Dwight D. Eisenhower State Office Building
700 S.W. Harrison Street
Topeka, KS 66603-3745

Kansas
Department of Transportation
Division of Policy

Phone: 785-296-3585
Fax: 785-368-7415
kdot#publicinfo@ks.gov
http://www.ksdot.org

Julie L. Lorenz, Secretary
Joel Skelley, Director of Policy

Laura Kelly, Governor

TESTIMONY BEFORE THE
SENATE TRANSPORTATION COMMITTEE

REGARDING SENATE BILL 333
RELATING TO THE STUDY OF ZIPPER MERGE USE ON HIGHWAYS

January 27, 2022

Mr. Chairman and Committee Members:

I am Burt Morey and I am the State Transportation Engineer for the Kansas Department of Transportation (KDOT). I am here today to provide testimony about KDOT's current traffic control practices relating to "zipper merges"

When is it appropriate

KDOT is a proponent of using the late lane merge technique when traffic and geometric conditions are suitable. What does "suitable" mean, a Late Lane Merge technique offers increased **mobility** and **safety** factors when congested lane conditions are present approaching a lane closure. KDOT's Standard Early Merge set-up works in a vast majority of all State Highway locations, because there is ample opportunity under less than capacity conditions for vehicles to merge into the open lane and maintain a safe driving speed. In Kansas our Work Zone lane capacity is figured to be 1500 vehicle/lane/hour.

KDOT has developed criteria/guidelines in which a zipper merge can perform/function to its full benefit:

- Merge situation must be 2 lanes down to 1
- Work zone is not a mobile operation
- Duration of the project must be at least 4 weeks
- Congestion threshold is to be 1500 vehicles/lane/hour
- Congestion threshold satisfied for at least 6 hours (consider a dynamic late lane merge)
- Congestion threshold satisfied for at least 9 hours (consider a statice late lane merge)
- Ideally used where there is no more than 5% heavy commercial vehicles

Other factors such as sight distances on the approach to the lane closure, sight distance to the end of queued vehicles, whether traffic queuing impacts adjacent interchanges, speed limit of roadway, roadway approach grade to the work zone are also considered in each case.

Challenges we have experienced

It should be noted that KDOT has only used one true zipper merge set up. This was a US-69 project in Overland Park in 2016.

- One of the challenges we experienced is public lack of understanding or misinformation.
- Another challenge, based on what I describe above, is there are minimal locations within the state that these conditions could be available (US-69 south of I-435 planned to be a 6-lane facility in the future; K-10 between Lawrence and the I-435 Interchange area, K-96 in Wichita.

- Several of those locations are in and around the KC Metro area which is a bistate metro where Kansas and Missouri may utilize this technique in different areas based on case by case conditions that each state experiences. This adds to possible confusion by the traveling public.
- Drivers are not paying attention to signing which should clearly indicate what actions a driver should take.

Lessons learned and looking into the future

- In an effort to better inform the traveling public KDOT will work with the media and KHP to discuss only talking about a zipper merge when we use that specific technique
- We review our criteria for traffic control techniques to look for possible improvements based on lessons learned.
- Make sure staff is discussing and determining appropriate merge techniques on projects in each case.
- Consult with peer states on techniques and best practices for traffic control.

As part of our commitment to the safety of the traveling public and our highway construction and maintenance workers we utilize the most appropriate traffic control techniques in each unique construction zone.

Thank you for the opportunity to speak with you today about zipper merge traffic control as one of the traffic control techniques KDOT utilizes. I am happy to stand for questions at the appropriate time.