

## Composite Pavement Systems at MnROAD

### Introduction

In 2006 Congress established the second strategic highway research program (SHRP 2) that focused on four areas: safety, renewal, reliability and capacity. Composite pavement systems (R21) was identified as a means to provide rapid renewal to the nation's highway infrastructure. Composite pavement systems consist of two distinct pavement layers constructed and designed as a new pavement, and not as a rehabilitation strategy. These systems entail a higher quality wear surface over a lower quality, or recycled base layer. Two systems currently under evaluation include hot mixed asphalt (HMA) over a Portland cement concrete (PCC) pavement and a PCC over PCC (wet-on-wet) pavement.

This research project is headed by Applied Research Associates, inc. (ARA) in partnership with their sub-contractors: the Minnesota Department of Transportation (Mn/DOT) and the Universities of Minnesota, California and Pittsburgh.

### 2010 Construction

Mn/DOT developed the plans and specifications to construct three different pavement sections at the Minnesota Road Research Project (MnROAD) during the 2010 construction season. These sections include: two, two-lift, wet on wet concrete (PCC/PCC) sections and one, HMA over PCC pavement section. Three concrete mixes will be used during this effort including a recycled concrete mix (using recycled concrete coarse aggregates from existing MnROAD test cells) and a low cost aggregate concrete mix for the lower concrete pavement layer and a high quality granite overlay which includes a brushed exposed aggregate surface. The HMA SuperPave mixture will incorporate a PG64-34 asphalt binder. The HMA pavement will incorporate

saw and seal over the transverse PCC joints to control reflective cracking from the underlying recycled concrete mixture. The construction contract was awarded to C.S. McCrossan and work is expected to start shortly after April 2010 and run for approximately eight weeks.



### For More Information:

#### Mark Watson

Mn/DOT Project Engineer

Phone: 651-366-5596

E-mail: [mark.watson@state.mn.us](mailto:mark.watson@state.mn.us)

or

#### Ben Worel

MnROAD Operations Engineer

Phone: 651-366-5522

E-mail: [ben.worel@state.mn.us](mailto:ben.worel@state.mn.us)

Office of Materials & Road Research

1400 Gervais Ave North

Maplewood, MN 55109

[www.dot.state.mn.us/materials/research](http://www.dot.state.mn.us/materials/research)

