



## JUNE 2015

### Updated Concrete Surfaces Improve Aging Roads

The Minnesota Department of Transportation (MnDOT) is recognized world-wide as a leader in innovation when it comes to constructing and rehabilitating concrete pavement. To prove this point, one must look no further than Minneapolis, Minnesota, where a busy stretch of Interstate 394 in the metro area will be rehabilitated this summer. The project will use two concrete pavement preservation (CPP) strategies that are gaining momentum nationally: "the buried treasure preservation concept" and the Next Generation Concrete Surface (NGCS).

The buried treasure preservation concept involves the removal of an aging asphalt overlay that was placed on a concrete roadway in years past, followed by a diamond ground surface finish. The NGCS was conceived at Purdue University between 2006 and 2008 and fully developed at MnDOT's MnROAD pavement test track. It represents the quietest non-porous concrete surface developed to date and is the first new concrete pavement texture introduced in the last 30 years. The NGCS texture can be

### Upcoming Events

July 19-22 / WASHTO 2015 - Western Association of State Highway and Transportation Officials in Boise, Idaho.

Aug 30 - Sept 2 / 2015 APWA Congress & Expo will be held at the Phoenix Convention Center, 100 North 3rd Street, Phoenix, Arizona.

Sept 9 - 11 / 2015 Northeast Bridge Preservation Partnership Meeting, Manchester, New Hampshire.

Sept 28 - 30 / 2015 Midwestern Pavement Preservation Partnership Annual Meeting, Kansas City, Missouri.

Oct 19 - 21 / 2015 Rocky Mountain West Pavement Preservation Partnership Annual Meeting, Bozeman, Montana.

installed on newly constructed pavements as well as existing pavements with conventional diamond grinding equipment. It is designed to provide a consistent profile absent of positive or upward texture, resulting in a uniform land profile design with a predominantly negative texture which possesses excellent micro-texture and macro-texture, bringing about a lower overall pavement/tire noise level.

The section of I-394 being repaired was built in the late 1980s and was constructed with a transversely tined concrete surface. Transverse tining, a practice that has been discontinued in most of the U.S., exacerbated tire/pavement noise. Soon after completion of the original I-394 surface, complaints of noise from nearby residents began. Asphalt overlay treatments were tried in the intervening years, but no long-term noise solution was found.

The current scope of work for this \$13 million project includes removing the existing asphalt overlay by milling, assessing and repairing the exposed concrete, then constructing the NGCS finish. The project will rehabilitate the 25+ year old concrete pavement and bring its structural integrity back to a condition that is close to new by eliminating worn areas of concrete and replacing them with new concrete patches. The process is expected to give the pavement an additional life of 20 to 30 years, while the NGCS will minimize the noise generated at the tire-pavement interface.

## Communities Follow the Progress of CPP

An article in Finance & Commerce reported this summer's I-394 road work to community members, who take an active interest in seeing road noise reduced. Look to the IGGA for future updates on noise tests conducted by the MnDOT research office and other testing agencies.

Read a comparison between old and new concrete pavement treatments in Roads & Bridges, including residents' responses to the quieter pavement produced using NGCS on two segments of I-35 in Duluth, Minn.

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The International Grooving & Grinding Association (IGGA) is a non-profit trade association founded in 1972 by a group of dedicated industry professionals committed to the development of the diamond grinding and grooving process for surfaces constructed with Portland cement concrete and asphalt. In 1995, the IGGA joined in affiliation with the American Concrete Pavement Association (ACPA) and in 2012 formed the IGGA/ACPA Concrete Pavement Preservation Partnership (IGGA/ACPA CP3). Today, this partnership serves as the technical resource and industry leader in the marketing of optimized pavement surfaces, concrete pavement restoration and pavement preservation around the world. The mission of the IGGA is to serve as the leading technical and promotional resource for the acceptance and proper use of diamond grinding and grooving as well as PCC preservation and restoration. For more information, visit [www.igga.net](http://www.igga.net).

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