

## Better Late Than Never: INDOT Wins Award — 19 Years Later!

Playing the waiting game can reap big dividends. INDOT’s patience has paid off in the form of a major award for a superior stretch of interstate — 19 years after the fact!

Delayed gratification is the key when it comes to “perpetual pavement,” a three-layer, flexible pavement design and construction concept to produce a deep-strength asphalt pavement that can resist structural fatigue distress for at least 50 years. These long-lasting structural bases can be economically maintained by replacing just the thin surface layer without ever needing to embark on total pavement removal and replacement.



*I-64 in 2018 (top photo) reveals only top-level thermal cracks since its 2004 conversion to perpetual pavement; in June 2023 (bottom photo), four years after minor preventative maintenance, the road is in great shape as Kumar Dave stands on it.*



From 2002 to 2004, INDOT converted an 11.3-mile section of I-64 — from the Illinois state line to just west of State Road 165 in Posey County — into perpetual pavement. During those three years, INDOT rehabilitated the original roadway, constructed in 1968-69 with jointed reinforcement concrete pavement, by rubblizing the existing concrete pavement and overlaying it with 11½ inches of hot-mix asphalt. Rubblization is the process of fracturing worn-out concrete into small pieces and converting it into an interlocked, but flexible, base material.

Despite 12,000 vehicles, including 5,000 trucks, traveling daily on the interstate, the road section didn’t receive its first preventative maintenance — an asphalt mill/fill and stone-matrix asphalt overlay — until 2019.

“The goal of that preventative maintenance project was to remove any thermal cracks in the top layer of pavement and seal the pavement structure from water infiltration,” said Pavement Engineering Manager Kumar Dave, who oversaw both the 2004 and 2019 activities on I-64.

The Asphalt Pavement Alliance (APA) developed the Perpetual Pavement Awards in 2001 to recognize long-life asphalt pavements and honor asphalt pavements demonstrating outstanding design and construction. The awards include three categories: Perpetual by Performance (a road excelling after at least 35 years), Perpetual by Design (an asphalt road built over new/reconditioned subgrade), and Perpetual by Conversion (an asphalt road constructed over an existing road).

The APA selected INDOT’s I-64 pavement as an awards winner in the Conversion category. The strict criteria meant that the pavement “must demonstrate the characteristics expected from long-life asphalt pavements, including excellence in design, quality in construction, and value for the traveling public.” Engineers at the National Center for Asphalt Technology evaluated the nominations and validated the winners.

At the Asphalt Pavement Association of Indiana (APAI) Winter Conference & Expo in Muncie on Dec. 14, Deputy Commissioner of Construction Roland Fegan (*from left in right photo*), Dave, and Asset Management Managing Director Jeremy Hunter accepted the prestigious award — an engraved crystal obelisk — on behalf of INDOT. It marked only the second time that INDOT had won a Perpetual Pavement Award, including the first time for Conversion.

“This is a testament to the interstate’s excellent functional and structural condition,” said Dave, who noted that only five other state DOTs won in that category. “Pavement condition (roughness) testing has shown that the existing surface is in excellent condition with a low degree of rutting. Falling-weight deflectometer testing has revealed that the average elastic modulus of the existing asphalt and rubblized concrete is in keeping with the original perpetual pavement design goal.”

Dave added, “This section will continue to serve motorists well into the future with little required maintenance, helping conserve raw materials.”



### **Previous Award**

The “perpetual pavement” concept was first articulated in 2000, but many pavements that were constructed long ago function as perpetual pavements. As a result, the Perpetual Pavement Awards’ Perpetual by Performance category recognizes state DOTs that had the foresight to build pavements according to these principles. In this category, the roads must be at least 35 years old with no structural failure and with an average interval between resurfacing of no less than 13 years.

In 2014, INDOT won its first Perpetual Pavement Award, in the Performance category, for a 14-mile stretch of U.S. 31 in Fulton and Miami counties. The stretch ranged from one-half mile south of State Road 16 in Miami County to Old U.S. 31 in Fulton County.

“That stretch of highway is still going strong today,” said Dave.

### **Other Asphalt Conference Highlights**

At the Dec. 14 APAI Winter Conference, Commissioner Mike Smith spoke to attendees about intentional partnership, INDOT’s major projects, Community Crossings, and safety.

Additionally, Asphalt Engineer Nathan Awwad, Traffic Operations Director John McGregor, Materials and Tests Process Improvement Engineer Kurt Sommer, Senior Pavement Design Engineer Nick Cosenza, and Dave made presentations on various asphalt-related topics.