

**Joint Committee on Performance Evaluation and  
Expenditure Review (PEER)**  
The Mississippi Legislature



**Action Brief:**

**Effects of Deficient Bridges on Selected Mississippi Public School  
Districts' Bus Routes**  
November 17, 2015 (Report #599)

*Background:*

For the purposes of this review, PEER defined a *deficient* bridge as (1) a bridge that is closed to all vehicle traffic; or, (2) a bridge that is posted for gross vehicle weight limits of up to 33,000 pounds; or, (3) a bridge that is posted for single axle weight limits of up to 20,000 pounds.

PEER collected route information from the eleven Mississippi public school districts that have more than ten deficient bridges within their district boundaries to determine to what extent these bridges affect each district's respective transportation system (e. g., additional time and/or mileage added to school bus routes for detours around the bridges).

Locations of deficient bridges in all Mississippi school districts are available on the PEER website ([www.pear.state.ms.us](http://www.pear.state.ms.us); see Report #599, "Entire Appendix B.")

**Report Conclusions**

**Four of the eleven school districts PEER selected for review reported that they are currently rerouting school buses as a direct result of deficient bridges. PEER's estimates of current detour costs accounted for two percent or less of these respective school districts' total transportation expenditures for School Year 2013-2014.**

PEER utilized a geographic information system (GIS) as the primary tool to identify and select school districts for this review. PEER reviewed the following data and incorporated it into the GIS analysis to identify deficient bridges within school districts:

- the geographic boundaries of public school districts from 2010, provided by the United States Census Bureau;
- the location and condition of bridges as of April 1, 2015, provided by data from the National Bridge Index; and,
- the weight limits for posted bridges as of April 1, 2015, provided by the Mississippi Department of Transportation and Office of State Aid Road Construction.

PEER used this data to generate a count of the number of closed and posted bridges that could affect bus routes for school districts. PEER then reviewed the number of deficient bridges in each district to select those districts with the highest count of deficient bridges for review.

PEER selected the following eleven public school districts that were noted as having the highest numbers of deficient bridges (determined by PEER to be any district having more than ten deficient bridges) that could affect bus routes:

Amite County, Carroll County, Hinds County, Hollandale, Itawamba County, Jones County, Leland, North Panola, Quitman County, Western Line, and Yazoo County.

PEER estimated that it costs approximately \$1.70 per mile to operate a school bus in Mississippi based on maintenance costs, fuel costs, and depreciation expenses. PEER also obtained information on compensation of bus drivers from the selected school districts to calculate estimated personnel costs as a result of extended bus route travel time. PEER then applied these two pieces of information to the additional mileage and additional time reported for school bus detour routes as a result of deficient bridges.

The estimated total cost of detours caused by deficient bridges ranges from \$4,284 to \$25,704 for the four selected school districts that reported detours for the current school year. While these are additional costs that the district must incur, these costs represent only about two percent or less of the respective districts' school year 2013-2014 transportation expenditures.

**During the course of this review, PEER identified instances in which some school bus routes in the districts selected for review utilized bridges that were posted with weight limits for single axle vehicles of up to 20,000 pounds or posted with weight limits for gross vehicle weights of up to 33,000 pounds.**

**Based on the typical weight ratings for larger buses (Type C and D buses), the potential for buses traveling across these posted bridges creates safety concerns for the passengers and increases wear and tear on deficient bridges.**

**Further, the process for notifying school districts of deficient bridges and the training of school district transportation personnel related to deficient bridges needs improvement.**

No consistent or routine process is in place for notifying school districts of posted bridges that could affect bus routes. Most of the selected districts' transportation staffs stated that they were notified of closed bridges, but that they were not always made aware of posted bridges. Other reasons that could contribute to buses crossing posted bridges that could potentially be unsafe were:

- no uniform safety training of school district personnel specific to identifying which bridges school buses should not cross;
- no formal incorporation of posted bridges as potential safety hazards in the state school bus safety policies;
- no formal oversight and a lack of enforcement of posted weight violations; and,
- bridges that are not visibly posted for school buses, but might still be unsafe for them to cross.

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