How the Concrete Paving Industry is Advancing by Promoting the Value of Competition

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In a Spring 2015 Concrete InFocus article, Jim Mack, P.E., of CEMEX described how the concrete paving industry is incorporating sustainability into everyday practice, including the use of research and tools coming out of MIT’s Concrete Sustainability Hub. Understandably, many in our industry are adding these newly documented concrete attributes and benefits in more emphatic-than-ever traditional promotion efforts to convince specifiers of the superiority of concrete. This article suggests a variation on this approach for expanding market share in the streets and roads market.

As the pavement research and tools from MIT have evolved over the past few years, a consensus for a new approach to streets and roads promotion has developed among PCA, ACRA, and NRMCA in concert with many industry companies. The new approach emphasizes the value of increased competition between asphalt and concrete with the aim of encouraging fair and equitable pavement-type selection policies and practices. This approach highlights the public interest rather than a frequently distracting and inconclusive “concrete vs. asphalt” dialogue.

In our efforts to educate and inform customers of the advantages of competition, the traditional “concrete vs. asphalt” dialogue is not part of the discussion at the national level. We simply point out that both materials have benefits in specific circumstances and are quick to add that asphalt rhetoric demeaning concrete is an effort by special interests to maintain a monopoly advantage.

With a share well under 10% in this market, our industry along with the public has much to gain through increasing recognition of the value of competition between the industries involved in the production of paving materials. Although the approach is recent, the value of competition between paving industries was recognized by the precursor to the American Association of State Highway and Transportation Officials (AASHTO) more than 50 years ago.

The U.S. invests over $90 billion every year on streets and highway improvements. Because of the magnitude of this investment and because of ongoing challenges at federal, state, and local levels to maintain reasonable funding, state officials are under tremendous pressure to demonstrate good stewardship of roadway infrastructure investments. This challenge to justify new investments is nothing new and is in fact similar to what highway officials experienced at the beginning of the interstate highway era.

In response to some very public instances of fraud and abuse in the federal-aid highway program at that time, as well as concerns about industry monopolies, AASHTO’s predecessor, the American Association of State Highway Officials (AASHO), developed contract procedures and pavement-selection guidelines based on transparency and sound engineering that leveraged the benefits of healthy and spirited free-market competition between the concrete and asphalt industries. The authors of these guidelines recognized that although improvements in understanding of factors such as traffic, materials, weather, pavement performance, cost estimation, etc., can enhance the basis for appropriate pavement type selections, the process is much more meaningful if healthy and spirited competition exists among the paving industries.

AASHO recognized that competition between industries is invaluable because it assures the highest return on investment of taxpayer dollars by driving down costs. It also fosters innovation, which further increases value to agencies and the traveling public. Moreover, competition among contractors that construct different pavement types adds a dimension to the competitive environment that is not achieved where only one pavement material is used regularly or exclusively. This is common sense and intuitive in a free-market economy. Consumers value competition among industries and products to benefit from both product improvements and cost savings.
The AASHO guidelines also anticipated the value of what we now refer to as Life Cycle Cost Analysis (LCCA) by declaring, “Cost comparisons must include not only original construction but also anticipated periodic repairs and routine maintenance over the service life of the pavement.”

The AASHO guidelines still serve as the basis for current Federal Highway Administration (FHWA) policy and guidance on pavement-type selection, but unfortunately the guidelines are not generally understood or adopted across most of the United States. Our industry’s best approach for streets and roads promotion is to rekindle the focus on the public value that will result if spirited competition between concrete and asphalt industries is sought and supported by state agencies.

Now more than ever, given significant economic constraints and growing infrastructure needs, roadway agencies cannot afford to forgo any opportunity to make infrastructure dollars go farther. As the 1960 AASHO document notes, “It is imperative that all possible and proper measures be taken to ensure the tax payers of this country that they are receiving full value of every highway dollar spent…” The recommendations included in this Guide are designed to keep the public confidence in the highway program at a maximum.” This is undoubtedly also a goal today’s highway officials are focused on.

An analysis of publicly available highway agency bid information shows that competition is severely limited in most of the United States. No state spends more than 40% of its paving dollars on concrete pavements; the majority of states spend less than 15% of their paving dollars on concrete pavement; and a number of states spend their entire pavement budget on asphalt (see Figure 1). The average five-year state cost data confirms that states that use a stronger balance of pavement type get a bigger “bang for the buck” than those that use primarily one pavement type. This occurs regardless of whether the state uses life cycle cost analysis or has embraced the latest mechanistic pavement design tools. In states where both pavement types are specified on a regular basis, healthy industries with skilled personnel develop and construction quality improves, bringing about more cost-efficient pavement construction and significant savings.

The bid data suggests that more than half of U.S. states can benefit significantly from increasing the level of competition between paving industries, allowing their agencies to extend their current budget and build more pavements for their investment. In today’s economic environment, enhancing competition between paving industries represents the most significant opportunity for highway agencies looking to extend the purchasing power of their highway dollars.

Research and tools developed by MIT provide strong support for jurisdictions that would like to enhance their street and road programs by increasing pavement competition. MIT has documented that concrete has distinct benefits in many paving contexts, and this helps open the door to increased concrete market share. Over time, with the concrete industry’s encouragement, more state, county, and municipal agencies can be expected to adopt policies that “level the playing field” and encourage more concrete bids, including alternate design/alternate bid guidelines that create equivalent pavement designs and legitimate LCCA procedures. Such programs will also benefit owners by incorporating the Mechanistic Empirical Pavement Design Guide or other design methodologies for efficient, cost-effective and equivalent pavement design.

To expand awareness, ACRA, NRMCA and PCA have created a concrete pavement industry alliance called The Alliance for Pavement Competition to focus on advocacy and outreach efforts that emphasize the benefits of competition in constructing, preserving and rehabilitating the nation’s surface transportation infrastructure. The Alliance for Pavement Competition demonstrates that everyone wins with competition through enhanced cost-savings and improved value to agency owners, taxpayers and the traveling public.

Now more than ever, with growing infrastructure needs and increased public scrutiny, highway agencies cannot afford to forgo any opportunities to make infrastructure dollars go farther. There are no downsides to fostering two healthy industries to compete for state highway projects. In an environment with healthy competition, states, counties and municipalities benefit through cost efficiency, innovation from contractors and network health; the paving industries benefit through programs that support a quality workforce to build quality pavements, and the public benefits from it all.

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