

MAINE STATE LEGISLATURE

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Transportation In Maine

2006 State of the System



Executive Summary



I would like to take a moment to recognize and express my appreciation to the people whose contributions made this collaborative effort possible:

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Lisa Dube,
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Thank you!

Sincerely,



Rick J. Dubois, Director
Systems Management Division,
Bureau of Planning
MaineDOT

Introduction

This is the Executive Summary of Maine's 2006 State of the System Report. Its purpose is to catalog transportation assets and their condition, report on the uses, identify the present and future needs, and develop and recommend funding strategies for Maine's transportation system. This report is a precursor to MaineDOT's Long-Range Transportation Plan and it provides data-supported historical trends and future predictions essential for long term planning. In short, the State of the System Report is a tool for strategic transportation planning and analysis of the state system and the physical infrastructure that supports the movement of Maine's people and goods.

The Long-Range Transportation Plan

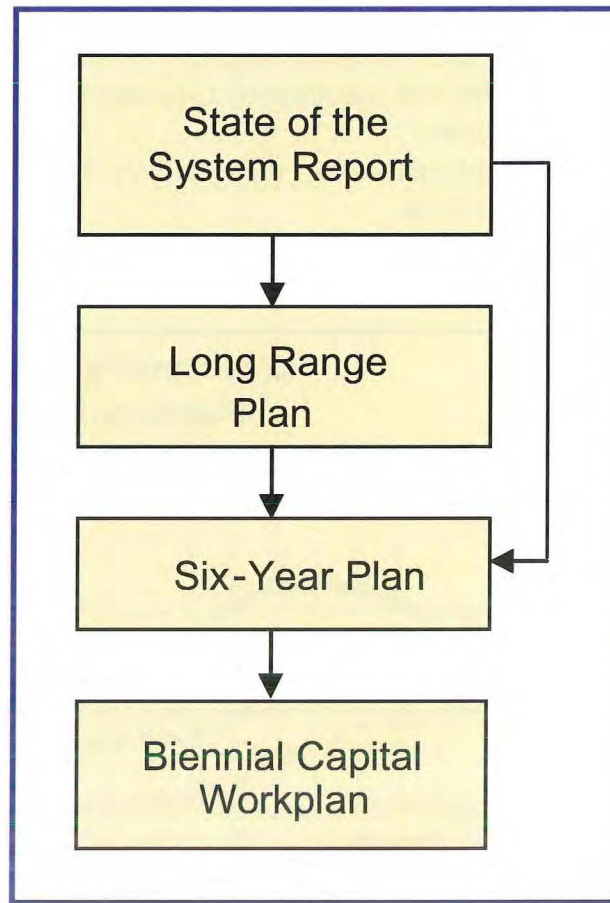
expresses MaineDOT's mission, policies and the long-term goals, objectives, and strategies that guide the Department's allocation of resources. MaineDOT formulates the Long-Range Plan on the basis of the condition and performance of the system and on information obtained from the public, municipal officials, Regional Planning Commissions (RPCs) and the Legislature.

The Six-Year Transportation Improvement Plan

links the goal-oriented Long-Range Plan with the project-based Biennial Capital Work Plan, formerly BTIP. The Six-Year Plan includes specific project candidates that MaineDOT anticipates funding over the next six years or next three Capital Work Plans. The Six-Year Plan provides the opportunity for MaineDOT to begin developing projects with municipalities and developing detailed scopes of work and cost estimates.

The Biennial Capital Work Plan

updated every two years, lists the projects that MaineDOT intends to fund over the upcoming two-year period based on an assessment of federal and state resources and project cost estimates. Work Plans provide project-specific details and are based on the goals and priorities of both the Long-Range Plan and Six-Year Plan.



Safety

Performance: Motor vehicle crashes in Maine result in significant economic and societal impacts.

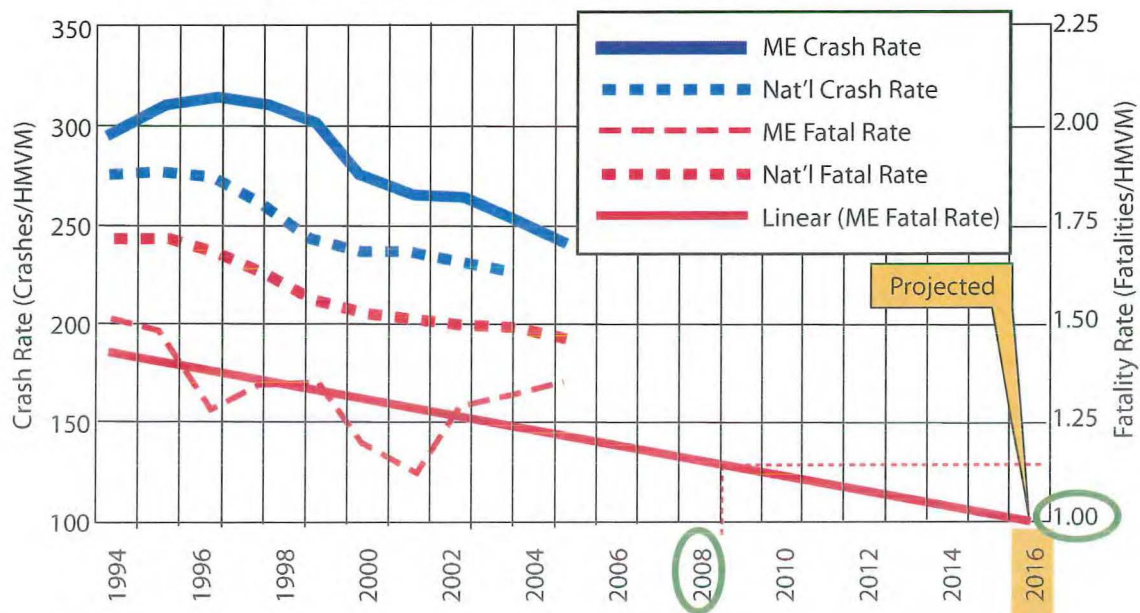
- Maine's 2004 crash rate, was 237 crashes per hundred million vehicle miles traveled (HMVM), higher than the national rate of 220. The crash rate has dropped about 20% over the past 10 years.
- Fatalities on Maine public roads reached a recent high of 216 in 2002, declining to 194 in 2004 and further declined to 168 in 2005, a 20-year low. The 2004 fatality rate of 1.31 per HMVM is lower than the national average of 1.46. Maine's fatality rate has dropped 13% over the past ten years.
- Twenty percent of crash fatalities occur on local roads.
- The state's leading fatal crash type is Lane Departure (Head On and Run off Road)



crashes - 36% of total crashes and 76% of total fatalities.

- Driver behavior is often the core crash causation. The primary contributing factors (driver elements) for Maine crashes are Driver Inattention, Illegal or Unsafe Speed, Failure to Yield Right of Way and Following Too Close. Illegal/

**Crash and Fatality Rate Comparisons
Maine vs. National (1994-2003)
and Projection for Achieving 1.0 Fatalities/HMVM**



Prepared by:
Safety Office
Maine Department of Transportation

HMVM: Hundred Million Vehicle Miles
Fatalities: Those occurring in public road crashes

Unsafe Speed is related to nearly 40% of Maine's traffic fatalities.

- MaineDOT's Hazard Elimination Program has been successful with Benefit-to-Cost ratios for projects completed between 1997 and 2000 of 8.18. The overall crash reduction resulting from completed projects in this time period is 32.2%. The overall reduction in the economic impact of those crashes is 63.5%.
- Aggressive driving as a proportion of total crashes (especially speed-related) continues to grow – now at 33.7%.

Need: There is a national goal to reduce the fatality rate to 1.0 by 2008, and current trends show Maine will fall well short of this target.

- In 2004 a coordinated multi-agency Strategic Highway Safety Plan was initiated with focus on four core safety concerns: **Seat Belt Usage; Lane Departure Crashes; Aggressive Driving; and Older/Younger Drivers.**
- As part of the Maine Transportation Safety Coalition (MTSC), MaineDOT helped produce a comprehensive state crash report titled **The Status of Transportation Safety in Maine.**
- MaineDOT participates in a media campaign to increase public safety awareness through a partnership with TV stations in major markets.

To achieve system safety improvements and bring about the targeted goals to preserve life

and reduce economic loss on our highways, future significant needs are indicated in the Hazard Elimination and SAFETEA-LU (Other) fund levels. Most of the past on-road improvement safety funds have been focused on intersection improvement. With Maine's significant Lane Departure problem, more concentration will be directed to stretches of highway where crash problems have been frequent and severe – without disregarding intersection safety needs. With 20% of fatalities occurring on local roads, funding support will be needed for municipalities. Also, attention needs to be directed at High Risk Rural Roads to implement effective low cost solutions. As important and central as system improvements are to MaineDOT, the bottom line causation of crashes almost always involves driver decision-making or behavior, so public outreach is an important safety component. MaineDOT will devote some of its resources to the human factor of crash incidence, and will often work in partnership with other stakeholders to endeavor to change Maine's driver culture and risk taking tendencies.

Most, if not all of the capital improvements implemented by MaineDOT have a safety component. The average biennial safety investment level on projects whose primary purpose is safety has been \$9.8 million. The strategic investment level in 08/09 for these safety improvements is \$16.9 million.

Highway Network

- 22,750 miles of public road
- 8,368 miles state owned
- 13,930 miles town ways
- 452 miles other (Maine Turnpike, reservation, parks, etc)
- 1,737 miles of unbuilt roadway
- 1,854 miles of seasonally posted roads
- Maine DOT is responsible for 37% of the public road network, and 78% of all travel in Maine occurs on these roads.
- 27,459 cross culverts
- 28,400 entrance culverts
- 1,590 struts (culverts > 5' & < 10')
- 4.32 million feet of guardrail

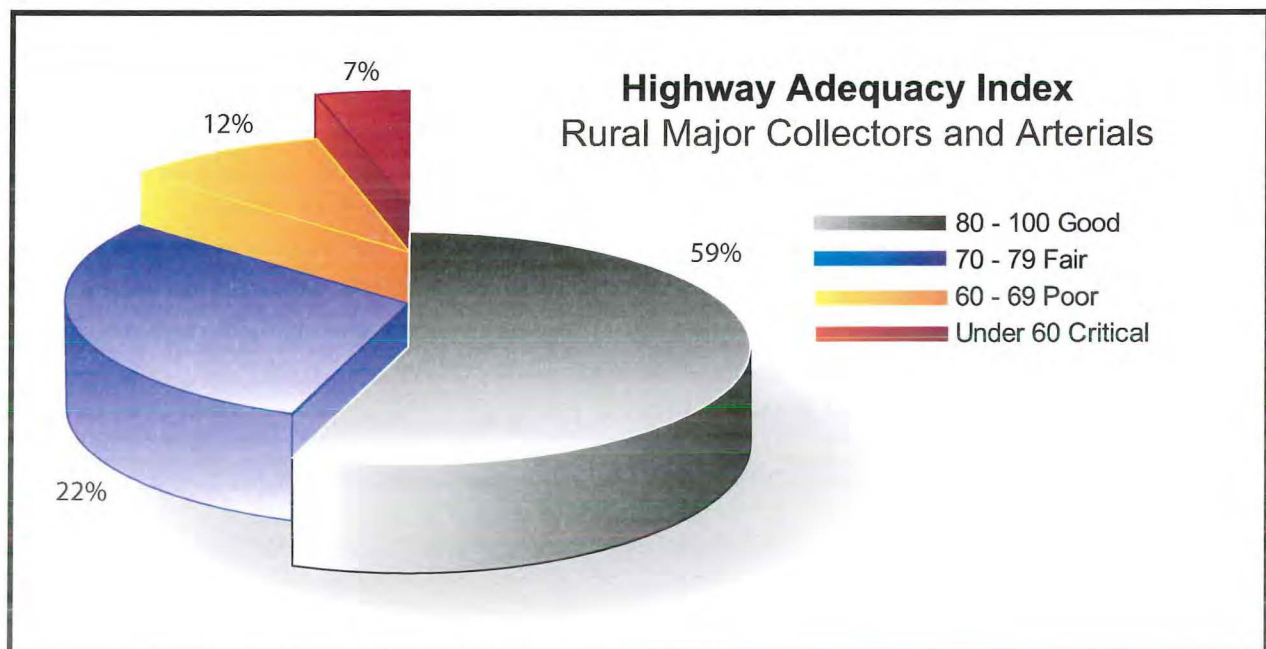
Highway Adequacy

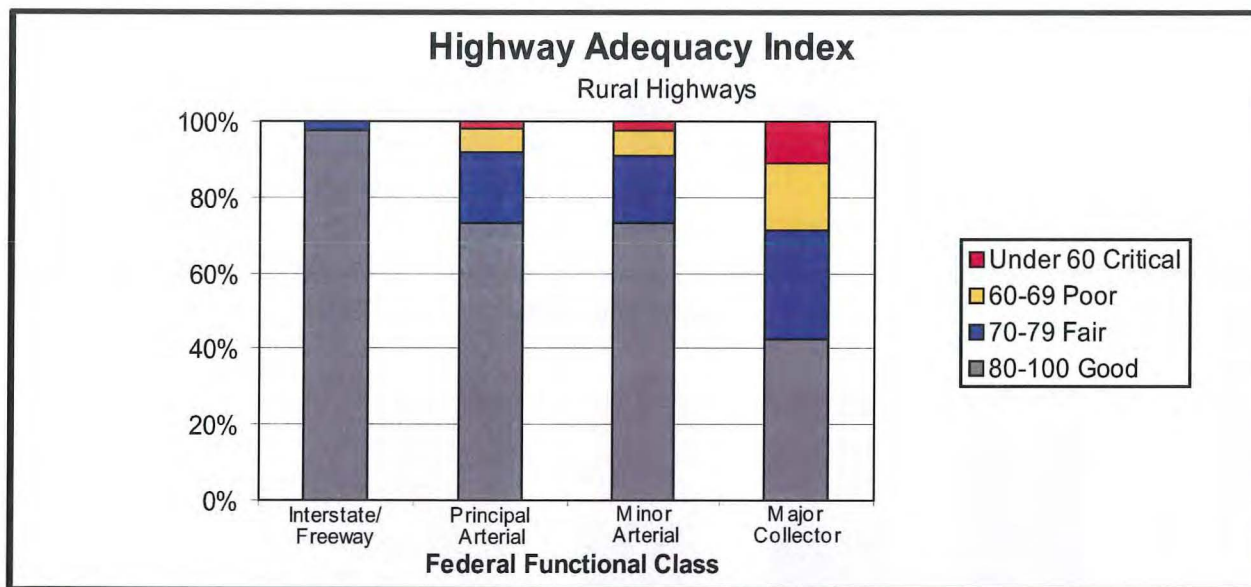
The Highway Adequacy Index (HAI) is an empirical evaluation of the health of a particular highway segment relative to the entire highway network. The HAI is based on 3 basic criteria: condition, safety, and service. The HAI is a cumulative index derived using the following table, which shows the respective point weighting for each Sub Index.

The HAI on rural roadways depicted below indicates that 59% of the roadway mileage is considered “good” with an index of at least 80, while 7% of the highway mileage is considered to be “critical”.

Highway Adequacy Index

Sub Index	Arterials & Major Collectors Point Weighting:
Condition Index	50
Safety Index	25
Service Index	25
Total	100





- The Interstate System has over 97% of its rural mileage rated “good”.
- The Interstate system comprises slightly over 9% of all rural highway mileage.
- The Major Collector System has 71% of its rural mileage rated “fair” or “good”, while this system accounts for nearly 58% of the rural mileage.
- Nearly 90% of all Critical mileage is on the Major Collector System.

The HAI is a way for the Department to prioritize highways to be addressed through capital improvements and to better quantify the system need for these improvements. Currently the quantification for system need is done using unbuilt roads data and or spring time postings. While these are valuable ways to identify roadways that require significant treatments to address their deficiencies they do little in discerning a difference between unbuilt sections

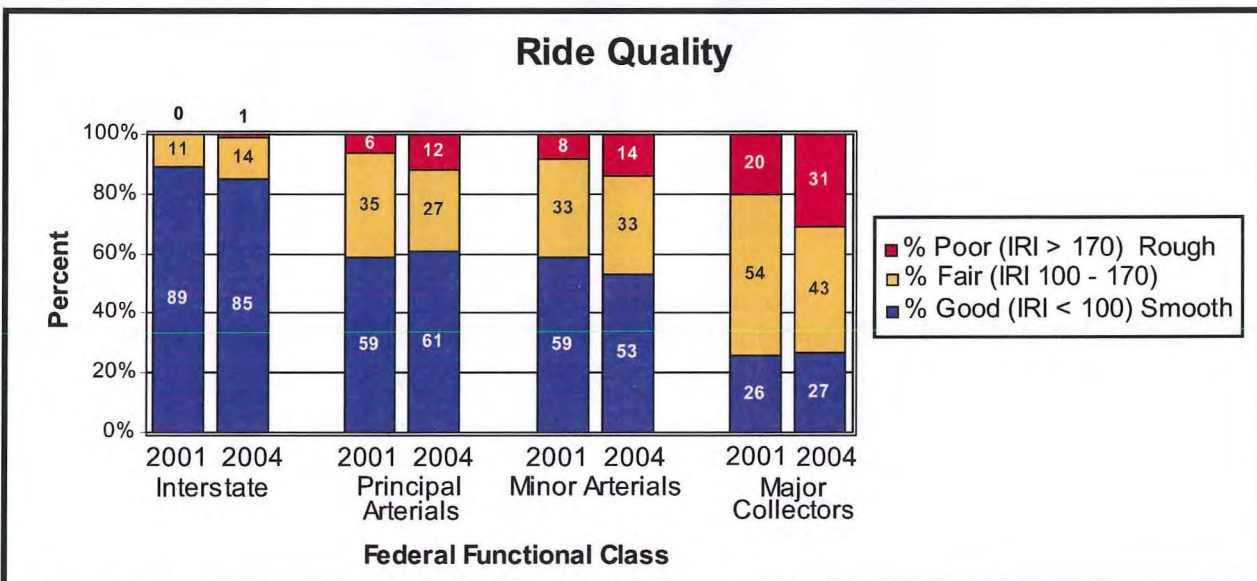
of roadway. HAI takes into account both safety and the service being provided to the traveling public and in turn derives a priority rating based on the three sub indices.

HAI is currently in its infancy. Over the next biennium the Department intends to greatly expand the reliability and accuracy of the HAI. Many initiatives are currently underway to improve the HAI; the two that will have the largest impact are inclusion of Curve and Grade Data into the Safety Index and the inclusion of network level Falling Weight Deflectometer readings into the Condition Index. With these two major improvements it is expected that the HAI rating of each road can greatly enhance the methods for which the Department identifies, quantifies the needs, and prioritizes the improvements of the highways under its jurisdiction.

Ride Quality

Ride quality has been found to be a key indicator of customer satisfaction, and is expressed in terms of International Roughness Index (IRI). IRI is measured in inches of vertical displacement per mile, thus the lower the IRI, the

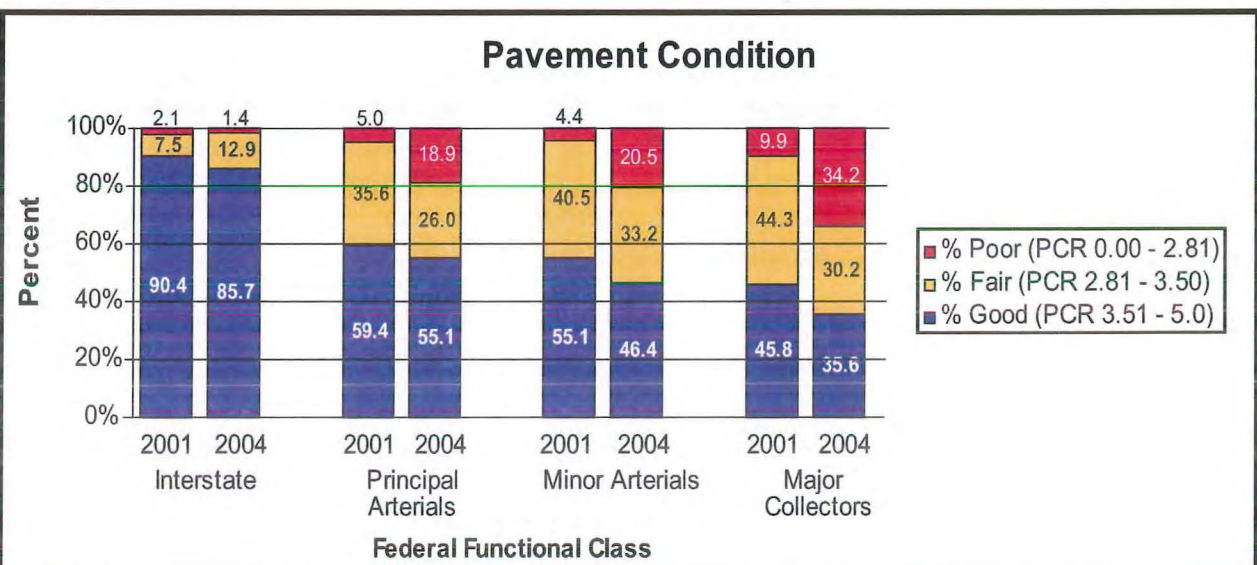
smoother the ride will be. The following chart shows that ride quality has declined between 2001 and 2004 on nearly all classes of state maintained highway.



Pavement Condition

Pavement Condition Rating (PCR) is defined as the composite condition of the pavement of a roadway. The PCR is compiled from the severity and extent of pavement distresses such as cracking, rutting, and patching, and the ride

quality (IRI). The rating system uses a scale of 5.00 (perfect) to 0.00 (fully-deteriorated). The following chart shows that pavement condition has declined between 2001 and 2004 on nearly all classes of state maintained highway.



As can be seen in the following graphic, the average pavement conditions network-wide remained relatively constant throughout the 1990's. There was a slight upward trend in PCRs from 1996 through 1999, but over the

last 6 years, the average PCR values have decreased. Low and high network pavement condition ratings are seen approximately 4 to 5 years after lower and higher levels of funding respectively.

Pavement Condition Rating Arterials and Major Collectors



Note: In 2000, WiseCrax® crack detection software was implemented to provide an objective analysis of 100% of the pavement preservation network. Prior to 2000, a subjective review of 4% of the network was conducted and expanded out to 100%.



Highway Investments

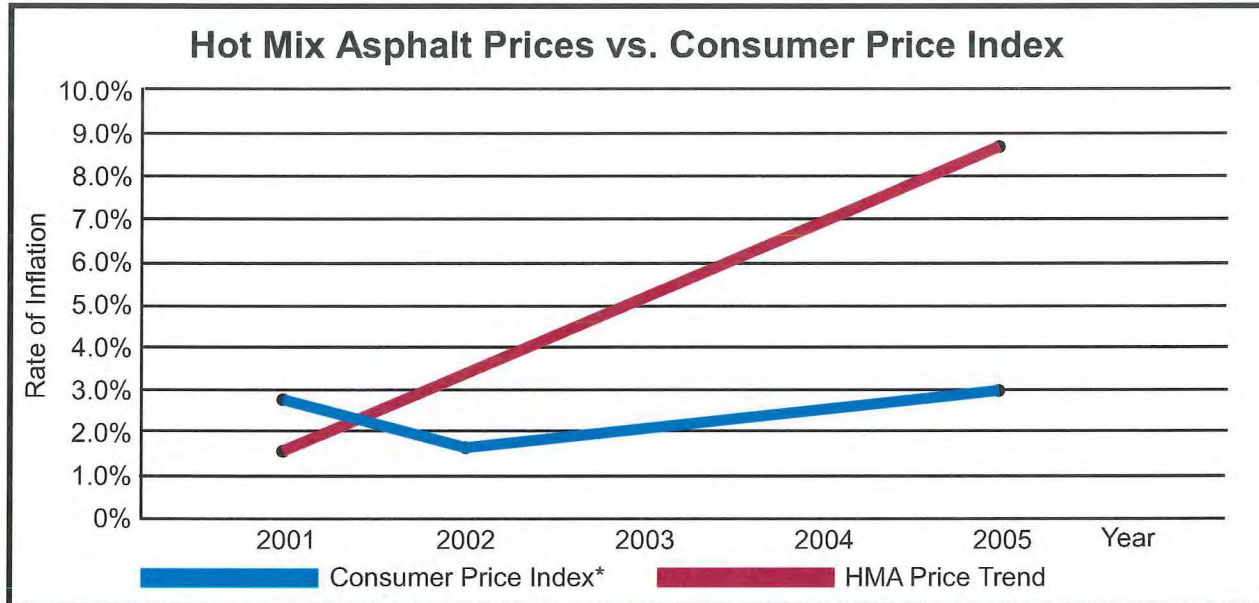
The Department's highway investments can be broken up into three distinct categories:

- Highway Improvements are generally those projects done on an unbuilt (backlog) roadway to improve the condition of the road and to meet current safety and geometric standards.
- Pavement Preservation Projects are those performed on a built highway to preserve the initial investment in building the highway and to maintain a suitable surface condition.
- Maintenance Paving is defined as paving that is done on unbuilt highways in order to keep those roads in a serviceable condition until such time as a more substantial treatment can be performed.

Federal Functional Class	Rural Unbuilt Miles	\$ per Mile (to improve)	\$ to Improve All Rural Miles
Principal Arterials	78	\$2,900,000	\$226,200,000
Minor Arterials	117	\$1,600,000	\$187,200,000
Major Collectors	1542	\$700,000	\$1,079,400,000
Total:	1737	\$859,400	\$1,492,800,000

Investment Type	Treatment Type	Price Per centerline mile	Expected Life
BUILT ROADS			
Pavement Preservation	Crack Sealing	\$3,000 - \$7,000	2 Years
	Overlay	\$110,000 (PPM) \$260,000 (Level 2)	8 - 10 Years
	Reclaim/Overlay	\$425,000	12 - 15 Years
	State PPM	\$50,000	6 - 8 Years
UNBUILT ROADS			
Maintenance Paving	Maintenance Surface Treatment (Sand Mix)	\$26,500	4 - 6 Years
Highway Improvement	Collector Highway Improvement Project	\$500,000 - \$900,000	12 - 15 Years
	Highway Improvement	\$1,600,000 - \$3,200,000	20 Years

It is important to note, however, that the cost of construction materials has significantly outpaced the standard rate of inflation due in large part to increased asphalt and fuel costs. The following graph shows the upward trend of the average price per ton of hot mix asphalt (HMA) over the past 6 years compared to the Consumer Price Index (CPI).



Given the trends above alone, status quo funding for pavement preservation treatments will result in an overall deterioration in the condition of maine's highways.

Highway Improvement Needs

The needs for rural highway improvements within the state are quantified in the table on the preceeding page. The Department has a long history of investing to improve the State's highway system. However, the Department's guiding resource allocation policy states that MaineDOT maintain our existing system prior to investing in improvements, or expansion. Over the previous three biennia, the Department has invested an average of \$152 million dollars in Highway Improvements. This investment has resulted in the improvement of over 500 miles of highway.

To achieve status quo performance from the highway system requires no additional investment for highway improvements. The traveling public would continue to operate on the existing 1,737 miles of unbuilt, or inadequate roadways with their related spring time weight postings. Given the economic impact of these postings and condition of the inadequate sec-

tions of roadway, this is not the strategic goal of the Department.

Highway Investments:

The Department must invest \$198 million per biennium for Highway Improvements, a 30% increase over status quo, in order to meet strategic goals.

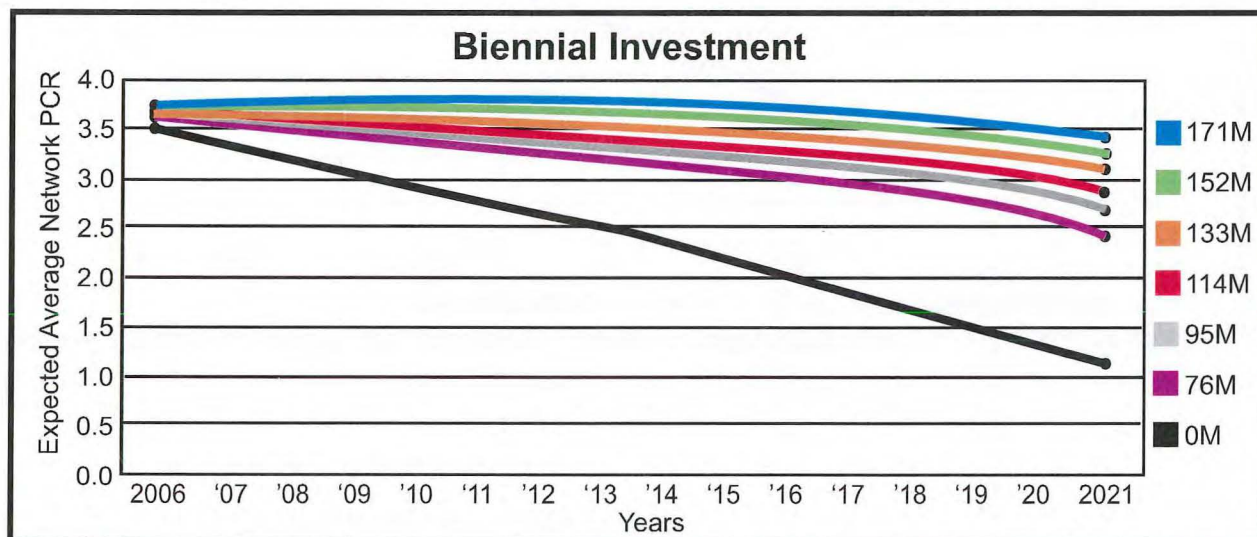
The funding scenarios table at the end of this executive summary estimates the strategic need of improving 259 miles of inadequate rural arterials within a 10 year timeframe. The total estimated cost of this initiative is over \$410 million. Over five biennia, this results in an average biennial investment of \$82 million. In the same 10 year time frame, the strategic need of negating all spring time weight restrictions on major collectors, a total of 736 miles, is also estimated at a total cost of \$515 million or a biennial investment of \$103 million. These strategic initiatives along with traditional investments in the minor collector system would require a \$198 million biennial investment in highway improvements which represents a 30% increase in funding.

Pavement Needs

The Department's Pavement Preservation philosophy strives to apply the "right treatment at the right time" to maintain the investment and sustain the condition of the highway structure, instead of treating the "worst roads first". This has proven to be the most cost-effective means

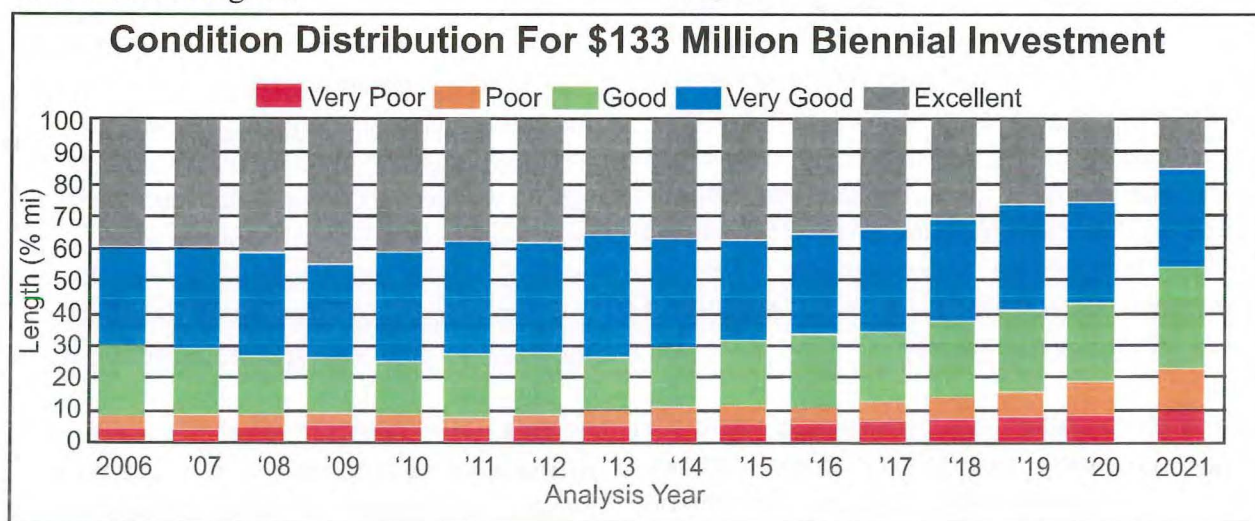
and chart on this page, this level of investment keeps the built highway network in a relatively good condition for more than a decade.

Alternatively this level of benefit can be achieved by allocating \$111 million in capital expenditure to the pavement preservation program combined with a \$10 million increase in



to preserve the network. The above graph shows the expected average network condition of Maine's built highway system based on various biennial funding levels of the Pavement Preservation Program.

the maintenance paving program to place State PPM on 200 miles of built major collector per biennium. This is the recommended strategic investment level for the Pavement Preservation Program.



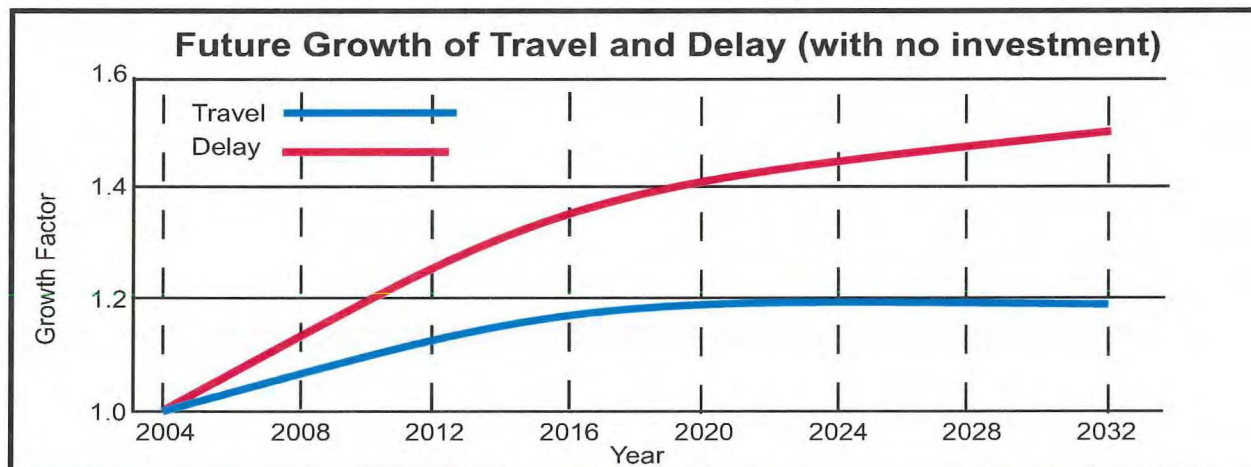
A \$133 million capital investment per biennium will be necessary to maintain our built highway network in its current condition for the next 10 years. As can be seen in the sec-

Mobility

Mobility is the ability of people and goods to move from one place to another. The arterial highway system provides most of the mobility in Maine. While only representing 12% of the road mileage, arterials account for more than

continue for the next 20 years, the investment in highway mobility projects would total \$400 million. This is the “status quo” level of investment for mobility purposes.

A variety of strategies are available to enhance mobility on Maine’s arterial highways. Major



60% of the vehicle-miles traveled (VMT) statewide. For this reason, the performance of the arterials, in serving the mobility needs of the state, is an important part of the system evaluation.

In 2004, there was nearly 15 billion vehicle miles traveled statewide. Projected growth in travel over the coming years will push statewide VMT toward 18 billion in 2030, although the rate of growth may slow down. As traffic volumes increase, the utilization of available arterial capacity will also increase. If no investments are made to improve the mobility of the existing arterial network, traffic congestion (delay) will increase more rapidly than VMT. The preceding chart shows the relative growth of VMT and congestion (delay) from 2004 to 2030.

However, MaineDOT has a history of making investments to enhance highway mobility. Over the last six years, the level of funding for mobility-enhancing highway projects has averaged \$40 million per biennium. If this were to

mobility-enhancing strategies include the following:

- ☐ **Access Management** - to preserve and enhance the mobility and safety qualities of existing highways.
- ☐ **Widening for Auxiliary Lanes** - for left turns, climbing and passing.
- ☐ **Widening for Thru Lanes** - for additional capacity on existing highways.
- ☐ **New Thru Lanes at a New Location** - for additional capacity around existing highways.

Optimum investments of funds will result in a mix of these investment strategies best suited to improving mobility in the arterial network. The following table shows the potential mixes of these strategies for three funding scenarios, and compares them with the historic mix of strategies. Traditional investment in additional thru lanes where needed continues to be a major part of the investment mix, but a significant share of the investment should be directed toward access management.

When funding is relatively low, investments in the existing arterials should be the core of the mobility investment program. When greater

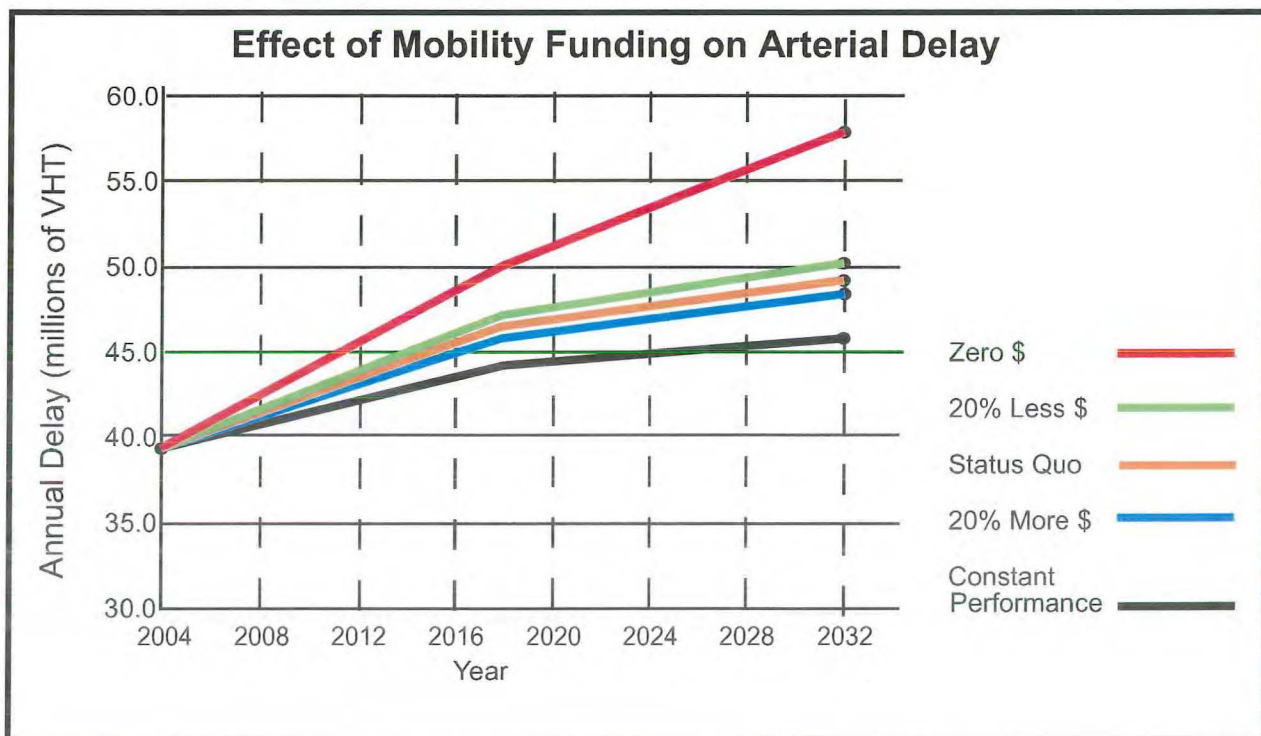
funding is available, more can be invested in new facilities.

Mix of Mobility Strategies for Three Funding Scenarios

Mix of Mobility Strategies for Three Funding Scenarios				
Funding Scenario	Historic	20% Less	Status Quo	20% More
Annual Investment (\$ millions)	20	16	20	24
Mobility Improvement Strategy	Investment Share			
Access Management	0%	19%	19%	18%
Installing Auxiliary Lanes	20%	15%	13%	12%
Widening for Thru Lanes	39%	38%	37%	38%
New Thru Lanes at New Location	41%	28%	31%	32%

Investments in mobility-enhancing actions can manage the growth of congestion on the arterial system. The following chart shows that higher funding scenarios can do more to minimize delay (measured in vehicle-hours traveled or VHT), but even funding that is 20% less than the status quo manages growth in delay far better than no mobility funding at all.

If funding is available, the recommended biennial investment level for highway mobility is \$51 million. This will fund all highway mobility project candidates with a benefit to cost ratio greater than two, a 2 to 1 return on investment.



Bridges

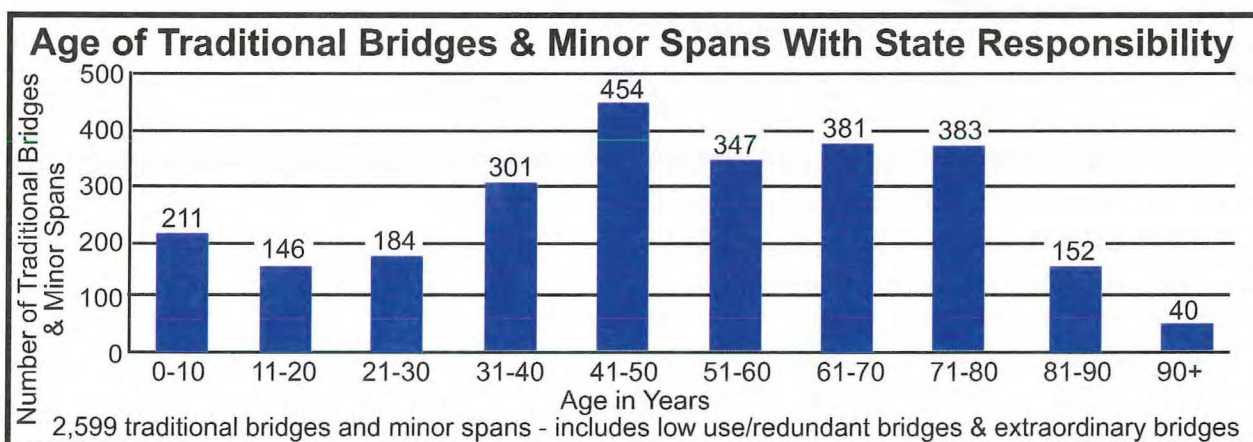
Assets -- 2967 Structures

- 21 extraordinary bridges
(≥ 250' and ≥\$5 million in need)
- 1,962 bridges (≥ 20')
- 775 minor spans (> 10' and < 20')
- 209 low use (<100 AADT) or redundant bridges (shared capital responsibility only)
- 368 steel culverts (included in bridges and minor spans above)

number, 12 structures (6%) have already been programmed for capital improvement.

Bridge Adequacy

An effective method of assessing the overall condition and functionality of Maine's structures is to use the average Federal Sufficiency Rating weighted by deck area. Weighing the sufficiency ratings by deck area will more accurately reflect the condition of the total bridge network because more weight is given to the



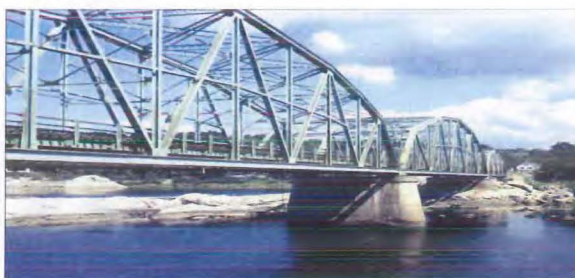
The State of Maine has full responsibility for capital improvement and maintenance of 775 minor spans (10 feet to 20 feet long) and 1,962 bridges generally equal to or greater than 20 feet in length, and 21 extraordinary bridges. Bridges that are 250 feet or more in length and require improvements of at least \$5 million each in the next 20 years are considered Extraordinary Bridges. The State of Maine has shared responsibility for capital improvements only for 209 low use or redundant bridges on town ways.

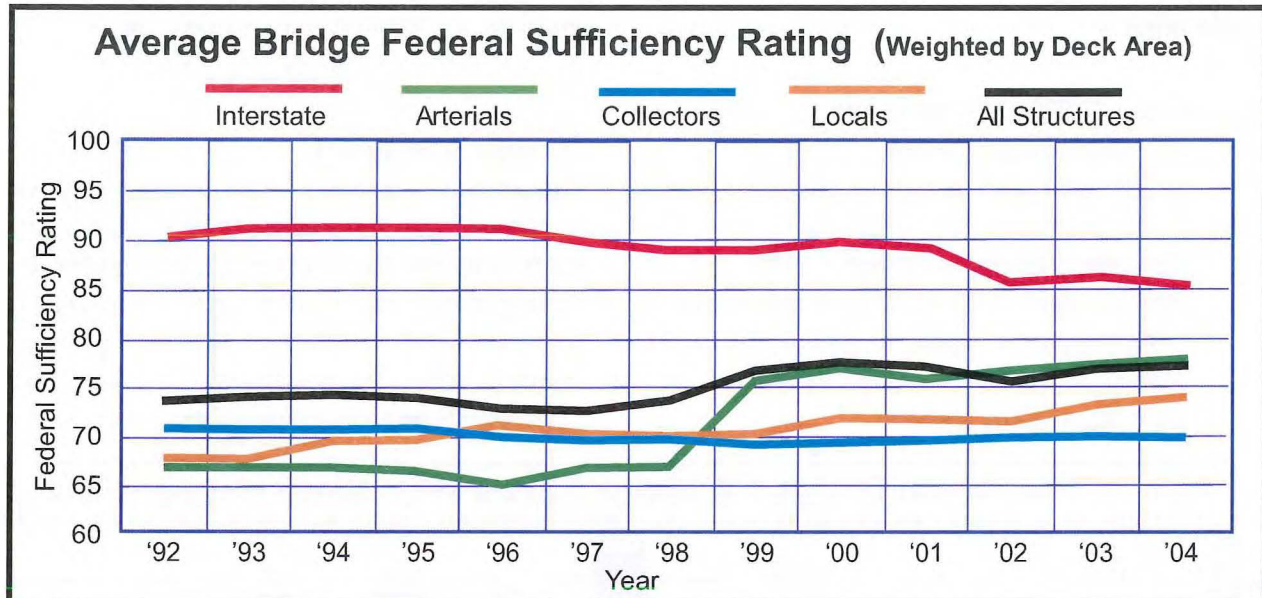
Of the 2,967 structures with state responsibility, 368 are bridge/minor span steel culverts and 2,599 are traditional structures. The steel culverts of 2004, 192 of the traditional structures have exceeded their normal service life of 80 years, more than twice the number reported in the 2002 State of the System Report. Of this

sufficiency ratings of the larger structures which represent a larger proportion of investment in the bridge network.

This indicator has proven quite consistent over time. The significant increase in 1999 for bridges carrying arterial highways is attributed to capital improvement projects to eight large structures.

The following 1992 to 2004 chart is based on the ratings of all 2,967 structures for which the state has responsibility, including extraordinary bridges.





As one might expect, the structures carrying higher federal functional class roadways are in the best condition, reflecting MaineDOT's commitment to funding improvements for those structures that carry the most traffic and thus afford the most benefit to Maine's people and economy.

Bridge Needs

The scopes, costs, and timing of future improvements were individually determined using inspection ratings and inventory data, and based in part on field reviews conducted by bridge engineers and environmental scientists.

The figure below depicts the funding projections needed to address all the bridge, minor span, and the extraordinary bridge needs anticipated statewide over the next 20 years.

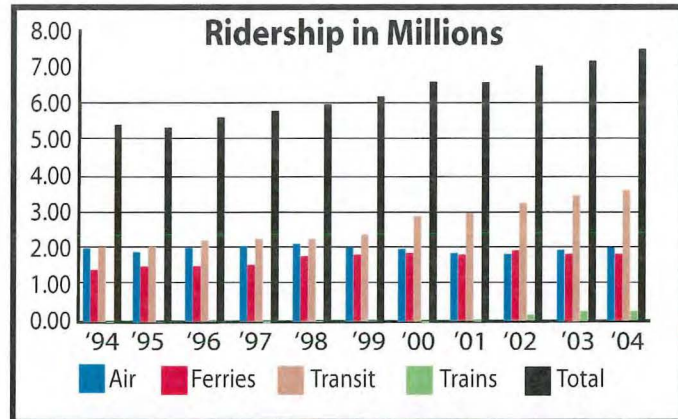
Though the strategic need for bridges is estimated to be \$148 million, the recommended 08/09 investment level for bridges is \$112 million. This level of biennial investment should keep the bridge network in its current condition.

Projected Capital Improvement Funding for Bridges & Minor Spans (excludes new site bridges)



Passenger Transportation

- ☐ 6 commercial airports
- ☐ 30 general aviation airports
- ☐ 18 fixed route transit systems
- ☐ 42 miles of active passenger rail service (Amtrak Downeaster)
- ☐ 7 State of Maine owned ferry vessels
- ☐ 10 GO MAINE vanpool routes
- ☐ 2,000 park-and-ride spaces (some shared ownership with MTA)
- ☐ 1 intermodal passenger facility
- ☐ 1 Commuter/Intercity Rail System

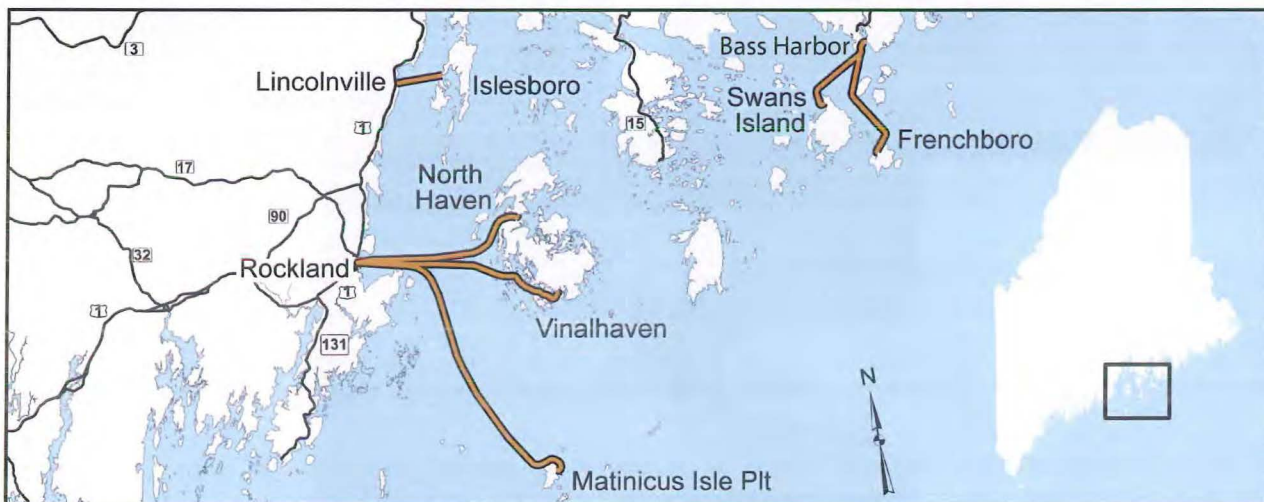


Ridership

As can be seen in the preceding graphic, from 1994 to 2004 ridership on ferries, airplanes, trains and buses in Maine grew by more than two million riders, from 5.35 million to 7.58 million, a 42% increase. Airport use has rebounded since the September 11, 2001 terrorist attacks, with over two million passengers in 2004. Ridership on buses and rail is expected to continue to increase as petroleum prices remain high.

Marine

Maine is served by a variety of public and private ferry services. The Maine State Ferry Service (MSFS) serves six year-round island communities. In recent years the MSFS has implemented an aggressive maintenance program for vessels and facilities including two pending projects which are currently in the final stages of planning/funding. The projects are: 1) New Ferry to replace the *Gov. Curtis*, at a cost of \$7 million. The *Gov. Curtis* would then become the primary spare/backup ferry. 2) Completion of Phase II of the Rockland Terminal/Wharf project. Other key projects (in order of priority) which require planning/funding are:



- ❑ Replacement of the Swan's Island Ferry Pen,
- ❑ Replacement of the Lincolnville and Islesboro Transfer Bridges,
- ❑ Re-power *Gov. Curtis*, *Everett Libby*, and *Margaret Chase Smith* with low emissions engines,
- ❑ Construct new terminal building on Swan's Island.

Air, Rail, Transit and Trail Strategies

Passenger transportation is vital to addressing mobility needs of Maine's citizens and to address highway congestion. While state and federal funds have been adequate to meet capital needs, ongoing operating funds remain a concern for transit providers. Maine must develop sustainable operating funding sources for passenger transportation to ensure the continuation of services.

The average biennial Passenger Transportation investment level has been \$ 114.3 million. The

strategic investment level for 08/09 is \$ 163.2 million. This increase in funding will provide:

- ❑ Commuter rail service into Portland: This would include infrastructure investments to support commuter rail from Portland to Yarmouth and future expansion of the Downeaster passenger rail service from Portland to Freeport and Brunswick.
- ❑ A sixth daily round trip on the Downeaster passenger rail service between Portland and Boston will significantly increase Downeaster ridership (100 % increase over base ridership projected in 2020) and provide two daily round trips to Freeport and Brunswick.
- ❑ Calais Rail/Trail
- ❑ Acadia Welcome Center
- ❑ Conversion of transit fleets and passenger rail to clean fuels
- ❑ Restoration of the State aviation program for pavement management and obstruction removal at Maine's public airports.



Freight Transportation

- ☐ 3 major cargo ports
- ☐ 1,200 miles of active rail line
- ☐ 230 miles of inactive rail line
- ☐ 300 miles of State of Maine owned rail line
- ☐ 2 rail/truck intermodal facilities
- ☐ 3 major freight carrying airports

MaineDOT supports the development of a free-flowing intermodal freight system that provides Maine shippers more choices among modes, increased productivity, improved environmental benefit, better balance between modes, and reduced transportation costs. This is a difficult challenge.

- ☐ The state's major investments in cargo port assets include the following:
 - The Estes Head Cargo Pier and warehouses in Eastport
 - The Mack Point Dry Cargo Pier in Searsport
 - The International Marine Terminal in Portland
- ☐ Air freight is an important component of Maine's current freight transportation system that is experiencing rapid growth (7 to 10 percent annually).
- ☐ Motor carrier related projects have emphasized improved truck freight flow safety and efficiency, as well as improvements in enforcement capabilities in the field.
- ☐ Freight railroads are classified by the Federal Rail Administration based on annual operating revenue as follows:
 - CLASS I - Annual revenues of greater than \$258.5 million
 - CLASS II - Annual revenues between \$40 million and \$258.5 million
 - CLASS III - Annual revenues of less than \$40 million.

Maine has no Class I service, but its Class II carriers connect with four Class I railroads in New York, Montreal, and St. Leonard, New Brunswick. Railroad companies in Maine move more than 8 million tons of freight per year over 1,200 miles of active track.



Freight Needs

- ☐ Cargo Ports- \$11.8 million/biennium will be needed to meet the needs of port development and to truly maintain Maine's position relative to international cargo shipping.
- ☐ Freight Rail- \$7.6 million/biennium would allow improvements to State-owned trackage, fund a \$2 million IRAP program, and allow improvements to important interchange yards.
- ☐ Motor Carrier- \$3.9 million/biennium would allow for more extensive improvements in vehicle screening and credential monitoring.
- ☐ Air Freight- \$500,000/biennium would allow MaineDOT to partner with private air freight couriers on air freight opportunities.

Though the average biennial Freight Transportation investment level has been \$5.6 million, the recommended strategic investment level for 08/09 is \$ 23.8 million. This increase in funding will address the needs detailed above.

Intelligent Transportation Systems

Sometimes travel can be a challenge. The challenges can include winter weather conditions, and increased numbers of vehicles, especially during peak tourist season. In addition, vehicle incidents can cause delays on particular corridors where there are few alternative routes.

The application of electronic and communications technology can help to relieve some of these problems. These technologies, collectively labeled as Intelligent Transportation Systems (ITS), have potential benefits in the following areas:

- ☐ Capital, operations and maintenance cost savings;
- ☐ Safety and security;
- ☐ Energy and environment;
- ☐ Service quality;
- ☐ Efficiency;
- ☐ Productivity.

The Department has made significant strides since the first State of the System Report in 2002 in developing ITS strategies to address these needs.

The TRavel Information Online, TRIO, program provides accurate and real time information on road conditions, road work, weather alerts and advisories, incidents, local events and any major delays that occur on the highway system. Travelers can make informed decisions before and while on their trips using their phones and by looking for information on the internet at MaineDOT's 511 websites.

MaineDOT launched the 511 website and 511 interactive telephone voice response systems in 2003. These were the first deployments of dissemination systems providing real time travel information to the public through the Condition Acquisition Reporting system. Information includes:

- ☐ Highway Traffic
- ☐ Ferry Service & Transit
- ☐ Major Delays
- ☐ Roadwork



- ☐ Winter Road Conditions
- ☐ Road Closures

Much of MaineDOT's ITS deployment program is in its early stages. The effectiveness of various initiatives has not been fully evaluated, though early indications are very favorable for several initiatives. For example, public use of the 511 system has grown dramatically since its inception in 2003. Also, 90% of respondents in a customer survey indicated that transit information signs made it easier to get around Acadia National Park on the Island Explorer. The ITS Program from the MaineDOT ITS Strategic Plan for the next ten years includes about \$30.6 million worth of ITS projects based on a statewide needs assessment. The recommended 08/09 strategic investment level is estimated at \$6.6 million. Projects include:

- ☐ Statewide Architecture
- ☐ Traffic Management including arterial traffic management systems, traffic incident management systems and traveler information systems
- ☐ Road weather information systems
- ☐ Work zone management and safety systems
- ☐ Commercial vehicle credentialing and screening systems
- ☐ Transit computer aided dispatch/automatic vehicle location systems.

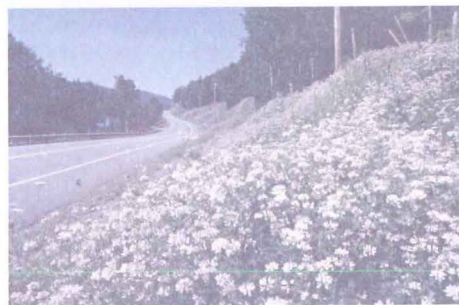
Maine's Transportation System Funding Scenarios (in millions of 2005 dollars)

	'02-'03	'04-'05	'06-'07	Status Quo Investment	Constant Performance/ Condition	Biennial Strategic Need
Definitions				Past Investment Level (Average Over 3 Biennia)	Estimate of biennial \$ needed to maintain present performance or condition	\$ needed to achieve a strategic objective (s)
Safety	8.8	9.8	11.2	10.6	9.8	16.9
Hazard Elimination	5.3	6.4	8.5	6.7	6.0	9.0
Rail Highway Crossings	2.1	2.5	2.1	2.2	2.2	2.4
TEA-21/SAFETEA ³	1.4	0.9	TBD	1.1	1.0	3.5
Safe Ways to School	0.0	0.0	0.6	0.6	0.6	2.0
Highway Network	345.6	295.4	290.5	310.5	271.0	400.0
Highway Improvements ¹	172.6	127.9	147.7	152.0	0.0	198.0
Rural Arterials	75.6	75.1	84.4	78.4	0.0	82.0
Major Collectors	77.4	51.0	53.7	60.7	0.0	103.0
Minor Collectors	19.7	9.5	9.6	12.9	0.0	13.0
Pavement Preservation	102.0	97.0	69.6	89.5	111.0	111.0
Maintenance Paving	22.8	30.3	28.2	27.1	40.0	40.0
Highway Mobility ²	47.5	35.1	34.1	38.9	120.0	51.0
Bridge Network	103.9	116.7	116.9	112.5	112.5	147.8
Extraordinary Bridges	49.5	66.4	75.1	63.7	50.0	70.8
Bridges	45.3	47.1	35.4	42.6	56.5	69.4
Minor Spans	9.1	3.2	6.4	6.2	6.0	7.6
Passenger Transportation	120.9	124.4	97.6	114.3	92.1	163.2
Transit	26.7	37.8	39.6	34.7	31.0	40.0
Airports	43.3	39.5	32.7	38.5	33.0	44.2
Passenger Rail Service	15.2	22.9	9.5	15.9	15.0	50.0
Ferries	17.5	12.8	3.7	11.3	10.6	10.6
Commuter Programs	1.0	0.9	1.0	1.0	0.5	1.5
Bicycle/Pedestrian	7.4	10.6	9.1	9.0	1.0	10.0
Intermodal Facilities	9.8	0.0	2.0	3.9	1.0	6.9
Freight Transportation	6.7	4.6	5.4	5.6	4.2	23.8
Cargo Ports	4.8	2.2	2.1	3.0	0.6	11.8
Freight Rail	0.3	0.3	0.9	0.5	1.6	7.6
Motor Carrier	1.6	2.1	2.4	2.0	2.0	3.9
Air Freight	0.0	0.0	0.0	0.0	0.0	0.5
ITS			4.6	4.6	1.0	6.6
GRAND TOTAL	585.9	550.9	526.2	558.1	490.6	758.3

1 Highway improvements are typically applied to unbuilt roads. The treatment applied to keep these roads in their present condition is Maintenance Paving; therefore, the 'highway improvement' cost is zero.

2 For Highway Mobility, the Strategic need represents a realistic funding of the highest benefit improvements. The high cost to maintain constant performance (growth in delay not exceeding growth in use) reflects that much of Maine's arterial system operates at a high mobility performance level.

3 TEA-21/SAFETEA funds have been used for a combination of on-road safety improvements, support to address municipal safety needs, and public outreach.



MaineDOT