIC BENEFITS 1

CONNECTIVTY TO BOSTON AND BEYOND

Boston is the economic center of New England and Maine's link to the rest of the world. It is our largest tourist market, with over 16.6 million visitors from Greater Boston annually. Yet our access to this hub is limited to the interstate highway system or congested arterial highways, such as Route One. The *Downeaster* gives us another link to Boston.

Economic development in communities along corridor

STATION COMMUNITIES

PORTLAND

Interview with Lee Urban, Director, Dept. of Planning and Economic Development, City of Portland *2/5/04*

Longstanding Support

- Portland has long supported and encouraged visitors to the city by alternative modes. According to Lee Urban, "Anytime visitors can enjoy the City of Portland without adding to congestion, it is a good thing." Since the arrival of the *Downeaster*, close to a half million passengers are accessing intercity train and bus services through the Portland Transportation Center each year. This has resulted in a demand for connecting services from local transit operators to destinations around Greater Portland. "The City of Portland clearly sees the tie between transportation and economic development" Urban said. He added, "Train passengers traveling to Portland are visiting the museums, shopping downtown and enjoying the Old Port's restaurants and pubs."

Future Opportunities

- Although the push to develop a transit hub in Portland's Bayside area has slowed in recent years, city planners still see its potential as a draw for new business development. The challenge, however, is Portland's stretched budget, and if transit development in Portland's Bayside can compete with the city's other needs.

OLD ORCHARD BEACH

Interview with Budd Harmon, Old Orchard Beach Chamber of Commerce 2/2/04

Moving in the right direction

- With the goal of economic development; local officials, businesses and the Chamber of Commerce worked relentlessly to bring the *Downeaster* to their community. According to Budd Harmon, "From every indication, the arrival of train service to Old Orchard Beach (OOB) has had a very positive impact." Business has increased at shops and restaurants; and, lodging establishments are experiencing higher occupancy rates. Hotels/Inns have also instituted a connecting shuttle service for their guests.

An additional development in town includes a new visitor center/train station, a residential housing project and a public park directly across from the train platform. Noting the impact that the train has had so far; Harmon commented, "Without a doubt, I expect that the town will continue to enthusiastically support (fund) the train service."

Marketing is key

- Harmon feels that OOB can do an even better job attracting visitors with a comprehensive marketing campaign. He would like to partner with the Office of Tourism and NNEPRA.

SACO

Interview with Peter Morelli, Economic Development Director, City of Saco
1/26/04

Being connected

- According to Peter Morelli, "The arrival of the *Downeaster* has put Saco on the map. We all feel privileged to have it." The City of Saco, along with the Chamber of Commerce, is promoting the *Downeaster* in their literature designed to attract business and visitors to the community.

  Morelli feels that, "Recent investments in the community can be directly attributed to the arrival of the train; certainly, in the surrounding area of the train platform and parking area." An old textile mill that had been idle since the mid 1980s has attracted a business developer eager to startup a new company. Other textile mills in the vicinity are also being given a second look by business developers. Morelli stated, "What was a blighted area of Saco has been cleaned-up, refurbished and revitalized."

Liability Insurance

- Funding for liability insurance is becoming a controversial issue in Saco. Originally, cost quotes for liability insurance had been at $10,000 per year. Saco paid over $15,000 last year and it is expected to rise again in 2004. Morelli is concerned that train related expenses will continue to escalate beyond what Saco is able to support.

Operations

- According to Morelli, an unreserved train would offer passengers the ability to make "spur of the moment" travel decisions. People can't always plan their trips in advance.

WELLS

Interview with Jonathan Carter, Manager, Town of Wells
1/14/04

Regional Resource

- Town officials are developing the Wells Station and Park & Ride area as a regional transportation district. *Downeaster* passengers utilizing the Wells facility

are coming from the greater Kennebunk, Ogunquit, and Sanford areas, and ridership at the Wells Station has steadily increased each year. In July 2003, Vermont Transit began offering intercity connecting service from Wells Station and anticipates building a sound ridership base in the community.

- Economic development projects are being planned to attract visitors, enhance the surrounding area, and to provide services that support increased ridership and station use. New development, within a mile of the station, includes a national hotel chain with small convention facilities, convenience store, and gas station. Carter sees the community continuing to do as much as possible to support the train operation in Wells.
- Wells Chamber of Commerce is building a new marketing campaign for the train station, *"There is a public way to get here"* to bring visitors to town.

Annual Station Costs @ $85K

- Town of Wells is funding personnel, snow removal, and maintenance, as well as $35K for platform insurance (Guilford) and $25K for Amtrak liability. According to Jon Carter, "Wells is not getting back in economic development what funds that they have put in. We are providing a service to the region without getting financial help from the communities that benefit".

Operations

- The reservation system is only needed during heavy tourism season (July, August), otherwise not needed. Passengers using the QuikTrak machine often require assistance from station employees.
- Wells Chamber of Commerce has one staff member working at the station. Revenue from station vending machines supports the position. Three members of the Council on Aging volunteer at the station on a rotating basis.

DOVER

Interview with Bruce Woodruff, Planner, Town of Dover
1/26/04

Increased Ridership

- Bruce Woodruff believes that the impact of train service to the Town of Dover has not been fully realized. Although, ridership has steadily increased for both commuters and leisure travelers from Dover Station, the businesses in the surrounding area have not seen an increase in business. Woodruff added, "Dover Station is being developed as a regional hub for intercity carriers (C&J) and local transit providers. We hope to draw travelers connecting to the train to shop at our local establishments."

DURHAM

Interview with Stephen Pesci, Special Projects Manager, University of New Hampshire
1/26/04

UNH Support

- Since service began, the University of New Hampshire has paid 100% of the maintenance and operation costs for the train/facilities. UNH is promoting the

train service as a recruitment tool to attract incoming students. University students find that the train service is especially convenient because they can easily get to Portland, Boston or the beach without a car; the annual parking fee at UNH is $250 and restricted to faculty & upper classman first. In addition, laptops and cell phones can be used on the train.
UNH offers connecting service to the *Downeaster* on the campus shuttle. Students are charged an annual transit fee which generates $400,000 for operation of the shuttle.

- The Town of Durham also supports the train. Brenda Mullaney, Manager of the New England Center stated, "Durham is so grateful that the train doesn't stop in Portsmouth!" The New England Center, by and large, draws visitors from the Boston market. "The train is a great marketing tool", she said.

One Problem Solved

- According to Steve Pesci, "Through a combination of training activities, informational literature and barriers (fencing), the problem of student trespassing on the tracks has been resolved." Before the arrival of the first train, UNH financed the installation of over $100K in fencing along the railroad track that cuts directly through the campus.
- UNH and the Town of Durham plan to work together to address the issue of liability insurance in anticipation of CMAQ funding ending this year.

Durham Station use figures: Ridership from and to the Durham station was up 187% in October2003 over October 2002.....to over 3200 riders - or close to 23,000 riders since service started.

EXETER

Interview with George Olsen, Manager, Town of Exeter, New Hampshire 1/30/04

Attracting New Development

- Since the arrival of the *Downeaster*, the area around the train facility has been rejuvenated. The station area and parking lot, once run down and unattractive, has been cleaned-up and landscaped. A local restaurant that had been steadily losing business is now thriving.
- The community remains 100% behind the train. Although the original cost estimate of $125K for platform and parking lot construction surged to over $1M, the increased cost expenditure was passed by the town without complaints. According to George Olsen, "It has been a joy to have train service in town." The *Downeaster* service is being marketed by Exeter to attract new development and opportunities to town.

Regional Solution

- In 2005, Exeter will be accountable for liability insurance premiums of $50,000 to $60,000. Exeter would like to obtain financial support from the surrounding communities that utilize their facility and QuikTrak machine. *QuikTrak costs $1000 per month to rent from Amtrak.*

Operations

- According to Olsen, "The reservation system is not needed in Exeter. *Downeaster* passengers should be able to purchase tickets on board, just like every other Amtrak train."

Benefits to Freight Rail

It is hard to quantify in financial terms the benefits to the Freight Rail System from the improvements made to rail lines for passenger service. However, when a rail line has capacity for passenger service there are many obvious benefits. **There are large amounts of Federal funding available for passenger rail improvements that are not available for freight improvements and therefore would never be accessible to a freight rail road.** An example is the Portland to Boston Passenger project in which approximately $64M was invested in improvements to the rail line and related infrastructure on 78 miles of the GRS freight line from Portland Maine to Plaistow NH.

Where the line is owned by the freight operator there is an increase in the value of their asset. This can provide an operator a much larger sale price if, and when, the asset is ever sold or the increased asset value can allow the freight operator increased borrowing capacity and larger lines of credit. Also by not having to invest its own money in the rail line improvements, the freight operator can spend those funds on other items, such as rolling stock or other sections of track in their system.

One of the biggest benefits to improvements for the freight operator is the ability to operate at higher speeds and more reliably. In this case freight rail can operate at speeds up to 40 mph. This is especially important to intermodal freight traffic. Where freight rail roads are directly competing with trucks, time is critical in moving goods. Rail line improvements cut transit time which allows the freight operator to be much more competitive.

The largest public benefit of improvements to freight rail lines is improved safety on the system and to the public. Improved rail infrastructure enhances the safety of both passengers and commodities that are transported on the line. Signal improvements and grade crossing upgrades make crossings safer for the automobiles, trucks and pedestrians. As an example, on the Portland to Boston rail project, in the project to improve the GRS line from Portland, ME to Plaistow, NH all public grade crossings were upgraded to include advance signaling with 12" LED flashing lights and gates to block traffic as any train approaches. This greatly improves safety at those crossings for the rail line, both passenger and freight.

PRIVATE SECTOR BENEFITS

In addition to the benefits discussed above, businesses in the communities served by the *Downeaster* benefit from rail service. Businesses have recognized this and have planned expansion and development around future rail service. These include the siting of a new hotel in Freeport, which will include a train station, the Libra Foundations redeployment of the Pineland facility in New Gloucester, and Portland's Bayside redevelopment plan.

The economic impacts of the *Downeaster* are the subject of an upcoming study by the MaineDOT. These include the direct benefits such as reduced traveler costs, jobs created, and increased property values. Indirect and induced benefits include growth for suppliers of goods and services, additional jobs created, and the multiplier effect of additional workers spending their incomes on shelter, food, goods and services, and other local goods.

TOURISM

Tourism is Maine's fastest growing economic sector. Over 44 million visitors came to Maine in 2000. The Maine Department of Transportation's initiative, *Explore Maine*, is creating a passenger transportation system to move travelers into and throughout Maine. This is a network of travel options that are destinations in themselves. *Explore Maine* combines our traditional maritime and rail routes with modern conveyance such as air travel, modern ferry design, advanced traveler information systems, and smart card technology.

The addition of a fifth daily trip is critical in attracting more tourists from Boston. This train will allow these visitors to make a daytrip to Maine. Expanding service to Freeport and Brunswick will make Freeport, Maine's top tourist destination, accessible by train, as well as opening up the midcoast region with connecting service to Rockland.

Maine Department of Economic and Community Development

Interview with Dann Lewis, Director, Office of Tourism
1/12/04

- According to Dann Lewis, "The *Downeaster* is not a great product to market." Specifically, the current limited train schedule is not attracting day trippers. Which, according to the 2002 Longwoods study*, is approximately 73% of Maine's tourist market. "Because it takes over five hours for a round trip, travelers should be able to visit a minimum of 5 to 6 hours before the return trip."

The Office of Tourism is offering to assist the Department of Transportation in its effort to market the train. Dann Lewis had the following recommendations:

- Service Improvements
    1. Improve the schedule! Increase length of time between arrival and departure to attract day trippers.
    2. Establish an easy link transportation between Boston's North and South Stations.
- Marketing Strategies:
    1. Develop a series of onboard surveys to reveal barriers to leisure travel.
    2. Establish tourist/commercial related partnerships to promote market packages that encourage train travel.
    3. Promote service by using direct mailing and email blasts.
    4. Add 10 second electronic *tags* promoting the train on Office of Tourism's seasonal television advertising. Include the *Downeaster* service in state and regional print advertising.

** In 2002, 35 million visitors traveled to Maine as a daytrip, only 9.1 million visited overnight.*

- The Island Explorer bus on Mount Desert Island lured over 290,000 people out of their cars in just 11 weeks of service.

Intermodal connectivity – *local transit and intercity buses, intermodal facilities*

The MDOT has developed an ambitious program of infrastructure investments to realize the *Explore Maine* vision. Amtrak service between Portland and Boston is just the first step in the revitalization of passenger rail service in Maine. Funding is secure for extending this service to major destinations.

Planning has begun for intermodal facilities to provide connectivity between rail, air, and ground transportation services.

Investments in the Marine Highway are underway or planned for coastal and riverfront communities.

Bicycle and pedestrian trail initiatives are in progress. Work has begun to link a network of Maine trails stretching over 600 miles from the East Coast Greenway to Florida.

Intelligent Transportation Systems (ITS) technologies will promote 'seamless' travel. Advanced traveler information will provide travelers with pre-trip planning to utilize a variety of modal options. Smart Cards will streamline fare payment and encourage transfers between modes. Initiatives include a tri-state ITS network for Maine, New Hampshire and Vermont, a field operations test of technology on Mt. Desert Island, and shared technology with Portland transit providers.

APPENDIX K
ENVIRONMENTAL BENEFITS

A CORRDIOR APPROACH

Federal and State policies recognize the need to look beyond highway expansion to address our mobility needs. State and Federal mandates require MaineDOT to consider all reasonable transportation alternatives prior to adding new highway capacity such as building a new highway or adding through lanes to existing highways. MaineDOT is currently conducting a comprehensive corridor study along I-295 from South Portland to Brunswick to address long-term safety and mobility needs. Any vehicle removed from the Interstate improves vehicle hours of delay and may also lead to secondary benefits on other highways and in downtowns. Passenger rail combined with other strategies such as Transportation System and Demand Management will have a contribution to improved level of service and congestion mitigation.

Any passenger rail trip in southern Maine has the potential to divert trips off highways by offering an alternative means of transportation. Based on projected traffic volumes, approximately 700-800 vehicles an hour need to be removed from I-95 or I-295 in each direction during peak periods to noticeably alleviate congestion. Passenger rail by itself would need to divert approximately 840-960 people from highways per peak hour in each direction to alleviate congestion.

While the *Downeaster* does not yet have this level of ridership, we must begin now to improve and expand the service so that it can reach its ridership potential in the next twenty years. Reaching the number of riders that would make a positive impact on congestion is not unrealistic. A 2001 MaineDOT study identified the commuter market for transit service between Portland and Auburn to be over 400 a day in 2006.

NATIONAL TRENDS

Nationwide, passenger transportation is now seen as one way to control the growing demand on highways. In Maine we have rail lines parallel to the interstate highway and Route One, our most congested roadways. Other states are looking to rail to provide cost effective help to reduce car and truck congestion on their highways.

In a1995 Investment Analysis the Virginia Railway Express (VRE) compared investments in a commuter rail in Northern Virginia to constructing an equivalent lane of interstate highway in the same corridor. Costs studied were initial capital investment, maintenance and administration, cost of providing transportation, and air quality considerations. When all were considered, the costs over twenty years were $417M for the VRE and $681M for interstate highway expansion.

CLEANER TRAINS

The EPA finalized emissions standards for locomotives that will provide significant emission reductions, beginning in the year 2000, engine manufacturers have responded by producing a new generation of diesel locomotive engines that have significantly lower emissions than what is currently in use in the *Downeaster* service.

If the locomotive engines currently in use on the *Downeaster* service were remanufactured to current EPA remanufacture standards, NOx emissions would be reduced 21-26% and VOCs would be reduced 12-17%. If new diesel equipment were

acquired or used in the *Downeaster* service, this equipment would have to meet the highest level of the current standards and reduce NOx emissions by more than 60% and VOCs by 50% over the equipment currently in use. Further gains could be attained through the use of ultra-low sulfur diesel fuel as it becomes available (estimated to be 2006), though this may not be cost effective.

The use of alternative fuels such as natural gas could also lower NOx emissions further but would produce higher CO emissions than diesel, more exact NOx emissions reductions will be better known as natural gas engines are tested and certified by the EPA. This would require a higher investment in equipment as well as specialized fueling and maintenance infrastructure. This option once again would have to be evaluated to see if it would be cost effective as equipment and natural gas infrastructure becomes available.