Statement No. 23

Arkansas State Highway and Transportation Department
Transportation Research Committee

RESEARCH PROBLEM STATEMENT

DATE: 09/12/2016 | **PROJECT AREA:** Planning

TITLE: Truck Parking Project Prioritization to Ease Overcrowding

PROBLEM STATEMENT:

The Jason's Law Truck Parking Survey revealed that 72% of state DOTs report truck parking deficiencies. The AHTD's Overnight Truck Parking Survey found that in 2015, 23 parking facilities were over capacity with seven at over 200% of capacity. Overcrowding is a significant safety concern as it forces drivers to park illegally along ramps leading to increased crash risks and hours-of-service (HOS) violations. While there are several mobile phone apps to help truckers locate available parking, still, at the national level, 75% of truck drivers reported problems finding safe and available parking. With freight tonnage increasing over the planning horizon, problems finding safe and available parking will only continue to compound. Through overnight parking studies, surveys of State Highway Police, hot-spot identification using Geographic Information Systems (GIS), and feedback from stakeholders in the Freight Advisory Committee, the AHTD has compiled a list of possible truck parking improvement projects. Unfortunately, with a limit budget, it is not possible to fund all parking improvement projects. Thus, the next logical step is to select the 'best' set of projects to meet fiscal constraints. The 'best' set of projects should be based on the degree of overcrowding (e.g. the highest ranked hot-spots), the cost of the improvement project, and most importantly, how improvements at each site effect system-wide overcrowding. For example, hot-spot identification alone would not highlight the effect of reopening the Forrest City parking site nor would it inform how overcrowding at the Ozark, Big Piney, or White River sites along I-40W might be affected by re-opening Forrest City. Ideally, the AHTD should select complimentary sets of projects that address parking needs based on travel patterns and HOS regulations. This study will give the AHTD a tool to optimally rank and select multiple locations for parking expansion projects whether they be reopening currently owned public facilities, establishing partnerships with private enterprises, or developing new sites on publicly owned land.

OBJECTIVES:

This research will cover four key tasks: (1) coordinate with Systems and Information, Research and Transportation Planning and Policy Division, and ACE of Operations to synthesize parking facility data (e.g. existing sites, available sites, costs of parking facility expansion projects), (2) apply a systematic prioritization method to select parking improvement projects, (3) perform cost-benefit analyses of recommended combinations of parking projects, and (4) review and recommend state practices to ease parking overcrowding using parking management systems (e.g. integration of parking locations into IDrive, implementation of variable message signs indicating available parking). This will enhance and complement the on-going truck parking studies conducted by the AHTD by leveraging existing datasets and survey data.

FORM OF RESEARCH IMPLEMENTATION:

This research will result in the development of a tool to prioritize and select truck parking improvement projects. This tool will allow the AHTD to enhance their "hot-spot" analysis by incorporating truck travel pattern data to inform how investment in one project may affect the need to invest in other projects. In addition to a final report detailing project prioritization, selection analysis, and cost-benefit analyses, the research team will synthesize non-infrastructure based truck parking projects such as Variable Message Signs and online search tools (e.g. integration with IDrive) used in other states.

REVIEWER: Tymli Frierson **Estimated Project Duration:** 18 monht

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Standing Subcommittee Ranking	Advisory Council Ranking	Statement Combined with Statement Number(s)
4/6	9	