



Evaluation of Plans to Widen the Maine Turnpike

mainewatch institute

Mainewatch Institute is an independent, nonprofit research and educational organization founded to study related environmental, economic, and social issues affecting Maine's future.

Evaluation of Plans to Widen the Maine Turnpike

mainewatch institute

184 Water Street
Hallowell, Maine
622-7000

Publication #3-1988
Printed May 1990

Mainewatch Institute Board of Directors

Richard Anderson
Richard Barringer
John Fitch (President)
William Ginn (V. Chairperson)
Sherry Huber (Chairperson)
Frazier Kellogg
Roger Mallar

David Moskowitz (Secretary)
Sandra Neily (Treasurer)
Ronald Phillips
William Seretta
Diana Scully
Carol Wishcamper

Publications

- The Western Mountains of Maine: Toward Balanced Growth Publ. #1-1987
- Widening the Maine Turnpike: The Case for a Management Alternative
Publ. #2-1988 @ \$7.00 each
- Evaluation of Plans to Widen the Maine Turnpike Publ. #3-1988 @ \$4.00 each
- Maine's Forest Economy: Crisis or Opportunity?
 - Volume 1: Survey Research Findings Publ. #4a-1988 @ \$5.00 each
 - Volume 2: Summary of Survey Responses Publ. #4b-1988 @ \$15.00 each
- A Bioregional Approach to the Conservation and Management of Maine's Natural Resources: A Concept paper prepared for the Commission on Maine's Future
Publ. #5-1989 @ \$5.00 each
- Maine's Progress Toward a Sustainable Future: 1989, a conference working draft
Publ. #6-1989 @ \$4.00 each

Associates Program

The only requirement for becoming a Mainewatch Institute Associate is a strong interest in Maine and its bioregion's environmental and economic future.

Benefits of Becoming a Mainewatch Associate

- Receive copies of Mainewatch News
- Purchase Mainewatch publications at reduced rate of 15%
- Receive 15% discount to Mainewatch seminars and conferences
- Receive tax deductions for contributions to Mainewatch, a 501 (C) (3) nonprofit organization

Become an Associate Today Contributor Levels

Individual	\$25.00	Family.....	\$50.00	Contributing.....	\$100.00
Sustaining.....	\$250.00	Corporate.....	\$250.00	Sponsor.....	\$500.00
		Benefactor.....	\$1000.00		

PREFACE

This publication is a compendium of information developed by Mainewatch Institute on a proposed major public works project: the widening of the Maine Turnpike. This project, if approved, will add third traffic lanes to north- and southbound roadways on a thirty mile section of the Maine Turnpike between Exit 1 and South Portland. At a cost of more than \$125 million, this is one of the most expensive public works projects in Maine's history.

Mainewatch is a nonprofit and nonpartisan research and educational institute. The institute analyzes and evaluates long term trends and issues affecting the environmental and economic future of Maine and northern New England. Mainewatch originally received a grant from the Maine Times in 1987 to evaluate proposed plans to widen the Maine Turnpike. Consultant Dr. Lloyd Irland of The Irland Group and former Maine state economist, developed a report, "Widening the Maine Turnpike: the Case for a Management Alternative," released in January 1988. This report not only evaluated the proposed project but recommended that traffic management should be considered as an alternative to widening the roadways.

In response to Mainewatch's report and other questions, the Maine Turnpike Authority commissioned another study, "A Comprehensive Review and Analysis of Proposed Improvement Projects," by Government Services, Inc. and Mallar Associates, released in late June 1988. In an early July 1988 letter to Mr. Paul Violette, executive director of the Maine Turnpike Authority, I noted that this study failed to adequately address several concerns of the earlier Mainewatch report including traffic management alternatives. In that letter, I also mentioned that Mainewatch Institute intended to hire Dr. Gary Fauth, an independent transportation and economics consultant from Charles River Associates, to review both reports and to submit his evaluation in August 1988. On July 15, 1988, the Maine Turnpike Authority voted to proceed with the roadway widening project. We released Dr. Fauth's evaluation, as scheduled, in August 1988.

To obtain state approval for the project, the Maine Turnpike Authority must submit environmental and economic impact information. The Maine Department of Environmental Protection, for example, requires permit applications and public hearings under the Site Location Law and Natural Resources Protection Act to consider project impacts on secondary road traffic and wetlands respectively. Mainewatch Institute submitted written testimony and reports on these issues to be considered by the Maine Department of Environmental Protection and its Board of Environmental Protection.

This report is a compendium of letters, press releases, and written testimony by Mainewatch Institute on this proposed project. Included are letters to the Maine Turnpike Authority and to Dr. Gary Fauth; Dr. Fauth's evaluation of the reports; Mainewatch's press release of Dr. Fauth's evaluation; and written testimony submitted by Mainewatch to the Department and Board of Environmental Protection. These materials are presented in chronological order in this report.

We believe that this compendium provides useful information on an issue that is now receiving increasing public scrutiny. In addition, it illuminates some strengths and weaknesses of the process by which this major public works proposal has been developed and evaluated. In this time of growing needs and shrinking state budgets, major public works projects such as the Maine Turnpike widening should be carefully evaluated in order that they yield the greatest possible public benefits. As a research and educational institute, Mainewatch is not in a position to either oppose or endorse the Maine Turnpike widening project. It does believe, however, that some of the questions and alternatives to widening raised by consultants have yet to be convincingly addressed. Perhaps we should look at transportation capacity in the same way that we now look at energy generating capacity. Maine's efforts in energy conservation have reduced the need for new generating capacity, at considerable savings to its citizens. Transportation capacity, such as roadways, can likewise be conserved by traffic management and other methods designed to reduce peak load impacts.

John H. Fitch, Ph. D.
President and Senior Fellow
Mainewatch Institute

May 1990

Table of Contents

	Page
1. Memorandum to the Board of Environmental Protection-April 26, 1990	1
2. Letter to Doug Burdick-February 21, 1990	2
3. Press Release-August 18, 1988	5
4. Letter to Paul Violette-August 18, 1988	7
5. Letter from Dr. Gary Fauth-August 10,1988	10
6. Letter to Dr. Gary Fauth-July 7, 1988	20
7. Letter to Paul Violette-July 7, 1988	22

mainewatch institute

184 Water Street, P. O. Box 209, Hallowell, ME 04347 (207) 622-7000

MEMORANDUM

TO: The Board of Environmental Protection and Mark Margerum
FROM: John H. Fitch, President and Senior Fellow, Mainewatch Institute
RE: Mainewatch Institute Comments, Consultant's Letter, and Report on the Maine Turnpike Widening Application
DATE: April 26, 1990

Enclosed are the following items of information pertaining to the application under the Site Location Law and the Natural Resources Protection Act to widen the Maine Turnpike:

1. Mainewatch Institute's written testimony prepared for consideration by the Board of Environmental Protection and the Department of Environmental Protection;
2. An Evaluation of Reports and Proposals on the Maine Turnpike widening by Dr. Gary Fauth of Charles River Associates; and
3. A report prepared by Dr. Lloyd Irland, an independent consultant, for Mainewatch Institute in January 1988 entitled "Widening the Maine Turnpike: the Case for a Management Alternative.

We hope that this information will be helpful to you in your consideration of this application. Please do not hesitate to contact me should you have questions or comments.

mainewatch institute

184 Water Street, P. O. Box 209, Hallowell, ME 04347 (207) 622-7000

February 21, 1990

Mr. Douglas Burdick, Project Analyst
Department of Environmental Protection
State House Station 17
Augusta, Maine 04333

Re: Maine Turnpike Widening

Dear Mr. Burdick:

The purpose of this letter is to convey comments of Mainewatch Institute on the Site Location Law and Natural Resources Protection Act application of the Maine Turnpike Authority to add third traffic lanes to north- and southbound roadways on a thirty mile section of the turnpike in southern Maine.

Mainewatch Institute is a nonpartisan research and educational nonprofit organization seeking to identify, monitor, and analyze long-term trends and issues affecting Maine's environmental and economic future. We are commenting on the Maine Turnpike widening project because of its magnitude and its probable long-term impacts on Maine and its' citizens.

In examining this proposed project, we note plans to reconstruct bridges and rebuild under- and overpasses not only for the third traffic lane but also to support future fourth traffic lanes as well. Because these provisions indicate a strong intent to further expand this section of the Maine turnpike in the foreseeable future, we believe that the probable impacts of such further expansion should receive some consideration at this point.

We believe the following questions should be addressed in reviewing the Maine Turnpike Authority's application:

- o What are the environmental impacts of and precedents established by this project?
- o What are the likely economic impacts of this project?
- o What are the likely impacts of this project on communities connected to the Maine Turnpike?
- o To what extent does the project make use of traffic management strategies to conserve capacity?
- o How does this proposed project relate to the Maine Transportation Capital Improvement Plan, currently under development?

Our specific concerns relating to these questions are summarized as follows:

1. Environmental impacts and precedents: this project involves the filling of 22.8 acres of wetlands as well as the destruction of some wildlife habitat to add third traffic lanes for both northbound and southbound roads along this 30 mile section of the Maine Turnpike. How many additional wetland and wildlife habitat acres will be lost with fourth traffic lanes? Another important concern is the extent to which wetlands can be successfully replicated. Both the structure, including species, and function of wetlands must be replicated if that replication is to be successful. Most freshwater wetland replication projects are poorly documented but the record is, at best, a mixed one. It is therefore important to monitor the replication site for a period not less than five to ten years, depending on hydrology and other factors. A monitoring plan should be developed which includes specific performance criteria pertaining to wetlands structural, functional, and species replication. The plan should also include provisions for corrections or modifications during the performance period if monitoring indicates that replication is not succeeding.
2. Economic impacts: this project has a projected cost of \$125 million to be paid for by the sale of bonds with pay-back from turnpike user fees. Assumptions regarding user fee levels are based on what some experts consider to be optimistic projections of increasing turnpike use. During the next 10 to 15 years, experts predict cost increases in fossil fuels that could significantly affect turnpike use and user fees. If use declined below projected levels, shortfalls in bond payments would have to be made up through increased user fees. These concerns become even greater when the possibility of fourth traffic lanes is considered. In addition, more consideration should be given to the economic impacts of time delays and other problems associated with construction of the third traffic lanes.
3. Community impacts of turnpike widening: the addition of third traffic lanes can substantially increase the volume of traffic exiting the turnpike onto secondary roads through Maine communities along the turnpike, especially during peak traffic periods. Many communities are already hard-pressed to handle such traffic, especially during holidays. Proposed projects likely to increase traffic flow on secondary roads within communities are required to file traffic impact studies. We believe that this project, because of its likely traffic impacts, should provide more information on community traffic impacts. These concerns become even more important if fourth traffic lanes are being contemplated in the foreseeable future.
4. Traffic management: the use of traffic management strategies to reduce peak traffic load has been used successfully to conserve roadway capacity and to reduce traffic impacts on secondary roads in other parts of the country. The proposed plan for this project does not appear to incorporate the full range of traffic management options into the construction or operating plans of the Maine turnpike. Without full consideration of traffic management options, we believe that it is difficult to justify such a costly project, and even more difficult to justify the eventual addition of fourth traffic lanes.

5. Project relationship to the Transportation Capital Improvement Plan: because of the magnitude of this project and the long-term investment required, it should be carefully evaluated in relation to the Transportation Capital Improvement Plan, currently being prepared by the Maine Transportation Capital Improvement Planning Commission, Maine Tomorrow, and the Maine Department of Transportation. Although the turnpike widening project should be paid for by user fees if use projections are correct, the users of the Maine Turnpike may have to make up the difference if these projections are incorrect. The integration of plans for the Maine Turnpike with the Transportation Capital Improvement Plan is also essential if fourth traffic lanes are going to be proposed in the future.

We believe that these concerns should be carefully considered and addressed so that Maine retains its transportation options and resources to adjust to future transportation needs. We urge that these concerns be addressed and that Maine Turnpike plans be evaluated on the basis of the Maine Transportation Capital Improvement Plan and fully integrated with it. We will not be requesting intervenor status but we strongly urge the Department of Environmental Protection to schedule public hearings on this important project.

Please do not hesitate to contact me should you have questions or comments.

Sincerely,

John H. Fitch, Ph. D.
President and Senior Fellow

mainewatch institute

184 Water Street, P. O. Box 209, Hallowell, ME 04347 (207) 622-1546

August 18, 1988

PRESS RELEASE

Contact Person:

Dr. John H. Fitch
Executive Director
Mainewatch Institute

Mainewatch Institute will release a report at a press conference to be held at 1:30 pm on Tuesday, August 18, 1988, in the Room 221, Taxation Committee Room, State Capitol Building, Augusta, by transportation consultant Dr. Gary Fauth of Charles River Associates, Cambridge, Massachusetts, analyzing information relating to the recent approval of the Maine Turnpike widening project.

Mainewatch Institute is a nonprofit research organization founded to investigate interrelated long-term trends and issues affecting the natural resource and economic future of northern New England, with a focus on Maine.

"Mainewatch sponsored this analysis by a nationally recognized transportation expert because of continuing questions regarding some of the economic and traffic projections used in a recent study contracted by the Maine Turnpike Authority," said Sherry Huber, president of Mainewatch Institute.

"Our long-term interest is not in whether the Maine Turnpike should or should not be expanded, but rather its role in increasing the capability of Maine's sustainable transportation base to convey people and goods safely, economically, and efficiently throughout the state, now and in the future," said Dr. John Fitch, executive director of Mainewatch Institute.

The Mainewatch report examines the recent study, "A Comprehensive Review and Analysis of Proposed Improvement Projects" by Government Services, Inc. and Mallar Associates (GSMA), contracted by the Maine Turnpike Authority, as well as an earlier Mainewatch Institute (MI) report, "Widening the Maine Turnpike: The Case for a Management Alternative," funded by the Maine Times.

Dr. Fauth's key findings are as follows (see accompanying report for details):

1. "While it may be good transportation policy to widen the Maine Turnpike, the GSMA report simply does not make the case for the investment. It does not contain all the information you would need to assess the project as an investment, and has serious methodological flaws that make its conclusions on widening the Turnpike relatively unsupported."

2. "While there is almost certainly an alternative toll structure that would promote the efficient operation of the existing facility as well as improve the design and operation of a widened Turnpike, the two reports didn't contain any analysis of specific alternatives and quantification of impacts.
3. "I believe the basic point is that a \$125 million investment demands a much stronger planning study than that contained in the two reports..."

Dr. Fauth suggests that the following information is needed to address the deficiencies he has noted:

1. "...a careful examination of projected growth in Maine. ... (the study) should use projections consistent with the State's goals for growth in tourism and economic development."
2. "...a standard travel demand forecasting model and network analysis should be applied that would include destination choices and route choices sensitive to the transportation alternatives being considered."
3. "...benefits accruing to the State's residents (should be distinguished) from benefits for those outside the State."
4. "...information necessary to understand the differences in trip patterns that might occur in the no-build and build scenarios...(focusing) attention on the entire road network in the Maine Turnpike corridor..."
5. "...a more careful consideration of pricing and management options for the Turnpike."

"Reliable information is essential not only to obtain bond funding for the project but also to provide critical and accurate information for other Maine transportation projects. It is in this spirit that Mainewatch Institute recommended the following actions to the Maine Turnpike Authority in a recent letter to Maine Turnpike executive director Paul Violette," noted Dr. Fitch:

1. Revise and expand the Turnpike-sponsored study to address Dr. Fauth's concerns.
2. Fully integrate traffic management planning and practices into Maine Turnpike widening design plans so that both methods of addressing traffic problems can be applied simultaneously to reduce costs and further expansion needs.
3. Fully integrate planning and projections for the Maine Turnpike with other transportation needs in Maine and with the State's goals for future growth and economic development.

Dr. Fitch emphasized that "Maine's transportation corridors, like its energy and water resources, are limited and must be carefully conserved and managed if they are to be available on an affordable and sustainable basis to its present and future citizens."

mainewatch institute

184 Water Street, P. O. Box 209, Hallowell, ME 04347 (207) 622-1546

August 18, 1988

Mr. Paul E. Violette
Executive Director
Maine Turnpike Authority
Portland, Maine 04103

Dear Paul:

As I indicated in my July 7, 1988, letter to you, Mainewatch Institute believes that an additional analysis of economic and traffic projections used to plan the Maine Turnpike widening project is needed. Economic and traffic projections relating to the Maine Turnpike are likely to have a major impact on other transportation projects in Maine and should therefore be carefully evaluated. Our long-term interest is not in whether the Maine Turnpike should or should not be expanded, but rather its role in increasing the capability of Maine's sustainable transportation base to convey people and goods safely and efficiently throughout the state, now and in the future.

Mainewatch has contracted with Dr. Gary Fauth, an expert in transportation planning and economics and vice president of Charles River Associates, to provide an objective analysis of some of the economic and traffic issues relating to the Maine Turnpike widening project. We asked Dr. Fauth to analyze information provided by Mainewatch Institute's report, "Widening the Maine Turnpike: The Case for a Management Alternative (MI report)," and the recent study, "A Comprehensive Review and Analysis of Proposed Improvement Projects" by Government Services, Inc. and Mallar Associates (GSMA report), in order to address two key questions:

- Does spending resources to widen the Maine Turnpike from mile 12 to mile 42 represent a sound economic investment for Maine?
- Are there low-capital-cost traffic management alternatives that could get more performance out of the existing facility, and/or improve the design and operation of a widened Turnpike?

Dr. Fauth has completed his analysis, and I have included a copy as an attachment to this letter.

Dr. Gary Fauth is eminently qualified to undertake an analysis of the above questions. Dr. Fauth has had extensive transportation consulting experience at Harvard University, Union Pacific Corporation, and Charles River Associates. In addition, he has served as assistant deputy director in the Office of Policy and Analysis for the Interstate Commerce Commission.

Mainewatch believes that Dr. Fauth's conclusions and suggestions can contribute greatly to the Maine Turnpike widening project and to transportation planning in general. He makes a number of important points that should be emphasized in planning transportation projects in Maine, and the Maine Turnpike widening project in particular, that are listed below:

1. "...at face value the investment seems to be a good one. If the assumptions and procedures used to assess the benefits and costs of the widening project are sound, then Maine can be confident that the widening project represents a sound economic investment."

2. "While it may be good transportation policy to widen the Maine Turnpike, the GSMA report simply does not make the case for the investment. It does not contain all the information you would need to assess the project as an investment, and has serious methodological flaws that make its conclusions on widening the Turnpike relatively unsupported."
3. "While there is almost certainly an alternative toll structure that would promote the efficient operation of the existing facility as well as improve the design and operation of a widened Turnpike, the two reports didn't contain any analysis of specific alternatives and quantification of impacts. The MI report didn't utilize specific data, and the subject of traffic management was not treated as a high-priority item in the GSMA report. Since the GSMA report mistakenly implies that it has built a flawless case, I suspect that its authors concluded that a review of the toll structure was an issue safely deferred for later consideration."
4. "I believe the basic point is that a \$125 million investment demands a much stronger planning study than that contained in the two reports..."

Dr. Fauth suggests that the following information is needed to address the deficiencies he has noted:

1. "...a careful examination of projected growth in Maine. ... (the study) should use projections consistent with the State's goals for growth in tourism and economic development."
2. "...a standard travel demand forecasting model and network analysis should be applied that would include destination choices and route choices sensitive to the transportation alternatives being considered."
3. "...benefits accruing to the State's residents (should be distinguished) from benefits for those outside the state."
4. "...information necessary to understand the differences in trip patterns that might occur in the no-build and build scenarios...(focusing) attention on the entire road network in the Maine Turnpike corridor..."
5. "...a more careful consideration of pricing and management options for the Turnpike."

Reliable information is essential not only to obtain bond funding for the project, but also to provide critical and accurate information for other Maine transportation projects. It is in this spirit that Mainewatch Institute recommends the following actions to the Maine Turnpike Authority:

1. Revise and expand the GSMA study to address Dr. Fauth's concerns.
2. Fully integrate traffic management planning and practices into Maine Turnpike widening design plans so that both methods of addressing traffic problems can be applied simultaneously to reduce costs and further expansion needs.

Mr. Paul E. Viotette

August 18, 1988

Page 3

3. Fully integrate planning and projections for the Maine Turnpike with other transportation needs in Maine and with the State's goals for future growth and economic development.

Maine's transportation corridors, like its energy and water resources, are limited and must be carefully conserved and managed if they are to be available on an affordable, sustainable basis to its present and future citizens.

I hope that Dr. Fauth's analysis will be useful to you and the Maine Turnpike Authority, the Maine Department of Transportation, and the Maine Transportation Capital Improvement Planning Commission. Please contact me if we can be of further assistance.

Sincerely,

John H. Fitch, Ph. D.
Executive Director and Senior Researcher

cc: Commissioner Dana Connors, Maine Department of Transportation
Senator Charles G. Dow, Maine Transportation Capital Improvement Planning
Commission

August 10, 1988

CRA No. 396.00

Dear Dr. Fitch:

I have read the two reports you sent me - "Widening the Maine Turnpike: the Case for a Management Alternative," by Mainewatch Institute (the MI report) and "A Comprehensive Review and Analysis of Proposed Improvement Projects," by Governmental Services, Inc. and Maillar Associates (the GSMA report).

The MI report discusses the principle of traffic management as an alternative to major capital expansion, but doesn't really attempt to evaluate specific proposals for the Turnpike corridor. The GSMA report attempts to quantify the benefits and costs of the widening project. It gives limited consideration to the principle of traffic management and makes no effort to quantify its importance in the Turnpike corridor.

Your concerns, which are the focus of this letter report, revolve around two key questions:

Does spending resources to widen the Maine Turnpike from mile 12 to mile 42 represent a sound economic investment for Maine?

Are the low-capital-cost traffic management alternatives that could get more performance out of the existing facility, and/or improve the design and operation of a widened Turnpike?

The reports you sent me discuss your concerns, but neither together nor separately do they contain sufficient information to provide definitive answers to your two key questions:

While it may be good transportation policy to widen the Maine Turnpike, the GSMA report simply does not make the case for the investment. It does not contain all the information you would need to assess the project as an investment, and has serious methodological flaws that make its conclusions on widening the Turnpike relatively unsupported.

While there is almost certainly an alternative toll structure that would promote the efficient operation of the exiting facility as well as improve the design and operation of a widened Turnpike, the two reports didn't contain any analysis of specific alternatives and quantification of impacts. The MI report didn't utilize specific data, and the subject of traffic management was not treated as a high-priority item in the GSMA report. Since the GSMA report mistakenly implies that it has built a flawless case in support of a widened Turnpike, I suspect that its authors concluded that a review of the toll structure was an issue safely deferred for later consideration.

With the time and resources available for this project, I clearly could not redo the GSMA analysis to determine whether the Turnpike widening is or is not justified. Nor can I quantify the impacts of some of the very interesting traffic management alternatives described in the MI and GSMA reports. However, I can outline several key problems in the GSMA widening evaluation, and respond to the questions you have raised. I'll continue to organize my response around the two key questions specified above--first the widening proposal, then the management and pricing options.

Is widening the Maine Turnpike a good investment?

To determine whether or not the project is a sound economic investment, I needed to:

calculate the present value of the difference between the investment costs and resultant benefits; and

evaluate the plausibility of the measurements of benefits and costs.

Calculating the widening project's net present value. In Table 1, I have summarized the relevant information for the base-case situation described in the GSMA report, in which a 20-year time frame was used to evaluate the widening project. It calculated impacts to the year 2000, and then assumed that growth would occur at a rate that would insure 5% annual growth of project benefits in real terms until the year 2011.

Table 1 includes the numbers used in the GSMA report through the year 2000. It then works out the explicit implication of their benefit growth assumptions to the year 2011 to obtain annual data for each year between 2001 and 2011. Being explicit about the years 2001 to 2011 is difficult, since the GSMA report doesn't discuss how benefits could be kept growing at 5% per year in this time period. Given the available information, however, the most direct way is to assume that traffic growth continues and the differential performance between build and no-build continues at the year-2000 level.

The GSMA report indicated that the data it compiled and used were expressed in real-dollar terms, with all future-year benefits and costs adjusted for inflation.

Project Benefits. The project is anticipated to affect costs of operating vehicles using the road, costs of accidents that occur in the travel corridor, and time required to complete the corridor trips. The dollar values of these benefits are presented in Columns B, C, and J of Table 1. Operating benefits are actually negative because the GSMA report assumed that vehicle operating costs increase as average speed increases, and the widening project is designed to increase average speed on the Turnpike. Examining columns B, C, and J in Table 1 reveals that time saving are the key to the value of the widening project. In the year 2000, for example, they represent over 80% of the anticipated benefits from the new road.

Project Costs. Project costs used in the evaluation are included in column L of Table 1. These costs include the \$99,600,00 in widening contracts as well as \$25,900,00 in costs associated with those interchange improvements for the widened section of the Turnpike. (I ignored those interchange improvement costs that were scheduled for the northern section of the Turnpike, beyond the section targeted for widening.) It was not clear to me from reading the reports how closely linked the widening and interchange improvements are anticipated to be: If widening and interchange work are truly separable, and if the analysis contained in the GSMA report was based solely on the widening expenditures, I've over-estimated the costs in column J by about 25%. However, it seemed more reasonable to me to view the interchange work as necessary to achieve the predicted impacts of the widening.

Project Net Present Value. Columns M and N of Table 1 express the annual benefits and costs of the widening project in today's dollars, by discounting future-year impacts to account properly for the time value of money. The GSMA report, I believe, expressed all of its estimates in real terms, ignoring the effects of inflation. Therefore, the 5% discount rate they used to account for the time value of money seems plausible. The higher rate the Turnpike Authority has to pay to borrow money includes some payment for the anticipated future inflation, and therefore needs to be reduced for constant-dollar analysis like this one.

The GSMA report discounted all benefits and costs to 1987; I continued this practice to facilitate comparison of findings.

Column O of Table 1 uses the date from the GSMA report, and indicates that the widening project has an economic value of \$326 million.

Thus, at face value the investment seems to be a good one. If the assumptions and procedures used to assess the benefits and costs of the widening project are sound, then Maine can be confident that the widening project represents a sound economic investment.

The MI report has much more negative view of the economics of the widening project for the Turnpike. I have included Table 2 as an attempt to crudely quantify the MI position. Table 2 preserves the framework of Table 1, but includes quantitative estimates of the benefits from the MI perspective. In this table, the only project benefits are time savings. I calculated these savings under an assumption that for 40 hours per year, situations arise that can cause 5,000 vehicles to be delayed 1/2 hour while using the Turnpike. I used a value of time of \$12.00, taking the high estimate of vacation value of time from the MI report, and assuming 3 persons per car.

As is evident from Table 2, my representation of the MI assumptions results in a situation where only a small part of the investment cost of the road is offset by user benefits: the net impact is a loss of \$89 million.

The crude estimates in Table 2 certainly underestimate the value of widening the Maine Turnpike. If widening were completed, benefits would accrue to users other than those considered during a few peak vacation periods, and benefits should grow over time, with traffic growth, rather than staying constant. Table 2 is offered strictly as a convenience for comparing the two reports you sent me.

Evaluating the measurements of project benefits and costs. To understand the validity of the GSMA analysis, and to appreciate why it produces a much more positive picture of the widening project's economics, I needed to review the GSMA report in detail. My own review of the GSMA benefit and cost estimates raises substantial concern that project benefits have been estimated incorrectly. While I found potential of both over and underestimation, I believe the cumulative effect of the report's methodological problems is to overestimate project benefits.

1. The key benefit to the widening project is the value of time saved, and the method of calculating the time savings seems to be substantially wrong. The GSMA report assumes that its forecast of Turnpike use will take place whether or not the road is expanded. Therefore, time savings are really the gain to each driver if each and every driver gets to travel a three-lane road instead of a two-lane road. Given that the authors of the report expect dramatic traffic growth between 1987 and 2011, adding a lane will make travel much easier.

However, if the Turnpike were not widened, all of the forecast demand on it would not materialize. Some portion of the forecast traffic, when confronted with the reality of a congested artery, would make other plans. They would take other routes, travel at other times of day, travel less frequently, travel to other destinations, or not travel at all. This search for alternatives is of critical importance: when people voluntarily choose alternatives, they find options that are better than waiting out congestion on the Turnpike.

While I cannot quantify the error from assuming a fixed Turnpike demand, it would raise the estimate of net user benefits, probably substantially. The magnitude of error would depend on what kind of alternatives are actually open to people. For example, if traffic is expected to flow freely and easily to the New Hampshire lake country, then many potential vacationers might seek that alternative destination if the road were not widened and congestion worsened significantly. (I'll talk about Maine's perspective on those losses later on.) They'd go to a close substitute and still have a good time. Not widening the Turnpike would cost them something, since Maine (at existing congestion

levels on the Turnpike) is their first choice and New Hampshire their less valuable second choice. But since they would prefer New Hampshire to the combination of Maine and worsened congestion on the Turnpike, the assumption that they would continue to use the Maine Turnpike is simply wrong.

Similarly, some of those commuting to work on the Turnpike would seek other routes or, in extreme situations, would move their houses and/or their jobs. Employers located near the road would consider relocation if congestion continued to rise unchecked. If moving and/or rerouting were easy to do, then again the costs of dealing with a two-lane Maine Turnpike would not be all that high.

This serious methodological problem with the GSMA report can be restated in transportation planning terms by saying that the time savings calculations assumed a fixed trip table and a fixed network assignment. These fixed assumptions are convenient, because they reduce the cost of planning for the widening. However, such assumptions may so color the results that the planning is not helpful in making the investment decision.

2. Time savings in hours are translated into money terms by using a hourly value of time. I found the discussion of the value of time in the GSMA report to be inadequate, and I don't agree with the limited explanation that is provided.

Much research has been completed over the past 20 years concerning the value of commuting time, with most results clustering between 1/4 and 1/2 of the wage rate. This study used 56% of the wage rate, while I'd be inclined to use a lower figure. The 56% assumption is at or above the high end of the evidence on the value of commuting time. Moreover, most evidence suggests that non-commuting travel time is valued much less than commuting time, perhaps at half the value. A large but unspecified portion of the traffic on the Turnpike is non-work oriented.

I can crudely quantify the importance of small adjustments to the value of time ratio, and the results are dramatic. Table 3 uses 1/3 of the wage rate. With this assumption, project benefits decline from \$326 million to \$212 million, or by over 1/3.

I found other dimensions of the value of time analysis that seemed curious to me. While I believe that the GSMA analysis used an estimate that was too high, given their own explanation, the correction I illustrated in Table 3 should not be interpreted as the alternative value of time I would use. There are several other complicating factors that need more attention.

I'm concerned about the base level of hourly wage used in the analysis. The discussion in the GSMA report indicates that they adjusted household earnings for Maine using an assumed workers-per-household ratio of 1.14. I'm not sure if this ratio is appropriate or not, but labor force participation has been increasing, and the estimate should be questioned to make sure that it is not far too low. A low estimate of workers per household translates to a high estimate of wages per worker.

If I understand the GSMA discussion correctly, they indicate that the wage rate they used translates into \$.201 per minute, or \$25,000 per year, assuming 2,080 hours worked. Again, I have not had the time to recalculate these numbers myself, but an average individual wage of \$25,000 per year seems high, and should be explained. The MI report has an average wage estimate of \$9.00 per hour, which is 25% lower than the GSMA estimate.

It was not clear how vehicle occupancy was treated in the analysis. My manipulations of the data indicate that the final choice of a time value was actually .605 of the wage rate. This fraction is bigger than .56, as is indicated in the GSMA report, and the difference might be explained by the conversion of vehicle hours saved into person

hours saved. However, if this is so, then the assumed vehicle occupancy rate seems to be extremely low. If this rate is too low, a substantial upward revision in the vehicle hour value of time is appropriate. I cannot be definitive here, since I didn't find any explanation in the GSMA report regarding treatment of vehicle occupancy.

The GSMA analysis keeps the value of time constant in real terms. However, income has risen in real terms historically, and I would have liked to see a discussion of real-income growth expectations in the report. An advisable revision would be to build a real growth factor for the value of time during the analysis period.

I did not find any discussion of commercial vehicles in the GSMA report. Insofar as they use the Maine Turnpike, a separate value of time should be calculated and built into the analysis. If trucks are not already taken into account, including them in the analysis would increase the benefits of widening the Turnpike.

This section on the value of time raises many issues, but the real point is: care must be taken in calculating the figure used because it is so important to the overall estimate of project benefits. I disagree with the meager explanation offered in the GSMA report, and note that other important dimensions of the calculations have simply not been discussed at all.

3. The forecast of future traffic growth seems not well defended to me. In particular, I find it curious that so little attention was paid to the time period 2001-2011 in the study. One or two sentences in the report indicate that the strategy was simply to extrapolate the results from 2000 into the future. Yet, as can be seen from Table 1 in the base case, nearly 90% of the project benefits, after discounting, flow from this time period.

The forecast from year 1992 to 2000 seems to be based on little more than a conservative extrapolation of past vehicular growth rates on the Turnpike. But the observed historical growth rates on the Turnpike are remarkably high: nationwide, growth rates for traffic of about 4% per year are more typical. To quote the MI report (page 29), "... is it realistic to extrapolate for 10-20 years into the future the experience of the last decade, which has seen our State move to an unprecedented, low unemployment rate and a historic land boom?"

New England as a whole is not expected to grow dramatically over this time period, and I would like to see a sound discussion of the projected land use patterns that will be driving the vehicular growth rates. In addition, I'd like to be assured that there are no bottlenecks in New Hampshire or Massachusetts that might prevent past growth rates from continuing into the future. Finally, I'd like to be assured that past growth did not reflect drivers adjusting to an underutilized facility: if that were the case, growth would slow down as the facility were used more intensely. The GSMA report points out, for example, that traffic growth on congested Route 1 reached a much more modest 3.8% per year, or less than 1/2 of the Turnpike traffic growth. If the traffic forecasts had been modeled on the Route 1 traffic growth experience, then the project benefits of the proposed widening would have been dramatically less.

With respect to the period 2001 to 2011, it's not responsible to treat casually the time period generating 90% of the project benefits. The assumptions I made in Table 1 to generate annual data were the most straightforward I could propose, but I haven't worked through all of their implications. For example, traffic growth in the 2001-2011 period may well make the widened Turnpike congested, thus seriously reducing the projected time savings. However, I can't offer much in the way of a critique, because no information at all was offered in the GSMA report.

4. No disruption costs are included for construction. Most projects slow people down. If we assumed everyone projected to use the Turnpike in the years 1990-1992 were slowed down 10% by widening project and valued their time at \$4.96 per hour, then the project would decrease in value by \$12 million, or over 25% of the base case benefits in the first 9 years of the project.

5. The assumption of constant daily traffic distribution profiles now and in the future inflates the estimates of project benefits. The authors, quite reasonably, want to get down to the hourly level of traffic to estimate congestion, and to do so they extrapolate monthly and daily traffic distribution profiles from 1987. In reality the growth that would take place might well come from some broadening in the peak traffic patterns observed during 1987. If that were the case, then this procedure might seriously overestimate the congestion on the roadway. Indeed, I would suspect that some flattening of the summer peaks and commuting peaks around Portland has already occurred.

Having highlighted some methodological problems with the GSMA report's benefit calculations, I'd like to give you a few guidelines on how to address the deficiencies I've noted. I believe the basic point is that a \$125 million investment demands a much stronger planning study than that contained in the two reports you've furnished me.

An effective study would begin with a careful examination of projected growth in Maine. The study of a widened Turnpike should use projections consistent with the State's goals for growth in tourism and economic development.

Next, a standard travel demand forecasting model and network analysis should be applied that would include destination choices and route choices sensitive to the transportation investment alternatives being considered. This would ensure that traffic volumes in the corridor and on the Turnpike were consistent with State land-use projections and were sensitive to congestion levels in the corridor and on the Turnpike.

An effective study would distinguish benefits accruing to the State's residents from benefits for those outside the state. Paying attention to distributional impacts would focus on dimensions of the problems that might otherwise be ignored. For example, since in reality travel patterns would be different for the build and no-build options, not widening and letting congestion build undoubtedly would divert some tourism to New Hampshire and Vermont. Now, from a broad social perspective, it may not matter where tourism development takes place. However, there will be some Maine residents who will want to capture that development and some who will want to discourage it. Building the impacts into the analysis would support an informed discussion of the issue.

A revised analysis would provide the information necessary to understand the differences in trip patterns that might occur in the no-build and build scenarios. It would focus attention on the entire road network in the Maine Turnpike corridor, especially Route 1. Finally, it would include a more careful consideration of pricing and management options for the Turnpike.

Are there better ways of managing Turnpike capacity?

Evaluating the widening proposal as a stand-alone investment can give you a feel as to whether or not it is a good investment, but it cannot tell you if pricing or other management policies would make the existing or widened Turnpike work better, or if there are other transportation investment options or the State that are superior.

The MI report does a fair job of making the logical case for a pricing alternative, which is particularly attractive here since tolls are already being collected. However, it makes no attempt at all to try to quantify potential impacts. The GSMA report doesn't begin to provide the kind of information or analysis that would be needed to evaluate the potential impact of increased tolls (the most likely traffic management strategy) on the Turnpike. While there is clearly some sensitivity to and appreciation of the importance of properly pricing the use of the facility, it does not seem to have been

a high-priority item. As mentioned above, I suspect that the case for the widening appeared so strong in the GSMA report (given the overestimate of benefits described above) that the authors believed they could safely defer the pricing issue until later. In fact, a careful analysis of new pricing strategies could result in much better performance on the highway, even if widened at a later date, and actually permit the state to reevaluate the scope and timing of the widening project.

Two dimensions are missing from both the MI and GSMA reports that are necessary to complete a quantitative evaluation of increased tolls, which are the obvious first choice for evaluation as a traffic management strategy.

First, you need a portrayal of the overall highway network of which the Maine Turnpike is a part. If cars are diverted off of the Maine Turnpike, where will they go? Note that describing the alternative routes in the network is also necessary to evaluate the widening project, as described above.

Second, you need to know how drivers and passengers will react to increased tolls. With a value of time and a network of highway alternatives, most of the required input would be at hand, but you would also have to assess how drivers value traveling on an interstate as opposed to local feeder roads.

There is at least one major piece of evidence to suggest that an important element of the pricing policy currently in place on the Maine Turnpike is in need of reevaluation. If I understood the argument correctly, commuters actually receive a discount for using the Turnpike. To quote the GSMA report (page 59), "One of the prime reasons for having a commuter fare system is to help divert traffic during the week to the Turnpike, thereby taking advantage of the underutilization at that time and relieving other congested roadways."

Presumably, this discount made sense when the Turnpike was new and underutilized, and adjacent roadways were more congested. However, if the Turnpike is now becoming as choked as other close alternatives, then a discount is no longer warranted. Indeed, the discounts may be affecting residential location patterns and promoting both longer commutes and more intensive use of the Turnpike.

John, this brief review has been frustrating given the importance of and interest in the Turnpike expansion issue. The analyses you have showed me are really primitive, given the size of the investment being contemplated. The issue deserves a systematic network analysis of the type described above to weigh carefully the pros and cons of Turnpike widening and to evaluate important alternatives to widening. Nevertheless, I hope this discussion of the two studies has helped inform your consideration of this most interesting and important decision, one that will greatly affect the future of the State of Maine. Should you or individuals at the Turnpike Authority wish to pursue a discussion of the issue I have raised, please do not hesitate to call me. I would respond myself if appropriate, or introduce you to other individuals here at CRA experienced in a wide range of transportation planning problems.

Sincerely,

Charles River Associates

Gary Fauth, Ph.D.
Vice President

TABLE 1
GSM-A BASECASE SCENARIO

Year	B		C		D		E		F		G		H		I		J		K		L		M		N		O		
	Net Operating Benefits	Net Accident Benefits	Build Annual Vehicle Miles	Build Annual Vehicle Miles	Build Annual Vehicle Hours	Build Annual Vehicle Hours	Annual Time Savings	Hourly Value of Time	Net Delay Benefits	Total Net Benefits	Net Cons. Costs	Present Value of Net Benefits	Present Value of Cons. Costs	Net Present Value															
1987																													
1988																													
1989																													
1990																													
1991																													
1992	(\$493)	\$2,943	610,161	609,818	11,300	10,527	773	\$7.44	\$5,752	\$9,202	\$20,200	\$6,427	(\$15,827)	\$3,048															
1993	(\$507)	\$3,491	644,849	644,108	12,306	11,195	1,111	\$7.44	\$8,258	\$11,252	\$20,200	\$6,427	(\$15,827)	(\$3,048)															
1994	(\$522)	\$4,056	681,508	680,326	13,402	11,906	1,496	\$7.44	\$11,132	\$14,676	\$5,700	\$1,0430	(\$4,051)	(\$8,163)															
1995	(\$537)	\$4,932	720,252	718,581	14,505	12,662	1,933	\$7.44	\$14,384	\$18,779	\$8,000	\$12,711	(\$5,415)	(\$17,190)															
1996	(\$553)	\$5,633	761,198	758,987	15,894	13,456	2,428	\$7.44	\$18,088	\$23,348		\$15,050		(\$48,951)															
1997	(\$569)	\$6,775	804,462	801,680	17,309	14,321	2,988	\$7.44	\$22,235	\$28,441		\$17,460		(\$58,951)															
1998	(\$137)	\$7,463	846,463	842,550	18,972	15,276	3,696	\$7.44	\$27,534	\$34,850		\$20,376		(\$68,951)															
1999	(\$33)	\$8,343	890,657	885,503	20,796	16,295	4,501	\$7.44	\$33,494	\$41,804		\$23,278		(\$78,951)															
2000	(\$8)	\$9,227	937,145	930,635	22,794	17,382	5,412	\$7.44	\$40,273	\$49,492		\$26,247		(\$88,951)															
2001	(\$8)	\$9,688	984,002	977,167	23,934	18,251	5,693	\$7.44	\$42,287	\$51,967		\$26,247		(\$98,951)															
2002	(\$9)	\$10,173	1,033,202	1,026,025	25,130	19,164	5,967	\$7.44	\$44,401	\$54,555		\$26,247		(\$108,951)															
2003	(\$9)	\$10,681	1,084,862	1,077,328	26,387	20,122	6,265	\$7.44	\$46,621	\$57,294		\$26,247		(\$118,951)															
2004	(\$10)	\$11,215	1,139,106	1,131,193	27,706	21,128	6,578	\$7.44	\$48,953	\$60,158		\$26,247		(\$128,951)															
2005	(\$10)	\$11,776	1,196,061	1,187,752	29,092	22,184	6,907	\$7.44	\$51,400	\$63,166		\$26,247		(\$138,951)															
2006	(\$11)	\$12,365	1,255,664	1,247,140	30,546	23,294	7,253	\$7.44	\$53,970	\$66,325		\$26,247		(\$148,951)															
2007	(\$11)	\$12,983	1,318,657	1,309,497	32,073	24,458	7,615	\$7.44	\$56,689	\$69,641		\$26,247		(\$158,951)															
2008	(\$12)	\$13,632	1,384,930	1,374,972	33,677	25,681	7,996	\$7.44	\$59,502	\$73,123		\$26,247		(\$168,951)															
2009	(\$12)	\$14,314	1,453,819	1,443,720	35,361	26,965	8,396	\$7.44	\$62,477	\$76,779		\$26,247		(\$178,951)															
2010	(\$13)	\$15,030	1,526,510	1,515,906	37,129	28,313	8,816	\$7.44	\$65,601	\$80,818		\$26,247		(\$188,951)															
2011	(\$14)	\$15,781	1,602,936	1,591,702	38,985	29,728	9,256	\$7.44	\$68,991	\$84,949		\$26,247		(\$198,951)															
1992-00	(\$3,359)	\$53,093	6,896,995		147,368	123,030	259,338		\$500,763	\$738,284		\$288,716		(\$288,716)															
2000-11	(\$119)	\$137,640	13,976,511		340,021	259,289	80,731		\$761,875	\$969,130		\$429,091		(\$102,645)															
1992-11	(\$3,478)	\$190,733	20,876,206		487,389	382,319	105,069							(\$326,446)															

TABLE 3
CSMA BASECASE SCENARIO
WITH LOWER VALUE OF TIME

Year	B		C		D		E		F		G		H		I		J		K		L		M		N		O	
	Net Operating	Benefit	Net Accident	Benefit	Build Annual Vehicle	Miles	Build Annual Vehicle	Miles	Build Annual Vehicle	Hours	Build Annual Vehicle	Hours	Annual Time Savings	Hourly Value of Time	Net Delay	Benefit	Total Net	Benefit	Net Costs	Present Value of Net	Benefit	Present Value of Costs	Net Present Value					
1987																												
1988	(\$493)	\$2,943	\$3,491	\$64,849	610,161	609,818	11,300	10,527	773	\$4.96	\$3,835	\$6,285	\$20,200	\$4,924	\$6,340	\$6,340	\$3,048	\$3,048	(\$3,048)									
1989	(\$507)	\$3,491	(\$522)	\$4,056	681,508	680,326	12,306	11,195	1,111	\$4.96	\$5,512	\$8,496	\$9,000	(\$8,163)														
1990	(\$537)	\$4,932	(\$559)	\$5,933	720,252	718,581	13,402	12,662	1,496	\$4.96	\$7,422	\$10,965	\$5,700	(\$17,190)														
1991	(\$537)	\$5,933	(\$569)	\$6,775	761,198	756,987	14,595	13,466	1,933	\$4.96	\$9,590	\$13,985	\$8,000	(\$48,951)														
1992	(\$137)	\$7,483	(\$33)	\$8,343	846,463	842,550	15,894	14,321	2,428	\$4.96	\$12,045	\$17,325		(\$15,827)														
1993	(\$33)	\$8,343	(\$8)	\$9,227	890,657	885,503	17,309	15,276	3,695	\$4.96	\$14,823	\$21,029		\$11,168														
1994	(\$8)	\$9,227	(\$9)	\$10,173	937,145	930,635	20,786	16,295	4,501	\$4.96	\$18,336	\$25,682		\$15,016														
1995	(\$9)	\$10,173	(\$9)	\$11,215	984,002	977,167	23,934	17,302	5,412	\$4.96	\$22,329	\$30,639		\$17,061														
1996	(\$10)	\$11,215	(\$10)	\$12,365	1,033,202	1,026,025	26,987	19,164	6,265	\$4.96	\$26,801	\$32,871		\$19,128														
1997	(\$10)	\$12,365	(\$10)	\$13,632	1,084,862	1,077,326	29,092	20,122	6,578	\$4.96	\$31,081	\$37,871		\$19,128														
1998	(\$10)	\$13,632	(\$10)	\$14,999	1,139,106	1,131,193	32,073	21,128	6,907	\$4.96	\$34,267	\$43,841		\$19,128														
1999	(\$11)	\$14,999	(\$11)	\$16,466	1,196,061	1,187,752	35,361	22,184	7,253	\$4.96	\$37,779	\$46,033		\$19,128														
2000	(\$11)	\$16,466	(\$11)	\$18,033	1,255,864	1,247,140	38,985	23,294	7,615	\$4.96	\$41,753	\$49,765		\$19,128														
2001	(\$12)	\$18,033	(\$12)	\$19,700	1,318,657	1,309,497	42,794	24,458	7,996	\$4.96	\$46,033	\$53,289		\$19,128														
2002	(\$12)	\$19,700	(\$12)	\$21,467	1,384,590	1,374,872	46,786	25,681	8,396	\$4.96	\$50,751	\$55,953		\$19,128														
2003	(\$12)	\$21,467	(\$12)	\$23,334	1,453,819	1,443,720	50,951	26,965	8,816	\$4.96	\$55,953	\$58,751		\$19,128														
2004	(\$13)	\$23,334	(\$13)	\$25,301	1,526,510	1,515,906	55,361	28,313	9,256	\$4.96	\$61,688	\$61,688		\$19,128														
2005	(\$14)	\$25,301	(\$14)	\$27,368	1,602,836	1,591,702	60,000	29,729	9,731	\$4.96	\$68,000	\$68,000		\$19,128														
2006	(\$19)	\$27,368	(\$19)	\$29,535	1,686,895	1,674,188	65,421	31,188	10,259	\$4.96	\$75,509	\$75,509		\$19,128														
2007	(\$19)	\$29,535	(\$19)	\$31,802	1,772,206	1,758,588	71,089	32,766	10,829	\$4.96	\$83,250	\$83,250		\$19,128														
2008	(\$19)	\$31,802	(\$19)	\$34,169	1,862,206	1,847,588	77,000	34,313	11,459	\$4.96	\$91,500	\$91,500		\$19,128														
2009	(\$19)	\$34,169	(\$19)	\$36,636	1,953,819	1,938,188	83,250	35,866	12,149	\$4.96	\$100,000	\$100,000		\$19,128														
2010	(\$19)	\$36,636	(\$19)	\$39,203	2,050,000	1,993,500	90,000	37,419	12,900	\$4.96	\$109,000	\$109,000		\$19,128														
2011	(\$19)	\$39,203	(\$19)	\$41,866	2,152,000	2,085,000	97,000	39,073	13,700	\$4.96	\$118,500	\$118,500		\$19,128														
1992-00	(\$3,359)	\$53,053	(\$3,359)	\$56,412	6,996,895	6,872,188	147,368	123,030	24,338	\$4.96	\$120,741	\$120,741	\$0	(\$102,645)														
2000-11	(\$119)	\$137,640	(\$119)	\$144,439	13,979,511	13,882,400	340,921	259,299	80,731	\$4.96	\$400,509	\$400,509	\$0	\$210,404														
1992-11	(\$3,478)	\$190,733	(\$3,478)	\$194,211	20,876,206	20,754,588	487,389	382,318	105,089	\$4.96	\$521,250	\$521,250	\$125,500	(\$102,645)														

mainewatch institute

Temporary address: 40 Buena Vista Drive, Augusta, ME 04330 (207) 622-1546

July 7, 1988

Dr. Gary Fauth
206 Prospect Street
Belmont, Massachusetts 02178

Dear Gary:

I was delighted to reach you by telephone today regarding a review and evaluation of the recommendation to widen the Maine Turnpike. You were highly recommended by Dr. John R. Meyer and I hope that you will be able to undertake the review and evaluation.

Mainewatch Institute would like to have the following work done on this issue:

1. Read the following reports, copies of which are enclosed:
 - "Widening the Maine Turnpike: The Case for a Management Alternative," produced in January 1988 by Mainewatch Institute
 - "A Comprehensive Review and Analysis of Proposed Improvement Projects," produced in June 1988 by Government Services, Inc. and Mallar Associates
2. Based on your review of the two reports, please evaluate the following questions:
 - Is the recommendation to widen the Maine Turnpike and add interchanges justified by the information presented?
 - Are the alternatives detailed in the Mainewatch report to widening the Maine Turnpike and adding interchanges insufficient to meet traffic needs?
 - Is there evidence that the recommendation to widen the Maine Turnpike and add interchanges will have acceptable and manageable impacts on other adjacent roadways?
 - What additional information, if any, should the Maine Turnpike Authority consider in order to adequately evaluate the recommendation to widen the Maine Turnpike and add interchanges?
 - To what extent should the recommendation to widen the Maine Turnpike and add interchanges be evaluated within the context of planning for Maine's transportation and economic futures?

Dr. Gary Fauth

July 7, 1988

Page 2

In order that your evaluation is considered in the decision-making process, it should be completed as close to the first of August as possible or by mid-August at the latest. As a new nonprofit organization interested in promoting a sustainable future for the people and natural resources of Maine, Mainewatch Institute has limited resources for this effort but we can provide an honorarium. With that in mind, we would appreciate your suggestions of what fair compensation should be on this project.

I appreciate your willingness to consider the project and look forward to discussing it with you on July 18. Please send me a copy of your vitae if it is convenient.

Sincerely,

John H. Fitch, Ph. D.
Executive Director and Senior Researcher

mainewatch institute

Temporary address: 40 Buena Vista Drive, Augusta, ME 04330 (207) 622-1546

July 7, 1988

Mr. Paul E. Violette
Executive Director
Maine Turnpike Authority
Portland, Maine 04103

Dear Paul:

I would like to thank you, George Campbell, Jr., Roger Mallar, and Dana F. Conners for taking the time to meet with Sherry Huber, Dick Barringer, and myself on July 5 to discuss the recommendation to widen the Maine Turnpike and to add interchanges. The study, "A Comprehensive Review and Analysis of Proposed Improvement Projects," contains much useful information and has addressed some of the questions posed in the Mainewatch Institute paper entitled "Widening the Maine Turnpike: The Case for a Management Alternative."

As you know, we do not oppose widening the Maine Turnpike and adding interchanges if these actions are the best and most cost-effective means of adding to a sustainable transportation base capable of conveying people and goods safely throughout Maine now and in the future. After carefully reviewing the two reports, we are uncertain whether the recommendation to widen the Maine Turnpike and add interchanges can address these present and future needs. We believe that the very magnitude of this project requires an outside review of this recommendation's impacts on traffic and broader economic concerns of Maine's citizens now and in the future.

We have, therefore, decided to identify an expert outside the state of Maine who is familiar with transportation and traffic problems and who is willing to review Mainewatch Institute's report, "Widening the Maine Turnpike: The Case for a Management Alternative," and the recent study, "A Comprehensive Review and Analysis of Proposed Improvement Projects," by Government Services, Inc. and Mallar Associates, in order to evaluate the following questions:

- Is the recommendation to widen the Maine Turnpike and add interchanges justified by the information presented?
- Are the alternatives detailed in the Mainewatch report to widening the Maine Turnpike and adding interchanges insufficient to meet traffic needs?
- Is there evidence that the recommendation to widen the Maine Turnpike and add interchanges will have acceptable and manageable impacts on other adjacent roadways?
- What additional information, if any, should the Maine Turnpike Authority consider in order to adequately evaluate the recommendation to widen the Maine Turnpike and add interchanges?
- To what extent should the recommendation to widen the Maine Turnpike and add interchanges be evaluated within the context of planning for Maine's transportation and economic futures?

Mr. Paul E. Violette

July 7, 1988

Page 2

As an organization founded to work with the people of Maine in developing a sustainable future with a strong natural resources and economic base, Mainewatch Institute has a duty to promote fair and objective review and evaluation of the Maine Turnpike widening recommendation. We expect that a review can be accomplished by early- to mid-August and we plan to make it available to the Maine Turnpike Authority as soon as it is completed.

We hope that the review and evaluation will be useful tools, as have been the two reports, in making an informed decision about the future of the Maine Turnpike and its role in addressing the future transportation needs of Maine.

Sincerely,

John H. Fitch, Ph. D
Executive Director and Senior Researcher