

Indiana Concrete Pavement Solutions

Count on Concrete
PAVEMENT

Publication of the Indiana Chapter
American Concrete Pavement Association • Winter 2013



INDIANA CHAPTER

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Local Airports Benefit from Concrete Overlays and Full-Depth Concrete

Several of Indiana's regional and general aviation airports have chosen concrete overlays to rehabilitate their runways, taxiways and aprons. Whether by alternate bid or through conventional specification for concrete-only design, concrete overlays and full-depth concrete pavement have proven cost effective for these important but often overlooked local economic development community assets. Concrete pavement provides substantial long-term benefit to airports due its performance and low cost. Listed below are some local airports that have built concrete overlays or full-depth concrete pavement during the past few years.



Delphi Municipal Airport:

Runway 18-36, 5 ¾" thick Overlay, Built 2008

Designer: NGC Corp. Contractor: E&B Paving

Jasper County Airport:

Runway 18-36, 6" thick Overlay, Built 2009

Designer: NGC Corp Contractor: E&B Paving

Elkhart Municipal Airport:

Runway 9-27, 10" thick Overlay, Built 2009

Designer: BFS Eng. Contractor: Rieth-Riley

Columbus Municipal Airport:

Runway 5-23 10" thick Overlay, Built 2010

Designer: RW Armstrong Contractor: E&B Paving

Virgil I. Grissom Municipal Airport:

Runway 6-24 Reconstruction (Bedford, Ind.) Built 2010

Designer: Woolpert Contractor: The Harper Co.

Indianapolis Executive Airport:

Runway 18-36 Reconstruction, 10", Built 2009

Taxiway & South Apron Expansion, 10", Built 2010

Designer: Woolpert Contractor: The Harper Co.

Indianapolis Regional Airport:

Runway Taxiway Reconstruction

Designer: RW Armstrong Contractor: Rieth-Riley



Increased Load Bearing Capability

Durability

Visibility

Long Service Life

Concrete Pavement Anchors Allen County's Maplecrest Road Extension

The Maplecrest Road Extension, a significant segment of a north-south Allen County arterial roadway, was opened to traffic on October 30, 2012. This project first appeared on the county's Long-Range Transportation Plan in 1966 and was the subject of numerous debates for over three decades. In the mid-90's, Allen County Commissioners moved the project into the development and design phase and locals began contemplating its eventual construction. County officials considered their options and selected Portland cement concrete pavement (PCCP) as the best solution for the Maplecrest Extension based on its durability under heavy traffic and lower long-term cost of ownership.

While projected cost were estimated at nearly \$50M, local contractor Primco, Inc. submitted the winning bid that was well below the engineer's estimate. In addition, Primco successfully completed the massive project nearly two months ahead of schedule.

Primco, Inc. submitted the winning bid... well below the engineer's estimate.



Today, the 1.4 mile long extension is open for business. It includes four bridges, an access ramp serving major industry and a mile of new, five-lane arterial roadway with a pedestrian/bicycle trail along the east side of the facility. This is a significant improvement for the community. Estimated traffic volumes exceed 35,000 vehicles per day and future upgrades are planned along the corridor.

Allen County, as the lead agency, worked closely with the cities of Ft. Wayne and New Haven to plan and implement the project. All three local entities invested a share of local funds in addition to the 80% federal funding. Concrete pavement has long been a significant contributor to the economy of northeast Indiana and the Maplecrest Road Extension represents another new example of long-term pavement solutions...open for business. ●

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I-69 RIBBON CUT: Concrete Pavement a Big Part of Solution

Sections 1, 2 & 3 Ready for Traffic

The November 19th ribbon cutting ceremony opened to traffic 67 miles of I-69 from I-64 to US 231. Approximately 60 miles of Sections 1, 2, and 3 is new 11” concrete pavement.

While preparing for construction of the I-69 corridor in southwestern Indiana, The Indiana Department of Transportation (INDOT) worked diligently to create the most competitive contracting environment possible. This is the largest active highway construction project currently underway in the United States and has attracted the attention of contractors nationwide. Construction on Section 1, just north of Evansville, began in 2008. Contracts to complete section 2 and 3 continued to be let by INDOT through May 2011.

To optimize pavement designs and ultimately construction costs, INDOT implemented a new pavement design process developed from Federal Highway Administration (FHWA) funded research: the Mechanistic-Empirical Pavement Design Guide. This design process reduced pavement thickness and saved taxpayers millions of dollars.

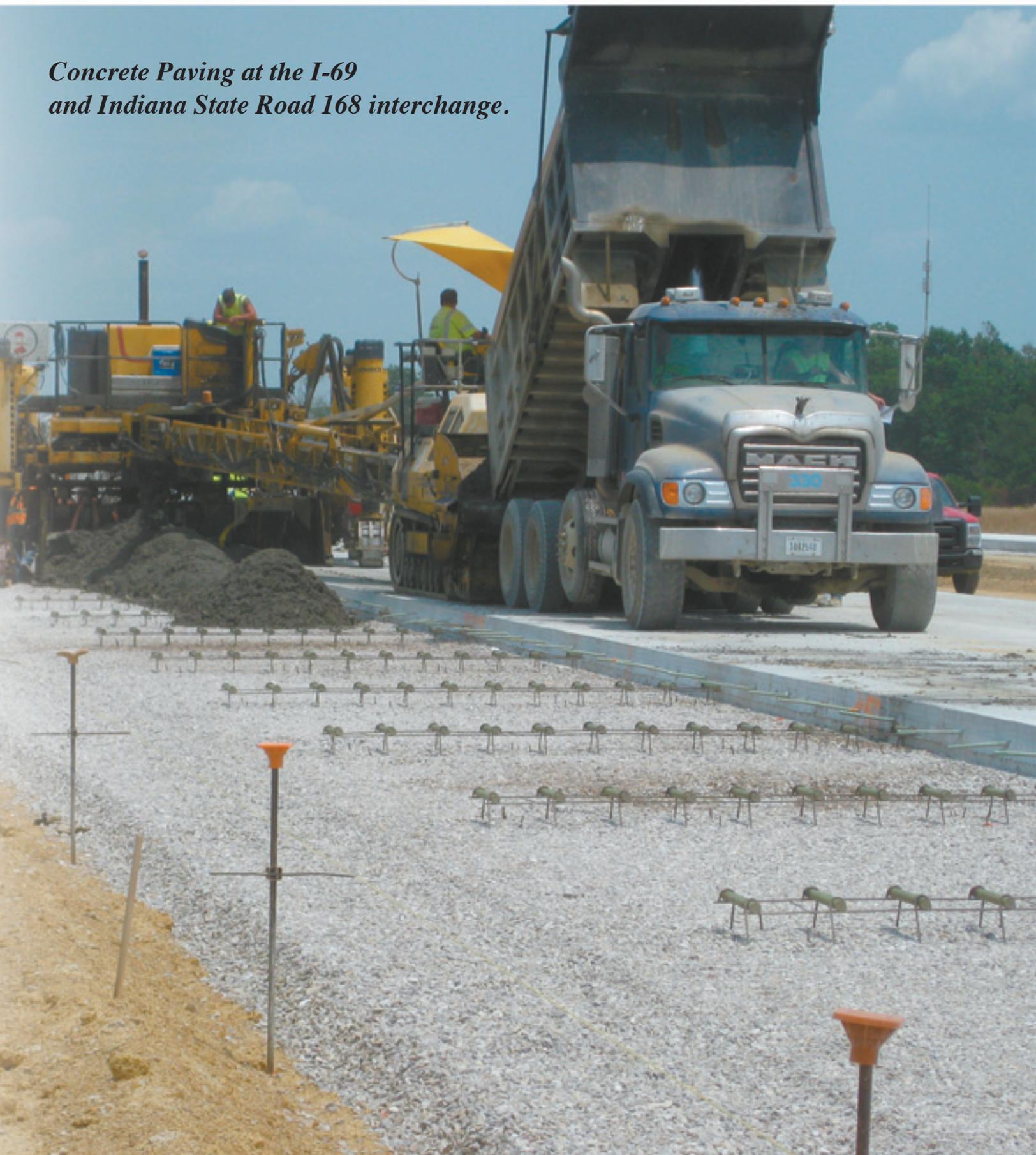
*...nine projects were bid under
“alternate-bid” procedures.
Concrete pavement was
determined to have the lowest
cost on all nine projects.*



In 2009 INDOT engineers sought and secured permission from the FHWA to seek alternate design/alternate bids on federally funded highway projects, thus further reducing costs through increased market competition. For Sections 1-3 of I-69, nine projects were bid using FHWA-approved “alternate bid” procedures. Concrete pavement was determined to have the lowest cost on all nine projects.

On November 19, 2012, the motorists of Indiana will enjoy the benefit of traveling on long-lasting, economical concrete pavement. ●

*Concrete Paving at the I-69
and Indiana State Road 168 interchange.*



East Michigan Road Upgraded in Shelbyville

The city initially considered seeking alternate bids... but decided to proceed with a concrete-only design based on life-cycle-cost values.

East Michigan Road, a.k.a., “Old US 421”, was reconstructed in 2011 and 2012 as part of the City of Shelbyville’s efforts to up-grade the municipality’s east side. This one-mile long stretch of Michigan Road comprises the southern boarder of the “Kroger Tax Increment Finance (TIF) District,” an area specifically designated to encourage commercial reinvestment in and around the site of a former Kroger grocery store. TIF Districts provide a means for local government to finance public infrastructure improvements to support desired development within the targeted area. The East Michigan Road up-grade and a new firehouse on Progress Parkway are examples of two improvements on the city’s east side.

Originally built in the 1920’s, this section of the original US 421 had deteriorated beyond reasonable repair. The two 9.5-foot wide lanes were inadequate to safely handle industrial truck traffic common to the area. Construction of a safer, wider arterial roadway was in order.



The city engaged Wessler Engineering in 2008 to develop plans for a locally funded project, but funding uncertainties placed the project on hold. Planning and design activities resumed in 2010 as financing issues were resolved. Hopeful that the project could be completed by the end of 2011, the affected utilities were notified one year prior to the anticipated start of construction. The city initially considered seeking alternate bids (asphalt versus concrete pavement) but decided to proceed with a concrete-only design based on life-cycle-cost values. There was an increasing probability that paving operations would occur late in the construction season and concrete pavement can be placed at lower temperatures than allowed for asphalt.



Milestone Contractors, LP was the successful bidder and the contract was awarded in the fall of 2011. They were able to remove and replace the westbound lane as well as prepare the grade for the new center lane in 2011. Utility relocation issues and an unusually wet fall pushed the remainder of project into the next construction season. Access to local businesses was provided on the existing eastbound lane and the city added supplemental safety measures to protect motorists during the winter. Crews returned to the project in March 2012. A wider, safer Michigan Road was open to traffic in June 2012 providing a substantially improved arterial serving one of Shelbyville’s important TIF districts and a number of existing industries in the area.

The new pavement is comprised of over 13,000 square yards of 8-inch thick Portland Cement Concrete Pavement (PCCP) with curb and gutter and a sidewalk along the north side of the road. The concrete was supplied by locally owned Shelby Materials and Wessler Engineering provided construction inspection services in addition to project design. ●

Concrete Roundabouts Support “Old” US 30 Upgrade in Kosciusko County



Concrete pavement’s inherent structural properties make it an excellent choice to withstand the lateral and radial loadings that are common with truck movements within roundabouts.

The Troyer Group, from South Bend designed the roundabouts and incorporated a number of aesthetic treatments to enhance the function and appearance of the new intersections. Stamped, integrally colored concrete pavement comprises the truck “aprons” (or “inside shoulders”) and the raised center islands feature a combination of brick pavers, hardscape and plant materials strategically placed to protect motorists’ lines of sight as they traverse the intersections.

Each roundabout includes approximately 6500 square yards of 10.5” concrete pavement including approaches from all roadways leading into the intersections. Kosciusko County motorists will benefit from these safe, durable and attractive improvements to the busy Old US 30 corridor just west of the City of Warsaw. ●

The growing industrial corridor along old US 30 caused an increase in the number of cross-traffic, left turns. Increased traffic congestion was the result. Kosciusko County officials looked to widen the old US 30 roadway and construct roundabouts in place of old intersections at Fox Farm and Zimmer Roads to relieve the congestion. The use of roundabout intersections within the corridor offered the best solution to safely and smoothly move the growing mixture of truck and local traffic. Heavy truck volumes generated by publishing, manufacturing and distribution operations within the corridor led County officials to select concrete pavement for the two roundabouts. Concrete pavement’s inherent structural properties make it an excellent choice to withstand the lateral and radial loadings that are common with truck movements within roundabouts.

The two roundabouts were built in separate seasons to accommodate access to local businesses during this multi-phase project. The Fox Farm Road Roundabout was constructed during the summer of 2011 by Phend & Brown, Inc and the Zimmer Road Roundabout was constructed in 2012 by E & B Paving.



Calendar of Events

February 5-9, 2013

World of Concrete, Las Vegas, Nev.

February 28, 2013

Long-Life PCCP Joint Performance Workshop (IN ACPA workshop), Indianapolis, Ind.

March 5-7, 2013

99th Annual Purdue Road School, West Lafayette, Ind.

March 19-21, 2013

INDOT Certified PCCP Filed Supervisor Training, Indianapolis, Ind.

March 27, 2013

Indiana ACPA Awards Luncheon, Indianapolis, Ind.

Spring 2013 (dates and locations TBD)

Partial Depth Repair Demonstrations



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