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| ACPA-RGB-large | **American Concrete Pavement Association**9450 W. Bryn Mawr Ave. Suite 150 Rosemont, IL 60018847.966.2272  | www.acpa.org  |

**ACPA Names Recipients of
Annual “Excellence in Concrete Pavements” Awards**

Rosemont, Ill. (December 18, 2013) – The American Concrete Pavement Association (ACPA) has named recipients of its 24rd Annual “Excellence in Concrete Pavements” awards, which recognize quality concrete pavements constructed in the United States and Canada.

The awards program encourages high-quality workmanship in concrete pavement projects, and serves as way to share information about challenging and highly successful projects.

Judges representing various stakeholder groups throughout the transportation-construction community evaluate projects. The program recognizes contractors, engineers, and project owners who completed outstanding projects. The program requires projects to be completed in the calendar year prior to judging (2012). The recipients of the 2013 ACAPA Excellence Awards are:

**Commercial Service & Military Airports**

**Commercial Service & Military Airports—Gold Award**

Project: Atlanta Hartsfield Center Airfield Taxiway Connectors; Atlanta, GA

Contractor: McCarthy Improvement Company

Owner: Hartsfield-Jackson Atlanta International Airport

Engineer: Atkins Global

This project consisted of nine separate phases between Taxiways and Runways at the Atlanta Hartsfield-Jackson International airport. Liquidated damages were $500/minute associated with delayed opening for a Runway and $100/minute for delayed opening of a Taxiway. So the financial stakes for this project were high. McCarthy Improvement installed nearly 60,000 SY of variable width silpformed concrete pavement ranging from 16 to 20 in. thick.

Multiple paving crews worked 24 hours a day, 7 days per week until the project was completed.

Because of the strict construction tolerance requirements, McCarthy Improvement employed an extensive Quality Control Team. For example of tolerances, any straightedge deviations of ¼ in. in any direction required correction and deviations of just ½ inch required removal and replacement. Atlanta Hartsfield-Jackson Airport did not want any grinding on their airfield pavements.

Because of time constraints and high liquidated damages, any rejected concrete would have had catastrophic consequences for the project. The construction team was given a 72 hour window to excavate on both sides of an existing runway; install under drains, electrical conduit and light cans; pave approximately 3800 SY of 28-in. thick concrete pavement; and construct the asphalt shoulders. Coordination with other trades and crews required a high degree of coordination. Even so, the paving portions of these phases were completed in 48 hours. To be successful, this project required extensive planning and perfect execution of all concrete paving operations, with no room for error.

**Commercial Service & Military Airports—Silver Award**

Project: Taxiway Bravo Replacement at Wright Patterson Air Force Base (Ohio)

Contractor: Hi-Way Paving, Inc**.**

Owner/Engineer: US Army Corps of Engineers

Hi-Way Paving, Inc. completed this $6.1 million project for Wright Patterson Air Force Base with the contract administered through the United States Army Corps of Engineers.

The project required work on a closed taxiway adjacent to an active runway at the largest U.S. Air Force base in the world. In fact, Wright Patterson AFB employs over 27,000 people and has a reported $5 billion economic impact in the region.

The project involved the removal and replacement of Taxiway Bravo, one of the main taxiway accesses to the base’s primary runway. Specific major work items for this project included complete project management; permit acquisition and numerous project submittals; a contractor quality control program; and a contractor safety program. The project also involved demolition of the existing concrete taxiway and asphalt shoulders; undercutting and earth movement; installation of new storm drainage and underdrain system; installation of a crushed aggregate base courses; and installation of variable thickness cement treated permeable base. The project also involved placement of approximately 30,000 SY of 16-in. thick concrete pavement, placement of roughly 1,000 SY of 13- in. thick and 17-in. thick concrete pavement; construction of asphalt shoulders;, installation of a lighting and navigational aid package; installation of pavement marking; and finally, seeding and mulching.

Construction began in the spring of 2012, and Hi-Way Paving finished and reopened the taxiway by October 13, 2012. While this project appeared simple on paper, in reality, this project was one riddled with numerous complexities and challenges from start to finish. Some of these challenges included changed work due to funding shortages, as well as compliance with Wright Patterson AFB’s Occupational Safety & Health Administration voluntary protection program certification.

**Concrete Pavement Restoration (CPR)**

**Concrete Pavement Restoration—Gold Award**

Project: Denver International Airport Runway 16L/34R Pavement Rehabilitation and

ADG V Improvements

Contractor: Interstate Highway Construction, Inc.

Owner: City and County of Denver, Department of Aviation

Engineer: CH2M Hill

While performing upgrades to meet Federal Aviation Administration (FAA) requirements for airplane design group (ADG) V aircraft being produced today, Denver International Airport rehabilitated concrete and asphalt pavements on one runway and adjacent taxiways.

The project scope included existing pavement demolition, placement of over 88,000 SY of concrete pavement, and placement of over 64,500 SY of cement stabilized soil. The project also included installation of nearly 2,300 in-pavement lights, and installation of over 1 million linear feet of electrical cable. In addition, the project included spall repairs around existing light cans, grooving of new runway concrete, installation of runway and taxiway pavement markings, and placement of more than 32,600 tons of asphalt pavements. Construction of a new high-speed taxiway finalized the runway complex upgrades.

As the nation’s fifth busiest airport, Denver International Airport has six runways servicing an average of more than 1,600 flights, 145,000 passengers, and about 650 metric tons of cargo each day.

The airport is said to have a greater than $55 billion annual economic impact to the state. As such, taking one runway out of service for any length of time has major financial consequences, making thee construction schedule a very critical success factor.

Construction for this project was designed in 14 phases to be completed with seven milestones in just 75 calendar days. Extra-large off-road articulated trucks were used to haul the removed concrete from the work site. Throughout the concrete removal operations, large areas of subgrade material required evaluation and testing prior to replacement of the concrete pavement. Panel replacements varied in thickness from 17” to 21”. This complex project was completed within the 75 calendar days as scheduled.

**Concrete Pavement Restoration—Gold Award**

Project: Virginia Route 195 Concrete Pavement Rehabilitation, Richmond, Va.

Contractor: Denton Concrete Services

Owner: Virginia Department of Transportation

Engineer:Denton Concrete Services

Virginia’s Route 195 has served as the major access road to downtown Richmond for over 35 years, but this thin continuously reinforced concrete pavement was in need of repair.

In 2011 the Virginia Department of Transportation awarded a project to Denton Concrete Services to do extensive concrete patching, and then place a thin hot mix asphalt overlay on this section of roadway. The expectation was that this thin asphalt overlay would slow further deterioration of the old concrete pavement.

The project constraints required Denton Concrete Services to perform all work at night between the hours of 7:30 p.m. and 6:00 a.m. Denton's extensive experience with this kind of work resulted in good production and high quality patches.

Denton and the Virginia Department of Transportation worked closely together to determine what pavement needed to be replaced, and soon found that much more of the pavement needed to be removed than was originally defined in the contract. As such, the Virginia DOT decided it was more cost efficient to delete the thin asphalt overlay from the contract and add removal and replacement of all of the existing continuously reinforced concrete pavement. The real-time evaluation and decision to change the scope of work will provide for a longer expected pavement life. Denton Concrete Services completed this project during night time closures with minimum time or cost overruns.

**Divided Highways (Rural)**

**Divided Highways (Rural)—Gold Award**

Project: Interstate-40 (Mile 206 to Mile 212); Seminole County, Okla.

Contractor: Duit Construction Company, Inc.

Owner/Engineer: Oklahoma Department of Transportation

This project was a full pavement rehabilitation of the old four-lane highway, 6 miles in length along one of the most travelled highways through the United States, Interstate 40.

The project encountered record snow falls and freezing temperatures during concrete paving in the winter, and 37 days over 100 degrees (52 days in total) during the summer. Despite these challenges, Duit was able to finish this 358,000SY project on-time, under budget, with no outstanding claims.

Duit used a portable crusher to crush the existing concrete in place, recycling it into the new structural section of the pavement as aggregate base. Through effective partnering with Oklahoma DOT and innovative project phasing, they were able to eliminate a number of cold joints around on/off ramps and as a result were able to deliver the best ride possible for the public.

In the end, Duit was able to accomplish a smooth ride averaging 0.75 inches/mile, and achieving 99% of the smoothness incentive.

**Divided Highways (Rural)—Silver Award**

Project: Interstate-69 New Construction, Section 3, Contracts 8 & 9; Daviess

County, Ind.

Contractor: Milestone Contractors, L.P.

Owner: Indiana DOT, Vincennes District

Engineer: Crossroad Engineers, P.C.

Encompassing 67 miles of new terrain alignment from Evansville to US 231 near the U.S. Naval Surface Warfare Center at Crane, IN, I-69 represented the single largest continuous highway construction project in the U.S. at the peak of construction during 2011.

Milestone Contractors, L.P. (formerly Berns Construction) handled the paving assignment for Section 3, Segments 8 and 9, starting north of US Highway 50 continuing north for 6.1 miles.

Milestone's scope of work included placement of the 3 inch drainage layer, dowel baskets, and 203,000 SY of 11-in. thick concrete pavement, which was placed at 30 ft widths. The two-track paver was controlled by stringless technology for lateral and elevation grade control.

With 23 lane miles of pavement, only minor bump grinding was performed, and none of it was necessary to bring the profile Index into tolerance . Most sub-lots earned a bonus for exceeding smoothness criteria.

**Divided Highways (Rural)—Silver**

Project: Highway 20-Lytton; Sac/Calhoun County, IA

Contractor: Cedar Valley Corp., LLC

Owner/ Engineer: Iowa Department of Transportation

This project included 14.6 miles of divided four-lane paving, for a total of 58.4 lane miles of high quality concrete pavement on US 20. The size of the project was larger than typical and required aggressive scheduling and commitment of resources in order to meet a fall 2012 opening.

Cedar Valley Corp. (CVC) crews placed over 565,000 square yards of concrete paving on this project. This included 54 miles of alternate shoulders that were four foot wide and six inches in depth.

Use of maturity-strength curves to determine opening strengths allowed CVC to pave through each county road without any gap. Innovative scheduling and coordination of a difficult project sequence allowed CVC to open the entire corridor to traffic in 2012. As a result, CVC met its goal of earning the $950,000 early completion bonus. CVC also earned an amazing 93 percent of the smoothness bonus and 100 percent of the thickness and mix design bonus.

**Divided Highways (Urban)**

**Divided Highways (Urban)—Gold Award**

Project: Route 364—Phase II, St. Charles County, Mo.

Contractor: Fred Weber Inc.

Owner: Missouri Department of Transportation

Engineer: EFK Moen, LLC

This project converted a four-lane divided expressway with signalized intersections into a freeway with interchanges and outer roads. The road is located in a heavily populated suburb of St. Louis.

The project included 33.4 lane miles of concrete pavement, totaling 320,000 SY. To better overcome the complex project challenges and schedule, a partnering charter was created between MoDOT, Fred Weber, and the design team.

Fred Weber used an in-the-pan dowel bar inserter, as well as a stringless grade control system. This produced an excellent result, with 76% of the mainline concrete pavement exceeding the smoothness criteria. In addition, the majority of the pavement received quality incentives, as well as exceeding the targeted Green Credits by more than 13%. Through value engineering, Fred Weber realized over $2 million in savings for the Missouri DOT, including almost $1.7 million for Fred Weber.

**Divided Highways (Urban)—Gold Award**

Project: I-15 CORE Project, Utah County, UT

Contractor: Provo River Constructors (PRC)

Owner: Utah Department of Transportation

Engineer: Applied Research Associates, Inc.

The I-15 Corridor Expansion, or CORE project, is the largest freeway construction project in the history of Utah and the fastest billion dollar highway project ever delivered.

PRC exceeded UDOT expectations by adding 10 miles of full reconstruction; using a 40-year pavement design when only 30 was required; and completing the project 18 months earlier than targeted, all while maintaining most of the pre-project lanes available to traffic.

In total, PRC reconstructed 2.8 million SY of paving (24 miles of Interstate reconstruction); replaced 63 bridges; and fully reconstructed 10 interchanges. PRC finished almost 50 days ahead of their record-breaking schedule.

Part of the success was related to the use of stringless paving. Despite a complex phasing plan, requiring 3 to 4 lanes of traffic in each direction, PRC used only 60% of allowable traffic lane closures.

The project finished nearly $260 million under budget.

**Divided Highways (Urban)—Silver Award**

Project: I-380 Reconstruction; Black Hawk County, IA

Contractor: Cedar Valley Corp., LLC

Owner/Engineer: Iowa Department of Transportation

Cedar Valley Corp’s Interstate 380 project rebuilt 7 miles of the southbound lanes adjacent to the Waterloo, Iowa, metropolitan area.

This six-stage project was assigned 135 calendar days with an incentive/disincentive, with a rate of $10,000 per calendar day. Amazingly, the entire 7-mile southbound reconstruction project was completed in just 96 calendar days, earning the CVC team a $370,000 early-stage completion bonus.

This project exemplified the concept of getting in, building a high quality job, and getting out as quickly as possible. The job was progressing so quickly that instead of avoiding the area entirely, people drove through the job just to witness what people were talking about. CVC earned the maximum thickness and mix bonus and 69% of the smoothness bonus.

In addition, this complex project had an exemplary safety record, recording 33,590 man-hours without a loss time injury or vehicular accident.

**Divided Highways (Urban)—Silver Award**

Project: USH 41, Mason Street/STH 54 Interchange, Green Bay, Wisc.

Contractor: Vinton Construction Company
Owner: Wisconsin Department of Transportation

Engineer: Kapur & Associates

This highly complex project was completed early with high quality of workmanship under the constraints of a very aggressive schedule.

The $30 million reconstruction of one mile of USH 41 at the interchange with STH 54 in Green Bay, Wisconsin also included the reconstruction of all the ramps and one mile of STH 54, for a total of 111,000SY of quality concrete pavement.

USH 41 was widened from four lanes to six and two collector/ distributor lanes were added, both northbound and southbound. WisDOT required a very aggressive schedule on the project, much of it related to open the interchange to traffic prior to the start of the Green Bay Packers preseason games.

The entire project, STH 54 and USH 41 mainline, was opened to traffic five days early, and Vinton opened the roundabout at the intersection of Mason Street and Taylor Street one month early.

While achieving these impressive schedule milestones, Vinton successfully met all the material requirements, including the rigorous constraints of the HPC Special Provision.

**Industrial Paving**

**Industrial Paving—Gold Award**

Project: Nanshan America Advanced Aluminum Technologies RCC Project,

Lafayette, Ind.

Contractor: E&B Paving, Inc.

Owner: Nanshan America

Owner’s Representative: Shiel Sexton

Engineer: The Schneider Corporation

The new Nanshan America Advanced Aluminum Technologies facility on the south side of Lafayette, Ind., was a design-build project. Irving Materials, Inc., the concrete supplier for this project, presented prime contractor and owner's representative, Shiel Sexton, with the option of using roller compacted concrete (RCC) for facility site paving.

RCC, it seemed, would meet all the owner’s requirements including durability, speed, and cost. After further analysis, roller compacted concrete was selected for use on the primary entry road, site roads, and the material processing yard on the west side of the Nanshan facilities.

E&B Paving Inc.'s Roller Compacted Concrete Group placed the roller compacted concrete. The placement included 20,135 square SY of 7-in. RCC and 26,875 SY of 13.5-in. RCC. The 13.5-in. RCC was placed in a two-lift, “wet-on-wet” process, which means the second lift had to be placed immediately after the first lift.

E&B’s skilled placement of this material led Shiel Sexton to add an additional 6,600 SY of 8-in. of RCC and 13.5-in. of RCC for the floor in one of the Nanshan America buildings.

The Nanshan America project contains two firsts in Indiana: the first two-lift installation of RCC pavement using two high-density pavers, and the first application of RCC as the floor of an industrial building.

Timing, consistency, and excellent compaction were the keys to success with this roller compacted concrete project. Because of the success of project, Indiana Department of Transportation then considered RCC as an option for shoulders. In addition, other industrial and commercial facilities are taking a close look at RCC as an option for their site paving needs.

**Industrial Paving—Gold Award**

Project: Goose Creek Naval Weapons Station Rail Road Tracks; Charleston, SC

Owner: Naval Facilities Engineering Command (NAVFAC) Southeast

Contractor: McCarthy Improvement Company

Engineer: Toland & Mizell Architects, Inc

McCarthy Improvement's crew placed a new loading area for military transport trains within Goose Creek Naval Weapons Station in Charleston, SC using a laser screed equipped with GPS technology.

The grade and elevations of the proposed finish grade were plotted with a computer system to render a 3-dimensional model. The model was then used to maneuver the laser screed over the concrete to produce the correct finished grade.

McCarthy surveyed the finished concrete to compare to the model to verify the as-built grades after finishing paving. This digitized processes eliminated the use of stringlines, saving time and money on the project and providing the owner with a high quality, smooth finished product.

The stringless process also provided a smaller job footprint, which created fewer disturbances in the active work zone. In addition to a 12-ft straightedge smoothness requirement, the U.S. Army Corp of Engineers required McCarthy to flood the pavements with water (using a water truck) to check for proper drainage and standing water.

A highly-restrictive badging process and challenges in coordination between Navy and Air Force personnel working at the security gates posed significant difficulties for construction crew members entering and exiting the gate during production. To meet the project schedule and expectations of both the Navy and Air Force, the construction team’s communications efforts became a very critical success factor.

The commanding officers at Goose Creek Naval Weapons Station applauded the project as a huge success, and honored the completion of the new railroad track loading area with a celebration and a ceremony.

**Industrial Paving—Silver Award**

Project: Mesquite UPRR Intermodal Facility Expansion, Mesquite, Texas

Contractor: TTK Construction Co., Inc.

Owner: Union Pacific - Davidson Yard

Engineer: TranSystems Corporation

The United States’ rail system is as important to our everyday way of life as it is to history and emergence of this great nation. From its inception, rail transportation proved to be a fast, cost-effective way to transport goods, services and people across great distances.

Today the railroads are expanding their vast network of tracks and staging facilities in an attempt to keep up with the demands of the American consumer. Such was the case in Mesquite, Texas, at the Union Pacific Railroad’s Intermodal Facility.

TTK/Duit Construction was asked to perform the concrete paving portion for the Union Pacific Intermodal Terminal Expansion. Union Pacific railroad operates an intermodal operational facility within the Skyline Industrial Park, which is currently the largest intermodal facility in the Dallas/Fort Worth area and one of the largest in the country.

The expansion project was designed to help support of this intermodal facility’s growing volume in one of the nation’s fastest growing metropolitan areas. Open and operating 24 hours a days and 7 days a week, this facility is capable is handling more than 2,000 containers, which are shipped throughout the world. The nearly 105,000 SY expansion to the storage area serves as a vital component to the facility’s operations, allowing for quick and efficient cargo transfers.

The project was not without its challenges as issues existed that posed potential problems and delays that could easily “derail” the schedule. TTK put forth a proactive, concentrated effort to work with owner and manager to redesign the existing pavement section.

Working under a "must finish by" deadline, TTK worked 12 hours a day, 7 days a week for nearly six weeks straight to ensure the needs of Union Pacific Railroad’s deadline were met.

**Municipal Streets & Intersections (<30,000 SY)**

**Municipal Streets & Intersections (<30,000 SY)—Gold Award**

Project: Michigan Avenue Reconstruction Project, Stevens Point, Wisc.

Contractor: Trierweiler Construction and Supply Co., Inc.

Owner: City of Stevens Point, Wisc.

Engineer: Alex J. Saunders, P.E., City Engineer

The reconstruction of Michigan Avenue in the City of Stevens Point, Wis., was the first locally funded concrete pavement project awarded by the city in over 20 years. For this project, concrete pavement replaced an existing asphalt pavement.

The route serves as the sole access for P.J. Jacobs Junior High School, so all work occurred during the school’s summer break. To further complicate matters, access had to be maintained to a polling station, Mid-State Technical College and the Goerke Park complex throughout construction.

Because the project also involved much utility work, concrete paving was not able to begin until August 13. Despite challenges, Trierweiler Construction and Supply did an exceptional job coordinating paving operations to place all 7,700 SY of 9-inch concrete pavement, 4,300 feet of concrete curb and gutter, 23,000 SF of concrete sidewalk, and 400 SY of concrete driveways. The project was completed in only seven days … and ahead of the start of the new school year.

The city was said to be very pleased with the ride quality of the pavement, and the excellent ride quality was achieved in spite of six intersections and more than 30 manholes within the pavement limits. Every aspect of the project, from conception to completion, was carefully thought out, well executed, and a huge success. As a result, the City of Stevens Point has a newly constructed concrete street that will serve the community for many years to come.

**Municipal Streets & Intersections (<30,000 SY) —Silver Award**

Project: South Broadway Reconstruction/Yale to Wesley, Denver, Colo.

Owner: City & County of Denver , Colo.

Contractor: Concrete Works of Colorado, Inc.

Engineer: Muller Engineering

This project, being the second phase of the reconstruction of South Broadway in Denver, included four intersections along a 1.6 mile stretch, totaling more than 14,000 SY of 11 in. concrete pavement.

The existing waterline and lead services were replaced as part of the project, and an unexpected utility conflict affected the project schedule because the gas line was required to be relocated.

The reconstruction included widening of the roadway by 5- to 6-ft on each side, as well as construction of 10 ft wide medians, turn lanes, new 13- to 17-ft sidewalks, and ADA compliant ramps.

Along with the roadway reconstruction, the contractor completed streetscape elements, including raised planting areas with seat walls, colored accent pavers, an irrigation system in the median and either side of the street, and tree plantings in the medians and sidewalks. The contractor also completed decorative stonework, bike racks, benches, trash receptacles, new traffic signals and street lights, and pedestrian lighting signage.

To minimize impacts of the reconstruction on businesses and the travelling public, 34 construction phases were necessary. The contractor also provided variable message signs and employed extensive traffic control to keep work zone delays to a minimum. Attention to detail and superior quality were truly hallmarks of this project.

**Municipal Streets & Intersections (>30,000 SY)**

**Municipal Streets & Intersections (>30,000 SY) —Gold Award**

Project: West Capitol Drive Reconstruction, Milwaukee, Wisc.

Owner: Wisconsin Department of Transportation, Southeast Region

Contractor: Zignego Company, Inc.

Engineer: City of Milwaukee

The reconstruction of this 1.5 mile section of West Capitol Drive in Milwaukee was very complex because the project included 25 intersections, 56 left turn lanes, and access to all 123 businesses on at all times during construction.

With two through lanes, a bicycle lane, and a parking lane in each direction, the section had more than 87,000 SY of 8.5 in. concrete pavement.

Although city engineers were initially said to be concerned this project could not be built with concrete because of tight clearance requirements, the Wisconsin Concrete Pavement Association and its contractor members worked with the city to prove otherwise.

The Zignego Company was awarded the contract and used an innovative paver setup that allowed the bike lane, parking lane, and integral curb to be paved simultaneously with a zero clearance paver. Despite early construction season weather issues and utility delays, the project was completed ahead of schedule, receiving incentives for concrete strength and ride.

Major sustainability efforts on the project included recycling of 100 percent of the existing asphalt pavement as base for the new concrete pavement, substitution of 30 percent of the portland cement with type C fly ash, and the construction of sustainable landscaping in the medians.

**Municipal Streets & Intersections (>30,000 SY) —Silver Award**

Project: State Highway No. 85 Bypass Pro**j**ect, Greeley, CO

Owner/Engineer: Colorado Department of Transportation, Region 4

Contractor: Castle Rock Construction Company of Colorado

The existing concrete road was not designed for the amount of truck traffic utilizing the road today and, as such was badly failing after 35 year of service.

To increase capacity of the truck route, the dirt median was filled in and covered with concrete paving; shoulders and right turn lanes also were replaced along this 3.5 mile section. Ultimately, over 130,000 SY of new 12 in. concrete pavement were paved by Castle Rock Construction Company.

The project also consisted of enhanced drainage features, underground utility work, curb and gutter, use of the safety edge, bridge resurfacing and repair, and barrier wall.

The construction team came up with ways to finish this project in one season when it was slated to take two seasons, saving the state money in traffic control and management costs.

To recycle the existing pavement structure into the new concrete pavement, the existing concrete pavement was crushed and used as base and recycled asphalt from the existing shoulders was incorporated into new shouldering.

Castle Rock Construction used a Shilstone optimized concrete mix for this project by using a four-bin feeder and pug mill. The construction team overcame many challenges to finish the project ahead of time and within budget.

**Overlays (Airports)**

**Overlays (Airports)—Gold Award**

Project: General Mitchell International Airport (GMIA) Field Runway Intersection
 Rehabilitation, Milwaukee, Wisc.

Owner: Milwaukee County: Airport Division - GMIA

Contractor: Walsh Construction

Engineer: RDM

Milwaukee’s General Mitchell International Airport (GMIA) has over the years spent an increasingly large amount of maintenance dollars on rehabilitating the asphalt intersection of Runways 1L-19R and 7R-25L. In a pavement condition survey conducted by the Wisconsin DOT in 2008, this pavement was determined to be at a state where normal maintenance could not keep up with the deterioration.

GMIA commissioned a study to determine alternatives to repair or replace the pavement. The study consisted of surveying grades and profiles, coring to determine pavement sectional depths and soil conditions, non-destructive testing to determine the structural capability and predicting expected life.

While focusing on determining how to best repair or replace the pavement through the intersection, numerous considerations needed to be considered:

1. Critical operational requirements for the intersection,
2. Constructability of any rehabilitation or reconstruction technique,
3. Cost considerations,
4. Design life expectancies and
5. Potential maintenance requirements after the area is repaired.

The two runways are the primary runways at General Mitchell airport. Basically, every aircraft operation goes through this intersection 24 hours per day, 7 days per week. This left a very narrow construction window.

To accommodate the schedule, numerous innovations were designed into the project and properly executed during construction. The project was executed as planned and in accordance with the design. The Airport was able to replace approximately 75% of all existing asphalt pavements with concrete and open in a timely manner each weekend morning. The contractor finished the project on time and within budget.

**Overlays (Airports)—Silver Award**

Project: Laurens County Airport - Airfield Pavement Rehabilitation; Laurens, SC

Contractor: APAC-Tennessee, Inc.- Ballenger Paving Division

Owner: Laurens County Airport Commission

Engineer: The LPA Group Incorporated

This airport is located three miles east of Laurens, S.C., and is publicly owned and managed by Laurens County.

The airport has one operational runway and serves the general aviation needs of the county. The primary aircraft that uses this airport are single-engine private planes.

The project was bid in June of 2012 with two alternates for the runway rehabilitation. One proposed alternate was 4 in. of asphalt surface on an 8 in. reclaimed base. The second proposed alternate was a 5 in. concrete overlay of the existing asphalt runway.

 The efforts of project team, including The LPA Group, SCDOT Aviation Department, and the FAA, along with support from the ACPA-SE Chapter, resulted in the concrete alternate being selected. The FAA approved a modified South Carolina DOT concrete specification in lieu of the FAA P-501 concrete specification. This modification of standards allowed the use of a concrete mixture that was designed with locally available materials and used compressive strength as opposed to flexural strength for acceptance. These changes made the initial costs of the concrete pavement competitive.

Before the start of the construction, APAC, TN—Ballenger Paving Division approached the owner and the engineer and proposed using concrete on the apron and a taxiway to replace an asphalt add alternate that was part of the bid documents for additional construction.

Many other challenges and changes were made that enhance the results of this project resulting in a practically new airport that will continue to meet the aviation needs of the area for many years to come.

**Overlays (Highways)**

**Overlays (Highways)—Gold Award**

Project: New York State Thruway, Milepost 438.5 to 451.5, Erie County, N.Y.

Contractor: Surianello General Concrete Contractor, Inc.

Owner: New York State Thruway Authority

Engineer: Stantec Consulting Services

Conceptually, this pilot project was intended to compare the serviceability of a concrete overlay to an asphalt overlay. The existing pavement section included the original 50-year-old jointed reinforced concrete pavement with asphalt on top.

The concrete portion of the pilot project included 10 lane miles of a 9-in. thick unbonded concrete ovelay, for a total of 74,000 SY of quality concrete pavement.

Surianello General Concrete Contractors used both mechanical dowel bar inserters and stringless paving during construction. In fact, this project was the first project in Western New York where both mechanical insertion of dowel bars and stringless paving were introduced to this Division of the New York State Thruway Authority.

Nearly 100% of the dowel bars tested on this project were well within tolerance, with no corrective action required. Furthermore, a 100% smoothness performance bonus was achieved, without the need to grind a single square yard of pavement.

**Overlays (Highways)—Silver Award**

Project: US 18 from east city limits of Fredericksburg to West Union, Iowa

Contractor: Manatts, Inc

Owner/Engineer: Iowa Department of Transportation

This exciting project set out to demonstrate and document the design and construction of a concrete overlay on a two-lane roadway while maintaining through traffic – in this case a 19 mile section of US 18 in northeastern Iowa.

The existing pavement on this project consisted of concrete pavement from 1938, and included 18 and 20-ft wide sections. A 6-in. thick asphalt overlay, and asphalt or PCC widening units resulted in a 24-ft wide roadway.

The project called for the widening of the existing pavement 4 ft on each side with 8 in. of concrete , and the placement of a 4.5 inch concrete overlay across the existing 24 foot surface. Manatts placed more than 370,000 SY of concrete overlay while maintaining through traffic in less than the 120 working days allowed. The contractor also achieved 94% of the available smoothness incentive.

The results of this project confirm that one-lane concrete overlay paving under traffic is feasible. The contractor also completed the project in a compressed time window and with excellent smoothness results.

**Overlays (Highways)—Silver Award**

Project: Audubon Parkway Overlay; Henderson County, Ky.

Contractor: The WL Harper Company

Owner: Kentucky Transportation Cabinet, District Two-Madisonville

Engineer: Kentucky Transportation Cabinet

This project consisted of 350,000 SY of 7-in. and 10-in. jointed concrete pavement along a 7.5 mile stretch of the Audubon Parkway in Henderson County, Ky.

In addition to the concrete overlay of Audubon Parkway and 4 connecting ramps, the job required replacement of a 1 mile section of 10-in. thick concrete along KY 416, as well as an overpass, ramps, crossovers, and several other items.

The complexity of the project dictated that construction be split in to 7 distinct phases. Despite these challenges and a schedule change, the Harper Company achieved impressive production on the mainline paving on this project.

There were several days where almost 3/4 mile of concrete was placed, 28 ft wide, with more than 12,000 SY per day.

Average production during 2012 was 1,800 CY per day or about 7,750 SY per day for the 20 days needed to complete the 155,000 SY of westbound mainline pavement.

**Overlays (Streets and Roads)**

**Overlays (Streets and Roads)—Gold Award**

Project: West Dakota Parkway (US. Hwy. 2) Intersection Overlays, Williston,

 N.D.

Contractor: ACME Concrete Paving, Inc.

Owner: North Dakota Dept. of Transportation

Engineer: Ulteig Engineers, Inc.

Rapid oil development in the northwest quadrant of North Dakota has caused accelerated deterioration of asphalt roads throughout the area. This section, with over 3,500 trucks per day, experiences extreme rutting of the existing asphalt, especially at intersections.

To address the issue, the North Dakota Department of Transportation has embraced concrete overlays as their “new normal” to achieve economical long life solutions for heavily trafficked routes.

This project, constructed by ACME Concrete Paving Company, included 6 intersections, side streets, and intersection approaches to total over 85,000 SY of 6-in. to 7-in. thick concrete overlay.

Although the design life was targeted at 10 years, it is hoped that the concrete overlay will provide three to four times the service life of asphalt alternates in this high truck traffic corridor.

Because no alternate bypass routes were available for the oil field traffic, the divided four-lane street was constructed under traffic one lane at a time. Also, because there was no possibility of advanced surveys due to the heavy traffic, field designs were required for each lane closure segment.

Through effective use of fast-track mixes, the maturity method for estimating in-place strength, and optimized field adjustments to construction sequences, each intersection was opened within one week, and overall construction time was reduced by five weeks.

**Overlays (Streets and Roads)—Silver Award**

Project: Ohio and Crawford Intersection Overlay Improvement, Salina, Kans.

Contractor: Pavers Inc.

Owner: City of Salina

Engineer: Wilson & Company

This intersection is Salina’s busiest, with more than 32,000 vehicles/day. The existing pavement was a composite of old concrete pavement that was overlaid with 2 in. to 6 in. of asphalt pavement.

An 8-in. unbonded concrete overlay was constructed at the intersection along with curb and gutter replacement, inlets, sidewalk ramps and new medians. Reconstruction was specified to be completed under traffic and in four major phases, which meant the contractor rebuilt the intersection one-quarter at a time.

The city specified that liquidated damages in the amount of $1,200/day be assessed for each day past 60 calendar days. The city also offered an incentive of $1,200/day for up to 15 days for early completion.

Days before construction, the local newspaper’s front page headline warned of the upcoming construction, referring to this project as “Carmageddon” and “Doomsday Approaches.”

Traffic control always allowed one lane of traffic on one side of the road in each direction, providing access to all businesses, and the speed limit through the work zone was reduced to 20 mph with no left turns allowed anywhere in the work zone.

The work zone was intensely monitored by local law enforcement and a total of 506 citations were handed out for work zone driving violations throughout the 45 calendar days needed for construction.

Upon completion, a letter to the editor published in the newspaper commended city engineers, police, and the contractor for smooth traffic flow throughout the intersection’s construction.

**Reliever & General Aviation Airports**

**Reliever & General Aviation Airports—Gold Award**

Project: Cheyenne Regional Airport Taxiways Reconstruction; Cheyenne, Wyo.

Contractor: Interstate Highway Construction, Inc.

Owner: Cheyenne Regional Airport

Engineer: Short Elliott Hendrickson, Inc.

Located just one mile north of the central downtown business area, Cheyenne Regional Airport is a joint Civil and military airport. Home to the Wyoming Air National Guard, the airport also serves as a fueling point for U. S. military aircraft making transcontinental journeys. The military operations account for 51% of the air traffic at Cheyenne.

This project was part of the airport’s program to replace pavement plagued by alkali-silica reactivity (ASR). Originally scheduled to start in June, with completion by early November, the notice to proceed was delayed until August 8, 2012. Based on the new notice to proceed, the redefined project schedule indicated that the work would now not be completed until December, raising concerns about cold weather.

The original design proposed full-depth removal and replacement of the concrete, cement treated base, and cement treated subgrade of the existing taxiways. After the removal of existing ASR distressed concrete began, the engineers determined the existing cement treated base was durable and did not need replaced.

A change order was issued to eliminate the removal of both the cement treated base and cement treated subgrade. This change allowed paving to begin within two weeks of the removal operation, accelerating the revised schedule.

The change order also resulted in significant cost savings to the owner. This cost savings enabled the owner to add an additional 10,000 SY of concrete pavement replacement to the project, which allowed the airport to rehabilitate all areas of ASR affected taxiways. This project exemplifies how, with all parties working together, positive changes and results can be accomplished . With value-engineering changes, the project that started about two months late was finished on November 2, 2012, roughly the same time frame as the original planned finish date.

**Reliever & General Aviation Airports—Gold Award**

Project: Ottawa Municipal Airport, Ottawa, Kans.

Contractor: Emery Sapp & Sons, Inc.

Owner: City of Ottawa, Kans.

Engineer: LOCHNER

The project at the Ottawa Municipal Airport, located south of Ottawa, Kans., was funded as a partnership between the Central Region of the Federal Aviation Administration and the City of Ottawa.

H.W. Lochner, Inc. provided the project construction documents and performed construction phase services. The contractor, Emery Sapp & Sons, Inc., entered into a contract with the airport on January 18, 2012, and began work on March 26, 2012.

The project scope included reconstructing the 4,500-ft long by 75-ft wide Runway 17-35, along with four 200-ft long by 35-ft wide connector taxiways. The project required 32,500 CY of unclassified excavation to accommodate the design profile and safety area grading for the runway. The existing asphalt pavements and underlying aggregate base were recycled and used as an aggregate base under the new pavement.

Underdrains were installed along both sides of the runway, as well as along the low side of the one way cross sloped taxiways. The typical section for the Runway consisted of 6 in. of concrete pavement supported by 6 in. of recycled bituminous base course.

The connector taxiway typical sections were similar, except that the recycled bituminous base thickness was reduced to 4-in. In addition to the pavement, the airport upgraded their electrical vault located in the terminal building and installed LED runway and taxiway lights edge lights, LED runway ”hold short” signs and LED runway end identifier lights, all of which will save the airport approximately 33% it’s in energy use compared to conventional lights.

 All contractor quality control and owner quality assurance testing were within the required tolerances. This well-constructed runway will provide the airport with a safe, durable concrete pavement with minimal maintenance for many years to come.

**State Roads**

**State Roads—Gold Award**

Project: Highway 196, Sac County, IA

Contractor: Cedar Valley Corp., LLC

Owner/Engineer: Iowa Department of Transportation

This project included over 2.5 miles of 10-in. concrete pavement on a two-lane highway that connects the existing US 20 to the newly constructed and relocated US 20.

Coordination was of the utmost importance on this job as Cedar Valley Corp. (CVC) was concurrently constructing an additional 26.2 miles of the relocated US 20.

The sheer volume of work being built by CVC on this corridor overwhelmed local material producers and material haulers. Between mid-July of 2011 and October of 2012, CVC’s paving and base operations used almost 1.3 million tons of material.

Resident Construction Engineer Tony Babcock noted: “I felt that working with CVC was a breath of fresh air. It was not uncommon for their staff to bring up, address, or rectify issues prior to my staff or myself being made aware. When it was necessary to address issues on the project, I was never met with an argument and was always given an extremely prompt and professional response to my concerns. I wish I could have such a positive relationship with all the contractors that I work with.”

In the end, CVC earned 72 percent of the smoothness incentive and 100 percent of the thickness and mixture design bonuses, along with a $950,000 early completion bonus.

**State Roads—Silver Award**

SR 25 Delphi to Lafayette, Tippecanoe and Carroll County, Ind.

Contractor: E&B Paving, Inc.

Owner: Indiana DOT, Crawfordsville District

Engineer: Butler, Fairman & Seufert, Inc.

This project involved two contiguous segments of the Hoosier Heartland Highway between Lafayette and Fort Wayne, Ind.

E&B Paving, Inc. constructed nearly 11 miles of four-lane highway on new alignment, totaling almost 400,000 SY of 10-in. and 11.5-in. concrete pavement, placed at a width of 26 ft.

The project scope also included some 2 million CY of excavation, 380,000 CY of borrow, box culverts, and related drainage structures, 11 bridges, and 280,000 SY of 24 in. of subgrade treatment.

Paving operations spanned three seasons, because heavy rains in the spring of 2011 caused a three month delay. E&B Paving responded by mobilizing paving crews among both contracts.

The Indiana DOT also issued a revision in the winter of 2011, adding a concrete roundabout just east of the I-65 and SR 25 interchange. The DOT issued another revision in 2012, adding removal and replacement of a 38 year old PCCP with new PCCP between the original terminus of one of the contracts and the I-65 Interchange.

This project team delivered a safe and durable rural divided highway that will serve motorists between Lafayette and Delphi, Ind., for years to come.

**Urban Arterials & Collectors**

**Urban Arterials & Collectors—Gold Award**

Project: Denver International Airport- Reconstruction of Outbound Pena Blvd, Colo.

Contractor: Castle Rock Construction Company of Colorado

Owner/Engineer: Denver International Airport

This project was 1.5 miles of the four-lane divided highway leading to Denver International Airport (DIA), and this being the major route into and out of the airport, traffic could not be interrupted.

The median between the roads is very wide, so the first step of the project was to add a two lane asphalt road down the median through the entire length of the project to accommodate both the inbound or outbound traffic during mainline reconstruction.

The existing concrete roadway was crushed in-place to 3-in. minus and a 3-in. base was placed atop the crushed concrete to support the more than 86,000 SY of new 11-in. thick concrete pavement.

After the mainline roadway was paved, a 12 ft shoulder was added with curb and cable rail to provide better drainage and safety. Because the airport uses a lot of magnesium chloride, trench drains were included for the entire length of the project to provide exceptional drainage to protect vegetation.

After both the inbound and outbound roadways were completed, the temporary asphalt road in the median was removed.

Castle Rock Construction used a Shilstone optimized concrete mix for this project by using a four-bin feeder and pug mill. This optimized concrete mixture produced very consistent concrete and contributed to a smoother and more durable concrete pavement.

**Urban Arterials & Collectors—Silver Award**

Project: Maplecrest Road Extension, R-31752, Allen County, Ind.

Contractor: Primco, Inc

Owner: Allen County Highway Department .

Engineer: American Structurepoint, Inc.

The long awaited Maplecrest Road Extension represents a significant improvement for the greater Fort Wayne/Allen County community in northeastern Indiana.

The contractor, Primco, Inc., delivered this complex project with outstanding quality on time and under budget. The project included over 43,000 SY of 9-in. and 11-in. concrete pavement over a 1.5 mile stretch.

The project also encompassed four bridges; one river crossing; 230,000 CY of excavation; 450,000 cubic yards of borrow; 40,000 lineal feet of water, waste water and storm piping; and a 10-foot wide pedestrian/bike path on the east side.

Prior to paving, the final grade was left unpaved for a full year to allow surcharging and settling because of the depth of fill and the soil characteristics on this section. A large bio-solids facility at the north end of the project required continuous access during construction for over 200 trucks/day.

The original plans called for an asphalt access road but the contractor successfully switched the access road to concrete. Despite many challenges, Primco, Inc. delivered this major regional improvement to their hometown community at more than 35% below the engineer’s estimate.

**About the Excellence Awards**
This year the awards represent 13 categories of construction and preservation of concrete pavements used for highways, roadways, airports, and industrial pavement facilities. In all, 31 awards were presented to 25 contractors.

The ACPA Excellence in Concrete Pavements awards are made possible, in large measure, because of the generous time commitment of independent judges from across the United States and Canada. The judges each spend many hours reviewing executive summaries, project details, photographs, and other details and aspects of project submittals.

ACPA presents awards in both gold and silver levels. Judging is based on a point system, with independent judges awarding points for quality construction, addressing unique and unusual challenges, innovation, traffic management, and other criteria. In the case of ties, award judges present awards to co-winners.

**About the ACPA**

The American Concrete Pavement Association is the national trade association for the concrete pavement industry. The primary mission of the ACPA is to create and maintain a strong national presence through dynamic, strategic leadership; effective technical expertise and resources; and persuasive advocacy on behalf of the concrete pavement industry.

Founded in 1963, the American Concrete Pavement Association is headquartered in at 9450 West Bryn Mawr Ave., Suite 150, Rosemont, IL 60018. Telephone: 847.966.2272. The Association’s Washington, DC office is located at 500 New Jersey Ave., NW, 7th Floor, Washington, DC 20001. Phone: 202.638.2272.

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