

KANSAS WORK ZONE SAFETY AND MOBILITY PROCESSES AND PROCEDURES



KANSAS

DEPARTMENT OF TRANSPORTATION
Bureau of Transportation Safety and Technology
700 SW Harrison, Topeka, KS 66603

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Definitions

Significant Project

All Federal-aid Interstate projects within a Transportation Management Area that occupy a location for more than three days with either intermittent or continuous lane closures are considered significant. In addition, a significant project is one that alone or in combination with other concurrent projects nearby is anticipated to cause sustained work zone impacts that are greater than what is considered tolerable based on engineering judgment.

Transportation Management Area (TMA)

A Transportation Management Area (TMA) is an area designated by the US Secretary of Transportation, having an urbanized area population of over 200,000, or upon special request from the Governor and the Metropolitan Planning Organization MPO.

Transportation Management Plan (TMP)

A TMP is comprised of strategies that attempt to manage project work zone impacts. These strategies consist of a Temporary Traffic Control Plan (TTCP) plan. It also includes a Transportation Operation (TO) plan and a Public Information (PI) plan for significant projects, when an exception has not been granted.

A TTCP plan describes measures to be used for facilitating road users through a work zone.

The TO component of the TMP includes the identification of strategies that may be used to attempt to mitigate impacts of the work zone on the operation and management of the transportation system within the work zone impact area.

The PI component of the TMP includes communication strategies that seek to inform affected road users, the general public, area residences and businesses, and appropriate public entities about the project, the expected work zone impacts, and the changing conditions on the project.

Work Zone Mobility is the ability to move road users through and around a work zone area with minimum delay compared to a baseline travel when no work zone is present.

Work Zone Safety is minimizing potential hazards to road users in the vicinity of a work zone and highway workers at the work zone interface with traffic.

KANSAS WORK ZONE SAFETY AND MOBILITY PROCESSES AND PROCEDURES

The Kansas Department of Transportation (KDOT) will develop and manage work zones in a manner that provides for the reasonable safety and mobility of the traveling public and the safety of the workers on the project site. Compliance with these processes and procedures should benefit the traveling public, the construction industry and the business community by improving work zone safety and travel time. This policy outlines the procedures to be followed and the parties responsible for its fulfillment.

GOALS

- Provide an environment conducive to the safety of workers and the traveling public.
- Maintain delays to below 30 minutes in work zones.
- Work “Toward Zero Deaths” in work zones.
- Incorporate current ITS technology that attempts to reduce delays and improve safety.
- Develop a training program for appropriate project staff relating to work zones.
- Develop a data base of work zone related crashes and a review process to see if improvements can be made to work zone designs.
- Attempt to reduce crashes involving the traveling public in all work zones.

ORGANIZATION AND RESPONSIBILITIES

Work zone impacts should be considered in all phases of project development and construction. Measures will be included in the project plans and specifications or implemented in the field to mitigate identified adverse impacts of the work zone on safety and mobility. Specific measures to be incorporated will be determined during the project development process and will be based on the characteristics of the particular project. Work zone data and project reviews will be used to evaluate work zone processes and procedures and make improvements on a project level as well as on a system-wide basis as part of the specific organizational responsibilities shown below. Personnel involved in these processes should receive appropriate and periodic training.

The Bureau of Traffic Engineering is responsible for (in cooperation with the Bureau of Construction and Maintenance) setting work zone policies and guidelines and identifying and communicating issues related to work zones. Responsibilities of Traffic Engineering include:

- Design and review work zone traffic control plans on a project-by project basis, through typical traffic control drawings, or through the Highway Signing Manual.
- Prepare and maintain work zone typical traffic control drawings.
- Coordinate with the Bureau of Construction and Maintenance to prepare work zone traffic control specifications and special provisions.
- Pursue improvement of work zone safety and mobility processes and procedures.
- Assist District Offices with analysis of work zone alternatives upon request (field support).
- Review and comment on exception requests for significant projects.

- Aid in developing work zone training programs for appropriate personnel (designers, construction inspectors, flaggers, workers, supervisors, etc.) to the level commensurate with their responsibility. Traffic Engineering will periodically evaluate the work zone traffic control training and make updates when appropriate.

The Bureau of Transportation Planning is responsible for providing traffic volumes, hourly traffic counts, and populating and maintaining a lane closure chart that illustrates lane requirements on an hourly basis for routes that meet the criteria for significant projects. The Bureau of Transportation Planning will also be responsible for the following items:

- Identifying mobility impacts of significant projects at both corridor and network levels.
- Identifying the combined impacts of concurrent projects that are located near each other, when requested.
- Estimating work zone delays in work zones with a computer analysis software, when requested
- The ITS unit will assist with any ITS deployment.

The Bureau of Traffic Safety is responsible for coordinating with the public information liaisons to implement educational and enforcement strategies aimed at increasing the public awareness of work zone safety.

The Bureau of Design (Road) is responsible for identifying Bureau of Design projects that are significant at project inception. Road section will be responsible for preparing the traffic phasing plans, identifying potential detours routes, or lane closures. The Lane Closure Guide prepared by the Bureau of Transportation Planning will be used as a reference for determining the time and number of lanes that may be closed with minimum impact to traffic flow. Road Design will also be responsible for traffic phasing, detours, and lane closures based on a chart that shows lane requirements on an hourly basis, which is provided by the Bureau of Transportation Planning.

The Bureau of Local Projects is responsible for working with the local public authorities and their design consultant for identifying local public authority projects that are significant at project inception. Local Projects will also be responsible for incorporating appropriate measures in the project plans in order to comply with the Work Zone Safety and Mobility policy such as traffic phasing, detours, and lane closures.

The Bureau of Construction and Maintenance will be responsible for (in addition to those already listed under the Bureau of Traffic Engineering):

- Training and support to KDOT Maintenance personnel by the Field Maintenance Engineer and staff.
- Reporting accidents in construction and maintenance work zones per Standard Operating Manual (S.O.M.) 1.11.3.
- Managing work zone inspection results and providing access to this information via KDOT's intranet website.
- Training and support to KDOT Construction personnel by the Field Construction Engineer.

Districts and Areas will be responsible for developing and implementing the proper Transportation Management Plan (TMP) **for maintenance projects that will occupy a location for more than three days with either intermittent or continuous lane closures in any area that meets the significant project criteria.** Area Engineers are responsible for providing a lane closure chart for their staff before beginning any non-emergency work. The Area Engineers are also responsible for scheduling multiple tasks in a single work zone, when appropriate. The Districts and Area offices are responsible for developing and implementing the proper TMP for construction projects initiated by the Districts.

Traffic Control Review Team (TCRT): The Traffic Control Review Team (TCRT) shall review randomly selected construction and maintenance work areas on the State Highway System and on off-system construction projects to determine if improvements are needed to the Kansas Department of Transportation's traffic control procedures. A minimum of three Districts will be reviewed each year by the TCRT, resulting in a biennial review of each district. See the Kansas Department of Transportation S.O.M. 1.11.1.

Contractors' responsibilities include:

- Designating a trained person at the project level who has the primary responsibility and sufficient authority for the contractor, for implementing the TMP and any other safety and mobility aspects of the project.
- Training appropriate contractor personnel in traffic control to a level commensurate with their responsibilities.
- Advising the construction engineer, unless otherwise stipulated in the project documents, at least two working days before any work requiring a lane closure begins and ten working days prior to the imposition of height, width and weight restrictions.
- Working with the construction engineer to minimize lane closures, when appropriate.
- Provide work zones that are installed in accordance with plans and specifications and are neat, orderly and reasonably effective for the safety of highway workers and motorists.
- Attempt to minimize travel delay and disruption experienced during construction.
- Perform quality control of work zones to promote consistency and to comply with contract documents.
- Implement traffic control improvements when appropriate, on approval from the engineer, to address field conditions pertaining to traffic flow, visibility and workers and motorist safety.

Training

Appropriate KDOT and contractor's personnel will be trained in temporary traffic control design, set-up, maintenance, management and evaluation of work zones commensurate with their level of responsibility. Individuals may gain this training through either department-provided courses or KDOT approved outside sources. KDOT provides training on basic and advanced technical principles pertaining to design, setup, maintenance, management and evaluation of work zones. Traffic Engineering will periodically evaluate the work zone traffic control training and make updates when appropriate.

Process Review

A quality assurance review will be conducted on a biennial basis by the Work Zone Safety and Mobility Committee (WZSMC) pertaining to work zone traffic flow to determine how KDOT is managing work zones and where improvements may be needed. Based on those results, the Bureau of Traffic Engineering may develop new or refine existing work zone guidelines, policies, and standard drawings, or provide drafts of the new or refined existing work zone guidelines, policies, and standard drawings to the Work Zone Safety and Mobility Committee for review.

The Work Zone Safety and Mobility Committee will be appointed by the Bureau Chief of Traffic Engineering. The Committee will review statewide work zone trends and evaluate new work zone safety devices and methods. Based on those reviews and evaluations, the WZSMC may make recommendations for possible improvements to the safety and mobility of work zones.

Partnering

KDOT will partner with traffic control contractors in the field at the project and statewide levels through the KDOT / ATSSA Partnering Committee.

SIGNIFICANT PROJECTS

All Interstate system projects within the boundaries of a designated Transportation Management Area (TMA) that occupy a location for **more than three days** with either intermittent or continuous lane closures shall be defined as significant projects. In addition, projects that meet **all** of the following criteria will also be defined as significant:

- Located in a metro area with a population greater than 50,000 or in a Metropolitan Planning Organization (MPO).
- AADT greater than 30,000 vpd; OR AADT greater than 10,000 vpd with 30% trucks.
- Class A or B State System routes OR urban principal arterial.
- Long anticipated duration: traffic impacts equal or greater than 60 days.
Note: Maintenance operations with moving work zones (such as pavement patching or overlays) are not considered significant since the duration at a specific site will be less than 60 days.
- Traffic delays or detours that result in greater than 30 minutes of additional travel time.

Any other project may be designated “significant” by the State Transportation Engineer.

Significant Projects Exception Process

23 CFR Part 630 specifies that all interstate system projects within the boundaries of a designated Transportation Management Area (TMA) that occupy a location for more than three days with either intermittent or continuous lane closures shall be considered as significant projects. Not all projects in such an area will cause sustained work zone impacts. This could be because of nighttime lane closures, off peak hour lane closures, minor maintenance work, or when the capacity of the roadway far exceeds traffic volume. Therefore, exceptions may be granted for projects that are deemed “significant” according to 23 CFR Part 630 that in reality may not cause sustained work zone impacts. KDOT may request from FHWA Division Office, an exception for projects or categories of projects on the Interstate system that pursuant to 23 CFR Part 630 are considered significant but do not cause sustained work zone impacts. The process for requesting an exception:

1. Determine if the project meets the initial criteria in 23 CFR Part 630 as being a significant project.
2. Assess projected work zone impact of the specific roadway project(s).
3. Compare projected work zone impacts with KDOT procedures to determine whether the project is expected to have sustained work zone impacts.
4. If the project's work can be performed in accordance with the lane closure chart, then proceed with a Temporary Traffic Control Plan only (no TO or PI needed).
5. If the project's work can not meet the lane closure chart and, in the opinion of the reviewer, will not cause a high level of disruption, submit a memo to the Bureau of Design requesting an exception. The project manager will then submit a request to the local FHWA Division office for the approval of an exception for the project. Include the assessment of the expected work zone impacts, project description and local conditions.
6. Upon approval of an exception by the FHWA Division Office, the project may proceed as a non-significant project. If an approval is not given, then proceed as a significant project.
7. For all non interstate projects that fall under the category of significant projects, the approval of an exception will be handled by the senior manager of the Bureau that will manage the project.

A. Transportation Management Plan (TMP)

For all projects a Transportation Management Plan (TMP) shall be developed and implemented. Development of the TMP shall be coordinated by the project manager throughout the project development process. For significant projects, the TMP shall contain a Temporary Traffic Control Plan (TTCP), a Traffic Operations (TO) component, and a Public Information (PI) component. If a project is considered "significant" but it is not believed that a complete Transportation Management Plan (TMP) is needed; an exception may be requested from FHWA. For projects that do not meet the definition of significant, a TMP may only contain a TTCP but may consider appropriate TO and PI elements based on the character of the project. KDOT can waive mandatory conditions contained in these processes and procedures upon approval by the State Transportation Engineer.

1. The TTCP component shall conform to the applicable portions of Section 821 Traffic Control in the Standard Specifications. Also, it may consist of any one or more of the following, but need not be limited to:
 - a. Work hour restrictions
 - b. Detours and lane closures
 - c. Construction phasing
 - d. Weekend work
 - e. Full roadway closures
2. The TO component may consist of any one or more of the following, but Need not be limited to:
 - a. Signal timing
 - b. Temporary traffic signals
 - c. Turn restrictions
 - d. Heavy vehicle restrictions

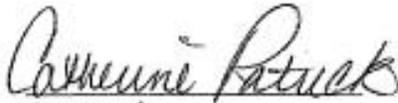
3. The PI component may consist of any one or more of the following, but need not be limited to:
- a. Newspaper ads
 - b. News releases
 - c. Public ad campaign
 - d. Internet sites
 - e. Changeable message signs (CMS)
 - f. Dynamic speed message sign
 - g. Traveler information systems (511)

B. Construction Letting

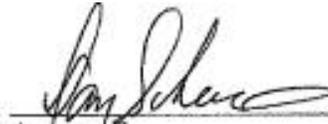
The Plans, Specifications, and Estimates (PS&Es) should include either a TMP or provisions for contractors to develop a TMP. A contractor developed TMP shall be subject to the approval and shall not be implemented before it is approved by KDOT.

C. Construction Inspection

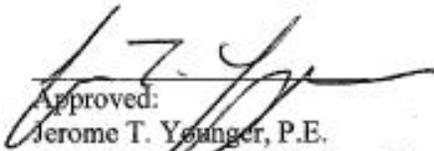
KDOT should designate a trained person who has the primary responsibility and sufficient authority for implementing the TMP and any other appropriate safety and mobility aspects of the project.



Approved:
Catherine Patrick, P.E.
Director of Operations



Approved:
Dan Scherschligt, P.E.
Director of Engineering and Design



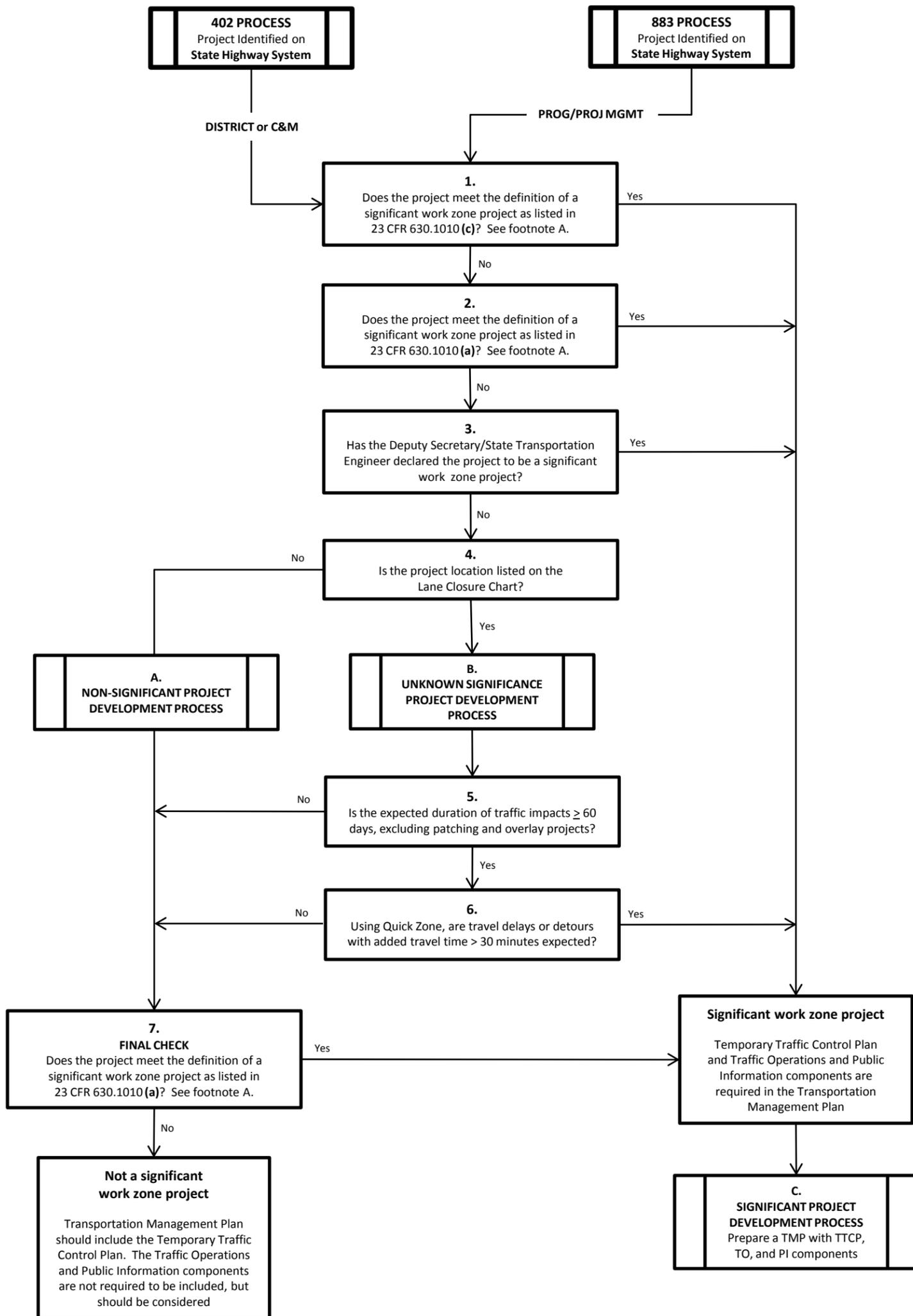
Approved:
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Assistant Secretary and State Transportation Engineer



Approved:
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Director of Planning & Development

STATE HIGHWAY SYSTEM

Determination of a Significant Work Zone Project



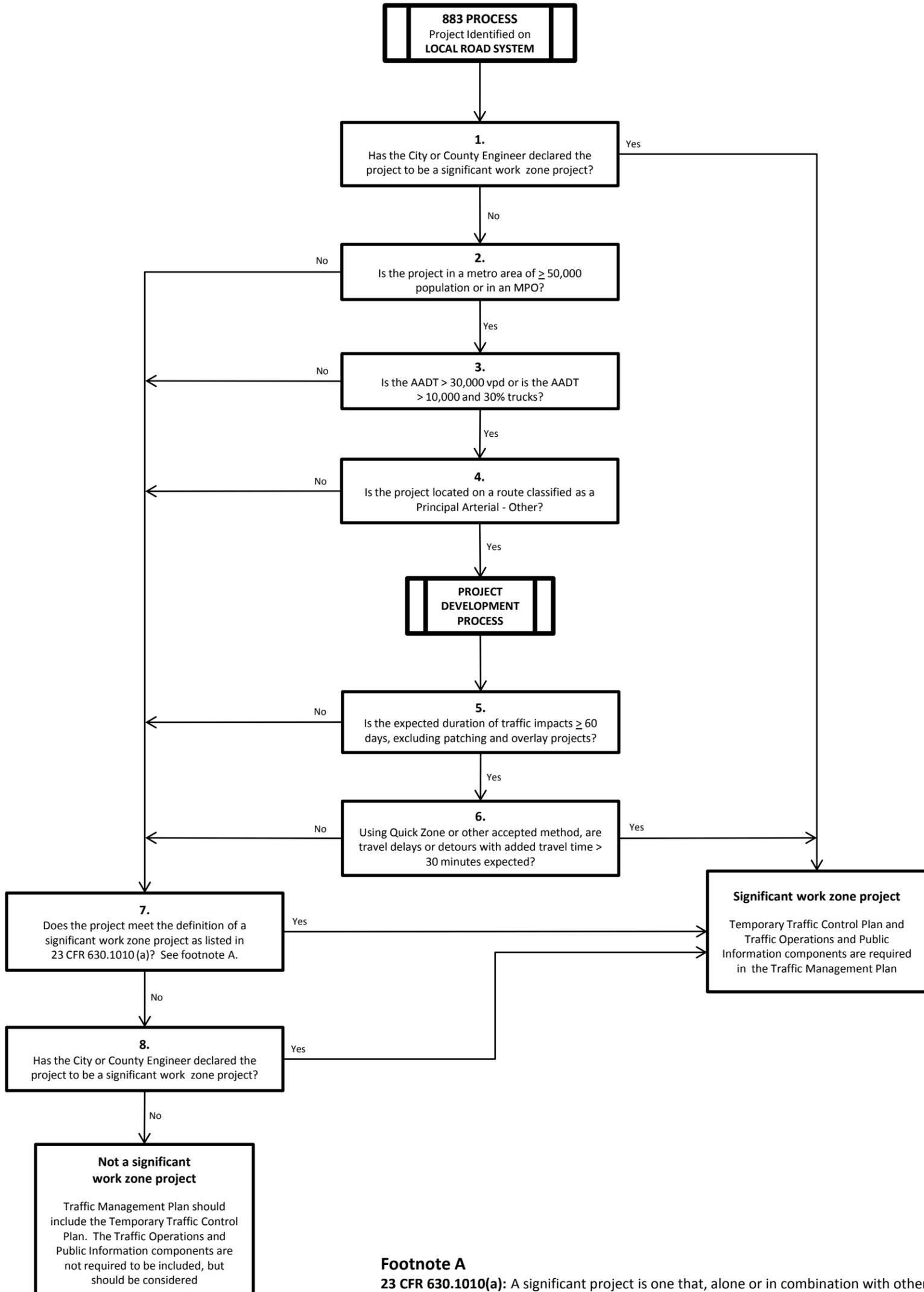
Footnote A

23 CFR 630.1010(a): A significant project is one that, alone or in combination with other concurrent projects nearby, is anticipated to cause sustained work zone impacts (as defined in 630.1004) that are greater than what is considered tolerable based on State policy and/or engineering judgment.

23 CFR 630.1010(c): All Interstate system projects within the boundaries of a designated Transportation Management Area (TMA) that occupy a location for more than three days with either intermittent or continuous lane closures shall be considered as significant projects.

LOCAL ROAD SYSTEM

Determination of a Significant Work Zone Project



Footnote A

23 CFR 630.1010(a): A significant project is one that, alone or in combination with other concurrent projects nearby, is anticipated to cause sustained work zone impacts (as defined in 630.1004) that are greater than what is considered tolerable based on State policy and/or engineering judgment.

23 CFR 630.1010(c): All Interstate system projects within the boundaries of a designated Transportation Management Area(TMA) that occupy a location for more than three days with either intermittent or continuous lane closures shall be considered as significant projects.