Kentucky Transportation Cabinet

POLICY AND PROCEDURES FOR THE SAFETY AND MOBILITY OF TRAFFIC THROUGH WORK ZONES.

Sections

I. DEFINITIONS

Whenever the following terms or abbreviations (or pronouns in place of them) are used in the document, the intent and meaning shall be interpreted as follows:

TRANSPORTATION ENGINEEERING BRANCH MANAGER --- The engineer who is directly responsible through the Chief District Engineer or Division Director of the Department of Highways on all matters relating to activities of the division that is being supervised by the individual.

CONTRACTOR --- The individual, partnership, firms, corporation, or any acceptable combination thereof or joint venture contracting with the Cabinet for performance of prescribed work.

CABINET --- The Kentucky Transportation Cabinet.

DISTRICT --- An organization of the Cabinet in a geographical area of the state charged with all functions of the Cabinet as related to its respective area.

DISTRICT WORK ZONE SAFETY COORDINATOR -- The individual in the district responsible for coordinating activities related to work zone safety and mobility on all construction and maintenance projects.

CHIEF DISTRICT ENGINEER (EXECUTIVE DIRECTOR) --- The engineer in charge of a designated district of the Cabinet.

FHWA --- Federal Highway Administration.

MUTCD --- Manual on Uniform Traffic Control Devices for Streets and Highways.

PS&E –-- The Plans, Specifications and Estimates assembly necessary for a contract letting.

PROJECT --- The specific section of the highway, including approaches, together with all appurtenances and construction to be performed under the contract.

PROJECT ENGINEER --- The engineer in charge of a designated

project.

PROJECT TRAFFIC COORDINATOR (PTC) --- The person designated to be responsible for reviewing traffic control on a particular project.

RESIDENT ENGINEER --- The engineer in charge of the construction phase of a particular project

SECRETARY --- The Secretary of the Kentucky Transportation Cabinet.

STATE --- The Commonwealth of Kentucky.

STATE HIGHWAY ENGINEER --- The State Highway Engineer of the Cabinet acting directly or through an authorized representative.

STATEWIDE WORK ZONE REVIEW COMMITTEE --- A committee established by the State Highway Engineer to be responsible for reviewing, revising, and overseeing the Cabinet's Traffic Control Policies and Procedures.

TEMPORARY TRAFFIC CONTROL PLAN (TTCP)--- A plan for handling traffic through a specific highway or street work zone.

TRANSPORTATION MANAGEMENT PLAN --- A set of coordinated strategies and an implementation plan for managing the work zone impacts of a project.

II. POLICY FOR TRAFFIC MANAGEMENT PLAN

It is the goal of the KYTC and the FHWA that the construction and maintenance work zones of the Commonwealth of Kentucky be designed, implemented, and maintained to provide a safe and efficient environment for workers and the traveling public. While providing a safe environment, significant effort will be made to ensure a minimum delay to the traveling public. The safety and mobility provided by the work zones will be evaluated both in the design and construction phases of the project. An annual system wide evaluation will be conducted to identify process improvements that can be implemented in work zones.

In defining procedures for determining the extent of planning, design, and operational activities required for an individual project to meet the KYTC's policy, a determination will be made, in the planning stages, whether a project is designated as either significant or other.

III. PROCEDURES

PRECONSTRUCTION

PROJECT CLASSIFICATION

Significant Projects shall be:

1. Any interstate system project which is anticipated to occupy a location for more than 3 days.
2. Any project on any multilane roadway which is anticipated to occupy a location for more than 3 days where the existing directional DHV is over 1000 vehicles per hour, per lane, that would close a lane during the peak hours.
3. Any project on a 2 lane roadway which is anticipated to occupy a location for more than 3 days where the existing DHV (both directions) is over 1000 vehicles per hour that would close a lane during the peak hours.
4. Any project on the Interstate or National Highway System that would involve a detour.

All projects not meeting the aforementioned requirements shall be referred to as other projects.

For significant projects, a Transportation Management Plan (TMP) shall be developed that details a strategy to manage the work zone impacts. The TMP will include a Temporary Traffic Control Plan (TTCP)and a Public Information Plan (PIP. TMPs for significant projects shall also be developed consistent with the Traffic Impact Guidelines listed below. For all other projects, the TMP will only consist of a TTCP unless the Project Team determines that a Public Information Plan is necessary.

The approval of the TMP will be the responsibility of the Project Development Team (PDT. The Project Manager and the District Branch Managers for Construction and Traffic shall approve and sign the TMP. The FHWA shall approve and sign the TMP for federally-funded interstate or other full oversight projects. The TMP must be approved by the time final plans are sent to the Plan Processing Section. A copy of the approved TMP will be retained in the project files

by the District, with a copy transmitted to the Location Engineer in Central Office Design.

For other projects, not identified as significant, such as routine surfacing, bridge deck overlays, pavement marker installations, etc., for which the proposal is the only bidding document developed for the specific project, a TTCP shall be developed and approved by the Division in charge of managing the project.

TEMPORARY TRAFFIC CONTROL PLAN (TTCP)

The Temporary Traffic Control Plan may range in scope from being very detailed, designed solely for a specific project, to referencing any number of specified documents. The degree of detail in a TTCP will depend on the project complexity and the relationship of traffic with the construction activities. When necessary, the TTCP shall include the specific phasing required for the particular project. Drawings and notes shall be developed and placed on traffic control sheets within the plans.

To assure consideration is given to traffic control from the inception of design activities, the proposed concept for traffic control shall be discussed at the preliminary line and grade inspection with appropriate notation included in the inspection report. The designer responsible for plan preparation shall expand on the concept recommended at the preliminary line and grade inspection, with the compilation of a detailed suggested sequence of construction. This is to be reviewed at the time of the final joint inspection.

The scope of the TTCP shall be determined at the time of the final joint inspection once the sequence of construction is considered firm. The TTCP will be developed using the Standard Specifications and Standard Drawings as a basis. Only those requirements not provided in the Standard Specifications required for maintaining and controlling traffic are to be written into the TTCP. The TTCP will clearly indicate all required phasing, methods of traffic control, and any time or construction limitations that will be placed on the contractor. Attention shall be given to developing strategies that will limit impact to the traveling public. As much as possible, the existing

number of lanes shall be maintained throughout a construction project, particularly on the interstates and other major routes. Where it is determined that lane restrictions are necessary, assuring limited closures must be a primary consideration. Considerations for these decisions will include restricting work during peak periods of traffic flow on the route and demanding the use of nighttime construction. The TTCP shall also take into account other adjacent roadway sections that may be under construction and avoid conflict between competing phases of adjacent projects.

In developing a TTCP the following traffic impact guidelines shall be utilized:

Interstate Projects:

a. Expected queue length due to lane closures shall be analyzed and should not exceed 3 miles more than what would normally be expected without the construction project.
b. Total closures of an interstate segment should not be considered unless there is an interstate detour available that can safely accommodate the expected increased traffic.
c. User costs shall be analyzed and the use of incentives/disincentives to encourage timely completion of the total project or critical phases should be considered.

Non-Interstate Projects:

d. Expected queue length due to lane closures shall be analyzed and should not exceed 3 miles more than what would normally be expected without the construction project.
e. Total closures of a segment should not be considered unless there is a detour available that can handle the expected increased traffic. Alternate travel routing should not exceed 10 miles.

In developing and implementing the TTCP, it is required that pre-existing roadside safety hardware be maintained at an equivalent or better level than existed prior to project implementation.

PUBLIC INFORMATION PLAN

On significant projects, the project team shall formulate a Public Information Plan that shall identify communication strategies that will be used to inform the affected road users, the general public, area residences, businesses, and appropriate public entities about the work zone traffic control measures of the project. The District's public information officer shall be included on the project teams for significant projects. Public Information should be provided through methods best suited for the project, and may include information on the project characteristics, expected impacts, closure details, and commuter alternatives. Some of the methods to be considered include public meetings, media stories or ads, web sites, highway advisory radio, changeable message signs, 511 messages, printed material at selected sites, rest area kiosks, etc. The Public Information Plan shall be implemented by Cabinet personnel, by hiring a public relations consultant, or by making it a part of the construction contract.

TRAINING

The Cabinet's training program will require appropriate training for personnel involved in the development, design, implementation, operation, inspection, and enforcement of work zone related transportation management and traffic control. This includes transportation planners, design engineers, traffic and safety engineers, construction project staff, and maintenance staff. In addition, because the KYTC contracts a significant portion of work to consultants, the Cabinet will require that appropriate consultant and contractor staff undergo the work zone traffic management training in order to obtain pre-qualification status. The Cabinet will require certification for certain personnel, such as flaggers and traffic control supervisors.

For engineering consultant contracts, the Cabinet will identify needs and requirements through the proposal or consultant procurement process. For construction contracts,

the Cabinet shall impose requirements through contract provisions.

All designers, whether state employees or consultants, who are involved in the development or design of a project TTCP shall have completed an approved training course in work zone traffic control within the last 5 years. The Statewide Work Zone Review Committee will be the approval authority for these courses.

PROJECT IMPLEMENTATION

CONSTRUCTION

Each administrative District shall identify an individual as the District Work Zone Safety Coordinator. This individual will be responsible for coordinating the monitoring and reporting of all activities related to the safety and mobility of traffic through work zones in the district.

As outlined in the Construction Guidance Manual, the Project Engineer, and other interested parties, shall review, discuss, and plan for traffic control at the pre-construction conference. Inspections required by the guidance manual shall be documented daily on the daily work report.

After a project is placed under contract, the contractor may be permitted to develop his own TTCP to be used in lieu of the TTCP provided in the construction plans. The contractor's plans will be approved for use only if the Cabinet and FHWA, if applicable, find that his plan is as good as, or better, than the plan provided in the construction plans. The contractor may also be permitted to offer a revision, for approval, to any portion of the existing TTCP. To receive approval for major changes to the TTCP, the contractor must submit his detailed alternate plan or revision to the Project Engineer. Depending on the complexity of the requested revision, the major change may be processed as a construction revision, change order, or other document satisfying the condition of written approval. Any major change or alternate TTCP must submit to

the same level of traffic impact analysis as was required for the initial TMP. The contractor will not be permitted to implement any part of his alternate plan or revision until he has received written approval from the Cabinet. All major revisions to a project's TTCP shall be reviewed by the initial signers to the subject Plan before any revision is implemented. Minor changes may be approved and appropriately documented by the Project Engineer for immediate implementation as he or she deems necessary.

The initiation of any change order that affects the flow of traffic through the project shall require a review and possible modification of the current TTCP.

For each project, the Cabinet and the contractor must each designate a Project Traffic Coordinator who has the primary responsibility and sufficient authority for implementing the TMP and other safety and mobility aspects of the project. Both positions shall be established at the Preconstruction Meeting. Both the Cabinet's and the contractor's designated Project Traffic Coordinator shall be certified as a Work Zone Supervisor. Work Zone Supervisor Certification and Flagger Certification programs will be made a part of the standard specifications.

CRASH/SAFETY MONITORING

CONSTRUCTION PROJECTS

The Project Engineer shall be responsible for monitoring the crash history for work zones on construction projects. The Project Engineer may delegate this authority as necessary. The Project Engineer shall review the existing traffic control if he/she becomes aware of a crash within a work zone on any project. This includes any collisions which may occur upstream of the work zone that are likely caused by features of the downstream work zone. When requested by the Project Engineer, the District Branch Manager for Traffic shall assist in this review. A written report of this analysis and any recommendations shall be sent to the District Branch Manager for Construction and the District's Work Zone Safety Coordinator.

On all construction projects, the District's Work Zone Safety Coordinator (DWZSC) shall maintain a list of all reported crashes. The DWZSC shall locate and retain copies of crash reports for all work zone collisions and shall provide copies of the reports to the Project Engineer when necessary.

On significant projects, the Work Zone Safety Coordinator shall search for crash records of unreported collisions. These records can normally be found by routinely reviewing crash data for roadways under construction. These collisions shall be included on the overall list of project collisions, and crash records shall be retained.

MAINTENANCE PROJECTS

Maintenance Engineers shall be responsible for monitoring the crash history for work zones on maintenance projects conducted by state forces. The Maintenance Engineer may delegate this authority as necessary. The Maintenance Engineer shall review the existing traffic control if he/she becomes aware of a traffic crash within a work zone on any project. This includes any collisions which may occur upstream of the work zone that are likely caused by features (such as vehicle queuing) of the downstream work zone. A written report of this analysis and any recommendations shall be sent to the District Branch Manager for Operations and the DWZSC.

On all maintenance projects, the DWZSC shall maintain a list of all reported crashes. The Work Zone Safety Coordinator shall locate/retain copies of crash reports for all work zone collisions and shall provide copies of the reports to the Maintenance Engineer when necessary.

IV. PERFORMANCE ASSESSMENT

STATEWIDE WORK ZONE TRAFFIC REVIEW COMMITTEE

The Cabinet shall perform an annual process review to assess the effectiveness of the work zone safety and mobility procedures. The State Highway Engineer shall appoint a Statewide Work Zone Traffic Review Committee consisting of representatives of the Divisions of Construction, Traffic Operations, Maintenance, and Highway Design. The representative of the Division of Construction shall serve as the chairman of the review team and be responsible for organizing the team, scheduling the reviews, and reporting the results. This committee shall annually review randomly selected projects throughout the State for the purpose of assessing the effectiveness of the procedures included in this document. The committee will review projects in at least six districts per year, trying to visit at least one significant project and one other type project in each district. Reviews shall include projects that represent a range of characteristics, such as day and night work; type of work being done; duration of the project; local traffic characteristics; and/or transportation management strategies used.

On all scheduled reviews, the following persons should accompany the review team and provide appropriate input:

- FHWA representative
- District Branch Manager for Construction
- Project Manager
- District Branch Manager for Traffic
- Branch Manager for Preconstruction
- Cabinet’s Traffic Control Coordinator
- Contractor’s Traffic Control Coordinator
- District Work Zone Safety Coordinator

On each project the committee shall also review the design process. This review may include, but not be limited to, such items as:

- Was the project properly classified as a significant or other project?
- Was the TMP plan approved by the required parties? Was it approved at the proper time?
- On significant projects, were queue length analysis and user costs considered in preparing the TMP?
- On significant projects, what Public Information items were included in the TMP and how were they implemented?
- If detours were involved, how were they analyzed to assure that the traffic could be accommodated?

At the end of each year, this committee shall also review the Project Engineers' Summary Reports for the significant projects statewide and be responsible for recommending revisions to this document when determined appropriate. Other procedural items, including any required training for work zones, should also be addressed by this committee.

The Cabinet will also complete an annual work zone performance assessment that will review incidents in the work zones.

By March 31 of each year, the District Work Zone Safety Coordinator shall submit a written report to the Central Office Division of Construction regarding the safety performance of work zones on construction/maintenance projects that have been completed within the previous year. As a minimum, the report should include a collision summary and copies of the associated crash reports. The collision summary shall include (as a minimum): master file (crash report) number, county, roadway number, milepoint, collision date, collision time, # units involved, number of fatalities, number of injuries, road condition, and type of collision (such as sideswipe, run-off-road, fixed object, etc.).

The Division of Construction, in conjunction with the Statewide Work Zone Review Committee, will use these annual reports to evaluate the effectiveness of work zone traffic control. Based on this review, the division shall prepare a report recommending modifications to statewide traffic control and traffic management strategies. This report will be forwarded to the State Highway Engineer and Federal Highway Administration by May 31 of each year.

V. IMPLEMENTATION

Any project developed in the normal design process that has not progressed past the final joint inspection stage by the approval date of this document shall have an approved TMP before it is let to construction. Projects that have had a final joint inspection before the approval date of this document can be let to construction under the existing requirements if they are let by April 1, 2008. If the letting date is after April 1, 2008, a TMP shall be prepared and approved.

Any other type project that may be developed under an abbreviated design process (such projects could include resurfacing, rehabilitation, signing, lighting, etc.) which are let after Oct. 1 2007 shall have an approved TMP.

All designers that are involved in the development or design of work zone transportation management and traffic control, whether consultant or state employees, shall have attended an approved training course by January 1, 2008.

The Work Zone Traffic Control Supervisors Certification and Flagger Certification requirements shall be incorporated into the specifications for projects let after Oct. 1, 2007.