Chapter

12

Best Practices

Introduction

This chapter lists Best Practices and sound ideas that are recommended and/or supported by MDOT. The Best Practices listed in this chapter have been proven to be helpful in the scoping process.

It is intended that this chapter is refined as new ideas are shared and additional MDOT Best Practices are adopted.

Develop a Calendar for the Call For Projects Process

Within each region, create a calendar each year for the Call For Project process. The calendar should indicate when the intermediate steps should be started and completed by the various region and TSC staff. The tasks and timelines in Chapter 9 of this manual are a general guide and may be helpful as starting point in developing a detailed region specific calendar.

After the region calendar is developed, each TSC should look at the TSC's dates and refine the dates and timeframes as necessary. Account for the review times, intermediate update meetings with staff and any other items that the TSC will need to accomplish to meet the deadlines set by the region.

The development of these calendars will likely reduce some of the last minute rush to complete the Call For Projects process that is experienced throughout the state. Each calendar should be shared with everyone involved with the scoping process within the Region, TSC and central office.

Identification of Responsibilities

Identifying who is responsible for each piece of the Call For Projects (CFP) process is important for the successful completion of the CFP. These responsibilities will vary for each Region and TSC and may change year to year as staff and experience levels develop. The identification of the responsible person, the support staff and a back up to the responsible person will give all those involved in the process knowledge of what is expected.

Van Tours and Field Reviews

Conducting Van Tours or field reviews during the rain should not be viewed as a negative. Rain can highlight some deficiencies, such as rutting, drainage concerns, surface cracks in the pavement, pavement surface deformation and subbase pumping that may otherwise be more difficult to identify. Appropriate safety precautions shall be taken whenever driving or working in the field, especially in inclement weather.

Scope Review Meetings

Hold Scope Review meetings with the scoping team to discuss the progress of the scope, areas that may need additional information and

need assistance from a "technical expert" in the area and the schedule for completing the scoping package. These meetings may be informal or formal; however the key is get and keep people involved in the scoping process. Projects should not be scoped by one person working in a vacuum. Multiple person teams bring diverse views and outlooks to the group and together can produce a stronger and well thought out proposed scope. Document such meetings, recommendations from specialty areas and other information where direction is decided or recommended. Invite FHWA for projects meeting the oversight requirements for 3R & 4R NHS.

Input From Other Disciplines

Gathering input from specialty areas or disciplines will make a scoping package more complete. Some of the specialty areas to look to for input, advice or guidance include: Traffic and Safety, Utilities, Surveys, Environmental, ROW, Hydraulics and etc. Construction or Delivery Staff is another discipline which may provide valuable input to the scoping process.

Documentation (revised 7-18-2016)

The importance of documenting all items discussed during the scoping process is beneficial so that items discussed and decided upon once do not get revisited later in the process; enables the designers to see why decision were made; reinforces the original scope which is connected to the programmed budget and etc.

Various tools for documenting are available. The Project Scoping Record form (Form#0591) is one alternative to recording the history of the scoping process from beginning to end and into the design phase.

Always Start Fresh

When beginning a scope or an estimate always start fresh. The use of old documents, estimates, spreadsheets or computations can result in errors, duplications or omissions. Unit prices often change, quantities are unique to a project and the pay items to include in a project may be unique to that project.

Go to the original source (often the MDOT website) to obtain the most current versions of checklists, spreadsheets, forms and other documents related to the scoping process.

List Your Assumptions

Document all assumptions made during the scoping process, whether it be an assumption about the deterioration rate of the road or structural element or the number of driveways that might require a Consent to Grade. Assumptions that are not documented can not be accounted for in the scoping process will need to be re-addressed later during the design process.

QA/QC reviewers and designers cannot account for or follow assumptions that were made and not documented. Listing the general assumptions should occur at the beginning of the calculation sheets. Other assumptions that come up as the estimate progresses may continue throughout the calculations sheet but should be stated in words and stand out so they are easily seen. If using spreadsheets for calculations, assumptions should be typed and placed in the file such that they will be displayed and/or print whenever the file is viewed.

Be Organized

Keeping organized notes and files (updated when necessary) is one of the first steps that is key to a scoping document. This allows for a straight forward and understandable review. When working on scoping multiple projects at the same time, it becomes more critical to organize the work so that notes for one project do not get mixed with another project. Placing the JN or project description on each sheet of paper or each computer document will help keep things organized. Include page numbers (1 of 4, 2 of 4, 3 of 4 and 4 of 4) on each document. This also helps the reviewer know that all documentation is provided.

One way of looking at the benefits of being organized is to place yourself in the shoes of the person(s) who will use the scoping document next or need to finish the scoping document should the original person doing the scoping becomes unavailable. Can the next person follow what has been done to this point? Can the documentation be located in the workspace or computer? The answer to these and similar questions should be yes.

Communication

Communication is a two way street which involves listening and speaking or transmitting ideas, questions, answers and etc in some format. Communication may occur in person between two people or with a group of people informally or more formally in a meeting. Communication may be in the form of discussion, e-mail, phone calls or letters.

Good communication is inclusive, positive in nature, detailed and helpful to others. It generates ideas and often can quickly solve problems through the vast knowledge of others by soliciting input.

Good communication is a method of sharing ideas with others on an idea for a new fix for an old problem, sharing a concern with others so that a possible solution can be reached. It is communicating maintenance problems that may be obvious to the maintenance worker who has to go fix the problem, but not to the scoper who may be able to develop a longer term fix to the problem.

Ask Questions & Share Ideas

The saying “No question is a bad question except the question that goes unasked.” is a very good saying which should be kept in mind while developing the scopes for projects. Ask questions of your supervisor,

your co-workers, others within the office, Region or other MDOT support units. Don't forget to ask yourself if your assumptions or your answers make sense.

This manual is intended to provide direction on which questions to ask and in many cases provide the answers or suggestions on where to find the answer. Additionally, this manual offers references to other manuals (often MDOT manuals) that provide additional detailed information. Many, if not all, of the reference material is available on the intranet and/or the MDOT website.

Take notes as you discover the answer to questions. This will help the next time a similar situation arises. Note who or where the answer to the question was found. This may be a good reference for the future.

Share ideas with other people. Unique ideas that work on projects may also be useful to subsequent projects. Best Practices are developed and refined through the sharing of ideas.

Early Identification of Maintenance of Traffic and Mobility Needs

The ability and method to maintain traffic during the construction of a project may impact the proposed fix for the project and the cost of the project. Early discussions on the options for maintaining traffic versus the proposed fix options should take place during the scoping phase.

The cost to maintain traffic by shifting traffic may be very different than the cost to provide flagging sequences during construction. Likewise, the cost to maintain traffic on a detour route may be very different than the cost to widen the existing road and acquire ROW for the temporary pavement. For work on a structure or bridge, consideration will need to be given as to whether work on a structure be done while traffic uses the other half of the structure, (part width construction and assuming the structure is wide enough) will the structure need to be closed during construction or can a temporary traffic signal be installed to maintain one lane of traffic across the structure. Each of these options has a different cost associated with the work.

Anticipating the Need for ROW

When a proposed project includes widening, review the ROW maps to see the width and type of existing ROW. Review the old plans for the area, in particular the slope stake lines. If the proposed project calls for 12' widening, then the new slope stake line would be at least 12' further out then the old slope stake line. Compare this new slope stake line to the existing ROW line to determine if proposed ROW or Consents to Grade may be required for the proposed project.

Projects with proposed intersection improvements, either the addition of right turn lanes or radii improvements, will require careful examination of the existing ROW. Widening may require an existing ditch to be pushed out to beyond the existing ROW. As it is MDOT's practice to include the ditch bottom within the ROW, additional ROW may be required.

Additionally, the work of increasing a radius may create the need for additional ROW and possibly Consents to Grade. A trunkline with an existing 33' ROW on one or both sides of the road centerline, typically will require proposed ROW for any intersection improvements.

From the ROW maps determine any areas where the existing ROW is only 33' on either side of the roadway exists. During the field review of the project, pay special attention to these areas to determine the need for proposed ROW and/or Consents to Grade for the proposed project.

Mark the locations for proposed ROW or Consents to Grade on the ROW maps and include these sheets in the scoping package. These marked ROW maps will also be helpful when requesting the Region Real Estate Staff to provide an estimate for the project.

Stakeholder Engagement Opportunities

Consider driving the project with both the Transportation Maintenance Coordinator (TMC) and the Road Commission Foreman or the City Department of Public Works (DPW) Director for that area. This is recommended for projects where drainage work is being considered as part of the scope. Notes from this meeting should become part of the scoping information. Ideas and issues may have been identified that otherwise could have been overlooked or missed. This is also an opportunity to discuss schedules and potential joint ventures to improve the municipal utility system while improving the roadway. This early interaction provides an opportunity for discussion of some of the less significant drainage issues that may be addressed as part of the project (assuming the larger drainage issues were identified by MDOT prior to meeting with this group).

Corridor Data Map

During the planning and development of a project, it is helpful to have a map of the corridor or area that shows the different work that is or has taken place in that segment or in the 5-year plan. These items could range from past, current and future work, to work that will be done by local agencies. This information will help with planning the proposed work, the maintaining traffic, mobility issues and the overall relationship of work in the corridor.

Corridor Approach to Project Coordination

When considering work to be done on a roadway segment, it is important to review opportunities and needs within that corridor. The more work that can be coordinated within (and done) in the same maintaining traffic (project) limits (i.e. bridge work, maintenance work, road work and etc) the more that traffic impacts can be reduced. Efficiencies in cost savings, traffic impacts, maintaining traffic and etc can be gained with this approach.

Creating and Refining Planisware Networks (revised 6-24-2019)

The Planisware network should be created and refined, from the approved Concept Statement, to assist in validating the Recommended Plan

Completion and Letting Date, placed in the approved Concept Statement. Financial, programming, project packaging and other constraints will influence these dates, but an estimated schedule will be helpful.

Additionally, it is easier to populate some of the dates in Change Requests (from #00 on) if the corresponding Planisware Version is created and submitted first.

Constructability Issues

It is very important to understand the Constructability issues of any project. There are opportunities during the Scoping and then again during the Design Phase to review Constructability of the proposed projects. There are items, such as maintaining traffic, design details, proposed work items/elements and etc, that should be reviewed by others, including Delivery Staff. This will assist the quality of the project and reduce overruns.

FHWA Coordination

FHWA should be consulted on potential oversight (3R & 4R NHS) projects during the scoping process. It is critical that FHWA agree with the proposed scope, especially as it relates to possible design exceptions. Lack of coordination during scoping, may cause scope modifications and subsequent cost overruns, due to unacceptable scopes once the project proceeds into design. At the preliminary scope review, contact your FHWA area engineer to be included in any reviews. This coordination/consultation needs to be completed before any project is submitted for the Call for Projects.

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