

# The Competitive

# Edge

By **Randell C. Riley, P.E.**

Every Illinois Ready Mixed Concrete Association member has faced the challenge of how to compete with asphalt in the parking lot market. In past articles, I have detailed technical means to make comparisons and pointed to our increasingly competitive position with the price of oil going up. Let us put some numbers with today's prices derived from Illinois Department of Transportation bid tabs along with some design comparisons and see how they stack up. The numbers are only guidelines, but they should give you an idea of where you stand in the argument and in the marketplace today. Things have changed – significantly!

To make the comparison consistent with ready-mix concrete industry promotion techniques (which differ slightly from highway paving industry efforts) I have made use of the Concrete Pavement Analyst (CPA) software. This software uses a simplified, more conservative (concerning concrete) approach than those used in modern highway methods. However, it is easier for the general practitioner to comprehend without seriously jeopardizing your competitive position. The reality is that the concrete industry places a higher stake on our reputation than the asphalt industry. As an industry, we are generally unwilling to routinely provide designs that last less than 15 to 20 years. CPA allows you to create designs that accomplishes all of these objectives. It is software that you can, with a little effort and support from Illinois Ready Mixed Concrete Association, learn to use in your local promotion efforts.

For our example, we will use typical Illinois' materials parameters for construction in a large parking lot environment. For a small strip mall area with primarily auto parking we will assume one truck a day ventures out onto the auto parking area. Where deliveries are expected 15 trucks per day are anticipated. Plugging this information into CPA, you arrive at a section thickness of 4.5 inches of concrete for the car parking area and six-inches for the main truck drives. The structural number equivalences for asphalt sections are 2.25 and 3.00 respectively. The sections are designed on equivalent underlying compacted clay subgrade.

The table below shows the comparison:

<b>Cost and Performance Comparisons for Parking Lots Based on                      Illinois Department of Transportation Bid Tabulation Data                      Period January 2006 - April 2007*</b>			
Parking Area Section	Cost Range/sq. yd.	Weighted Averages	AASHTO Relative Capacity
Concrete Section: 4.5 - inch concrete section	\$15.50 - \$19.53	\$16.94	
Asphalt Section: Structural Number 2.25 1.5 - inch surface 4.85 - inch binder course	\$15.72 - \$27.24	\$21.30	
<b>Drive Area Sections</b>			
Concrete Section: 6 - inch concrete section	\$18.42 - \$22.73	\$19.96	
Asphalt Section: Structural Number 3.00 1.5 - inch Surface Course 7.00 - inch Binder Course	\$21.04 - \$36.46	\$28.52	
Note: The materials prices have been adjusted to account for differences between highway and parking lot construction. Your prices will vary depending upon quantity and location.			

Clearly concrete is competitive and may cost less in today's market. But, what is more telling about the comparisons is in the pictograms to the right of the cost figures. The number of trucks shown indicates the corrected actual carrying capacity of traffic using updated AASHTO '93 design procedures at equivalent levels of reliability.

In simple terms, the concrete will last longer under the same traffic and there is real potential today that it will do so at less cost! To borrow unabashedly and unapologetically from my friends at the Michigan Concrete Paving Association, now we can truly make the claim "Costs Less - Lasts Longer!" Contact IRMCA for more details and to get your copy of the CPA software pictured at right!



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