



## MOBILITY AND SYSTEMS ENGINEERING

### OPERATIONS BULLETIN

Unit: Transportation Systems Management	
Series: 2	No. .006B
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#### Real Time Work Zone Traffic Systems

- I. PURPOSE:** To provide a guide for determining the suitability of a Real Time Work Zone Travel System (RTWZTS) on construction projects.
- II. SUPERSEDES:** Series 2, Number .006A
- III. RESPONSIBILITY:** Mobility and Systems Engineering (M&SE) Staff.
- VI. GENERAL:** Transportation Systems Management is responsible for maintaining safe and efficient traffic flow on state highways. Construction projects can hinder traffic flow and a RTWZTS are tools to mitigate congestion. Due to the cost and complexity of these systems, it is important that systems are installed only in appropriate situations and are properly designed and deployed.

#### V. PROCEDURE

##### Warranting

RTWZTS should be considered to mitigate traffic on construction projects. Use the chart below to determine if a system is warranted. Please note the following warrants are to be used as a guideline.

No.	Condition	Scoring Criteria	Score
1	Will there be a long term loss of traveled lane continuously for three or more months due to the proposed work zone?(See note 1)	Yes - 10 No - 0	
2	Will there be a temporary loss of traveled lane continuously for three or more months due to the proposed work zone?(See note 2)	10 Points for 6 hours of the day 9 Points for 5 hours of the day ETC.	
3	Does the section of the highway with proposed work zones consist of parallel local and express lanes?	Yes - 10, No - 0	
4	Are there viable alternate routes available to motorist to avoid the work zone?	Freeway - 10, US Route - 7, State Route - 5, Local road - 3, No - 0	
5	Does the one way AADT or ADT exceeds	Yes, each 10,000 above	



	60,000 in the direction of the proposed work zone? (See note 3)	60,000 scores one point	
6	Does the traffic volume per lane exceed 1500 vehicles per hour during any time of the day? (see note 4)	Yes, one point for each 100 over 1500	
7	Will the traffic volume exceeds 1500 vehicles per hour per lane in the remaining number of lanes if the answer to question no 1 is affirmative. (see note 5)	Yes, one point for each 100 over 1500	
8	Is the highway section with the proposed work zone a know location of congestion per CMS?	Makes Top 10 – 10 Makes Top 20 – 9 Makes Top 30 – 8, etc	
9	Is the section of the work zone in close proximity to major traffic generators? (see note 6)	0 - 5 Based on severity, 10 if seasonal	
10	Is the work zone proposing temporary bridge, contra flow lanes or cattle chute?	0 – 5 Based on complexity	
<b>Total Score</b>			

#### Notes

1. This includes the conditions where a traveled lane is lost permanently due the proposed work zone on a continuous basis for an extended period of time. (Loss of highway lane continuously for three months)
2. This includes the condition where the loss of highway lane is temporary and limited to peak periods of the day only for an extended period of time. (Loss of highway lane only during certain hours of the day for an extended period of time)
3. If AADT is not available, determine the ADT based on the nearest section of the highway where 24 hours volume was recorded. The information must be based on an average of at least three regular weekdays during the months when schools are in session. If the information is not available, use 10.
4. Divide the highest volume of any peak hour during the day (6:00AM – 8:00 PM) by the number of highway lanes in the section of the work zone if per lane volume information is not available.
5. If the proposed work zone will reduce the number of lanes, divide the highway volumes through the work zone by the number of remaining available lanes.
6. If the roadway section is in close proximity to major traffic generators such as Malls, Offices etc. For recreational or seasonal traffic generators use 10.

If the total score is less than 35 a RTWZTS should not be deployed. Scores between 35 and 45 should be reviewed by the Executive Manager of Mobility and Systems Engineering. Scores above 45 should have a RTWZTS system deployed as part of the contract.

#### Design

When warranted, the need for a RTWZTS should be communicated in writing to CPM in the Preliminary Design Phase. The Executive Manager of M&SE shall be copied on the notification. The system needs to be a pay item in the contract in accordance with ITS Engineering's Supplementary Specification for RTWZTS.

The MS&E Engineer will be responsible to provide the number of DMS that need to be installed for the system to provide useful information to motorists to assist in their travel decisions. This can be accomplished by placing DMS at key decision points and providing travel time information to downstream destination points. The following information will be required for each DMS:

- Route
- Direction
- Physical Location
- Display Message (One panel preferred, two panel maximum)

In most circumstances the system should be a turn-key set up, fully operated and maintained by the contractor. The use of permanent NJDOT DMS as part of the system shall only be incorporated after consultation with the Manager of M&SE.

#### Operations

A M&SE representative shall verify the accuracy of the travel times or queue detection when the system is turned on. Discrepancies shall immediately be brought to the attention of the Resident Engineer for corrections.

### **VI. DISTRIBUTION**

M&SE

Traffic Operations North and South

CPM Design Squads