

TDOT WORK ZONE SAFETY AND MOBILITY MANUAL

PART 2: TDOT Procedures and Initiatives

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2.1 Introduction

Part 2 of the manual describes the organizational procedures that are required by TDOT to fulfill the guidelines set forth in the Final Rule. The Final Rule states that DOT's should develop and implement systematic procedures to manage, implement and assess the Work Zone Safety and Mobility initiatives.

The Final Rule specifically addresses the following procurement and management activities:

- **Organizational Roles and Responsibilities.** This defines which TDOT division or position has responsibility for a TMP task assignment and when that action should occur. Because of the diversity of TDOT projects, the exact scope and timeline of TMP development will vary based on the type of project.
- **Personnel Technical Training/Continuing Education.** The Final Rule addresses the need to ensure that all those involved in work zone design, implementation and management be technically qualified. This section describes TDOT's approach to promote competency of staff and agents.
- **Work Zone Performance Assessment,** including the use of **Work Zone Data.** The Final Rule states that DOT's should implement procedures to consider work zone impacts during project development. The proposed mitigation strategies are to be based on the scope and extent of the anticipated impacts. This section outlines TDOT's goal of implementing procedures to monitor work zone conditions and use of field data to track work zone trends and performance.
- **Agency Process Review.** The Final Rule requires that all DOT's conduct a review of its Work Zone Safety and Mobility Program at least once every two (2) years. This section describes TDOT's approach to implementing this initiative and identifies those responsible for this task.

2.2 Roles and Responsibilities

TDOT's Work Zone Safety and Mobility Manual highlights and promotes the Department's commitment to efficiently plan, design and implement its projects. To accomplish this, it is important to identify TDOT Divisions that will have a role in the Work Zone Safety and Mobility initiative, what their tasks will be, and when their respective tasks shall be conducted. Regardless of which Division initiates a project and the staff positions that are responsible for its development, the fundamental objective is to determine the type ("significance") and scope ("strategies") of a TMP required for a project. In general, this process consists of two (2) steps:

- Project Significance Determination (See Part 3), and
- Project TMP Development (See Part 4).

Specific explanation and methodology to conduct these tasks may be found in the referenced sections of the Manual.

Purpose of Roles and Responsibilities

- Based on the project origin, identify the **Division** responsible for Project Significance Determination and TMP Development,
 - Define the **staff position** responsible for **developing** the Project Significance Determination and Project TMP.
 - Define the **staff position** responsible for **reviewing/approving** Significance Determination and Project TMP.
 - Recommend **timeline/schedule** for conducting Project Significance Determination and TMP Development.
- Identify **initial list of exempt projects** that TDOT wishes to exclude from the TMP process due to anticipated minimal adverse impact to motorists and local communities.
- Identify **routine, recurring projects within the Department** that are proposed to be considered not “significant”, but shall follow standard TDOT protocol for blanket or “standing” TMP’s.

Authority

Division and Regional Directors shall have the authority to interpret policies and procedures outlined in this Manual. Included in that authority are decisions concerning appropriateness of projects for consideration as EXEMPT or being eligible for STANDING TMP’s.

“PPRM” Projects

Program, Project and Resource Management (PPRM) projects are traditional types of projects that involve multiple TDOT Divisions. Usually involving major construction activities, this type of project is characterized by in-depth conceptual project planning, and may include extensive environmental planning and public involvement. Typically, these projects originate in the Planning Division, move to the Environmental, Design, Structures, and ROW Divisions for project engineering and finally are administered by the Construction Division.

Typically, the Significance Determination and TMP Development steps for projects of this type have been assigned to occur within the progression of TDOT’s PPRM work flow. The following outlines the roles and responsibilities for projects following the typical “PPRM” methodology:

PROJECT SIGNIFICANCE DETERMINATION

Division Responsible: DESIGN
Staff Position In-Charge of Development: DESIGN MANAGER I
Staff Position In-Charge of Review/Approval: DESIGN MANAGER II
Timeline: After ALIGNMENT SELECTION,
Before SURVEY completion

PROJECT TMP DEVELOPMENT

Division Responsible: DESIGN
Staff Position In-Charge of Development: DESIGN MANAGER I
Staff Position In-Charge of Review/Approval: DESIGN MANAGER II
Timeline: During ROW PLANS
DEVELOPMENT

Support: PLANNING & ENVIRONMENTAL DIVISIONS – Provide project information and data.
PROJECT MANAGEMENT – Provide project organization/tracking.

The process for “PPRM” projects is further illustrated in Figure 2.1.

Design Division Projects

These projects differ from the “PPRM” projects in that they originate within and are exclusively managed by Design Division staff. Examples include State Industrial Access, intersection improvement, signalization, and lighting projects. The primary distinguishing factors are that these projects are relatively smaller and do not begin in the Planning Division.

PROJECT SIGNIFICANCE DETERMINATION

Division Responsible: DESIGN
Staff Position In-Charge of Development: DESIGN MANAGER I
Staff Position In-Charge of Review/Approval: DESIGN MANAGER II
Timeline: During PRELIMINARY
PLAN DEVELOPMENT

PROJECT TMP DEVELOPMENT

Division Responsible: DESIGN
Staff Position In-Charge of Development: DESIGN MANAGER I
Staff Position In-Charge of Review/Approval: DESIGN MANAGER II
Timeline: During FINAL PLAN
DEVELOPMENT

Support: PLANNING & ENVIRONMENTAL DIVISIONS – Provide project information and data, when applicable.

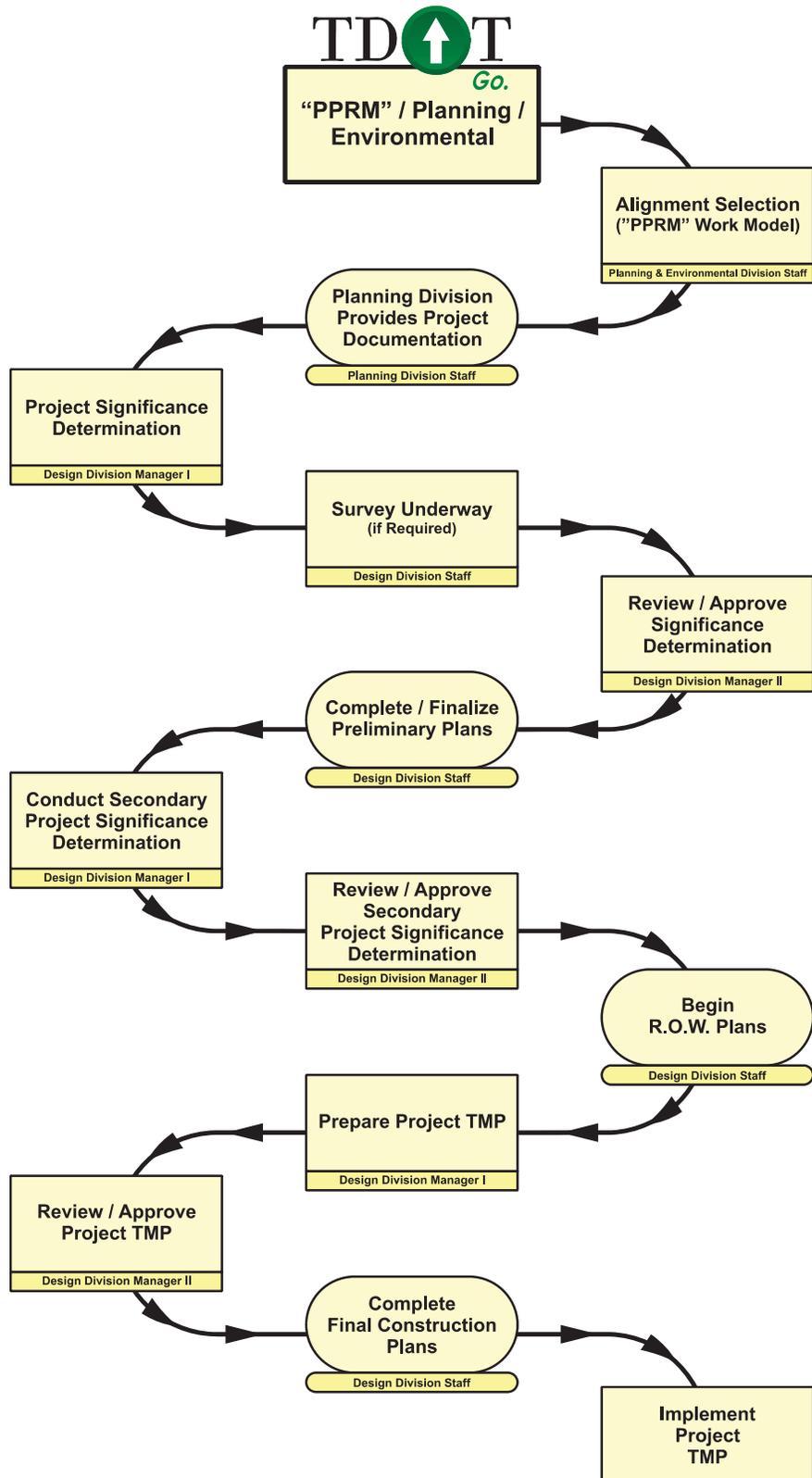


Figure 2.1
TMP Workflow - "PPRM" Project

“Standing” TMP for Routine, Recurring Activities/Projects

This additional class of activities/projects has been identified as those that are typical and routinely performed by Design staff or contracted workforces. The projects are characterized as having the potential to impact traffic operations due to required lane closures or roadside/shoulder work. They may include, but are not limited to Resurfacing, Noise Wall and Slope Repair projects. The “standing” TMP will be implemented by TDOT staff or agents.

The “standing” TMP methodology **SHALL NOT** be considered for a project/activity that meets the following conditions:

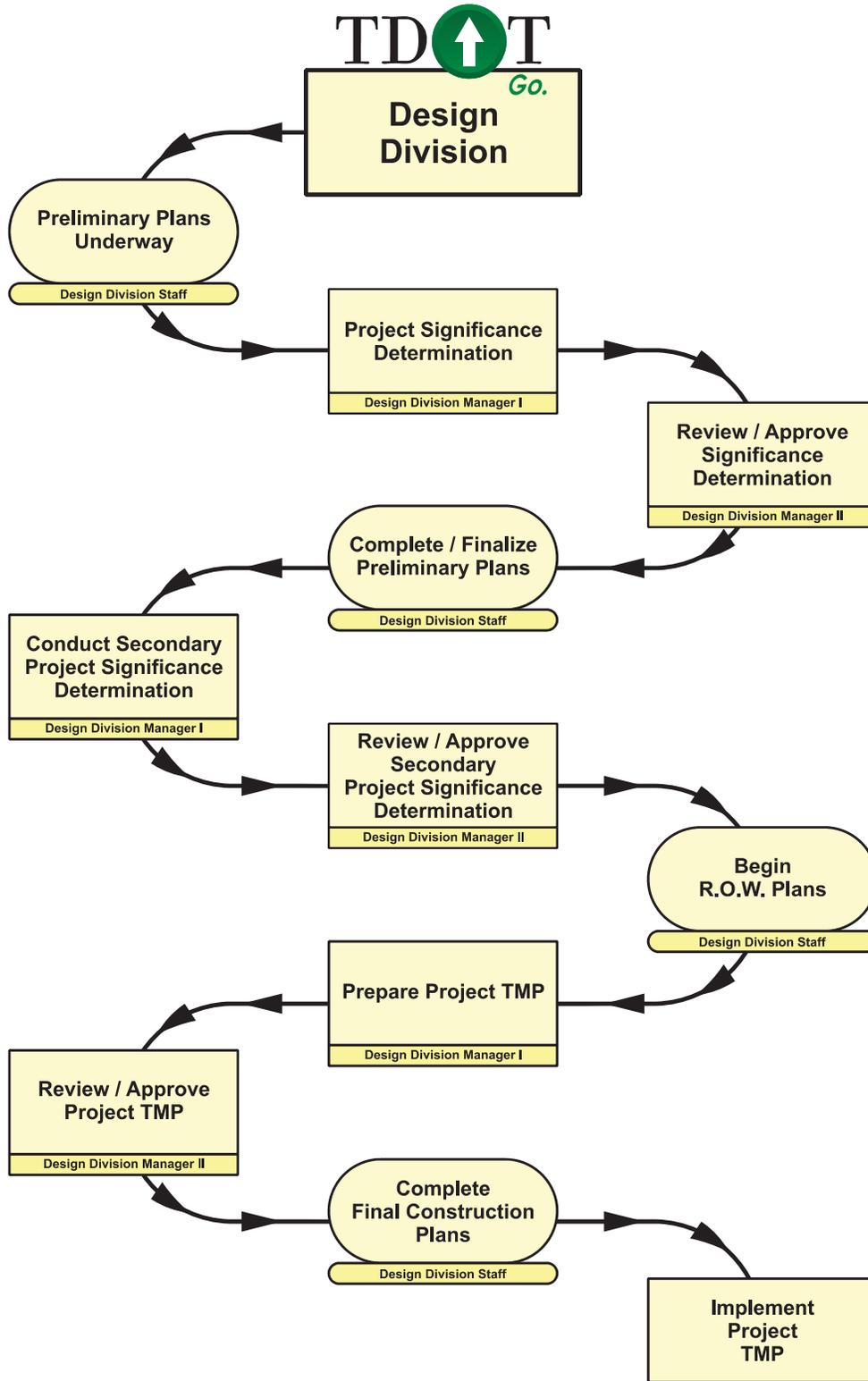
- On an Interstate system route within a Transportation Management Area (TMA), AND
- Having a project/activity duration longer than three days, AND
- Includes use of lane closures (intermittent or continuous).

If a project/activity developed by the Design Division or Regional Design Office meets the above criteria, the project shall follow TDOT’s TMP procedures for Design Division projects as previously described.

Otherwise the “standing” TMP will consist of the following:

- A) **Temporary Traffic Control Plans** per current TDOT standard drawings which should follow the current version of the Manual on Uniform Traffic Control Devices, Part VI (a custom traffic control plan may be developed as deemed necessary).
- B) **Work Zone Standard General Notes** shall be considered and followed per current TDOT procedures.
- C) Where lane closures will be necessary as part of work effort, **Public Information Outreach** and/or **Time-of-Day Restrictions** on lane closures should be considered. The decision to utilize these strategies will be considered by the Department as part of its lane closure procedure.

An opportunity occurs later in the project development process for a project's significance determination to be verified. Projects that are the responsibility of TDOT's Design Division, including PPRM projects, are to undergo a secondary significance determination since there is potential for a project's scope to change during preliminary design. A project's original significance determination shall be reviewed again before or concurrently with the beginning of right-of-way plan development. This is to be completed and approved by the appropriate Manager I and Manager II, respectively. See Figures 2.1 and 2.2 for further illustration.



**Figure 2.2
TMP Workflow - Design Division Project**

Structures Division Projects

These projects originate within and are managed by Structures Division staff. In most cases, a project field visit is conducted by Structures staff to initiate the project. Whether being designed in-house or by consultant engineers, the Structures Manager I will be given the project information, field data and will then conduct the Significance Determination.

PROJECT SIGNIFICANCE DETERMINATION

Division Responsible: STRUCTURES
Staff Position In-Charge of Development: STRUCTURES MANAGER I
Staff Position In-Charge of Review/Approval: STRUCTURES MANAGER II
Timeline: During PRELIMINARY
PLAN DEVELOPMENT

PROJECT TMP DEVELOPMENT

Division Responsible: STRUCTURES
Staff Position In-Charge of Development: STRUCTURES MANAGER I
Staff Position In-Charge of Review/Approval: STRUCTURES MANAGER II
Timeline: During FINAL PLAN
DEVELOPMENT

Support: PLANNING, ENVIRONMENTAL, & DESIGN DIVISIONS – Provide project information and data, when applicable.

“Standing” TMP for Routine, Recurring Activities/Projects

This additional class of activities/projects has been identified as those that are typical and routinely performed by Structures staff or contracted workforces. The projects are characterized as having the potential to impact traffic operations due to required lane closures or roadside/shoulder work. They may include, but are not limited to Bridge Inspection, Bridge Painting, Deck Patching, and Joint Repair. The “standing” TMP will be implemented by TDOT staff or agents.

The “standing” TMP methodology **SHALL NOT** be considered for a project/activity that meets the following conditions:

- On an Interstate system route within a Transportation Management Area (TMA), AND
- Having a project/activity duration longer than three days, AND
- Includes use of lane closures (intermittent or continuous).

If a project/activity developed by the Structures Division meets the above criteria, the project shall follow TDOT’s TMP procedures for Structures Division projects as previously described.

Otherwise the “standing” TMP will consist of the following:

- D) **Temporary Traffic Control Plans** per current TDOT standard drawings which should follow the current version of the Manual on Uniform Traffic Control Devices, Part VI (a custom traffic control plan may be developed as deemed necessary).
- E) **Work Zone Standard General Notes** shall be considered and followed per current TDOT procedures.
- F) Where lane closures will be necessary as part of work effort, **Public Information Outreach** and/or **Time-of-Day Restrictions** on lane closures should be considered. The decision to utilize these strategies will be considered by the Department as part of its lane closure procedure.

The process for Structures Division projects is further illustrated in Figure 2.3.

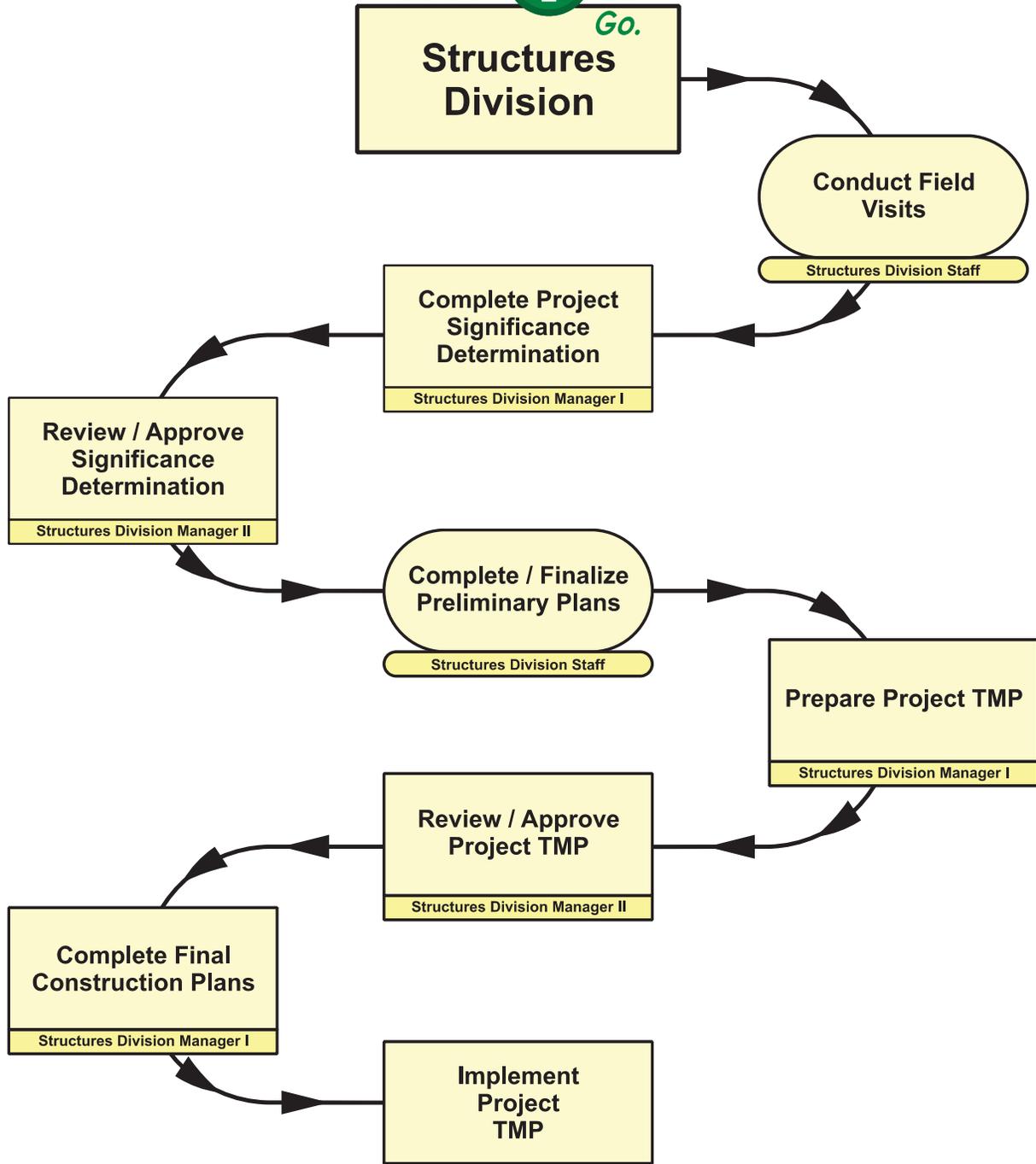


Figure 2.3
TMP Workflow - Structures Division

Maintenance Division or Regional Maintenance Office Projects/Activities

It has been determined that projects originating within the Maintenance Division or Regional Maintenance Office should have a different approach. This is because of the repetitive nature of much of the work and the fact that many of the activities are not considered actual “projects” with planning and design phases. Many Maintenance Division or Regional Maintenance Office activities have minimal impact on motorists. In addition, there are many instances where repair and rehabilitation activities must be completed within a short period of time.

To address these issues, two groups of activities/projects have been identified that will either be exempt from the TMP process or be covered by existing Temporary Traffic Control and Public Outreach procedures. The latter will be addressed using a "Standing TMP" approach.

Exempt Activities

The following list of TDOT Maintenance activities identifies typical work that is exempt from the TMP requirement. This list may be revised by adding or removing activities as the department deems appropriate.

The following maintenance activities are proposed for exclusion; *project significance determination and TMP development not required*:

Brush Control/Mulching (Roadside)	Vegetation Spraying (Roadside)
Litter Removal	Sweeping/Debris Removal
Fence Repair	Erosion Control
Drainage Structure Repair	Ditch Repair
Brine/Snow Removal	Mowing

For all exempted projects/activities, TDOT will implement appropriate temporary traffic control and advanced warning signage per existing Department processes and procedures for a given project. Due to their short-term nature and relative low impact on highway operations, the exempt projects will not require Significance Determination or TMP Development.

In certain cases, projects which are normally exempt may require development of an original TMP. An example of this case is a culvert replacement, which may be considered drainage structure repair, which requires closing a road. In special cases such as these, the significance determination should be completed and a TMP developed. The Division or Regional Director will be responsible for making this judgment.

“Standing” TMP for Routine, Recurring Activities/Projects

This class of activities/projects has been identified as those that are typical and routinely performed by Maintenance staff or contracted workforces. The projects are characterized as having the potential to impact traffic operations due to required lane

closures or roadside/shoulder work. The “standing” TMP will be implemented by TDOT staff or agents.

The “standing” TMP methodology **SHALL NOT** be considered for a project/activity that meets the following conditions:

- On an Interstate system route within a Transportation Management Area (TMA), AND
- Having a project/activity duration longer than three days, AND
- Includes the use of lane closures (intermittent or continuous).

If a project/activity managed by the Maintenance Division or Regional Maintenance Office meets the above criteria, the project should follow TDOT’s TMP procedures for “Special” Maintenance projects as described in the following section.

Otherwise, non-exempted maintenance projects/activities will implement a “standing” project TMP. The “standing” TMP will consist of the following:

- A) **Temporary Traffic Control Plans** per current TDOT standard drawings which should follow the current version of the Manual on Uniform Traffic Control Devices, Part VI (a custom traffic control plan may be developed as deemed necessary).
- B) **Work Zone Standard General Notes** shall be followed per current TDOT procedures.
- C) Where lane closures will be necessary as part of the work effort, **Public Information Outreach** and/or **Time-of-Day Restrictions** on lane closures will be considered by the Department as part of the lane closure and public information decision making procedures.

The following maintenance activities are examples of ROUTINE, RECURRING projects/activities that may qualify for “standing” TMP consideration:

Pavement Patching/Pot-Hole Repair
Pavement Marking Work
Attenuator Installation/Repair
Shoulder Repair/Construction
“On Call” Contract Activities

Joint Repair
Sign Repair/Replacement
Guardrail Installation/Repair
“No Plans” Contract Activities
Tunnel Maintenance

These types of projects will not require completion of the Project Significance Determination or TMP development. A custom TMP for each occurrence of these activities will not be required. However, these projects/activities must include provisions for appropriate Temporary Traffic Control Plans as outlined and shall follow TDOT’s Public Involvement Plan where deemed necessary by the Regional Maintenance Supervisor and interested division managers (particularly where lane closures are implemented).

“Special” Maintenance Division or Regional Maintenance Office Projects

These projects are outside the routine activities completed by the Maintenance Division. In general, these projects have greater scopes and last for longer durations. Consequently, these projects may have greater impact on motorists and traffic operations.

“Special” projects include road lane additions, intersection modifications, major pavement construction/repair (i.e. interstate concrete pavement installation/repair), individually-contracted/site specific projects, etc.

The projects described above and other projects that are identified as “Special” by TDOT Maintenance Division or Regional Maintenance Offices shall be analyzed by TDOT’s TMP process as follows:

PROJECT SIGNIFICANCE DETERMINATION

Division Responsible:	MAINTENANCE/REGIONAL MAINTENANCE OFFICE
Staff Position In-Charge of Development:	ASST. REGIONAL MAINTENANCE SUPERVISOR/ MANAGER I
Staff Position In-Charge of Review/Approval:	REGIONAL MAINTENANCE SUPERVISOR/MANAGER II
Timeline:	DURING PROJECT DEVELOPMENT

PROJECT TMP DEVELOPMENT

Division Responsible:	MAINTENANCE/REGIONAL MAINTENANCE OFFICE
Staff Position In-Charge of Development:	ASST. REGIONAL MAINTENANCE SUPERVISOR/ MANAGER I
Staff Position In-Charge of Review/Approval:	REGIONAL MAINTENANCE SUPERVISOR/MANAGER II
Timeline:	PRIOR TO PROJECT IMPLEMENTATION

The process for Maintenance Division projects is further illustrated in Figure 2.4.

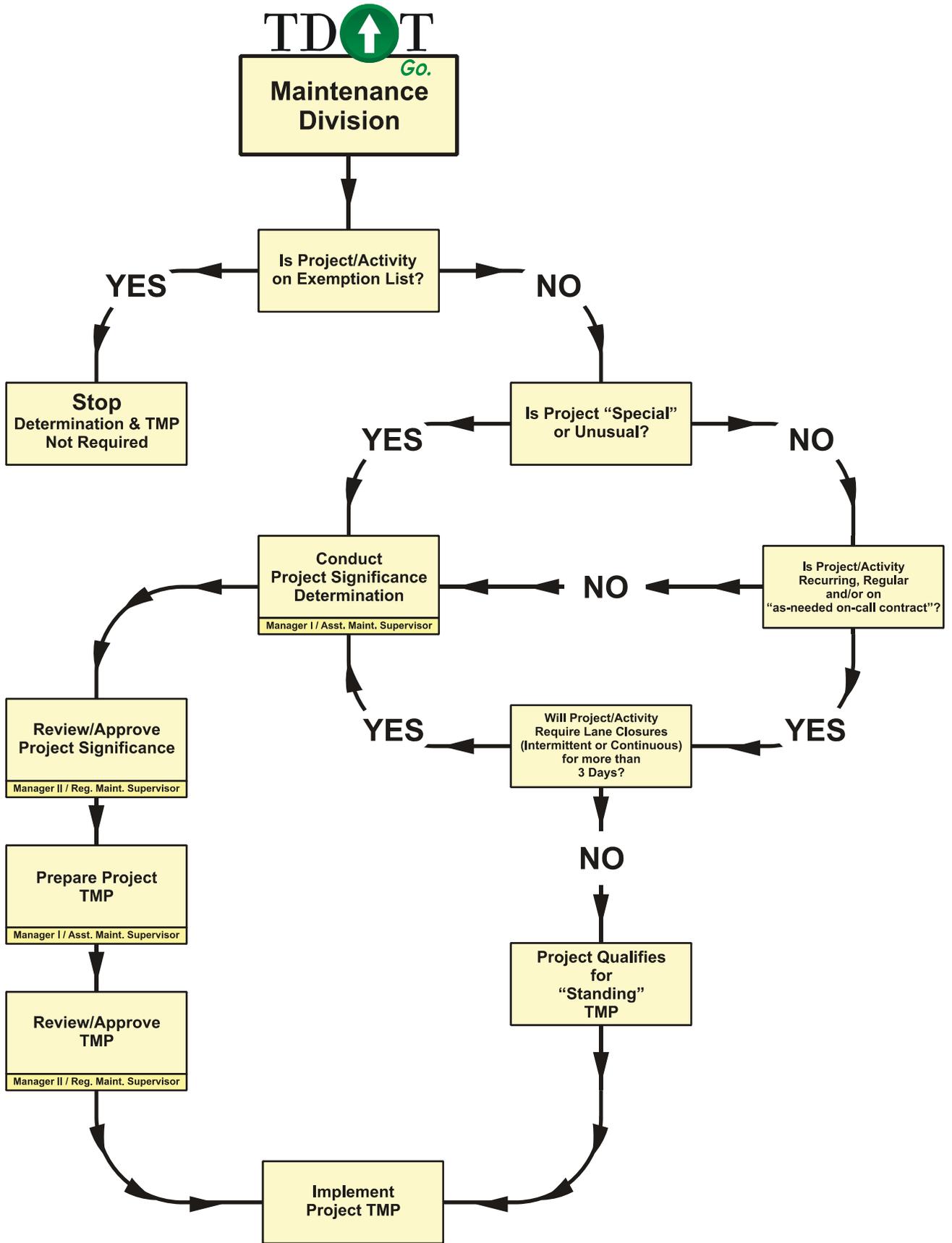


Figure 2.4
TMP Workflow - Maintenance Division

2.3 Training Initiatives

The Final Rule stipulates that states shall require personnel involved in the development, design, implementation, operation, inspection and enforcement of work zone related transportation management and traffic control to be trained. Furthermore, the training shall be appropriate to each individual's role or responsibility. States shall require that these personnel undergo updated (recurring) training so that individuals may be exposed to changing practices and technology.

TDOT has determined it would be advantageous for all personnel involved in the work zone related transportation management and traffic control to be trained appropriate to the job decisions each individual is required to make, per the Final Rule.

The following shows current and prospective initiatives that TDOT views as avenues to develop and maintain the technical knowledge of all those involved in work zone issues:

- TDOT has established a comprehensive training program for all employees. This will include training for all employees involved in the design, implementation, operation, inspection and enforcement of work zone traffic control. All involved parties shall complete a training program approved by the Department such as NHI, ATSSA, or TTAP. The Department's Human Resources Office, along with the respective divisional director and associated managers, will identify each employee whose job responsibilities are such that he or she is significantly involved in the area of work zones, and will structure a tailored training program appropriate to that employee's position. The Department will assist these employees by directing them in identifying and providing access to the preferred training opportunities.
- The Standing Committee on Work Zones shall require the training of contractors, consultants and uniformed law enforcement. Potential options include incorporating training, continuing education, licensure and/or certification levels into the Department's pre-certification process or project contract requirements.
- Currently the Construction and Maintenance Divisions require its staff and contractors' staff to have training and/or certification in Flagman Operation, Traffic Control Technician, and Traffic Control Supervisor positions. The Standing Committee on Work Zones shall require all aforementioned staff to complete a training course appropriate to their job description. Such courses may be offered through NHI, ASTA, TTAP, or other Division-approved provider.

2.4 Performance Assessment

The Final Rule requires states to utilize work zone data and field observations to actively manage and evaluate work zone impacts. States shall continually pursue improvement of work zone safety and mobility by analyzing the data obtained from multiple projects.

TDOT currently reviews active and completed work zones for performance and operational information. TDOT will utilize this and new initiatives to better enable the Department to analyze, evaluate, and act on work zone performance.

- A Standing Committee on Work Zones consisting of appropriate personnel has been formed to procure the work zone assessment. The committee will meet regularly to review work zone related issues and performance. This committee will work toward establishing acceptable bench marks to measure the effectiveness of work zone procedures.
- TDOT collects traffic crash data from incidents within work zones. This initiative is being improved to provide a means for Department work zone managers and decision-makers to have near real-time access to this information. The Standing Committee on Work Zones will compile relevant work zone crash data provided by the Planning Division with guidance from Headquarters' Traffic Engineering Office. This information will then be used by TDOT officials at the project and agency process levels to make adjustments to active work zones and/or agency procedures.
- TDOT conducts post-construction meetings on select projects involving DOT staff, contractors and consultants. This provides an opportunity to obtain de-briefing information, including thoughts and lessons-learned on the work zone methodology. The Standing Committee on Work Zones will consider options on how to better utilize and obtain feedback from these meetings for use in the evaluation process.
- The Department's "Record-A-Comment" program may also be used as a source of work zone data and feedback. This is considered important information since the source of this information is the public driving through the work zone area. The Standing Committee on Work Zones envisions coordination with TDOT's Community Relations Office to streamline the exchange of the input received from the "Record-A-Comment" program.
- The information collected and the resulting evaluation by the Standing Committee on Work Zones will be used as guidance and input into the Agency Process Review.

2.5 Agency Process Review

The Final Rule requires that states conduct a review of its overall work zone safety and mobility program at least once every two years. The purpose is to assess the effectiveness of the program's processes and procedures. Current practices may be modified or replaced, and new initiatives may be implemented. As part of this program review, states may select individual representative projects to review or it may analyze and evaluate data from multiple projects. The intent is for the program-wide review to lead the Department toward continual improvement and self-examination.

A systems-level approach will be used by TDOT to implement its Agency Review Procedures:

- The Standing Committee on Work Zones will provide the framework for reviewing the overall agency process. The Process Review is anticipated to take place annually, and at a minimum every two years. The committee will develop an agenda and prioritization for implementing recommendations.
- The Standing Committee on Work Zones will consider the various initiatives that make up the program. The committee will focus its annual review on those tasks or initiatives that have been previously identified for discussion or possible change. These issues include, but are not limited to,
 - Significance Determination Procedures,
 - TMP Development Strategies,
 - Work Zone Personnel Training Requirements/Procedures,
 - Process Roles and Responsibilities,
 - Work Zone Assessment Procedures,
 - Work Zone Delay
 - Work Zone Crashes (fatalities)
 - Work Zone Data Collection.
- Evaluations and conclusions resulting from the Performance Assessment initiative will be used to determine potential modifications to the agency process. This may include work zone data from individual or multiple completed projects.
- The Agency Process Review will encourage participation from internal and external stakeholders.