# Lane Closure Policies and Management Systems

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A number of States across the country have developed lane closure policies and systems to aid in the scheduling of work zones. Lane closure policies and systems can help a State improve mobility by restricting lane closure hours in line with peak travel times and coordinating lane closures to manage the combined impacts.

Lane closure policies can be overarching, using one policy to describe an entire State or region, or can be broken down to specific corridors and roadways. Lane closure policies specify when and how lanes can be closed (or cannot be closed) for a given stretch of roadway and are typically based on the roadway capacity and demand volumes and how they vary by day and time due to factors such as the commuting patterns of motorists. Such policies are typically communicated in the form of tables or maps showing allowable lane closure times, or through electronic tools that are programmed to determine if proposed lane closures will meet the agency's policy. The electronic tools (e.g., spreadsheets, online systems) automate the process of calculating when lanes can be closed and still handle the typical traffic volumes on a given facility without causing delays that are unacceptable to the agency.

Lane closure management systems can be used to facilitate the implementation of a State's lane closure policies by enabling the State Department of Transportation (DOT) to easily and effectively coordinate, track, and communicate lane closures both within the agency and to the public, media, emergency responders, and others.

Colorado: The Colorado DOT (CDOT) split the State into six regions and developed regional lane closure policies to reflect the needs of each region. Each region's policy is unique – enabling CDOT to tailor its lane closure policies to a vast State that encompasses both rural mountainous areas and large urban areas. Some regions have split the region into sub-regions and developed more specific policies for the sub-regions in addition to the overarching regional policy.

Courtesy of Colorado Department of Transportation.
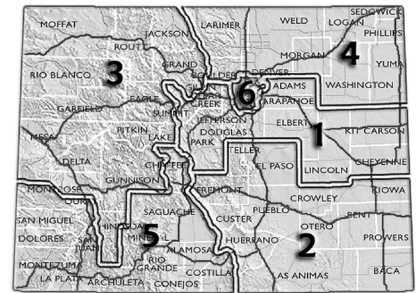
Colorado DOT's Six Regions

CDOT publishes lane closure maps and spreadsheets for work zone engineers and contractors to use when preparing for a project. The data used to determine the lane closure policy for a given segment of road, corridor, sub-region, or region comes from the following information sources:
- Colorado Roadway Information System (CORIS) database,
- Automatic Traffic Recorders (ATRs), and
- CDOT Spot Traffic Counts.

CDOT's lane closure policies provide engineers and contractors with several types of information related to closures in each region, including:
- General background information on traffic conditions in the area.
- Lane closure schedules that detail available lane closure windows for each segment of roadway in a given region.
- Seasonal/weekend/special event variations that will constrain construction efforts.
- Explanation of the procedure used to determine the lane closure policy based on type of road and other inputs.
- Tables with detailed lane closure restrictions along each route.
- Flowcharts explaining how to calculate delays due to lane closures.

CDOT's regional lane closure policies have enabled the DOT to plan more effective lane closures based on the specific needs of a region. The policies are reviewed on a three- to five-year rotation to ensure that they are still meeting the needs of the region.

U.S. Department of Transportation

Federal Highway Administration

What Other States are Doing

California: California DOT (Caltrans) has developed a lane closure approval process for resident engineers (RE) and contractors to use when requesting a lane closure for construction/maintenance activities. Caltrans uses a web-based lane closure system (LCS) to coordinate lane closure activities across the State. The LCS allows Caltrans to review the details of a lane closure request, check for potential conflicts, approve or mitigate requests, ensure that the closure is consistent with any corridor transportation management plans, and monitor closure progress. Requests for lane closures are submitted by the RE at least one week in advance for approval. After approval, the RE notifies the appropriate traffic management center on the day of the closure once it has begun and again when the lane closure ends. The LCS feeds data into California's freeway performance measurement system (PeMS), a real-time data management system that provides the status of all lane closures.

Indiana: The Indiana DOT (INDOT) lane closure policy includes a statewide lane closure map and close-up lane closure maps for each of the four major urban areas in the State. The maps include color-coding to easily identify the restrictions in place on each roadway so that INDOT staff can plan accordingly.

Maryland: The Maryland State Highway Administration (MDSHA) published its *Work Zone Lane Closure Analysis Guidelines* in 2008. These guidelines were developed to help improve mobility throughout the State during work zone activities. MDSHA's guidelines take a statewide approach to establishing lane closure restrictions. Restrictions are dictated by the type of roadway, with the guidelines broken down into three categories: freeways, arterials, and signalized intersections. MDSHA has also defined a process for conducting traffic analyses to determine the impacts of work zone lane closures. Maryland tracks active and planned lane closures through its web-based CHART system.

Ohio: The Ohio DOT (ODOT) lane closure policy is statewide but provides more detailed information for specific corridors. The policy includes the queue analysis methodologies used to determine the lane closure restrictions and suggestions for mitigation strategies that can help lessen the impact of the closure. ODOT also provides work zone engineers with a web tool for looking up permitted lane closure times across the State's highway system.

Wisconsin: Wisconsin DOT (WisDOT) included lane closure and delay guidelines in the 2007 update of its *Facilities Development Manual*. The guidelines provide information on queue and delay estimation tools that could be used to assess the effects of lane closures on motorists during a project. Wisconsin recently launched its Wisconsin Lane Closure System (WisLCS) that provides State traffic engineers with a web-based system to quickly and easily determine the lane closure policy for a given roadway and enter an upcoming closure into WisDOT's lane closure management system.

To view these States' lane closure policies and systems online:
Colorado policies: http://www.coloradodot.info/library/traffic/traffic-manuals-guidelines/lane-close-work-zone-safety
Maryland guidelines: http://www.marylandroads.com/OOTS/13LaneClosureGuidelinesrev1.pdf
Maryland CHART system: http://www.chart.state.md.us/?d=60
Indiana policy: http://www.in.gov/indot/files/IntstLaneClosurePolicy_3-17-10.pdf
Ohio tool: http://plcm.dot.state.oh.us/plcm/plcm_web.jsp
Wisconsin guidelines: http://ops.fhwa.dot.gov/wz/traffic_analysis/tatv9_wz/cs9.htm

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