

The Commonwealth of Massachusetts

Municipal Project Guide

For Road and Bridge Projects

August 2011



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INTRODUCTION

Transportation projects bring significant benefits to a community. They are well worth the effort and investment that a municipality makes to have them become a reality. It is hoped this guide book will take some of the unknown out of the process by identifying the basic steps needed to deliver a quality project.

This document has been prepared jointly by the Massachusetts Department of Transportation (MassDOT) and the American Council of Engineering Companies of Massachusetts (ACEC/MA) to provide guidance and understanding to municipalities concerning the process of initiating and undertaking a transportation improvement project within a community. Its primary audience is intended to be municipal officials seeking to plan, design and construct a project in conjunction with MassDOT using state or a combination of state and federal funds. In this process, the municipality is the party responsible for funding the design of the project.

While written for municipal public officials, the guide book also benefits **MassDOT** and **Design Consultants** as it addresses the relationships between them and a **Municipality**. All three need to work closely together to successfully deliver a quality infrastructure project to the community.

There are a number of reference materials already available to provide guidance to a municipality seeking to advance a local transportation improvement project. These have been prepared and sponsored by the Regional Planning Agencies, MassDOT and others. The primary resource for the design of transportation projects is MassDOT's award winning *Project Development and Design Guide*, which provides the framework for incorporating context sensitive and multi-modal elements into transportation improvement projects. The intent of this guide book is not to replicate these materials. Its objective is three-fold. First, is to provide a perspective on the relationships that need to exist between the Municipality, MassDOT and the Design Consultant. Second, is to stress the importance of soliciting and retaining comprehensive consulting services to assist the Municipality in delivering quality design documents to MassDOT for construction. Third, is to provide the Municipality with a simple, one-page, interactive tool that links to valuable information about the key steps required for developing, designing and constructing transportation improvement projects.

Please refer to this guide book early and often to help ensure that your projects advance to construction in a timely, complete and satisfying manner.

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PERSPECTIVES ON THE PARTNERSHIP

A quality project requires a successful partnership between the **Municipality, MassDOT** and the Municipality's **Design Consultant**. Through this partnership, a combination of local, state and federal funds can be used to plan, design and construct significant transportation improvement projects on locally owned roadways.

In many instances, the Municipality needs to bear the cost of a project's planning and design. Municipalities can fund the design phase of a project using local funds, Chapter 90 funds, or other funds that may be available. At some point in the planning and design process, the services of a Design Consultant most likely will be needed by the Municipality. The result is a three-way project partnership consisting of the Municipality, its Design Consultant, and MassDOT. It is through this collaboration that successful transportation improvement projects are realized.

As in any partnership, it is important to understand the roles of each member of the partnership and the relationships between them. Key aspects of roles are as follows:

MassDOT

MassDOT is the partner that guides and assists a Municipality by discussing the planning, design and construction process with municipal officials for state or federally funded projects. For federally funded projects, the Federal Highway Administration (FHWA) requires that MassDOT review the design of the project and oversee the construction process.

MassDOT's role includes reviewing and approving design and environmental documents, advertising the project for competitive contractor bids, awarding the construction contract and overseeing the work of the construction contractor. Because these projects must be designed and built in conformance with applicable state and federal design standards, the design process includes various design submittals to MassDOT for review and comment prior to advertising for construction.

Municipality

The Municipality is the partner with the need for the improvements. It must initiate the project and be an active proponent seeking project funding and inclusion on the State's Transportation Improvement Program (TIP). This initiation includes communications/requests to the Regional Planning Agencies (RPAs), the Metropolitan Planning Organizations (MPOs) and MassDOT. More importantly, it includes defining what the project is and what the construction costs are likely to be. These are important because MassDOT needs to know what it is agreeing to do and why it needs to be done.

The Municipality needs to develop the project and be responsible for acquiring right-of-way, garnering the necessary community support, and preparing the design plans and associated environmental documents. It may choose to do this with in-house staff but in many instances the Municipality will seek the services of a qualified Design Consultant. The Municipality will be responsible for selecting, engaging and bearing the cost of the Design Consultant services. The

selection of a consultant is an important action by the Municipality as the Design Consultant will become a key member of the partnership. It is important to the success of the project that this solicitation and engagement process be a **Qualifications Based Selection (QBS)**. QBS is the established procurement practice adopted by the federal government and most state agencies, including MassDOT. There are specific benefits to be gained by the Municipality from using a QBS process. They are as follows:

- QBS facilitates selection of the most qualified firm for the project.
- QBS avoids a forced relationship with a consultant that can result from using a lowest bid approach.
- QBS allows designs to be completed in the most competent and cost-effective manner.
- QBS allows for a detailed statement of the scope of services along with a justification for the fee prior to commitment.
- QBS allows the scope of services to be tailored to meet all project objectives.

Design Consultant

The Design Consultant selected by the Municipality needs to be familiar with the policies, practices and protocols of MassDOT. To help assure this, MassDOT requires that the Design Consultant be prequalified by MassDOT in the specific disciplines for the project.

The Design Consultant's role is to address the technical deficiencies of the transportation infrastructure, incorporate (to the degree possible) the objectives of the Municipality, develop the project in accordance with the procedures and accepted standards of MassDOT and provide advice to MassDOT and the Municipality during construction. The Municipality must recognize that MassDOT requirements need to be met and that the Design Consultant's scope of services will depend on the specific needs of the project.

Design Consultants strive to develop reasonable scopes of services, prepare the schedule for performing the services including time for right-of-way plans and environmental permitting, and estimate the fees for professional services based upon the available information. However, the Municipality needs to recognize that some design-related requirements of the project may not be known until later in the design process. Items dealing with public or abutter concerns, subsurface conditions, the environmental review process, utility coordination, right-of-way acquisition, or updates in design standards or funding requirements may arise as the project becomes better defined. Project modifications to reflect these unknown items may occur through the course of the project and may result in the need for additional design services and fees and may have an impact on the project's schedule. These modifications can be minimized by understanding and following the process outlined in the next section.

THE PROCESS

MassDOT and ACEC/MA have developed an interactive tool to assist Municipalities and Design Consultants navigate the process of advancing a transportation improvement project through the development, design and construction phases. This tool is a one-page, step-by-step summary guide that is intended to be used electronically via the Internet. Most of the individual steps in the summary guide are “hyperlinked” to other existing documents and reference materials that contain further detailed information about each step. Thus, a user can view as little or as much information as needed to obtain necessary guidance.

The summary guide is divided into 4 major project phases:

- Project Inception
- Consultant Procurement
- Environmental, Design and ROW
- Construction

The **Project Inception** phase outlines the key steps required to identify project needs, define and complete the necessary planning process and formally initiate the project through MassDOT and the MPO. This phase contains the initial public outreach actions, initial coordination with the MassDOT District Highway office, and completion of the Project Need Form (PNF) and Project Initiation Form (PIF) documents. The primary outcomes of this phase include a decision whether to advance the project, a tentative funding source, and a possible TIP Year.

The **Consultant Procurement** phase outlines the key steps required to retain a qualified Design Consultant for the approved project. Information regarding developing a Scope of Services, soliciting for consultant services, evaluating and ranking proposals, negotiating fees and executing an agreement with the selected consultant is contained in this section. Detailed guidance regarding consultant procurement is also contained in an Appendix to this document. The primary outcome of this phase is an executed agreement for professional services.

The **Environmental, Design and ROW** phase outlines the key steps involved in the design process for the project. Because of common delays often associated with certain design-related processes, there is a specific focus on securing environmental permits and clearances, obtaining necessary rights of way, and coordinating with affected utility companies. By addressing these issues early, project delays can often be avoided. This phase also includes additional efforts required to secure project funding through the TIP programming process. The primary outcome of this phase is a project ready to be advertised for construction.

The **Construction** phase outlines the steps from advertising through construction completion. Although the Municipality’s role diminishes greatly during this phase, the Design Consultant must remain actively involved and it is important that the Municipality be aware of the steps required to finish the project once it is advertised. For a project to be truly successful, it must ultimately meet its intended purpose and it must satisfy all constituents.

The Municipal Project Summary Guide is found on the next page.

Municipal Project Summary Guide *Helping Communities Move Projects Forward*

| Project Inception | Consultant Procurement | Environmental, Design and ROW | Construction |
|---|--|--|---|
| <p style="text-align: center;"><i>Project Identification and Need</i></p> <ul style="list-style-type: none"> • Project Development • Preliminary Screening by District • Prepare Project Need Form (PNF) • Submit PNF to MassDOT District • Conduct PNF Evaluation (MassDOT) | <p style="text-align: center;"><i>Planning and Preparation</i></p> <ul style="list-style-type: none"> • Conduct Qualifications-Based Selection (QBS) Process • Develop a Procurement Plan • Develop an Initial Scope of Services • Develop a Cost Estimate/Budget • Develop a Project Schedule • Prepare RFR | <p style="text-align: center;"><i>Environmental Process</i></p> <ul style="list-style-type: none"> • Identify Necessary Environmental Approvals and Permits • Obtain Necessary Environmental Permits and Clearances <ul style="list-style-type: none"> ○ Laws and Regulations ○ Regulatory Thresholds ○ Permitting Clearance Timelines | <p style="text-align: center;"><i>Advertising and Bidding</i></p> <ul style="list-style-type: none"> • Advertise Project for Construction • Issue Addenda as Needed • Bid Opening • Municipal Agreement (10% Agreement) |
| <p style="text-align: center;"><i>Project Planning</i></p> <ul style="list-style-type: none"> • Define Existing Context; Confirm Project Needs • Establish Goals and Objectives • Initial Public Outreach • Project Definition • Project Review and Refinement • Final Recommendations (Planning Report, if required) | <p style="text-align: center;"><i>Selection Process</i></p> <ul style="list-style-type: none"> • Provide Public Notice of the RFR • Receive and Evaluate Proposals • Rank and Short-List Firms • Conduct Interviews • Final Ranking and Selection | <p style="text-align: center;"><i>Design Process</i></p> <ul style="list-style-type: none"> • Conduct Public Outreach • Obtain Necessary Ground Survey Data • Prepare 25% Design and Obtain Necessary Design Exceptions • Conduct Design Public Hearing • Prepare 75% Design • Prepare 100% Design • Finalize Non-Participating Items • Prepare Final Cost Estimate • Confirm Adequate Funding Available • Obtain Traffic Control Agreement and Maintenance Agreement, as Required | <p style="text-align: center;"><i>Project Start-Up</i></p> <ul style="list-style-type: none"> • Construction NTP • Pre-Construction Meeting • Resident Engineering |
| <p style="text-align: center;"><i>Project Initiation</i></p> <ul style="list-style-type: none"> • Project Initiation Form (PIF) • Preliminary Screening by District and MPO • PRC Review • Preliminary MPO Review • Preliminary Assignments | <p style="text-align: center;"><i>Negotiation and Agreement</i></p> <ul style="list-style-type: none"> • Develop Final Scope of Services • Request a Fee Proposal • Negotiate Fee • Execute a Consultant Agreement • Provide Post-Selection Feedback | <p style="text-align: center;"><i>Utility Coordination</i></p> | <p style="text-align: center;"><i>Construction Phase Services</i></p> <ul style="list-style-type: none"> • Coordinate with MassDOT Resident Engineer • Engage Designer to: <ul style="list-style-type: none"> ○ Review Shop Drawings ○ Respond to Request for Information ○ Attend Periodic Site Visits ○ Attend Construction Job Meetings ○ Review Change Orders |
| | <p style="text-align: center;"><i>Managing the Contract</i></p> | <p style="text-align: center;"><i>Right of Way Process</i></p> <ul style="list-style-type: none"> • Identify Right of Way Actions • Obtain Necessary Right of Way (may require City Council or Town Meeting Approval) | <p style="text-align: center;"><i>Project Completion</i></p> <ul style="list-style-type: none"> • Final Inspection • Construction Close-Out • Project Turnover to Municipality |
| | | <p style="text-align: center;"><i>TIP Programming</i></p> | |

Outcomes

| | | | |
|--|---|---|--|
| <ul style="list-style-type: none"> • Decision Whether to Advance Project • Guidance/ Support By MassDOT and MPO to Move Project Forward • Possible TIP Year • Tentative Project Category • Tentative Funding Category | <ul style="list-style-type: none"> • Consultant Selection • Professional Services Agreement | <ul style="list-style-type: none"> • Complete Plans, Specifications and Estimated for the Project • All Necessary Environmental Permits and Clearances Obtained • All Necessary Right of Way Obtained • A Project Ready to be Advertised for Construction | <ul style="list-style-type: none"> • Completed Construction Project • Satisfied Constituents |
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Appendix A

CONSULTANT PROCUREMENT

Engineering Services for Horizontal Construction Projects

Successful project development requires the assistance of design professionals. For most municipalities, engineering design is a contracted service. Although the procurement of engineering design services for municipal horizontal construction is not subject to specific state procurement regulations in the Commonwealth of Massachusetts, a **Qualifications Based Selection (QBS) process is recommended.**

Qualifications Based Selection (QBS)

Qualifications Based Selection for Engineering Design Consultants is the procurement process that is used by the Massachusetts Department of Transportation, as well as many other state agencies. It has been required by law for all federally funded projects since 1972, and is also used by forty-four state DOTs on state funded projects, and many local agencies. QBS is included in the American Bar Association's *Model Practices for State and Local Governments*, and it is an endorsed policy of the American Society of Civil Engineers to support QBS for the engagement of engineering services.

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|---|
| <p>The American Public Works Association endorses the QBS process and notes that “Basing selections on qualifications and competence, rather than price, fosters greater creativity and flexibility, and it minimizes the potential for disputes and litigation.”</p> |
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QBS makes the consultant a partner in the development and delivery of a successful project. QBS allows firms that put together a thorough and comprehensive submission to compete fairly, and for the municipality to get “apples to apples” submission documents from engineering design firms. It avoids inconsistencies in proposed scopes of services or situations where the work effort may not include certain required efforts such as the Early Environmental Coordination Checklist, Public Outreach, Utility Coordination, Subsurface Exploration, and Right of Way Actions. Incomplete scopes of services lead to design amendments and/or contractor change orders – delaying the project and driving up overall project costs.

The process for procuring consultant design services utilizing QBS can be structured into three phases: 1) planning and preparation; 2) selecting a consultant; and 3) negotiating a contract. The first phase includes developing a procurement plan; developing an initial scope of services, initial cost estimate/budget and initial project schedule; establishing selection criteria and preparing the Request for Responses (RFR) document. The second phase includes providing public notice of the RFR, receiving response submittals, evaluating response submittals, ranking and short-listing firms, conducting interviews (if required) and determining final ranking and consultant selection. The third phase – negotiating a contract – includes collaborating with the selected consultant to develop a final, detailed scope of services, a reasonable schedule and a fair

design fee for the project. In determining a fair fee for the project, the municipality must take into account the scope and complexity of the overall project.

The participation of the consultant in developing the detailed scope of services allows the municipality to fully utilize the consultant's experience and expertise in designing similar projects, fostering creativity and innovation, while avoiding problems with omissions of items from the scope of services, as often happens when utilizing low bids as part of the selection process. If a contract cannot be successfully negotiated with the highest ranked consultant, then the municipality has the option to end negotiations with the highest ranked consultant and begin negotiations with the consultant ranked second highest. The negotiations may continue with successive ranked firms until an agreement is reached. **The municipality always remains in control when using the QBS process.**

It should be noted that many municipalities procure engineering design services using a "two envelope" Request for Proposals (RFP) process described in the Massachusetts Inspector General's Procurement Manual. This RFP process, which includes a bidding component, is not well suited to the procurement of engineering design services for the following reasons:

- It requires the development of a comprehensive, detailed engineering scope of services by the municipality prior to issuance of the RFP.
- It is issued when there are still many key issues that have not yet been identified, addressed, or defined.
- The process can burden a municipality with a detailed "apples to oranges" comparison of scope and fee submitted by engineering design firms, if a detailed scope is not provided.
- It is often not a prudent expenditure of time by a municipality and the design consultant firms.

The level of effort spent on procurement under the QBS RFR process varies depending on the size and complexity of the project. The basic steps of the QBS process are described below.

► *Phase I – Procurement Planning and Preparation*

Step 1. Develop Procurement Plan

The procurement process starts with the identification of a municipal project manager and a selection committee. The project manager is the day-to-day point person for the procurement and is responsible for the documentation of the selection process. The selection committee generally consists of three to five people. In addition to municipal staff, committee members may include technically qualified individuals, citizens, or elected and/or appointed officials having a special interest on behalf of the municipality and the time to thoroughly assess the consultant response submittals.

The municipality should have a general understanding of the value of the engineering services being procured. A cost estimate can be determined in consultation with the MassDOT District Office or other municipalities that have procured professional services for similar projects. In addition, a procurement schedule should be prepared which identifies the timeline for each step in the procurement process.

Step 2. Develop Initial Scope of Services, Project Schedule, and Cost Estimate/Budget

The initial scope of services generally begins with an overall description of the project and typically includes the following information:

- General description of the type of work – pavement, geometry, drainage, water, etc.
- Project limits
- Previous studies performed in the project area
- Estimated/budgeted construction cost
- Project schedule
- Project Need Form (PNF), if available

The full scope of services should be prepared utilizing the [MassDOT Standard Scope of Services](#) as a template.

Step 3. Prepare RFR

The Request for Responses (RFR) must contain enough information to allow consultants to determine if they are qualified and interested in pursuing the project, and to prepare a response in an efficient manner. It must also contain the evaluation criteria that will be used by the municipality to rank the responses. The following items should be included in the RFR:

- MassDOT prequalification requirements
- General project description
- Initial Scope of Services, utilizing [MassDOT Standard Scope of Services](#)
- Format for presenting qualifications, such as GSA Standard Form 330
- Requirement of compliance with Chapter 2 of the *Project Development & Design Guide* including [Early Environmental Coordination Checklist](#)
- Insurance requirements
- Any special standard contract forms required by the municipality
- Selection Criteria
- Weighing of each Selection Criterion (including interview if conducted)
- Submission Requirements including due date, where to submit, number of copies, point of contact for questions, maximum page limit (recommended), notice deadline statement, etc.

► Phase II – Selecting a Consultant

Step 4. Provide Public Notice of the RFR

Municipalities should provide public notice of an RFR in the Commonwealth's Comm-PASS system for a minimum of two weeks prior to the date when response submittals are due. However, additional response time and a pre-response meeting to clarify submission requirements, scope of work elements and other expectations typically lead to a greater number of higher quality submissions. The public notice must contain the following:

- Description of the project and type of services required

- Notice that the municipality may reject any or all responses
- Identification of any board, committee, or other body which must approve the contract
- Date and time responses are due
- Any information required by local regulations

Any addenda should be issued via e-mail or other means that can distribute the materials quickly and confirm that they have been received by the responders.

- ***Local Advertising Regulations*** – Municipalities must follow any local procurement thresholds on advertising requirements. Advertisements in a local paper and posting at a public place are commonly required by local jurisdictions depending on contract value.
- ***Direct Notification*** – Direct notification of firms already prequalified by MassDOT is appropriate and encouraged to solicit interest in the RFR. Information regarding prequalified firms is available on the MassDOT website at: [Prequalification of A&E Firms](#).

Step 5. Receive and Evaluate Response Submissions

The selection committee must evaluate each response based on the evaluation criteria and weighting included in the RFR. The municipality may reject submissions that do not meet basic requirements or that do not fully comply with the RFR instructions. After the RFR submission deadline, the municipality should make public a list of all RFRs received.

Step 6. Rank and Short-List Firms

After the selection committee evaluates and ranks the proposals, the top ranked firms (ideally no more than three) may be invited for an interview with the selection committee. The interview notification should include:

- Schedule of interview
- Members of the Selection Committee
- Time allotted for interview
- Number and names of firms to be interviewed
- Availability of screen, audio-visual equipment, etc.
- Any additional evaluation criteria (not specified in the RFR)

Step 7. Conduct Interviews (Optional)

Oral interviews with the top ranked firms should be used as an opportunity to enhance the information contained in the RFR submissions. Interviews also allow the selection committee to meet project team members face-to-face and to ask specific questions that help to clarify each firm's qualifications, understanding of the work, and ability to successfully complete the project. The selection committee should incorporate the interview results into the evaluation criteria prior to determining the final ranking of firms. It is also strongly recommended that the selection committee contact references and other communities that have used particular design consultants on similar projects to help assess the qualifications of each firm.

Step 8. Consultant Notification

Upon determination of the highest ranked firm and receipt of appropriate municipal approvals to proceed, the municipality should issue a written notice of selection to the highest ranked firm.

► *Phase III – Negotiating a Contract*

Step 9. Develop Final Scope of Services and Schedule

Efforts spent preparing the detailed scope of services typically result in a better project that is delivered in less time. Prequalified engineering consultants are experienced in project development and their expertise is invaluable in developing an appropriate project design. The scope of services must adhere to the requirements contained in the MassDOT *Project Development & Design Guide*. Also, municipalities should be aware of the following specific work tasks that are often overlooked but that contribute to a successful project. Omitting one or more of these tasks from the scope of services will likely lead to project delays and cost overruns:

- Early Environmental Coordination
- Public Outreach
- Right of Way Actions
- Subsurface Exploration
- Utility Coordination
- Construction Support Services

Step 10. Request a Fee Proposal

The selected design firm develops and submits to the municipality a fee structure based on the agreed upon scope of services and project schedule. The fee should be presented using the latest version of the [MassDOT Standard Scope of Services and Work Hour Estimate](#) forms. Use of these standard forms facilitates evaluation and negotiation of the fee. It also simplifies contract administration.

Step 11. Finalize the Scope and Schedule, and Negotiate the Fee

If the proposed fee is not acceptable to the municipality, the municipal project manager and the consultant should work together to modify the scope of services, schedule, and budget to determine if an agreement can be achieved. Municipalities are strongly encouraged to seek the assistance of the Project Development office at their local MassDOT Highway District in reviewing the detailed scope, schedule and fee, as this can help to avoid problems that may occur later in the project design or construction phases.

Step 12. Negotiation with Next Highest Ranked Firm (if necessary)

If an agreement cannot be reached with the top ranked firm within a specified time period, those negotiations are ended and negotiations begin with the next highest ranked firm. Typically, engineering firms have enough time and effort invested in the process that this step is rarely necessary.

Step 13. Execute Agreement

A contract which includes a detailed scope of services, expected deliverables, fee, schedule, payment terms and other details, is approved by the municipal entity authorized to execute contracts. The contract is an important part of defining and managing the relationship between the municipality and the consultant.

Step 14. Provide Post-selection Feedback as Requested

The selection process formally ends when a contract is executed or when the municipality decides to terminate the process prior to executing a contract. At the end of the selection process, the municipality should notify all responding firms of the outcome of the selection process. At this time, all of the RFR submissions and evaluation materials become public records. If requested, the municipal project manager should make these documents available to the requesting party. A review of these documents will help a firm not selected identify means to improve the services offered for future municipal roadway projects.

Managing the Contract – Working with Consultants

Once a contract is in place and a notice-to-proceed has been issued, project design begins. MassDOT's [*Project Development & Design Guide*](#) is a key reference that should be consulted regularly. It describes procedures for working with the public, environmental agencies, accessibility advocates, etc. Time spent in the early stages of project development typically lead to a better project in a shorter time and reduces costly redesign. Other references such as *How to Work Effectively with Consulting Engineers* by the American Society of Civil Engineers are excellent resources on getting the best project at the right price. The local MassDOT District Highway offices, as well as the Baystate Roads Local Technical Assistance Program, are also excellent resources.

MassDOT will assign a project manager for those projects it advertises for construction. The municipal project manager and consulting engineer will need to coordinate all project submissions with the MassDOT project manager.

Appendix B

REFERENCE MATERIALS

Contact Information

- [MassDOT Management Team](#)
- [MassDOT Highway Division District Offices](#)
- [The Engineering Center](#)
- [ACEC/MA](#)
- [Massachusetts Highway Association](#)
- [Massachusetts Municipal Association](#)
- [Utility Company Contacts](#)

Program Information

- [State Transportation Improvement Plan \(STIP\)](#)
- [Projects Under Design and Construction](#)
- [Advertised Projects and Bid Opening Schedule](#)
- [Public Hearings](#)
- [Project Review Committee](#)
- [Consultant and Surveyor Prequalification](#)
- [Contractor Prequalification](#)
- [Chapter 90 Local Aid Program](#)
- [Transportation Enhancement Program](#)
- [MassDOT Highway Score Card](#)

Manuals and Guidance Documents

- [Project Development and Design Guide](#)
- [Standard Specifications for Highways and Bridges](#)
- [Supplemental Specifications](#)
- [Standard Special Provisions](#)
- [Bridge Manual](#)
- [Construction Standard Details](#)
- [Manual on Uniform Traffic Control Devices](#)
- [Massachusetts Amendments to the 2003 MUTCD](#)
- [Standard Drawings for Traffic Signals and Highway Lighting](#)
- [Traffic Management Plans – Standard Details and Drawings](#)
- [Right of Way Manual](#)
- [Survey Manual](#)
- [Engineering Directives](#)

- [Highway Design Review Checklists](#)
- [Design Exception Request Checklist](#)
- [Standardized Scope of Services and Work Hour Estimate Forms for Consultant Services](#)
- [Bid Item Nomenclature List](#)
- [Weighted Average Bid Application](#)

Other Reference Materials

- [Speed Limit Regulations](#)
- [Procedure for Speed Zoning](#)
- [Traffic Volume Counts](#)
- [Crash Rate Information](#)
- [Traffic Safety Toolbox](#)
- [Approved Equipment for Traffic Signal Controls](#)
- [Survey Control and Layout Plans](#)
- [Public Right of Way Accessibility Guidelines \(PROWAG\)](#)