

RESEARCH PROBLEM STATEMENT

DATE:	09/09/2019	PROJECT AREA:	Pavements
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TITLE: The Right Lane: Mitigation of Truck Traffic Pavement Deterioration

PROBLEM STATEMENT:

As identified in Arkansas 27-51-301 vehicles are to be driven on the right side of the roadway. The exception for the right side of roadway driving is when a roadway is of sufficient width allowing the vehicle to travel along the left side of the roadway to overtake and pass another vehicle traveling in the same direction. For interstate systems, in which the right hand lanes are heavily trafficked by trucks, the right lane policy may lead to premature deterioration of the right trafficked lane, thus leading to premature replacement of the left lane.

According to the ARODT Traffic Handbook, the structural design of the interstate system is performed based upon heavy axle loads. Specifically, "the design of new roadway construction, reconstruction, or resurfacing is based on accumulated 18-kip (80-kN) EASLs". Traffic estimates are based on analysis of historical traffic data. If trucks are required by law to stay in the right lane except for passing and the weigh-in-motion information or tube counter data are incorrect because the truck counts include trucks overtaking other trucks in the left passing lane then the wrong number of EASLs are being used for structural capacity.

OBJECTIVES:

The objective of the study is to answer the following questions about left-lane usage. These questions were recently raised by Angelo Lombardo, P.E., transportation engineer with the City of Norman, Oklahoma.

These questions include the following. Are the left lane restrictions prohibiting the roadway from performing at the full potential of the facility as anticipated by traffic engineers? Should traffic engineers still use proper lane distribution percentages, which are typically 55%? Can traffic engineers use the proper lane distribution for trucks? Are the level of service calculations all for nothing when trying to enhance existing roadways?

FORM OF RESEARCH IMPLEMENTATION AND RETURN ON INVESTMENT:

The research will be implemented by acquiring proper design data and may lead to a policy change to allow or encourage truck traffic in the left-lane or to build specific heavy truck lanes. The return on investment gained from this study will be associated with reducing costs associated with premature deterioration of the right lane or the need to replace an entire roadway (left and right lanes of an interstate) due to the premature deterioration in the right lane.

Estimated Project Duration: 36 Months

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REVIEWER:

Standing Subcommittee
Ranking

Advisory Council
Ranking

Statement Combined with
Statement Number(s)



<https://idrivearkansas.com/>
Arkansas Weight Station Camera

I-40 The logo for Interstate 40, featuring the word "INTERSTATE" at the top and "40" in a large, bold, white font inside a blue shield.

Right Lane Premature Deterioration



**NEW
Oklahoma
Left Lane Law
Restrictions**

<http://www.otea-ok.org/OTEFIELD/pdf/OTEFIELDWinter2018.pdf>



<http://www.otea-ok.org/OTEFIELD/pdf/OTEFIELDWinter2018.pdf>



<https://www.tranbc.ca/2018/11/13/why-were-keeping-commercial-trucks-out-of-the-left-lane-on-the-coquihalla/>