Paving Industry Competition in Arkansas

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The Need for Competition

Healthy markets require robust competition. The paving materials market, however, has relatively little competition between industries. MIT has found that this inflates paving material unit costs.

Findings suggest that increasing competition between paving material industries lowers paving unit costs for both asphalt (AC) and concrete (PCC)—which could result in significant savings for both departments of transportation (DOTs) and taxpayers.

The State of Competition in Arkansas

While DOT spending on concrete and asphalt paving materials varies greatly, all states spend most of their paving budgets on asphalt pavements for DOT projects (**see Figure 1**). Arkansas, specifically, spends around 88% of its budget on asphalt pavements. Therefore, there's an opportunity for greater competition between the state's paving industries.

Key Takeaways:

- Inter-industry competition is one of the most influential contributors to paving material unit costs.
- MIT found that if concrete's market share in Arkansas increased from 12% to 25%, the unit costs of concrete and asphalt materials could fall by around 17% and 4%, respectively.
- As a result, an additional 9% of paving material could be placed each year on a fixed budget.

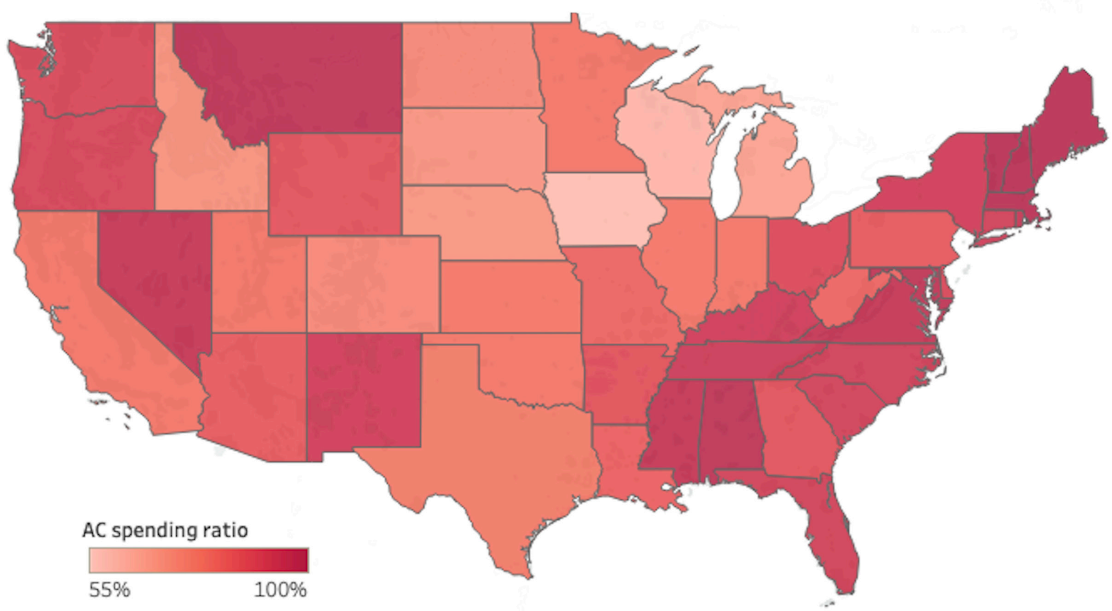

Figure 1. A map of the continental United States showing the share of pavement spending on asphalt (AC) for state DOT projects in each state (except NJ) between 2005 and 2018.

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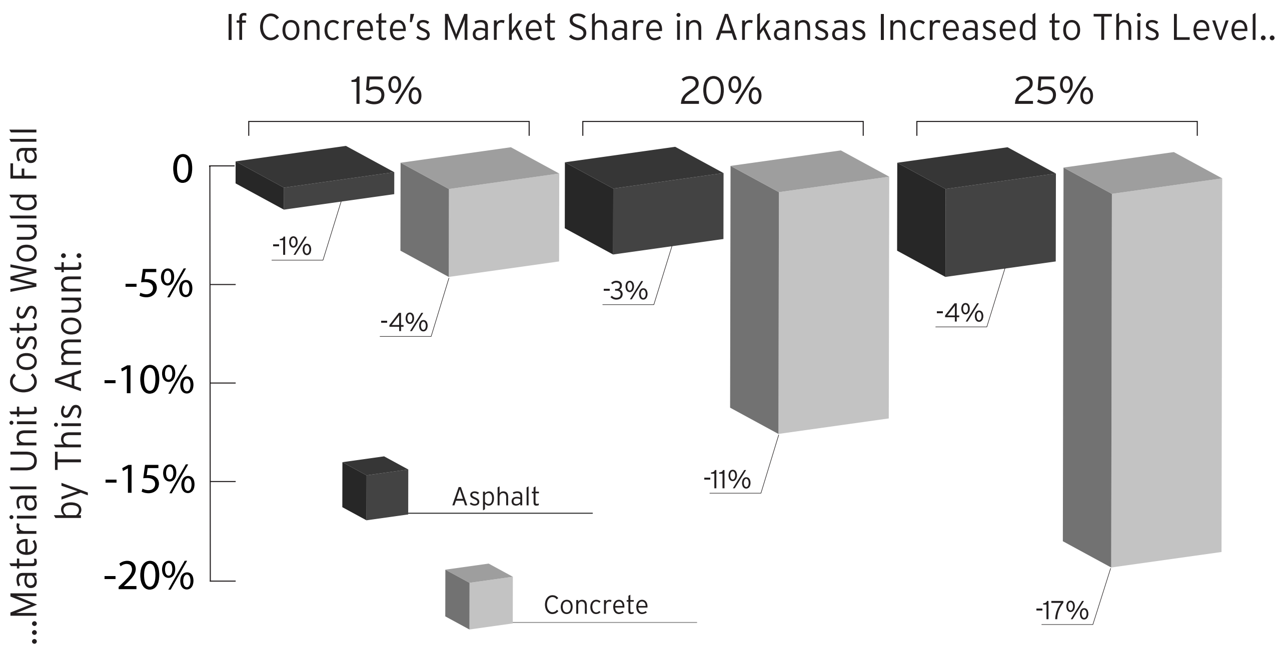

Figure 2. The relationship between inter-industry competition and paving material unit costs for AC (asphalt) and PCC (concrete) pavements. These results assume that concrete currently has a 12% share of the paving materials market (as is the case in Arkansas).

What Determines Material Unit Costs?

To understand how certain factors—including inter-industry competition—impact unit costs, researchers analyzed 10 years of pavement construction bid and materials pricing data from 47 state DOTs using a statistical model.

The analyses found that inter-industry competition was the second most influential contributor to the material bid unit costs of concrete (behind project size) and asphalt (behind market size).

Greater Competition, Lower Costs

After identifying the significance of inter-industry competition, researchers estimated how changes in it would alter unit costs in Arkansas.

In a case study, they found that as inter-industry competition increased, the unit costs of concrete and asphalt paving materials fell significantly—particularly those of concrete. **Figure 2** shows that if concrete's market share in Arkansas increased from 12% to 25%, concrete and asphalt paving material unit costs would decrease by around 17% and 4%, respectively. These lower unit costs, researchers estimated, could result in an additional 9% of paving material being placed (**see Figure 3**). Consequentially, ArDOT could pave more for a fixed budget.

Meeting cost and performance targets doesn't require radical solutions—even amidst potential fiscal crises and increasing backlogs. Two proven materials, when used in tandem, could allow ArDOT to do more with less.

Related Links:

- CSHub Pavements Research
- CSHub Competition Research
- Journal Article: O.A. Swei et al., "Effects of Industry Competition in the Paving Sector", Under Review

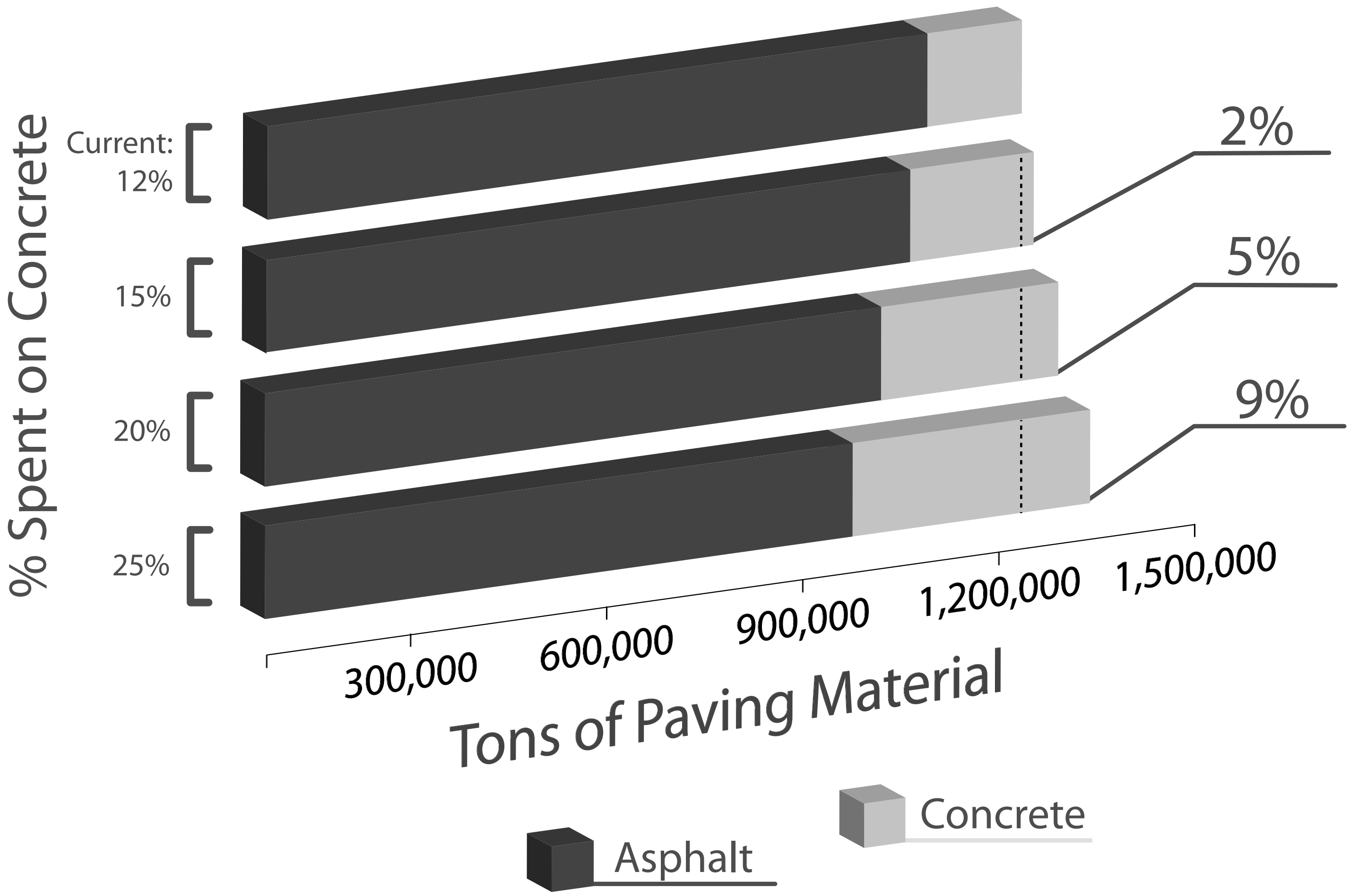

Figure 3. The relationship between inter-industry competition and the amount of paving material that can be placed for a $100M budget in Arkansas.

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