

November 3, 2000

Dear Reader:

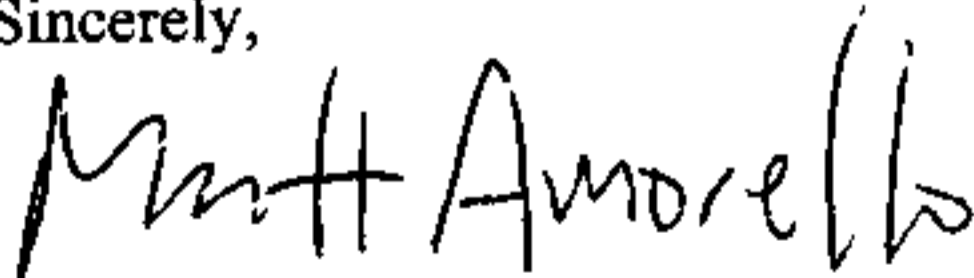
I am pleased to make available the final report from my *Task Force on Roads in Historic & Rural Areas*. One of my goals I established when I was asked to serve as the Commissioner of the Massachusetts Highway Department by Governor Cellucci, was to seek ways to improve the process in which MassHighway constructs projects in the historic and rural areas of the Commonwealth.

Toward that goal, in July 1999, I appointed a Task Force to assess the issues associated with the construction of MassHighway's road and bridge projects in the historic and rural areas across the state. The attached report reflects a year-long effort by the Task Force to not only assess these issues, but also to provide me with a variety of recommendations which I can use as a basis for implementing policies which will assist MassHighway in the goal of achieving safety while preserving the historic and rural characteristics of the Commonwealth.

I would personally like to thank the members who served on the Task Force. Their willingness to listen to one another's viewpoints and to develop consensus on meaningful recommendations made this a successful collaboration.

I strongly believe that this report will assist MassHighway in our efforts to not only increase the safety of the Commonwealth's roads and bridges, but do so while preserving the sensitive historic and rural characteristics which make Massachusetts unique.

Sincerely,



Matthew J. Amorello
Commissioner

*Commissioner Matthew J. Amorello's
Task Force on Roads in Historic & Rural Areas*



FINAL REPORT

Massachusetts Highway Department - Massachusetts Historical Commission -
Massachusetts Association of Regional Planning Agencies - Massachusetts Municipal
Association - Executive Office of Environmental Affairs - Barnstable Dept. of Public Works -
Blackstone River Valley National Heritage Corridor Commission

Argeo Paul Cellucci
Governor

Jane Swift
Lieutenant Governor

Kevin J. Sullivan
Secretary

Matthew J. Amorello
Commissioner

October 2000

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Introduction

In July 1999, responding to concerns heard from around the Commonwealth, MassHighway Commissioner Matthew J. Amorello formed a Task Force to examine how state and federal design standards affect roads in historic and rural areas. The decision to form the Task Force was based on the Commissioner's belief that there was room for improvement in how MassHighway undertakes projects in the historic and rural areas across the state. From the onset, it was MassHighway's intent that the goal of the Task Force was not to produce new design standards, but rather to examine ways to improve the process in which MassHighway works with regional and municipal colleagues to develop projects in these sensitive areas. The membership of *Commissioner Matthew J. Amorello's Task Force on Roads in Historic and Rural Areas* included professionals with a variety of backgrounds, expertise and perspectives. Specifically, the Task Force included the following individuals:

Luisa Paiewonsky (Task Force Chairperson), Director,
Bureau of Transportation Planning and Development, MassHighway
Margaret O'Meara, Assistant Commissioner, MassHighway
John Blundo, Deputy Chief Engineer, Highway Engineering, MassHighway
Greg Prendergast, Deputy Chief Engineer, Environmental Division, MassHighway
Tom DiPaolo, Assistant Chief Engineer, MassHighway
Doug Kelleher, Bureau of Transportation Planning and Development, MassHighway

Judith B. McDonough, State Historic Preservation Officer
Executive Director, Massachusetts Historical Commission

Kurt Gaertner, Planning Coordinator
Executive Office of Environmental Affairs

Thatcher Kezer, Legislative Analyst, and Matthew Feher
Massachusetts Municipal Association

Michael Creasey, Executive Director
Blackstone River Valley National Heritage Corridor Commission

Linda Dunlavy, Executive Director, Franklin Regional Council of Governments
(representing the Massachusetts Association of Regional Planning Agencies)

John Pagini, Executive Director, Nantucket Planning & Economic Development Comm.
(representing the Massachusetts Association of Regional Planning Agencies), and

Cornelius Andres, Highway Supervisor
Barnstable Department of Public Works

In addition, the following individuals have participated in many of the Task Force meetings and have provided valuable input into the report,

Barbara Lucas, Metropolitan Area Planning Council
Maureen Mullany, Franklin Regional Council of Governments
Chris Skelly, Massachusetts Historical Commission
Kevin Walsh, MassHighway Environmental Division
Jim Elliott, MassHighway Environmental Division

Background, Development and Progress of the Task Force

After hearing from a number of communities concerned about the impact of roadway projects on their historic and rural character, Commissioner Amorello formed the Task Force to review the issues and develop recommendations on areas where MassHighway could be more sensitive to the historic and rural character of the Commonwealth.

Over the span of a one-year period (July 1999 – August 2000), the Task Force met on twelve separate occasions. Initially, the MassHighway representatives on the Task Force and the non-MassHighway representatives on the Task Force had vastly different views and perspectives. In general, non-MassHighway members of the Task Force believed that MassHighway's reliance on AASHTO based guidelines make it difficult to preserve rural and historic character and community character issues overall. MassHighway personnel believed that relying on AASHTO is paramount to ensuring the safety of the Commonwealth's road system and its motorists. While the members of the Task Force never reached consensus on all points, all members have a much better understanding of each other's issues and concerns and all believe that short term and long term changes can be made that will both protect community character and preserve safety.

During the course of the year, the Task Force discussed a variety of topics relating to the highway design process. Some of the topics which were covered include: local perspective on current MassHighway policies, MassHighway design standards, the design exception process, the concept of a "Footprint Road Program," bicycle and pedestrian accommodation requirements, alternative design materials, options for a variety of scenic road designations, and establishing an online project information tracking system. The meetings have provided all Task Force members with the chance to hear different perspectives. While there are many areas that the Task Force has been unable to reach consensus, members have appreciated the opportunity to discuss the issues through a formalized Task Force.

In January 2000, a representative from the Vermont Department of Transportation was invited to speak to the Task Force. David Scott, P.E., Director of Project Development provided an overview of how the state of Vermont developed new design standards. Like Massachusetts, there was a great deal of concern in Vermont over roadway design standards and their impact to cultural, historic, and rural resources. In Vermont, an advisory committee was formed consisting of engineers, FHWA representatives, architects, landscape architects, historic preservationists, natural resource professionals and the Vermont Arts Council. Interestingly, the DOT was not a majority on this Committee. The result was a new set of design standards appropriate for Vermont that were adopted by the state legislature. Scott

explained to the Task Force that liability had not been an issue in Vermont and that the process, now implemented, means projects move forward more smoothly and have greater public support.

This report is intended to serve two functions. Its primary purpose is to summarize policy issues and describe the background, development and progress of the Task Force which has been meeting since July 1999. A secondary benefit of the report will be a variety of recommendations for Commissioner Amorello's consideration. The recommendations outlined in this report can serve as a basis for the Commissioner to implement a number of policies that will improve the process in which MassHighway undertakes projects in the historic and rural areas of the Commonwealth.

The Massachusetts Highway System

The Massachusetts Highway System is comprised of more than 35,000 miles of roads. This network of interconnecting local roads, state routes and interstate highways work together to provide an important form of public infrastructure necessary for the economic health of the Commonwealth. Although almost 80% of the roads in Massachusetts are locally owned, the majority of the vehicular traffic in Massachusetts is carried on the interstate highway system. While only 4% of the roads in the state are classified as interstate highways, they carry approximately 30% of the daily traffic in Massachusetts.

Across Massachusetts roads serve a variety of important local, state and interstate functions. For example, Interstate 91 in western Massachusetts is the direct connection among Connecticut, Massachusetts and Vermont; similarly, Interstate 95 in eastern Massachusetts provides a direct connection among Rhode Island, Massachusetts and New Hampshire. On a local level, State Route 28 in Chatham is also known as that historic seaport's Main Street, just as State Route 2 in Charlemont serves as that western Massachusetts community's Main Street. Where state highways also serve as a local "Main Street," there is often strong community attachment to the state road. These Main Streets are often identified as the historic core of many Massachusetts cities and towns.

In the early 1990s, MassHighway initiated a large-scale statewide road and bridge improvement program. At the same time, with the passage of the *Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA)*, more locally owned roads became eligible for improvements with federal funds. However, with the eligibility of federal highway funds comes the requirement for compliance with state design standards. MassHighway has adopted the American Association of State Highway and Transportation Officials (AASHTO) *A Policy on Geometric Design of Highways and Streets 1994* (the "Green Book") for design standards.

The application of these standardized design guidelines, which promote vehicular and pedestrian safety, can create adverse alterations to the historic and rural qualities that make many Massachusetts roads unique. This poses a challenge to both MassHighway and the communities, in their efforts to address the need for safety and the preservation of the historic, cultural, rural and other qualities that make Massachusetts unique.

Chapter 1: The MassHighway Project Development Process

MassHighway is responsible for planning, developing, designing and constructing bridge and highway improvement projects across the state. This process is not only important from the perspective of the final infrastructure improvement, but the public perception of MassHighway is also heavily influenced by the effectiveness of this process and the sensitivity shown to public concerns. In many cases, public concern is especially pronounced when road improvements are proposed within historic or rural areas.

The process in which a project moves from the conception stage to the construction stage is fairly complex. However, the highway design process consists of three major steps: Planning and Project Development at the 25% design phase; 75% design phase; and the 100% design phase. Important characteristics of each step include:

Planning and Programming: MassHighway's Bureau of Transportation Planning and Development is responsible for conducting all statewide transportation planning. Important local and regional transportation needs are typically identified by each of the thirteen Regional Planning Agencies. Other sources of project proposals include MassHighway District offices, state legislators, local officials and concerned citizen groups.

The state's thirteen Regional Planning Agencies receive federal and state funds to conduct comprehensive transportation and land use planning. For urban areas with a population of more than 50,000, the planning agency, the transit agency, MassHighway, the Executive Office of Transportation and Construction and in some regions, local elected officials, form a Metropolitan Planning Organization (MPO) which produces a Transportation Improvement Program (TIP). The TIP is a listing of regional priorities for projects to be supported with federal transportation funding. For non-urban areas, MassHighway and the Regional Planning Agency work together to achieve the same goal. To receive federal highway funding, projects must be programmed on the TIP for the region in which the project is located. New to the federal fiscal year 2001 TIP process, the MPOs will also create lists of prioritized and fiscally constrained projects that will likely receive state funds.

Project Development and 25% Design: This stage of the design process is intended to provide basic information on design parameters, public concerns, and environmental impacts, all of which are important factors in completing the highway design. An important component of the 25% design phase is the public hearing. However, some public hearings have been

poorly attended. Poor attendance at public hearings may be a function of several factors including, the manner in which they are advertised, the times at which they are held, the technical nature of the presentations, or the perception among some that, as a layperson, they will have limited influence over state projects. Public participation in the design process is an essential ingredient in all of MassHighway's projects. A public hearing is required by the Federal Highway Administration (FHWA) for federal-aid highway projects that involve right-of-way impacts or changes in traffic patterns as part of a process that also encourages a variety of citizen involvement techniques such as informal public meetings, briefings, and workshops.

In addition, MassHighway also conducts public hearings for state-funded projects. Public hearings are legally recognized formal meetings held at particular times during the project development and design phases. Public meetings, briefings or workshops are informal gatherings of MassHighway officials, public officials, and local citizens to share and discuss proposed actions. These meetings provide an opportunity for public participation before final decisions are made. The frequency of public meetings is not predetermined and may be held at any time during the project development or design phases. Public meetings do not occur for all projects. Concentrated public involvement during a project's design is often precipitated by public concern about safety or community character issues.

75% Design: The 75% design phase uses the preliminary information provided from the 25% design phase and develops more detailed design plans and specifications relating to such principles as pavement and drainage design. Also at this stage of the design, the project should address the concerns and comments raised at the 25% design phase. In addition, all necessary environmental and right-of-way permitting and clearances needed for constructing the project must have commenced before or during this phase.

100% Design: This phase consists of finalizing all construction-related documents associated with the project. These include right-of-way plans, construction plans, specifications, estimates, utility agreements, and traffic management plans. When the 100% design phase is complete, a project is considered ready for advertising and ultimately construction.

All projects must go through these design phases, whether initiated and designed by MassHighway or at the local level.

Issue: Despite the various opportunities for public input under MassHighway's current highway design process, some Task Force members believe that more and better opportunities for public input in the development of

projects is needed for both state and locally designed projects. Further, some believe that there is also a need for earlier public involvement in the highway design process. Earlier involvement is important since the 25% stage of a project's design represents a significant amount of design work invested in defining the project. Earlier consideration of the historic or rural context of a project increases the likelihood that the subsequent project design will be more in keeping with that context.

FUNCTIONAL CLASSIFICATION

Functional Classification is defined as the process by which streets and highways are grouped into systems according to the character of service they are intended to provide. Individual roads and streets do not serve travel independently. Each route may have certain specific operating characteristics, but it is the relationship of each individual route to the overall roadway network, which defines its placement in the functional classification hierarchy.

There are three general categories of functional classification systems, Arterials, Collectors and Local roads. The functional classification category of "Local" should not be confused with local jurisdiction or ownership of the roadway. While most functionally classified Local roadways in Massachusetts are under city/town jurisdiction, some are not.

In general, Arterials provide a high level of mobility and access control, while functionally-classified Local roadways provide less mobility and a great deal of land access. Collector roadways serve to balance the need for mobility and land access.

The three general categories of Arterial, Collector and Local are further subdivided into Principal, Major or Minor categories to make them more detailed and useful for planning and engineering purposes, since the road types and quality of service provided can be extremely varied within each general category. The three systems also take on specific characteristics depending upon their geographic location in either Federal-Aid Urban or Rural areas.

Issue: The Functional Classification of a road is a determining factor when design standards are applied. The Functional Classification of a roadway is determined by its use, its connectivity to other roadways, and usually its relative traffic volumes. In rural areas, roads that have been

classified as Collectors because they serve some other regional use, often do not have the volumes that the AASHTO design guidelines assume for that Functional Classification. Because of that, some Task Force members suggest that MassHighway should consider additional factors, such as historic and rural characteristics of the roadway when determining the appropriate design standards.

MASSACHUSETTS GENERAL LAWS CHAPTER 87 OF THE ACTS OF 1996 BICYCLE AND PEDESTRIAN ACCOMMODATIONS

In 1998 MassHighway issued an engineering directive to address the bicycle and pedestrian requirements of Chapter 87, of the Acts of 1996 (see Appendix H). The MassHighway benchmark for pedestrian accommodations is to provide at least one continuous paved surface or sidewalk along all roadways where pedestrian access is legally permitted. In addition, all sidewalks must be in compliance with Americans with Disabilities (ADA) requirements. The project designer shall determine as soon as possible in the design process, and prior to 25% design approval, whether it is feasible to fulfill the bicycle and pedestrians requirements.

The engineering directive outlines a variety of factors which should be taken into consideration when determining reasonable accommodations, these include: environmental impacts, impacts to scenic roads, archaeological or historic impacts, conflicts with street parking, compatibility with surrounding area, public safety, etc.

Issue: Occasionally, compliance with Chapter 87 results in increased width of existing shoulder and sidewalk widths. Some Task Force members believe historic and rural settings may be compromised if MassHighway applies the bicycle standards too broadly. While MassHighway has acknowledged that extra lane and shoulder width is unnecessary on very rural, local roadways in its low speed/low volume standards, some members of the Task Force believe that further clarification of the term "reasonable accommodation" is warranted. MassHighway officials acknowledged this point, while citing the importance of compliance with the spirit and language of the bicycle and pedestrian accommodation requirements. Some Task Force members have questioned whether bicycle advocates had fully considered the impact of Chapter 87 on community character issues and have suggested that a forum to discuss these issues be held.

Chapter 2: Environmental Permitting Process

The design of MassHighway construction projects requires consideration of the projects' potential impact to environmental resources such as wetland and water resources, state or federally designated historic and archeological resources, parkland, hazardous materials, endangered species, air and noise, among others. Each project must be in compliance with all of the various state and federal environmental laws. The project design process includes review by MassHighway's Environmental Division and the appropriate District office, in coordination with the various environmental permitting agencies, to identify the environmental resources present in the project area and to determine which permits may be required.

State Environmental Review:

Projects whose environmental impacts exceed certain review thresholds require filing of an Environmental Notification Form (ENF) with the Executive Office of Environmental Affairs' MEPA Office. The Massachusetts Environmental Policy Act (MEPA) was established to provide meaningful opportunities for public review of the potential environmental impacts of public projects or projects requiring a permit from a public agency. In the early stages of design, MassHighway determines whether a project exceeds any ENF review thresholds, thus triggering MEPA jurisdiction. Copies of MassHighway ENFs are distributed to:

- Executive Office of Environmental Affairs,
- Department of Environmental Protection,
- the appropriate DEP Regional office,
- Massachusetts Aeronautics Commission,
- Massachusetts Historical Commission,
- the appropriate Regional Planning Agency,
- each municipality that the project is located in or abuts (copies are sent to the city council/board of selectmen; the planning board/department; the conservation commission; and the department/board of health).

- any agency from which and agency action is required for the project,
- and, any agency or person requesting a copy during the review period.

In addition, depending on the nature and/or location of the project, copies may also be sent to:

- Coastal Zone Management,
- Division of Fisheries,
- Department of Food and Agriculture,

Natural Heritage and Endangered Species Program,
Metropolitan District Commission,
Department of Public Health,
Energy Facilities Siting Council,
Department of Public Utilities,
Massachusetts Water Resource Authority,
and the Massachusetts Bay Transit Authority,

Projects that result in more significant environmental impacts are required to file an Environmental Impact Report (EIR) which includes more comprehensive environmental analysis than an ENF. Based on a review of the ENF or EIR, the Massachusetts Secretary of Environmental Affairs determines if a project properly complies with MEPA.

Federal Environmental Review:

Projects that involve the use of federal funds or require other federal action, require compliance with the National Environmental Policy Act (NEPA). Similar to MEPA, NEPA provides public review of a project's environmental impacts. This review is accomplished through the preparation of documents summarizing a project's environmental impacts and proposed mitigation. Depending on the extent of a project's impacts, the required documentation ranges from Categorical Exclusion (CE) checklists, to Environmental Assessments (EA), to Environmental Impact Statements (EIS).

Several state and federal environmental laws protect wetland resources; therefore, it is critical for the project designer to be aware of all wetland resources within the project area and the potential impact to these resources. The Massachusetts Wetlands Protection Act, Massachusetts Environmental Policy Act, and the federal Clean Water Act (Sections 401 and 404) protect wetland resources. Documentation of the type and amount of wetland resource impact is required to determine wetland-permitting requirements. Impact to wetland resources require, at a minimum, the filing of a Notice of Intent with the local Conservation Commission (in compliance with the Wetlands Protection Act) and a Section 404 permit with the Army Corps of Engineers. Projects with more significant amounts or types of wetland impacts may also require the filing of an ENF or a Major Water Quality Certificate with the Massachusetts Department of Environmental Protection (DEP). Each of these permits involves a public comment period prior to its issuance.

State and federal laws also protect state and federally designated historical and archeological resources. The Cultural Resources Section within MassHighway's

Environmental Division reviews each project advertised by MassHighway to ensure compliance with state Chapter 254 and federal Section 106 of the National Historic Preservation Act. Each project is reviewed for potential impacts to historic bridges, districts, buildings, and other structures as well as archeological sites. Consultation with the Massachusetts Historical Commission is required and also with the federal Advisory Council on Historic Preservation for projects with a federal involvement.

In accordance with state Chapter 21E, the Hazardous Materials Unit, within MassHighway's Environmental Division, reviews each project for potential impacts to hazardous materials sites. This review is conducted according to the standards implemented under 310 CMR 40.0000. The investigation of potential hazardous materials sites is often coordinated with the state Department of Environmental Protection's Bureau of Waste Site Cleanup.

Depending on the scope and location of the project, further coordination and permitting may take place with additional agencies which have an interest in environmental protection such as the US Coast Guard, US Army Corps of Engineers, Coastal Zone Management Agency, US EPA, US Fish and Wildlife Service, Massachusetts Division of Fisheries and Wildlife, and Massachusetts Natural Heritage and Endangered Species Program.

Issue: Despite MassHighway's efforts for early coordination with local, state, and federal environmental agencies, some Task Force members believe that this is not being fully accomplished. Similar to the request for earlier and additional public input in the development of projects, some suggest that MassHighway would also benefit from earlier and additional consultation with the appropriate local, state and federal environmental review agencies to ensure consideration of impacts and alternatives. MassHighway officials on the Task Force have pointed out that project concepts and designs must be sufficiently advanced to achieve a starting point for review.

Approximately 60,000 contributing properties are currently included on the National Register of Historic Places for the state of Massachusetts. National Register listing is an on-going process, generally occurring only after a community has undertaken an comprehensive inventory of their historic resources and an extensive nomination to the National Register has been prepared and submitted to the National Park Service. As a result, it is estimated that there are thousands of historically significant, inventoried or not yet inventoried properties, that are not yet included on the National Register of Historic Places.

If federal funds are used for a MassHighway project, Section 106 requires consultation with MHC whether a project impacts historic resources that are listed on the National Register or eligible for the National Register. However, eligible, but not yet listed, National Register properties are not afforded this review when projects are solely funded with state funds. This creates an incentive for MassHighway to only use state funds in historically significant areas in order to avoid MHC consultation.

Task Force members have discussed the need to broaden the definition of the Task Force to include the issue of community character. Many areas of Massachusetts, while not officially historic, retain an identifiable community character. Some Task Force members have asked MassHighway to explicitly recognize these areas, as they are highly valued by local residents.

Chapter 3: Alternatives in Highway Design

DESIGN EXCEPTIONS

MassHighway requires all projects, regardless of state or federal funding sources, to meet the design standards set forth in the MassHighway Design Manual. The Design Manual incorporates the American Association of State Highway and Transportation Officials (AASHTO) 1994 guidelines for roadway and bridge projects. AASHTO guidelines are based on years of research and data for the safe and efficient movement of vehicular traffic. The primary goal of design under the Green Book is *"to provide operational efficiency, comfort, safety, and convenience for the motorist."* The needs of pedestrians and bicyclists, and the effects of roadway projects on the environment and communities, are secondary. The AASHTO Green Book is a set of guidelines, not standards or requirements. AASHTO, by using this term, recognizes that its design criteria will not fit on all roadways and, in fact is currently revising its standards to be more context sensitive.

The Federal Highway Administration and MassHighway recognize thirteen "controlling criteria", from AASHTO policy which, if not met, require formal approval of design exceptions. These criteria are:

Roadway and Bridge Criteria:

- design speed
- lane width
- shoulder width
- horizontal alignment
- vertical alignment
- grade
- stopping sight distance
- cross slope
- superelevation
- horizontal clearance (other than "clear zone")

Bridge only Criteria:

- structural capacity
- width
- vertical clearance

Guidelines defined as "desirable" and as "minimum" standards for most of these controlling criteria are found in the MassHighway Design Manual. MassHighway policy requires that

every reasonable effort should be made to use the standards set forth in the manual. Any design that does not meet the minimum standards must be justified in the form of a design exception request and must be based on sound engineering judgement weighing relevant factors. Please note the term "design exception" rather than "design waiver". Because MassHighway does not want to give the impression that safety standards are being waived, the term design exception is the preferred nomenclature. Some criteria, such as design speed, affect other criteria, and any interrelated criterion must also be addressed. Safety and traffic operations must not be reduced on the facility as a result of using values lower than minimum standards. This policy recognizes that there are many factors that need to be taken into consideration with the requirement of meeting the standards. The policy further acknowledges that there are some limitations that prevent these standards from being met in all cases. In those cases, MassHighway may entertain a request for a design exception.

Design Exception Process

If design standards can not be met, justification is required for all projects, regardless of funding. Documentation is required to demonstrate that sound engineering judgement was used to design the improvements. Such documentation may be required at a later date to prove that the roadway was designed prudently. This documentation may also be required in a court of law if an accident occurs on the facility to demonstrate that sound engineering judgement was used and that the design element was not arbitrarily chosen. It should be noted that, according to the Massachusetts Municipal Association, most liability claims are not design-based but maintenance-based. Because of their relevance to all roadway and bridge projects, and the need for consistent applicability of design exception issues, the design exception guidelines found in the MassHighway Design Manual should be followed regardless of project funding.

In accordance with a 1999 MassHighway Engineering Directive (see Appendix H), all design consultants are required to submit the design exception request at, or prior to, the 25% design stage. Furthermore, design exception requests prepared by the consultants must be stamped by the responsible professional engineer and signed by a Principal or Chief Engineer of the firm preparing the report. MassHighway will not consider design exception requests that do not contain this certification. Design exception requests for projects designed by MassHighway must be reviewed and stamped by MassHighway's Highway Design Engineer prior to being submitted to the Chief Engineer. MassHighway's Chief Engineer must approve all design exceptions for MassHighway projects. The Federal Highway Administration must also approve all design exceptions required on projects that it normally reviews (such as National Highway System roadways or projects with a value of more than \$10 million).

Approval Process

The design exception documentation is prepared by the design engineer and forwarded to the MassHighway project manager for review. The project manager then forwards the document under the signature of the appropriate Deputy Chief Engineer, along with any recommendations, to the Chief Engineer for approval. Design exceptions on all projects which also require FHWA review are then forwarded to FHWA for approval. Upon receipt of all approvals, the documentation and the approval letters must be kept in a permanent project file for future reference. The project submittal to MassHighway's Capital Expenditure Program Office (CEPO) for construction advertising needs to include a statement such as "design exceptions have been approved for this project and are on file."

Design Exception Documentation

Documentation of the design exception should be in report format, and should include:

* **Executive Summary:**

A brief description of the proposed project

A listing of the controlling criteria for which a design exception is requested

* **Proposed Improvement**

Description of proposed project (type of project: reconstruction, rehab., etc.)

Purpose of improvements: safety, capacity

Other existing deficiencies to be improved by the project

* **Description of the Existing Conditions, include:**

Functional Classification of the roadway(s)

Traffic character and volumes

Description of Surrounding Area

(Developed or Undeveloped, Scenic)

Speeds

(Posted, 85 percentile, Observed, Design Speed)

Existing lane and shoulder width (usable shoulder)

Right-of-Way layout
Accident data
Environmental Factors
 Wetlands
 Trees
 Parklands
Cultural Resources
 Historic or Archaeologically sensitive areas

*** Discussion of Design Exceptions, include:**

A separate discussion of each controlling criteria
MassHighway and AASHTO Desirable and Minimum Standards
Project proposed values and degree of reduction
Typical section (s) or other graphical description of the existing and proposed improvements along with other roadway elements
An analysis of the accident data as it relates to the controlling criteria
Discussion of compatibility with adjacent roadway sections and future expectations for corridor improvements
If a Design Speed exception is requested, a discussion of effects on other controlling criteria
Discussion of right of way constraints
Discussion of environmental, cultural resource, or other constraints
Any features that might be used to mitigate the substandard feature such as signing and striping
A preliminary estimate of the incremental cost to comply with MassHighway/AASHTO minimum standards.
A benefit/cost analysis and/or a Value Engineering assessment may also be included when appropriate data is available.

*** Recommendation/Summary:**

The designer must document that reasonable engineering judgement was used to justify the proposed design by drawing from the above information.

Issue: The design exception process and MassHighway's reliance on AASHTO based guidelines was the focus of many of the Task Force's agenda items and discussions and is the primary area where consensus was never reached among Task Force members. The issues related to this can be divided into three categories: AASHTO Guidelines, Design Exceptions, and Liability Issues.

AASHTO Guidelines - AASHTO guidelines are guidelines, not requirements. MassHighway's reliance on the guidelines as standards, in the opinion of some Task Force members, is one reason why Commissioner Amorello received so much feedback and eventually led to the formation of the Task Force. It is the opinion of some Task Force members that Massachusetts should have the long-term goal of reexamining, and potentially revising, the MassHighway Design Manual to better recognize the historic nature, and thus constraints, of much of the Massachusetts road system.

Design Exceptions - Some Task Force members believe that MassHighway should be more flexible in its review of exception requests. In addition, it has been suggested that MassHighway should provide more direction to design consultants, local officials, and Regional Planning Agencies regarding the preparation and required content of design exception requests. MassHighway officials have noted that the agency's acceptance rate of design exceptions has been high; further, they point out that the quality of such requests have improved greatly since the 1999 MassHighway Engineering Directive requiring design consultants to stamp the exception request.

Information on the number, reasons, and outcome of design exception requests has not been comprehensively tracked by MassHighway. Some Task Force members believe this would be a valuable exercise so that MassHighway and everyone involved in the Statewide Road and Bridge Program can gain a better understanding of roadway constraints and community concerns.

Communities have expressed concern about the costs associated with their participation in the design exception process.

Some Task Force members have expressed the need to reinstitute the 3R program or a Footprint Road Program for just this reason. (This is described in greater detail later in this document.)

Some Task Force members believe there needs to be a greater opportunity for community input into the design exception approval process.

MassHighway representatives on the Task Force stated that design consultants are expected to submit any design exception requests at or before the 25% phase. Submitting design exception requests later in the development of a project results in costly design changes and makes it more difficult for MassHighway to approve the request.

Liability - MassHighway has maintained that adherence to AASHTO based guidelines is vital to defend potential lawsuits in case of an accident due to poor roadway design. However, according to the Massachusetts Municipal Association's Legal Counsel, there have been no lawsuits related to roadway design. All lawsuits are related to roadway maintenance. (MMA's report is included as Appendix C)

LOW SPEED / LOW VOLUME DESIGN STANDARDS

In 1997 MassHighway issued design standards for the resurfacing, rehabilitation and reconstruction of existing low speed/low volume roadways. The low speed/low volume design standards were created for roads with low running speeds and which carry low traffic volumes. These roadways represent approximately 74% of the 35,000 road miles in the state. These standards have allowed MassHighway to improve its work with communities in the rural areas where meeting traditional highway design standards is challenging. As a result, the standards have made it possible to undertake roadway reconstruction projects while maintaining the character of rural and historic areas.

As in conventional roadway design, design standards are based on the functional classification of the roadway. Because of the transportation significance of the National Highway System, and the rest of the arterial system, and the fact that most arterials (including minor arterials) are high speed/high volume facilities, arterials and freeways are not included in the low speed/low volume criteria. Therefore, low speed/low volume roadway criteria are only applicable to roadways functionally classified as *Collectors* and *Local Roads*. For the purpose of the standards the following definitions apply:

Speed is defined as the 85th percentile running speed. This is usually, but not always, the posted speed. (Occasionally, the posted speed may be set artificially lower than the 85th percentile speed for safety or other reasons, such as proximity to a school.) Low speed is defined as **less than 45 mph**.

Volume is defined as Average Annual Daily Traffic (AADT). Low volume is defined as 2000 AADT or less.

Design Year (for estimating future AADT)

Resurfacing projects	5 years
Rehabilitation projects	10 years
Reconstruction projects	20 years

Issue: Some members of the Task Force believe that the applicability of the low speed/low volume standards is too limited. Some believe that if MassHighway reinstated its former "3R" program, many more projects would proceed without local opposition. With documented existing safety conditions, the 3R program allowed

for the resurfacing, restoration and rehabilitation of roadways without full compliance with other traditional design standards. This could also significantly reduce the design costs for municipalities, which can cost upwards of 25% of the project cost. However, MassHighway officials note that this reduction in cost is less likely to be the case in environmentally sensitive areas where documentation (in the form design plans) is needed to obtain the necessary environmental permits. MassHighway officials on the Task Force believe that the low speed/low volume standards have sufficient applicability across the state. Some members on the Task Force believe that there needs to be a similar level of flexibility for roads in urban areas that do not meet the low speed/low volume requirements.

FOOTPRINT BRIDGE PROGRAM

In 1991, MassHighway adopted a "Footprint Bridge Program" for the replacement or rehabilitation of structurally deficient bridges in the state with available funds. The Footprint Bridge Program was intended to facilitate the design of replacement structures by eliminating unnecessary right-of-way and environmental impacts most often associated with approach roadways. Prior to the Footprint Bridge Program, many bridge rehabilitation and replacement projects were resulting in "over-designed" bridges to comply with AASHTO design guidelines. MassHighway recognized that constructing bridges considerably wider than their approach roads was an inefficient use of limited funds. Furthermore, MassHighway recognized that many of the new bridges were significantly altering the character of the bridge's setting.

In establishing guidelines, MassHighway decided that the Footprint Bridge Program would only apply to bridges that carry roads with the following function categories: *Minor Arterials, Urban Extensions of Minor Arterials, Collectors, and Local.*

The program further states that bridges with a sufficiency rating of less than 50.0 are eligible for replacement or rehabilitation while those with a sufficiency rating of between 50.0-80.0 or less are eligible for rehabilitation only. However, bridges that have the potential to become functionally obsolete, due to changes in surrounding land uses or significant increases in traffic volumes, are poor candidates for rehabilitation regardless of their sufficiency rating. This is because it is assumed that eventually a functionally obsolete bridge will need to be replaced to meet current or future traffic needs, and thus, rehabilitation of the bridge would be an inefficient use of funds.

The Footprint Bridge Program has allowed MassHighway to successfully rehabilitate and replace bridges while preserving the character of their surrounding environment. Due to the success of the Footprint Bridge Program, several other states, such as Vermont, have adopted similar programs for the rehabilitation and replacement of bridges.

Issue: Most Task Force members agree that the Footprint Bridge Program is a successful program. Some members believe that MassHighway should build upon the current program to include a "Footprint Road" program. As proposed, a Footprint Road program would support roadway rehabilitation projects including resurfacing, drainage and minor safety improvements, rather than reconstruction of roads, thus eliminating the need for compliance with state and federal design standards. This would

reduce the cost of projects, expand the useful life of roadways, and maintain the current character of the roadways. Additionally, it would be in keeping with an asset management approach that supports the belief that continued and careful maintenance of roadways expands the life of a roadway and greatly reduces the need for, and thus, cost of reconstruction. While both MassHighway officials and others on the Task Force agree to this in principle, MassHighway officials do not believe that this is an appropriate use of limited state and federal funds. However, all members of the Task Force agree that the concept of a "Footprint Road" program should be considered further in a follow-up working group to reexamine MassHighway design standards.

Chapter 4: Recommendations

The primary goal of the Task Force has been to provide the Commissioner with a variety of recommendations that he could implement to improve the process in which MassHighway undertakes projects in historic and rural areas. The following recommendations are intended to provide the Commissioner with a framework for implementing a variety of policies that will achieve that goal.

1) *Formation of a Design Issues Working Group*

Issue: The Commissioner's Task Force was viewed as a "first step" in MassHighway's effort to respond to local and regional concerns about design-related issues. The original intent of the establishment of the Task Force was specifically not to consider new design standards for historic and rural areas, but rather to improve the policies in which MassHighway designs, constructs and reviews projects in these sensitive areas. Some members of the Task Force believe that this process identified the issues, and that the root of most of the process-related problems is the inflexibility of the state's AASHTO based design standards. Others on the Task Force believe that the MassHighway design standards are sufficiently flexible to provide for safe roads and the preservation of community character.

Recommendation: The Task Force recommends that MassHighway form a follow-up Working Group to reexamine MassHighway design standards, specifically addressing engineering issues. MassHighway will take the lead in initiating this Working Group. Participants in the Working Group will address a variety of issues including highway design issues, streamlining the process for design exceptions, Rural Roads Initiatives, and a proposal for a state funded "Footprint Road Program."

2) *Reexamining the Design Exception Process*

Issue: The Task Force finds that the current design exception process:

- Does not comprehensively track the content, timing, and outcome of design exception requests, and that absent this information it is not known what percentage of state-funded projects require design exceptions leading to conflicting perception of how widespread the problem is,
- That there are significant local concerns regarding the length, cost, and administrative requirements associated with design exception requests,
- Involves limited local communication during the MassHighway review process.

Recommendations: The Task Force recommends:

- MassHighway establish a tracking system for documenting the number and content of design exception requests,
- The reexamination of the design exception process as one of the principal tasks of the recommended Design Issues Working Group,
- Examine the process to reduce the length of time associated with the approval of design exception requests,
- The Working Group should examine ways to improve communication between MassHighway and the community requesting the design exception,
- Following the issuance of this report, MassHighway will distribute copies of the report and solicit additional discussions and input among MassHighway and its five district offices,
- The Working Group consider the MARPA recommendation for the establishment of a Design Exception Review Committee to enhance local input in the review of design exceptions (see MARPA's March 2, 2000 letter in Appendix G).

3) *Improve communication among local, regional and statewide groups*

Issue: The Task Force finds the following with respect to communication during project design and development:

- Early design consultation among municipalities and regions, at the design concept stage, is often lacking. This sometimes leads to costly design changes later in the process,
- While large-scale projects generate a great deal of attendance at public hearings, attendance at hearings for more common projects is often sparse. As a result, issues regarding preserving community character are often not raised until the project is well under way,
- For policy and budgetary reasons, MassHighway officials sometimes do not attend or participate in public meetings. In these cases, MassHighway considers the design consultant as the appropriate representative,
- The Regional Planning Agencies have generally not been involved in pre-construction meetings,
- Construction change orders for design elements are often approved without local consultation.

Recommendations: The Task Force finds that a closer partnership must be created among MassHighway, municipalities and the regions for many highway improvement projects requiring state or federal funding, whether locally designed or designed by MassHighway, extending from project inception to project completion. To be truly effective, this consultative process should lead the decision makers (MassHighway and the municipality) to a thorough appreciation of, and sensitivity to, local historical, environmental, and/or urban contextual issues as well as highway safety issues - a sensitivity that is carried through to project completion. To effect this result, the Task Force recommends the following for both MassHighway and locally designed projects:

- Initiate meetings among municipal officials and MassHighway engineers at the project concept stage,
- Consider an optional public forum (dependent on the scope, nature, and size of the project) to elicit early public input,
- Enhancing notice to the community and abutters concerning public hearings and public meetings,
- Increased attendance and participation in local forums by MassHighway officials at public meetings and public hearings,
- Conducting additional periodic forums and workshops on the design process, such as those conducted by MassHighway at the municipal design forums,
- Providing opportunities for involving Regional Planning Agencies in pre-construction meetings to ensure that local design issues are known to the contractor prior to construction,
- Improving communication between MassHighway, municipal officials and Regional Planning Agencies regarding MassHighway's intent to issue change orders that may have an effect on historic, environmental, or urban context,
- That MassHighway take an active role in communicating with the various local, regional and statewide groups concerned with the preservation of the historic and rural character of Massachusetts. These groups include, but are not limited to, the Massachusetts Historical Commission, Historic Massachusetts Inc., the Blackstone River Valley National Heritage Corridor Commission, and the many local historical commissions and historic district commissions across the state. The Regional Planning Agencies can play a strong role in developing these forums,
- The Task Force recommends the Working Group establish a forum among bicycle advocates and those concerned with preserving community character to discuss the implications of bicycle and pedestrian design requirements,

- Providing real time project information accessible to MassHighway, Regional Planning Agencies and municipalities via an Internet-based tracking system as defined in the Memorandum of Understanding for the Massachusetts Statewide Road and Bridge Program,
- On March 25, 2000, Commissioner Amorello and other MassHighway representatives spoke at a conference titled "*When Preservation Hits the Road*" which was sponsored by Historic Massachusetts Inc. Conference attendees gained insight into the highway design process and the design exception process. In addition, Commissioner Amorello and the other MassHighway representatives heard first hand of issues and concerns of the preservation community. Based on the success of the HMI conference, the Task Force recommends that MassHighway participate in future preservation conferences, including the Massachusetts Historical Commission's annual Preservation Conference and Historic Massachusetts Inc.'s annual Leadership Conference.

4) ***Earlier consultation with the Massachusetts Historical Commission***

Issue: Typically, MassHighway does not initiate consultation with the Massachusetts Historical Commission (MHC) until just before the project's construction advertising date. As a result, MHC has little opportunity for constructive input into the project. In addition, this limits the opportunity for considering project alternatives.

Recommendation: The Task Force recommends that, as often as possible, MassHighway consult with MHC earlier in the design phase. This would allow for a more meaningful consultation and assessment of impacts to state or federally designated historic resources and considerations of alternatives to prevent adverse impacts within the project area. While the implementation of an on-line project information system (described above) will eventually enable MHC to be aware of projects well before they reach the late design stage, this system will not be publicly available in the short term. As a two-year pilot project, MassHighway should provide MHC with material presented to the MassHighway Project Review Committee.

The Task Force further recommends that MassHighway keep MHC apprised of the status of the new project information system. The system should include a notation for design status, allowing MHC to be aware of the projects in total and plan potential workload issues when MassHighway submits projects. Similarly, when MHC's GIS enhancement project is completed, the identification of resources in project areas will be streamlined.

Under MassHighway's obligation to notify MHC of projects that impact historic and archaeological resources, MassHighway, through its Cultural Resources Section, should undertake initial identification of historic resources as projects are approved by the Project Review Committee. When projects reach the 25% design stage, then consultation on alternatives to adverse impacts can begin. In addition, despite MassHighway's compliance with state Chapter 254 and federal Section 106 review requirements, the Task Force recognizes that state funded projects (NFA) are not subject to the same level of review as federally funded projects. Therefore, the Task Force recommends that MassHighway consider a design approach that takes into account project impacts on historic and cultural resources not yet listed in the State Register.

5) *Case Studies*

Issue: Most Task Force members agree that MassHighway is developing a track record of environmentally sensitive projects that preserve historic and rural characteristics. However, these success stories often go unrecognized outside of the communities in which they take place. This is unfortunate since many of the success stories would be useful examples for communities now contemplating a roadway project. There are a variety of projects across the state that illustrate a successful cooperation between MassHighway and communities that have resulted in projects that utilizes innovative design techniques and are sensitive to community character. Additionally, the roadway projects in which historic and cultural resources have been negatively impacted need to be highlighted so that communities could avoid such problems in the future.

Recommendation: The Task Force recommends that MassHighway, with the assistance of the agencies represented on the Task Force, compile a series of case studies illustrating projects that have been particularly sensitive to the environment, preserve historic, rural, and/or community character. In addition, case studies should illustrates projects that have involved cooperation between MassHighway and the community through all phases of the project's design and construction. The collection of case studies should include examples of alternative materials such as guardrail, lighting and slope stabilization treatments which can improve the visual impact of projects. Both highway and bridge projects should be included in these case studies. In addition, projects, which required design exceptions, as well as projects which meet all MassHighway standards should be included. Finally, the Task Force recommends that the case studies be made available to all Massachusetts cities and towns.

6) ***Cape and the Islands Rural Roads Initiative High Priority Project***

Issue: The tasks of the Cape and Islands Rural Roads Initiative, funded through a TEA-21 congressional earmark, can be of relevance to the tasks of the future Design Issues Working Group. MassHighway has deferred action on the Rural Roads Initiative while this Task Force is considering similar issues on a statewide basis.

Recommendation: The Task Force recommends MassHighway's continued involvement in the progress of the Cape and the Island Rural Roads Initiative. Federal and state funding supports this joint effort of the Cape Cod Commission, Martha's Vineyard Commission, Nantucket Planning and Economic Development Commission, and the NPS/Cape Cod National Seashore to consider design issues in the rural environment of the Cape Cod, Martha's Vineyard and Nantucket. The Task Force recommends that the Design Issues Working Group and the Rural Roads Initiative run on parallel tracks, to the extent feasible, and further recommends mutual liaisons between the groups to ensure communication.

APPENDIX A: Task Force members

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APPENDIX B: Resources

This section is intended to provide the reader with a basic explanation of the variety of informational and funding resources available to Massachusetts communities. The following list is not intended to be comprehensive, but rather to provide the reader with some tools for the preservation of community character while addressing the safety and mobility needs of the highway transportation system

1. Informational Resources

Scenic Roads and Byways

Scenic Roads, state designated Scenic Byways, and National Scenic Byways all offer a level of protection for scenic, historic and rural roads. The following is a summary of various types of "scenic" designations.

Scenic Roads

Massachusetts General Law, Chapter 40, Section 15C provides for the designation and improvements of Scenic Roads. Under this law any municipality in Massachusetts, with a recommendation or request from its planning board, conservation commission or historical commission can designate a scenic road. The law provides this designation for any road other than a numbered route or a state highway, with one exception. If the entire length of a state numbered route is within the boundaries of the municipality, it can be designated as a Scenic Road. Once designated as scenic, any construction or repair to the road, which entails the removal or cutting of trees and the removal of stone walls along the road, must first be approved in writing by the municipality's planning board. The law clearly states that this designation does not affect a municipality's eligibility to receive Chapter 90 funds.

This law provides for some local control of municipal roads. The law, however, is often misunderstood by towns who believe that the designation will prevent roads from being significantly altered. Many municipalities which have designated Scenic Roads have also established Scenic Road Bylaws to further emphasize the importance of the Scenic Road designation. MassHighway's interests would be affected only if a designated Scenic Road was on the Federal-Aid system and the road was being considered for federal-aid or state funding.

State Scenic Byways

There is no state enabling legislation providing for the designation or management of a state scenic byway in Massachusetts nor are there guidelines for scenic byways. Scenic byways are designated by petition of an individual or group to the state legislature. A designation can also be made through an executive order of the Governor.

The designation carries neither regulatory authority nor control over the designated section of the road. Any portion of roadway in Massachusetts can be designated a state scenic byway. Because there are no guidelines for designating a scenic byway, there is also no procedure for rescinding the designation. State designation of a scenic byway does, however, make the city or town eligible to apply for the National Scenic Byways Discretionary Grant program, through its regional planning agency.

National Scenic Byways Program

The National Scenic Byways Program was established under ISTEA and continued with TEA-21. The purpose of the program is to recognize and enhance roads that have outstanding scenic, historic, cultural, and archaeological qualities and support State scenic byway initiatives. Within this program, there are three levels of scenic byway designation. The designations are as follows: State-designated Scenic Byways, National Scenic Byways and All-American Roads. States may develop their own procedures for designating scenic byways. The National Scenic Byway and All-American Road designations are made through an application process with the Federal Highway Administration's National Scenic Byways Program. A state may submit a byway for consideration based on a set of intrinsic qualities outlined in the application. All-American Roads require additional intrinsic qualities beyond those of a National Scenic Byway. The primary determination of an All-American road is that the byway is a destination in and of itself. An example of this is the Blue Ridge Parkway in North Carolina.

National Scenic Byways Program funds can only be awarded to a state-designated scenic byway. The grant application process has categories of eligible projects. The projects can range from the development of a Corridor Management Plan to specific enhancement type projects and marketing programs. As of 1999, Massachusetts has received \$1,731,813 from the National Scenic Byways Discretionary Grant program.

Flexibility in Highway Design, U.S. Department of Transportation,
Federal Highway Administration, 1997

This publication provides guidance in designing highways that incorporate community values and that are safe, efficient, effective mechanisms for the movement of people and goods. It is written for highway engineers and project managers who want to learn more about the flexibility available to them when designing projects and illustrates successful approaches used in other highway projects. It can also be used by citizens who want to gain a better understanding of the highway design process.

This guide was prepared for the purpose of provoking innovative thinking for fully considering the scenic, historic, aesthetic, and other cultural values, along with the safety and mobility needs of the highway transportation system. The guide does not establish new design standards for highways and streets in scenic, historic, or otherwise environmentally or culturally sensitive areas, nor does it imply that safety and mobility are less important design considerations.

The publication was prepared by the Federal Highway Administration in partnership with the American Association of State Highway and Transportation Officials (AASHTO) and other interested groups. This partnership included such groups as the Bicycle Federation of America, the National Trust for Historic Preservation, and Scenic America.

Design Alternatives for Rural Roads,
(Franklin Regional Council of Governments, 2000)

In 1995, the Franklin County Commission (now known as the Franklin Regional Council of Governments) issued a publication titled *Design Alternatives for Rural Roads* to offer town officials and concerned citizens a tool to examine various aspects of the transportation design process. This guidebook was updated in 2000 and illustrates a variety of alternative construction materials which when applied appropriately can enhance the historic and rural character of a community. The guide discusses approximate cost comparisons between the various alternative materials and traditional highway construction materials.

2. Funding Sources

Chapter 90 Funding

The State's Chapter 90 program distributes funds on a formula basis to all cities and towns for local roadway maintenance. The statewide allocation of Chapter 90 has been reduced from a historic high of \$150 million between 1995 and 1999 to \$100 million in FY 2000. In cases where projects are supported exclusively with Chapter 90 funds, the community is responsible for obtaining all necessary environmental permits and project clearances.

Public Works Economic Development Program (PWED)

The PWED Program was established to fund the design and construction of roads and other transportation related projects which will have an economic development benefit, as determined by the Secretary of Transportation. Eligible projects may include design and construction of roads, bridges, sidewalks, lighting system improvements, traffic signals upgrades, drainage systems and culverts with a municipal economic development effort which seeks to: revitalize industrial or commercial areas; create long-term employment opportunities; have a positive impact on local tax base; leverage private investments, and; strengthen public/private partnerships.

Small Town Road Assistance Program (STRAP)

The STRAP Program assists towns with a population of 3,500 or less. The program provides financing for the construction, reconstruction, widening, resurfacing, rehabilitation, and improvement of roads, highways, and bridges within the Commonwealth. Grant requests shall not exceed \$500,000.

Transportation Enhancement Funds

The Transportation Enhancement Program provides funding to enhance the travel experience and foster the quality of life in American communities. The enhancement program provides funding for pedestrian and bicycle facilities. In addition, communities can use the program to restore historic transportation facilities buildings and create streetscapes. Many communities also use the program to acquire, restore, and preserve scenic or historic areas.

Congestion Management/Air Quality Improvement Program (CMAQ)

This funding category provides funds for transportation projects in non-attainment areas as defined by the Clean Air Act for ozone and carbon monoxide. The intent is that these projects must contribute to the standards of National Ambient Air Quality standards.

Bridge (BRR)

This category funds the rehabilitation or replacement of bridges in urban and local areas and is based upon the structure's adequacy, safety, serviceability, age and public usage. The system is divided into two segments: those bridges that are on the federal-aid system (BRR-on), and those which are not (BRR-off).

Interstate Maintenance (IM)

This category provides federal funds to rehabilitate, restore, and resurface the Interstate highway system, to include the reconstruction of bridges, interchanges and overpasses along existing Interstate routes, and the acquisition of rights-of-way. The funds here can be used only on Interstate highways for which federal funds can be used to be up to 90% of a project's costs.

Surface Transportation Program (STP)

Projects eligible for this category occur on roads classified higher than local or rural minor collectors and may be expended for construction, reconstruction, rehabilitation, resurfacing, restoration, operational and safety improvements (STP-flex; other). In addition to federal-aid roads, capital costs for transit projects are also eligible.

National Highway System (NHS)

The National Highway System consists of highways, roads classified as principal arterials, interstates, and connections to ports and intermodal facilities. Funds here can be used for any type of improvement including new lanes, reconstruction, and resurfacing.

Demonstration (Dem)

Like the high priority projects, TEA-21 legislation includes funding for special projects. Monies allocated here may not be used for any other project.

High Priority Projects (HPP)

TEA-21 legislation created a new program that directs funds to congressionally specific "high priority" projects.

**APPENDIX C: Massachusetts Municipal Association
 Memorandum Regarding Road Defect Claims – M.G.L. Chapter 84**

APPENDIX D: Regional Planning Agencies and Member Communities

Berkshire Regional Planning Commission
33 Dunham Mall
Pittsfield, Massachusetts 01201 - 6207
phone: (413) 442 - 1521 / fax: (413) 442 - 1523
web site: www.BerkshirePlanning.org
e-mail: BRPC@Taconic.net

Member Communities

Adams	Great Barrington	New Ashford	Savoy
Alford	Hancock	New Marlborough	Sheffield
Becket	Hinsdale	North Adams	Stockbridge
Cheshire	Lanesbough	Otis	Tyringham
Clarksburg	Lee	Peru	Washington
Dalton	Lenox	Pittsfield	West Stockbridge
Egremont	Monterey	Richmond	Williamstown
Florida	Mount Washington	Sandisfield	Windsor

Cape Cod Commission
3225 Main Street
Barnstable, Massachusetts 02630
phone: (508) 362-3828 / fax: (508) 362-3136
web site: www.capecodcommission.org
e-mail: trans@capecodcommission.org

Member Communities

Barnstable	Dennis	Mashpee	Truro
Bourne	Eastham	Orleans	Wellfleet
Brewster	Falmouth	Provincetown	Yarmouth
Chatham	Harwich	Sandwich	

Central Massachusetts Regional Planning Commission

35 Harvard Street, 2nd floor
Worcester, Massachusetts 01609-2801
phone: (508) 756 - 7717
fax: (508) 792 - 6818
web site: www.cmrpc.org
e-mail: trans@cmrpc.org

Member Communities

Auburn	Grafton	Northborough	Sturbridge
Barre	Hardwick	Northbridge	Sutton
Berlin	Holden	Oakham	Upton
Blackstone	Hopedale	Oxford	Uxbridge
Boylston	Leicester	Paxton	Warren
Brookfield	Mendon	Princeton	Webster
Charlton	Millbury	Rutland	West Boylston
Douglas	Millville	Shrewsbury	West Brookfield
Dudley	New Braintree	Southbridge	Westborough
East Brookfield	North Brookfield	Spencer	Worcester

Franklin Regional Council of Governments

Court House
425 Main Street
Greenfield, Massachusetts 01301
phone: (413) 774-3931 / fax: (413) 774-1195
web site: www.frcog.org
e-mail: trans@frcog.org

Member Communities

Ashfield	Erving	Monroe	Shutesbury
Bernardston	Gill	Montague	Sunderland
Buckland	Greenfield	New Salem	Warwick
Charlemont	Hawley	Northfield	Wendell
Colrain	Heath	Orange	Whately
Conway	Leverett	Rowe	
Deerfield	Leyden	Shelburne	

Martha's Vineyard Commission

P.O. Box 1447
Oak Bluffs, Massachusetts 02557
phone: (508) 693 - 3453
fax: (508) 693 - 7984
web site: N/A
e-mail: N/A

Member Communities

Chilmark	Edgartown	Gay Head	Gosnold
Oak Bluffs	Tisbury	West Tisbury	

Merrimack Valley Planning Commission

160 Main Street
Haverhill, Massachusetts 01830
phone: (978) 374-0519 / fax: (978) 372-4890
web site: www.mvpc.org
e-mail: Akomornick@mvpc.org (for Tony Komornick)

Member Communities:

Amesbury	Groveland	Methuen	Rowley
Andover	Haverhill	Newbury	Salisbury
Boxford	Lawrence	Newburyport	West Newbury
Georgetown	Merrimac	North Andover	

Metropolitan Area Planning Council

60 Temple Place

Boston, Massachusetts 02111

phone: (617) 451 - 2770

fax: (617) 482 - 7185

web site: www.mapc.org

e-mail: blucas@mapc.org (for Barbara Lucas)

Member Communities

Acton	Framingham	Melrose	Southboro
Arlington	Franklin	Middleton	Stoneham
Ashland	Gloucester	Milford	Stow
Bedford	Hamilton	Millis	Sudbury
Bellingham	Hanover	Milton	Swampscott
Belmont	Hingham	Nahant	Topsfield
Beverly	Holbrook	Natick	Wakefield
Bolton	Holliston	Needham	Walpole
Boston	Hopkinton	Newton	Waltham
Boxboro	Hudson	Norfolk	Watertown
Braintree	Hull	North Reading	Wayland
Brookline	Ipswich	Norwell	Wellesley
Burlington	Lexington	Norwood	Wenham
Cambridge	Lincoln	Peabody	Weston
Canton	Littleton	Quincy	Westwood
Carlisle	Lynn	Randolph	Weymouth
Chelsea	Lynnfield	Reading	Wilmington
Cohasset	Malden	Revere	Winchester
Concord	Manchester	Rockland	Winthrop
Danvers	Marblehead	Rockport	Woburn
Dedham	Marlboro	Salem	Wrentham
Dover	Marshfield	Saugus	Pembroke
Duxbury	Maynard	Scituate	Stoughton
Essex	Medfield	Sharon	
Everett	Medford	Sherborn	
Foxboro	Medway	Somerville	

Montachusett Regional Planning Commission

R 1427 Water Street
Fitchburg, Massachusetts 01420
phone: (978) 345-7376 / fax: (978) 345-9867
web site: www.mrpc.org
e-mail: mrpc@mrpc.org

Member Communities

Ashburnham	Gardner	Lunenburg	Templeton
Ashby	Groton	Petersham	Townsend
Athol	Harvard	Phillipston	Westminster
Ayer	Hubbardston	Royalston	Winchendon
Clinton	Lancaster	Shirley	
Fitchburg	Leominster	Sterling	

Nantucket Planning & Economic Development Commission

One East Chestnut Street
Nantucket, Massachusetts 02554
phone: (508) 228 - 7233
fax: (508) 228 - 7236
web site: www.nantucket.net
e-mail: pagini@nantucket.net (for John Pagini)

Member Communities:

Nantucket

Northern Middlesex Council of Governments

Gallagher Terminal
Floor 3B, 115 Thorndike Street
Lowell, Massachusetts 01852
phone: (978) 454-8021 / fax: (978) 454-8023
web site: N/A
e-mail: nmcog@tiac.net

Member Communities

Billerica	Dunstable	Tewksbury
Chelmsford	Lowell	Tyngsboro
Dracut	Pepperell	Westford

Old Colony Planning Council

70 School Street
Brockton, Massachusetts 02401
phone: (508) 583-1833 / fax: (508) 559-8768
web site: N/A
e-mail: ocpc@ocpcrpa.org

Member Communities

Abington	EastBridgewater	Kingston	Whitman
Avon	Easton	Plymouth	
Bridgewater	Halifax	Plympton	
Brockton	Hanson	West Bridgewater	

Pioneer Valley Planning Commission

26 Central Street
West Springfield, Massachusetts 01089
phone: (413) 781-6045 / fax: (413) 732-2593
web site: www.pvpc.org
e-mail: droscoe@pvpc.org (for Dana Roscoe)

Member Communities

Agawam	Goshen	Middlefield	Springfield
Amherst	Granby	Monson	Tolland
Belchertown	Granville	Montgomery	Wales
Blandford	Hadley	Northampton	Ware
Brimfield	Hampden	Palmer	West Springfield
Chester	Hatfield	Pelham	Westfield
Chesterfield	Holland	Plainfield	Westhampton
Chicopee	Holyoke	Russell	Wilbraham
Cummington	Huntington	South Hadley	Williamsburg
East Longmeadow	Longmeadow	Southampton	Worthington
Easthampton	Ludlow	Southwick	

Southeastern Regional Planning & Economic Development District

88 Broadway

Taunton, Massachusetts 02780

Phone: (508) 824-1367 / fax: (508) 823-1803

web site: www.srpedd.org

e-mail: pmission@srpedd.org (for Roland Hebert)

Member communities

Acushnet

Attleboro

Berkley

Carver

Dartmouth

Dighton

Fairhaven

Fall River

Freetown

Lakeville

Mansfield

Marion

Marshfield

Mattapoisett

Middleboro

New Bedford

Norfolk

North Attleboro

Norton

Plainville

Raynham

Rehoboth

Rochester

Seekonk

Somerset

Swansea

Taunton

Wareham

Westport

APPENDIX E: MassHighway Districts Offices

Ross Dindio, District Highway Director
MassHighway District 1
270 Pittsfield Rd.
Lenox, MA 02140
Phone (413) 637-1750
Fax (413) 637-0309

Stephen O'Donnell, District Highway Director
MassHighway District 4
519 Appleton St.
Arlington, MA 02476
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Fax (781) 646-5115

John Hoey, Jr., District Highway Director
MassHighway District 2
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Fax (413) 584-8194

Bernard McCourt, District Highway Director
MassHighway District 5
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Taunton, MA 02780
Phone (508) 824-6633
Fax (508) 880-6102

Thomas Waruzila, District Highway Director
MassHighway District 3
403 Belmont St.
Worcester, MA 01604
Phone (508) 929-3800
Fax (508) 799-9763

APPENDIX F: Federal and State Environmental Laws

Federal Laws and Requirements

Section 4(f) of 1966 U.S. D.O.T. Act - FHWA (or other federal agency, as applicable) approval is needed for any Federal-aid (U.S. Department of Transportation only) highway project using land from a publicly-owned park, recreation area, historic property or wildlife and waterfowl refuge. A historic property may be a bridge structure, site, or district. An individual or programmatic Section 4(f) evaluation document must be prepared. There must also be coordination with the public official having jurisdiction over the Section 4(f) property

Section 404 of 1972 Clean Water Act (33USC1344) - A permit is required from the U.S. Army Corps of Engineers (ACOE) for highway projects involving discharge of dredged or fill material into waters of the United States. Jurisdiction under this law extends to all wetlands and waters of the United States. There are three classes of permits issued: Programmatic General Permit (PGP) Category I and Category II, and Individual Permit/Class III. A PGP II and an Individual permit involves consultation by the ACOE with the other Federal Resource agencies including U.S. Environmental Protection Agency and the U.S. Fish and Wildlife Service. Other federal approvals such as a MA DEP Water Quality Certification and a Coastal Zone Consistency Statement (if applicable) are needed before the U.S. Corps of Engineers will issue the Section 404 permit.

Section 401 of 1972 Clean Water Act - A Water Quality Certification is required from the Massachusetts Department of Environmental Protection (DEP) for any federal permit (e.g., Section 404 permit, Coast Guard Bridge Permit) to conduct an activity which may result in a discharge into waters of the United States.

1972 Coastal Zone Management Act - A Coastal Zone Consistency Review and Statement is required from the Massachusetts Coastal Zone Management (CZM) Office for Federal-aid highway projects or projects requiring other federal actions located within the designated coastal zone. This review is to ensure consistency with the state coastal zone policies

Section 9 of River and Harbor Act of 1899 - A permit is required from the U.S. Coast Guard for certain highway projects involving bridges or causeways over tidal or otherwise navigable waters. Other federal approvals such as Water Quality Certification and a Coastal Zone Consistency Statement (if applicable) are needed before the U.S. Coast Guard will issue the Bridge Permit. Projects which are funded by FHWA and are "replacement in kind" may

be eligible for an exemption from a Coast Guard Permit. The Consultant should obtain data on boat length and size from the local harbormaster, and other knowledgeable agencies, and consult with the Environmental Division.

Section 10 of River and Harbor Act 1899 - A permit is required from the U.S. Army Corps of Engineers for highway projects requiring construction in or over navigable waters, the excavation from, or dredging or disposal of materials in such waters, or any obstruction or alteration in a navigable water (e.g. stream channelization).

Section 106 of the National Historic Preservation Act of 1966 - Section 106 is a process involving FHWA, MassHighway, Massachusetts Historical Commission and the Advisory Council on Historic Preservation which must be followed for any Federal-aid highway project affecting bridges, districts, structures, or sites (including archaeological sites) potentially eligible, eligible, or on the National Register of Historic Places.

State Laws and Requirements

Massachusetts Environmental Policy Act (MEPA) - Projects whose environmental impacts exceed certain review thresholds require filing of an Environmental Notification Form (ENF) with the Executive Office of Environmental Affairs' MEPA Office. The Massachusetts Environmental Policy Act (MEPA) was established to provide meaningful opportunities for public review of the potential environmental impacts of public projects or projects requiring a permit from a public agency. In the early stages of design a determination is made whether a project exceeds any ENF review thresholds, thus triggering MEPA jurisdiction. Public review of many projects begins with the filing of the ENF. ENF's are widely circulated and public comment is encouraged. Projects that result in more significant environmental impacts are required to file an Environmental Impact Report (EIR) which is a more comprehensive environmental analysis. The Secretary of Environmental Affairs determines if a project properly complies with MEPA.

Massachusetts Wetland Protection Act (WPA) - This act applies to highway projects which remove, fill, dredge, or alter a resource area defined in the Wetland Regulations. Resource areas are defined as:

- (A) Bordering Vegetated Wetlands or salt marsh
- (B) Any bank, or any water body or waterway or a Coastal Bank
- (C) Land under any water body, waterway, the ocean or a salt pond

- (D) Riverfront Area - Extends 61 meters (7.6 meters in municipalities with large populations and in densely developed areas) on each side of perennial rivers or streams
- (E) Land subject to coastal storm flowage
- (F) Isolated or bordering land subject to flooding
- (G) Coastal Beaches and tidal flats
- (H) Coastal Dunes
- (I) Designated Port
- (J) Banks or land under a Fish Pier
- (K) Barrier Beaches
- (L) Land containing shellfish

A Buffer Zone is defined as land within 100 feet horizontally of any resource area listed in (A) above. If work is proposed within a resource area or a Buffer Zone, then a Request for a Determination of Applicability (RDA) must be filed to determine if a Notice of Intent must be filed from the local conservation commission. If approved, conservation commissions issue an Order of Conditions (OOC).

Appeals of Conservation Commission Orders are made to DEP. DEP is also the authority to whom Variance requests are made. Variances are required if the general performance standards of the WPA cannot be met, such as if 5,000 square feet or more of Bordering Vegetated Wetland is proposed for filling. Details regarding appeals or Variances should be discussed with the MassHighway Environmental Division.

Chapter 91 - A license is required from DEP for highway projects that do not qualify for the bridge exemption and which involve construction, dredging and filling performed in private and Commonwealth tidelands, as well as great ponds and certain rivers and streams.

Chapter 254 - A process involving the Massachusetts Historical Commission which must be followed for state funded projects affecting buildings, districts, structures, objects or

sites (including archaeological sites) on the State Register of Historic Places. If a project is both state and federally funded, the federal Section 106 review process must be applied.

Bridge projects which are funded by the State Transportation Bond, and which result in a new structure that is functionally equivalent and is in a similar location to the existing structure, are exempt from the WPA, Chapter 91, and MEPA. Contact MassHighway's Environmental Division for a determination.

Additional details about any of the above-mentioned State and Federal Environmental Laws can be obtained from MassHighway's Environmental Division.

APPENDIX G: Correspondence



CAPE COD COMMISSION

3225 MAIN STREET
P.O. BOX 226
BARNSTABLE, MA 02630
(508) 362-3828
FAX (508) 362-3136

E-mail: frontdesk@capecodcommission.org

Memorandum

Date: September 28, 2000
To: Linda Dunlavy, Executive Director, Franklin Regional Council of Governments
From: Priscilla N. Leclerc, Senior Transportation Planner *P.N.*
Subject: "FINAL Report" comments

As I am the principal regional planning liaison with Cape Cod towns on roadway project issues through the Transportation Improvement Program (TIP) process, I would like to offer a few comments on the "Final Report" from *Commissioner Matthew J. Amorello's Task Force on Roads in Historic and Rural Areas*. Suggested changes are in bold and underlined.

- 1) The first section of this report entitled **The Massachusetts Highway System** includes the following:
(page 5)

However, with the eligibility of federal highway funds comes the requirement for compliance with state design standards. MassHighway has adopted the American Association of State Highway and Transportation Officials (AASHTO) *A Policy on Geometric Design of Highways and Streets 1994* (the "Green Book") for design standards.

MassHighway should consider automatically excepting "resurfacing, restoration or rehabilitation" projects from the design standards as AASHTO does in its foreword:

" The fact that new design values are presented herein does not imply that existing streets and highways are unsafe, nor does it mandate the initiation of improvement projects. This publication is not intended as a policy for resurfacing, restoration or rehabilitation (R.R.R.) projects. For projects of this type, where major revisions to horizontal or vertical curvature are not necessary or practical, existing design values may be retained. Specific site investigations and accident history analysis often indicate that the existing design features are performing in a satisfactory manner. The cost of full reconstruction for these facilities, particularly where major realignment is not required, will often not be justified."

This change to allow resurfacing, restoration or rehabilitation projects to the existing design values would allow for improved overall conditions of roadway maintenance. This would be cost-effective design because it would be more financially efficient to design in place, would require less time for MassHighway review—fewer design exception submissions, and would reduce project construction costs for an overall improvement in roadway conditions.

2) **Chapter 3: Alternatives in Highway Design**, under **DESIGN EXCEPTIONS**, includes this statement: (page 16)

"The primary goal of design under the Green Book is 'to provide operational efficiency, comfort, safety, and convenience for the motorist.'"

I have not been able to locate this citation in the AASHTO Green Book, please cite where the above statement appears in the AASHTO Green Book. The following statement is in the AASHTO Green Book 1994, Foreword, page xliii:

" Emphasis has been placed on the joint use of transportation corridors by pedestrians, cyclists and public transit vehicles. Designers should recognize the implications of this sharing of the transportation corridors and are encouraged to consider not only vehicular movement, but also movement of people, distribution of goods, and provision of essential services. A more comprehensive transportation program is thereby emphasized."

3) I support communication improvements, such as between MassHighway and MHC or between MassHighway and communities which are recommended, however, I would suggest that **Regional Planning Agencies** also be included, possibly in the following report locations:

a) On page 30, the third bullet:

Enhancing notice to the community, ~~and abutters~~ **and Regional Planning Agencies** concerning public hearings and public meetings

b) On page 31, (under the second recommendation numbered 3):

As a two-year pilot project, MassHighway should provide MHC **and Regional Planning Agencies** with material presented to the MassHighway Project Review Committee.

4) On page 34, (under the recommendation numbered 5 beginning on the previous page), the recommendation should be changed to:

"...to consider design issues ~~in the rural environment of the~~ **on** Cape Cod, Martha's Vineyard and Nantucket.

Other minor typographical errors/corrections:

On page 22, the sentence reads incorrectly, the "to" should be "for":

"Some Task Force members believe there needs to be a greater opportunity to community input into the design exception approval process."

"Some Task Force members believe there needs to be a greater opportunity ~~to~~ **for** community input into the design exception approval process."

On page 28, the word "Exam" should be "Examine" in two places:

beginning of the second bullet and in the sentence following the third bullet.

cc: John Pagini, Executive Director, Nantucket Planning and Economic Development Commission
Margo Fenn, Executive Director, Cape Cod Commission



**MERRIMACK
VALLEY
PLANNING
COMMISSION**

TO: MS. LINDA DUNLAVY
FROM: ANTHONY KOMORNICK, TRANSPORTATION PROGRAM MANAGER AK
SUBJECT: COMMENTS ON DRAFT TASK FORCE (RURAL ROADS) REPORT
DATE: 9/21/00

The MVPC has reviewed the draft Task Force (Rural Roads) Report. We appreciate the opportunity to comment on the many issues and recommendations outlined in this document and feel that this report will serve a foundation for improving the process by which MassHighway undertakes road and bridge projects in the historic and rural areas of the Commonwealth. We do, however, have a few comments and suggestions that we feel could further enhance this effort.

Under Chapter 1: MassHighway Project Development Process, we agree with the recommendation that earlier public involvement, certainly before the 25% design phase, would improve the project design process and make it easier for the Department to incorporate public concerns of a scenic, historic, or community character nature that would likely necessitate a request for a waiver from the design standards. MVPC suggests that an initial public meeting be held before any project design work begins. Gathering public input at this stage would bring to the table those comments that would likely arise later in the design. Having an understanding of most issues at this point, the 25% design should be more in keeping with the context of the communities' vision.

Also, MVPC agrees that there should be further clarification of the term "reasonable accommodation" as it pertains to MGL Chapter 87 of the Acts of 1996 (Bicycle and Pedestrian Accommodations).

In Chapter 2: "Environmental Permitting Process" MVPC agrees that early coordination between local, state, and federal environmental and review agencies is a necessity. This type of involvement will become a virtual mandate when the Environmental Streamlining rules, now under public review, are adopted by USDOT. MassHighway officials noted that "project concepts and designs must be sufficiently advanced to achieve a starting point for review." MVPC feels that early notification of all review agencies concerning a project's general parameters, and potential impacts provides these agencies with an opportunity to raise important issues that must be considered in the design process. It would also reduce project development costs by reducing the amount of often duplicative environmental impact assessment work that takes place in the development of many major transportation projects.

Finally, MVPC agrees with those members that have expressed the need to broaden the definition of the Task Force to include the issue of "community character." As a largely urban area, the Merrimack Valley has numerous areas that, while not listed on the National Register of Historic Places, are integral in defining community and, indeed, regional character.

Please feel free to contact me if you have any questions regarding these comments. We applaud your efforts and those of the other members of the Task Force in addressing these issues of local and regional importance.

Ronald O. Waite
Chairman

John Smolak
Vice Chairman

Alex Evangelista
Secretary

Susan Jones Moses
Treasurer

Stephen Colyer
Asst. Treasurer

Gaylord Burke
Executive Director

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BERKSHIRE REGIONAL PLANNING COMMISSION

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ANITA B. BARKER, Vice-Chair
RICHARD G. ROUSSIN, Clerk
MICHAEL J. BRITTON, Treasurer

NATHANIEL W. KARNS, A.I.C.P.
Executive Director

September 20, 2000

Linda Dunleavy, Executive Director
Franklin Regional Council of Governments
Court House
425 Main Street
Greenfield, MA 01301


Dear Ms. Dunleavy:

Regarding the Report of the Task Force on Roads in Historic & Rural Areas, it was first of all a delight to read a well-expressed summary of the discussion and the range of recommendations. In our experience communication is a difficult but key part of bringing differing viewpoints together. Berkshire Regional Planning Commission has experience with several of the issues raised. The Commission generally supports the recommendations of some of the non-MassHighway Task Force members. We do also recognize the commitment of MassHighway to safety and to a process appropriate for state-wide application. It seems, however, essential to resolve some of the issues in ways that preserve our irreplaceable heritage and that respect local desires and budgets.

We have a few points to contribute to the discussion of the Report, as follow:

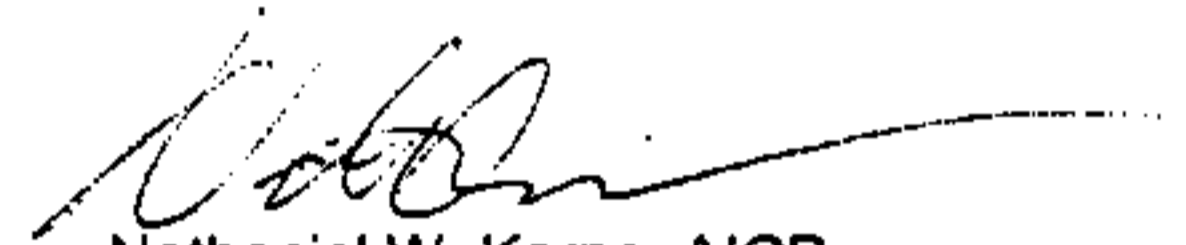
1. We fully support early and genuine efforts to include the public, as well as local and state organizations (such as Massachusetts Historic Commission); this means going beyond required public hearings. In particular this means outreach at times when it is reasonable to fully consider alternatives and design exception requests, and education efforts so that municipalities and interested organizations can participate in an informed manner.
2. It was a helpful clarification to include in the Report that the primary goal of design under the AASHTO Green Book is "to provide operational efficiency, comfort, safety, and convenience for the motorist," and that the designs are guidelines, not standards or requirements. As that paragraph of the Report goes on to note, AASHTO is "currently revising its standards to be more context sensitive" (p. 13). Will these revisions be adopted by MassHighway? The purpose of the AASHTO guidelines also does not seem to fit with some MassHighway Engineering Directives, such as E-97-004: Bicycle & Pedestrian Accommodations. We support the recommendation to review the MassHighway design standards.
3. Real time (or even reasonably timely and widely available) information on projects is essential for an open process (p. 25) and we fully support any way of following through with this recommendation.
4. Specific clarification is needed regarding whether MassHighway Standards apply to Federal Scenic Byway funds (both on municipal roads and on roads owned by the State Department of Environmental Management). If so, accepting this money may mean significant impacts on the most

treasured roads in a region. This is important for communities to know before deciding whether to participate in that program.

5. A "Footprint Road" program seems to have merit and should be considered further.

Thank you for all your work (and thanks to the other participants in this Task Force). We appreciate the attention to these matters that impact all communities in Massachusetts. Please feel free to contact me if I can be of assistance.

Sincerely,



Nathaniel W. Karns, AICP
Executive Director

NK:zn

cc: Task Force Chairperson Luisa Paiewonsky, BTP&D
Commissioner Amorello, MassHighway
RPA Directors

BLACKSTONE RIVER VALLEY

National Heritage Corridor Commission



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tel 401 762 0250

fax 401 762 0530

D4819

July 28, 2000

Luisa Paiewonsky, Director
Bureau of Transportation Planning and Development
Massachusetts Highway Department
10 Park Plaza
Boston, MA 02109-3572


Dear Luisa:

We have reviewed the draft report of the Commissioner's Task Force on Roads in Historic and Rural Areas. I apologize that these comments are coming to you past the deadline.

For the most part, I believe the report includes all the major issues raised by the task force, and so is complete in that regard. What may be lacking and is recommended as a next action in the report are references to case studies that could be similarly applied in Massachusetts. I am sending a publication by the Federal Highway Administration entitled: Flexibility in Highway Design, which should be referred to as a resource somewhere in the draft report. Of particular interest is a brief discussion on the purpose of the AASHTO guidelines (pp. 27-28) and Tort Liability (pp. 39-40). Another publication, which I have enclosed as a potential resource is from Scenic America regarding citizen participation in highway design that includes many case studies.

Thank you for the opportunity to serve on the Task Force. I look forward to seeing many of these ideas translate into more design flexibility for our unique and scenic roadways.

Sincerely,


Michael Creasey
Executive Director

enclosure: draft report comments
FHWA publication
Scenic America publication

Chairman—Frank Blais
RI State Representative

Co-Chairman—Dale Burman
Central Massachusetts
Economic Development Authority

Secretary—Susan Chaffin
Lincoln Town Administrator

Treasurer—Mark N. Connor
Town of Sutor

National Park Service
Marie Rust, Regional Director
Northeast Region

Matthew Amorale, Commissioner
MA Highway

Robert Blington, President
Blackstone Valley Tourism Council

Kenneth Bianchi, Town Administrator
Town of North Smithfield

James Doyle, Mayor
City of Pawtucket

Jan Reisman, Director, RI Department
of Environmental Management

Richard T. Moore, MA State Senator
Uxbridge, MA

Carolyn Savard, Director
MA Department of Economic
Development

Judith McDonough, Executive Director
MA Historic Commission

Louise M. Retore
Uxbridge, MA

Edward Sunderson,
Executive Director, RI Historical
Preservation & Heritage Commission

Patricia Menners
Harrisville, RI

John Swait, Director
RI Economic Development Corporation

Peter C. Webster, Commissioner
MA Department of Environmental
Management

Carina Williams, Coordinator
Advocacy Coordinator
Massachusetts Audubon Society



Massachusetts Association of Regional Planning Agencies

March 2, 2000

Luisa Paiewonsky, Director
MassHighway Planning
10 Park Plaza, Room 4150
Boston, MA 02116

Dear Luisa:

The Directors of MARPA, at a meeting held on February 25, 2000, reviewed the draft recommendations of the Commissioner's Task Force on Roads in Rural and Historic Areas as prepared by the staff of MassHighway and offer the following comments. MARPA also has provided an additional list of recommendations. It is our strong opinion that if the results of the Task Force are intended to be real and meaningful changes to the design process in Massachusetts, then we must implement a series of steps that move far beyond those recommendations already offered in draft form. MARPA's recommendations will serve to streamline the design process, reduce the cost of the design process, and reduce the overall cost of a project through construction.

1. Participate in Historic Massachusetts Inc.'s conference.

We agree that the participation of the Commissioner at this conference will be beneficial to all. We would be interested in learning more about the intended presentation of the Commissioner and MassHighway.

2. MassHighway Design Waiver Process: 101

We agree that an extensive and detailed explanation of design waiver process would be helpful. We believe that this workshop should be sponsored by all members of the current Task Force so that we are sure to represent the views of the MMA and Mass Historic and others, in addition to MARPA and MassHighway. However, while a complete explanation of the design waiver process will be beneficial, we believe the greater problem is the process itself. This will be discussed in greater detail below.

3. Improve communication at the 25% phase of design

A greater effort to involve the public at the 25% phase of design is a worthy goal and many things can be done to ensure that. As recommended, a very easy method would be to increase advertisement of the Public Hearing beyond the required legal notice in the paper. Informing RPAs in advance of the 25% hearing is another good way to ensure greater community involvement. RPAs often act as liaisons between MassHighway and a municipality and should be used in this manner.

requests should ensure that safety has been considered and is presumably not being sacrificed. Design waivers are often requested so that community character can be preserved. Because of this, it is also important that the perspectives of the community, the RPA and others be considered, weighed and given a voice during the decision-making process through voting representation on the design waiver committee. As was evident repeatedly during David Scott's presentation, it is possible to improve a substandard roadway without completely overbuilding the road in terms of design or cost.

4. Revise the interpretation and implementation of Chapter 87.

MassHighway current interpretation Chapter 87's "reasonable accommodation" is that four-foot shoulders must be provided on nearly all roadways. For many roads with low volumes and low speeds this requirement is excessive. MassHighway should work with bicycle advocates, RPAs, and historic and community preservationists to revise this interpretation so that both the needs of the bicycling community and the preservation of community character are given equal consideration.

5. Expand and promote acceptable design alternatives.

Alternative guardrail, lighting and slope stabilization treatments can dramatically change the visual impact of a transportation project. Other states, FHWA and AASHTO have deemed many such treatments safe. MassHighway should use and promote such alternatives on a regular basis, in consultation with the community in which the project is located.

6. Involve communities and the RPAs through the bid award process, pre-construction meetings, and the change order process.


Nothing is more disappointing and frustrating to a community than to be actively involved through all phases of a design process only to find that the state or a contractor can change aspects of the design during construction if a product is unavailable, is deemed too costly, or because of ambiguity in design specifications. Communities should be involved during the bid award process to ensure that design elements have not been ignored. Expressing their interests and concerns during the pre-construction meeting would also be valuable. Communities should be consulted about change order requests that alter design elements of the project.

7. Revise MassHighway design standards that are based on AASHTO standards.

The overall end product of this Task Force should be the beginning of a process to revise MassHighway design standards that are based on AASHTO standards. AASHTO standards are rigid and often result in improvements that are unnecessary and clash with community values. Massachusetts should commit itself to the process that Vermont went through. While the effort would be laborious, as Vermont has shown, the results will likely be reduced design costs, reduced construction costs, and reduced design waiver requests. It is worth beginning this effort now. It is obvious that Massachusetts will have difficulty financing improvements to its transportation infrastructure for years to come. Reducing standards will reduce project costs and enable more projects to move forward.

Most of the recommendations offered by MARPA require significant change in current MassHighway procedure and mindset. The recommendations require far more community and RPA involvement than is currently employed for most projects. While this will increase MassHighway staff time and involvement during the project inception and design stage, we strongly believe that the end result will be less overall cost for project design and construction. The design process will be streamlined which is a goal of all and reduced design standards will result in reduced construction costs. At this time Massachusetts must identify ways to ensure the safety of all motorists in the most cost-effective manner possible. We recognize that these recommendations also require the commitment of the RPAs and our communities. RPAs are willing to make this commitment. We believe that communities will also make this investment if they believe that they are a true partner throughout the process. We hope that you will give serious consideration to these recommendations and work with us to implement them. It is time for change.

Sincerely,


Timothy Brennan
Secretary and Treasurer

cc: Commissioner Matthew Amorello
Members of the Commissioner's Task Force on Roads in Rural and Historic Areas
MARPA Directors

APPENDIX H: MassHighway Engineering Directives

- E-98-003: In response to M.G.L. Chapter 87 Acts of 1996
Bicycle and Pedestrian Accommodation
- E-99-002: Certification of Design Exception Reports

ENGINEERING DIRECTIVE


CHIEF ENGINEER

**IN RESPONSE TO MGL CH 87 ACTS OF 1996
BICYCLE AND PEDESTRIAN ACCOMMODATION**

THIS DIRECTIVE SUPERSEDES E-98-002 AND IS EFFECTIVE IMMEDIATELY.

Project design engineers shall use sound engineering practice in making reasonable provisions to accommodate bicycles and pedestrians in project designs. This generally includes assuring continuous paths of travel with smooth surfaces without obstructions or impediments. *This Directive must be addressed on all projects at the 25% design level.*

Benchmark for Bicycle Accommodation

The Massachusetts Highway Department benchmark for reasonable bicycle accommodation is to provide a continuous usable paved shoulder adjacent to the outside travel lane in each direction on roadways where bicycles are legally permitted. The desirable width of the outside travel lane plus the paved usable shoulder (curb lane) is at least 5.0 meters (plus 0.5 meter "guardrail" offset). When this width cannot be reasonably accommodated, the minimum width of the outside travel lane plus the paved usable shoulder (curb lane) for the accommodation of bicycles is 4.5 meters (plus 0.5 meter "guardrail" offset). For roadways with low speeds of less than 45 mph (85th percentile speeds) combined with low volumes of less than 2000 AADT, the minimum roadway widths as defined in Chapter 8 of the Highway Design Manual may be used to conform with bicycle accommodation. *Bicycle lanes and shoulder bikeways are encouraged and should be considered early in the design process.*

This Directive does not preclude the use of AASHTO design guidance for bicycle accommodation *and also applies to full depth reconstruction projects funded through the Chapter 90 Program. This Directive does not apply to maintenance type projects (resurfacing, chip sealing, etc.) funded through the Chapter 90 Program.*

Distribution: B Please post: X Do not post

Benchmark for Pedestrian Accommodation

The Massachusetts Highway Department benchmark for pedestrian accommodation is to provide at least one continuous paved surface or sidewalk along all roadways where pedestrian access is legally permitted. Sidewalks must be in full conformance with AAB/ADA regulations.

Documentation of Non-Conformance

The designer shall determine as soon as possible in the design process, and prior to 25% approval, whether it is feasible to accommodate bicycles and/or pedestrians as outlined herein. If accommodation is not attainable, the designer must document why such accommodation was not reasonably attainable. Such documentation will be forwarded for review to the Bicycle/Pedestrian Coordinator designated to carry out this Directive.

Criteria to Consider When Determining Reasonable Accommodation:

- ◆ Impacts on Environmental Quality including: Wetlands, Floodplain, Stormwater, Trees, Park Land, Rare and Endangered Species Habitat
- ◆ Projects on Scenic Roads
- ◆ Archeological or Historical areas
- ◆ Compatibility with existing and future adjacent roadway sections
- ◆ Footprint Bridge projects
- ◆ Existing parallel facilities
- ◆ Conflicts with on street parking
- ◆ Compatibility with surrounding area
- ◆ Public safety
- ◆ Public support
- ◆ Impacts on existing Rights of Way

THE COMMONWEALTH OF MASSACHUSETTS

In the Year One Thousand Nine Hundred and Ninety-six

AN ACT RELATIVE TO BICYCLE AND PEDESTRIAN ACCESS IN CONSTRUCTION OF PUBLIC WAYS.

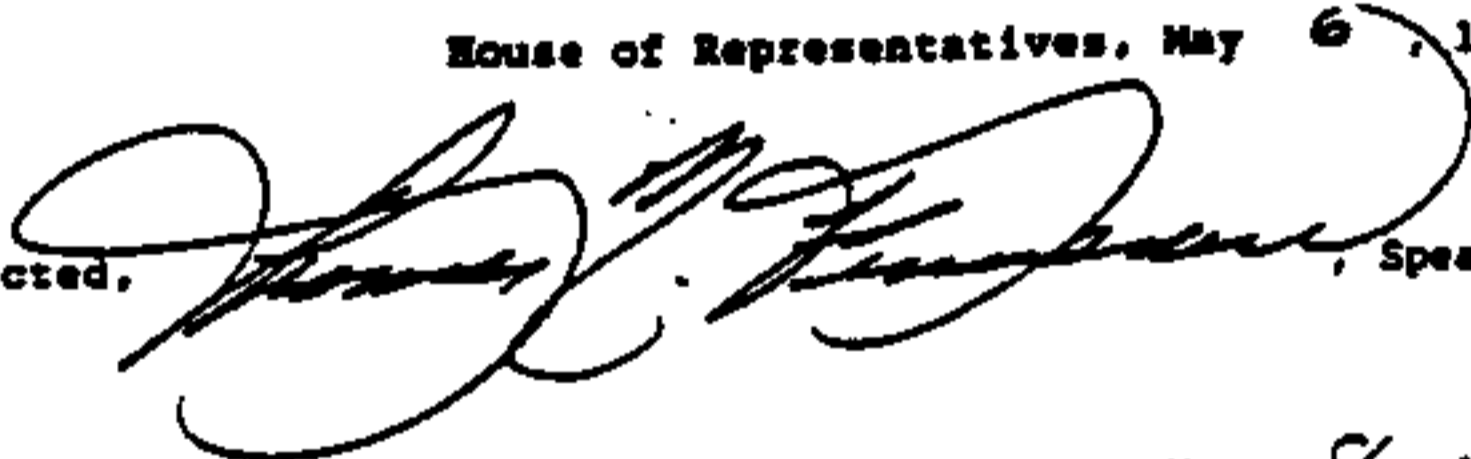
Be it enacted by the Senate and House of Representatives in General Court assembled, and by the authority of the same, as follows:

Chapter 90E of the General Laws is hereby amended by inserting after section 2, as appearing in the 1994 Official Edition, the following section:-

Section 2A. The commissioner shall make all reasonable provisions for the accommodation of bicycle and pedestrian traffic in the planning, design, and construction, reconstruction or maintenance of any project undertaken by the department. Such provisions that are unreasonable shall include, but not be limited to, those which the commissioner, after appropriate review by the bicycle program coordinator, determines would be contrary to acceptable standards of public safety, degrade environmental quality or conflict with existing rights of way.

House of Representatives, May 6, 1996.

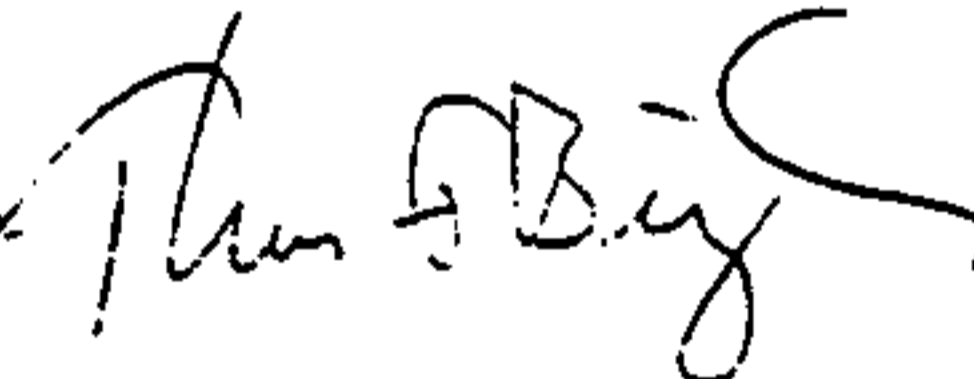
Passed to be re-enacted,



, Speaker.

In Senate, May 8, 1996.

Passed to be re-enacted,



, President.

20 May, 1996.

Approved,

1:50 P.M.



Governor.

ENGINEERING DIRECTIVE

Thomas F. Beaulieu
CHIEF ENGINEER

CERTIFICATION OF DESIGN EXCEPTION REPORTS

Design Exceptions (waivers) from controlling criteria are vital project components that require appropriate documentation by design engineers. This documentation must be in report format based on the guidelines identified in Chapter 8 of the Highway Design Manual and should be submitted at, or prior to, the 25% Highway submittal.

The designer's obligation regarding Design Exceptions shall be to design the work in a manner consistent with that of skill and care ordinarily exercised by members of the same profession practicing under similar circumstances. The American Society of Civil Engineers Code of Ethics states, in part,

Engineers shall approve or seal only those design documents, reviewed or prepared by them, which are determined to be safe for public health and welfare in conformity with accepted engineering standards.

With this in mind, the cover page of all Design Exception Reports prepared by design consultants must be stamped by the responsible professional engineer and signed by a Principal or Chief Engineer of the firm preparing the report. Reports that do not contain this certification shall not be reviewed by MassHighway and shall be returned to the designer. This certification shall be in addition to and separate from other required project certifications, such as those normally shown on the Title Sheet and on the Bridge Plans.

All Design Exception Reports prepared by MassHighway personnel must be reviewed and stamped by the Highway Design Engineer prior to being submitted to the Chief Engineer for approval.

This Directive is effective immediately.

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