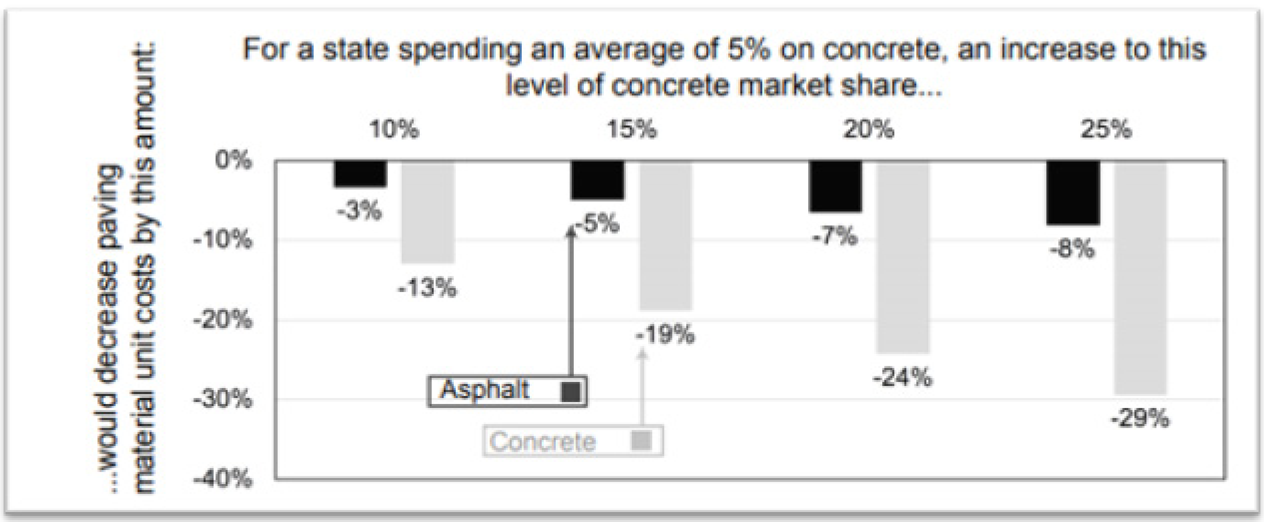
The Benefits Of Competition Between Paving Industries: How Agencies Can Realize Those Benefits

Almost 60 years ago, AASHO (the precursor to AASHTO) developed contract procedures and guidelines[1] founded on sound engineering and based on transparency, that leveraged the benefits of healthy and spirited competition between industries involved in the production of paving materials. These guidelines serve as the basis for both current FHWA policy[2] and recent NCHRP guidance[3] on pavement type selection.

An analysis of current agency bid information supports the notion that competition between industries involved in the production of paving materials has a significant positive impact on pavement unit prices and agencies' purchasing power, as well as the spurring of innovation. The analysis suggests that nearly one-half of U.S. states can benefit significantly from increasing the level of competition between paving industries, allowing their highway agencies to extend their current budget, and build more pavements for their investment. A recent study by the Massachusetts Institute of Technology (MIT) reached a similar conclusion.[4] This comprehensive multivariate analysis of DOT bid pricing on 10 years of data, 298,000 pay items from 47 state DOTs clearly show that "*increasing competition between paving material industries lowers the paving unit costs of both asphalt (AC) and concrete (PCC)—which could result in significant savings for state departments of transportation (DOTs) and taxpayers*" (see figure below). In fact, if all 50 states fostered strong and effective competition between the asphalt and concrete paving industries, it could result in savings of as much as $5 billion each and every year.



Maintaining the status quo is not an equitable and cost-efficient approach – an aging roadway network, growing needs, and shrinking resources demands a rethinking of how highway dollars are stewarded (i.e. a preservation-only mindset cannot work). Moreover, we know from experience that there are no engineering reasons why concrete pavement cannot be part of any agency's program. Agencies need to take advantage of ALL the tools available to ensure that the taxpayers get the best bang from the highway dollar. Introducing and maintaining a competing pavement solution is an important step toward that end.

How To Get There:

State Departments of Transportation (DOTs) have the unique opportunity to influence market dynamics (and pricing) by managing their pavement network in a way that better leverages the free market to the advantage of the state and the taxpayer. That is, because DOT's are the primary purchaser of a major "commodity" (pavement), if they look beyond the project-by-project approach, and instead focus on the program of projects; they can generate inter-industry competition that results in long term bid-pricing changes. Furthermore, by signaling to both the concrete and asphalt paving industries that the Agency is serious about spurring competition between industries (by committing to a process that gets both industries involved in the program), it will incentivize both industries to innovate further due to the spirited competition generated within the DOT's program. It is in the best interest of the State DOT's to ensure that they have more than just one industry participate in their program. In an environment where only one industry participates (i.e. one industry essentially guaranteed to get the jobs), the system is much more vulnerable to innovation stagnation and quality challenges (as there is little incentive to invest in either). There are several paths that an agency can take to spur and maintain inter-industry competition, and which path they take is partly a function of current market dynamics and experience:

- **Announce the letting of concrete pavement projects** (as is currently done routinely for asphalt):
  - o Select several concrete pavement projects each year for multiple years to send a clear signal to BOTH industries (e.g. like FL). Doing a number of projects over several years prevents the competing industry from "buying" the jobs or use unbalanced bids.
  - o As a starting point, projects can be selected in areas of the state where single-bidder lettings are particularly prevalent. The local ready-mix concrete industry can supply smaller, local projects. Bigger paving projects will likely attract the attention of several out-of-state mainline pavers as well.
  - o Projects should also be selected to include concrete overlays, RCC and reconstruction projects in critical locations each year (e.g. interchanges, intersections, ramps, heavy-truck routes).
- **Maintaining healthy paving industries by balancing quantities** (e.g. SY of concrete to tons of asphalt).
  - o This is a process used successfully by several states who recognize that it is in the best interest of the agency and the taxpayer to have more than one healthy paving industry participating in the states' paving programs (e.g. IA, WI, MI).
  - o These states also try to smooth the peaks and valleys for both industries, to provide stability and predictability in the program. This certainty helps enhance the health of both industries and contributes to consistent competitive pricing, as well as sustained quality.
  - o These states have some of the lowest unit costs in the nation for both asphalt and concrete
- **Rely on alternate bidding (ADAB)**:
  - o Use of ADAB can be an effective way to make cost-efficient pavement-type selections, provided the process is done in accordance with FHWA guidelines . Requirements contained in those guidelines include; use of equivalent designs; use of LCCA bid adjustments; use of OMB-recommended discount rates, no commodity price adjustments; and use of equivalent materials quantity measures (i.e. SY).
  - o Several states have used ADAB with some success (e.g. PA, KY, LA, WV), but the process can be contentious at times. Also, regional market dynamics regarding ownership of aggregate sources will impact the effectiveness of ADAB.

Although there currently is not a strong concrete paving presence in some states (for the obvious reason that concrete pavement has over time been selected out of these agencies processes), the local ready-mixed concrete industry who would supply all local concrete paving projects, is a local presence, employer and taxpayer, AND the re-emergence of a viable concrete pavement industry in those states to check and compete with the well-entrenched and dominant asphalt paving industry is beneficial to both the DOT and the taxpayer.

References:

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4. https://cshub.mit.edu/news/topic-summary-industry-competition-and-paving-material-unit-costs
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