

## Maintenance of Traffic

### West Dakota Parkway (US Hwy. 2)

Williston, North Dakota

#### Project Overview

*This 5.72 mile stretch of the West Dakota Parkway serves as a main traffic route for the oil development **Industry** in the northwest quarter of the state. With the increased heavy truck loading, the existing asphalt intersections were rutting and deteriorating rapidly. Concrete overlays were selected to extend the life of the segment which included six intersections. Since there was no alternate bypass route, the intersections and side streets were paved under traffic, one lane at a time. With optimized field adjustments to construction sequences, the construction time was reduced by 5 weeks and the last intersection was completed two weeks ahead of schedule.*

#### MOT Factors

- Night operations were utilized on some segments to minimize impact to traffic.
- Head-to-head traffic was placed on one side of the divided roadway.
- Construction was performed in over 20 phases to minimize traffic disruption.
- Fast-track mixes and maturity testing were utilized to open each intersection and segment to traffic as soon as possible.
- Each of the six intersections was opened within one week
- Access to 20 businesses was maintained throughout the course of the project.

#### Other Traffic Considerations

- Over 28% of the traffic was heavy trucks which caused significant rutting in the existing asphalt.
- Temporary signals and modifications to existing signals were incorporated for traffic control.



#### Fast Facts

##### Owner

North Dakota DOT

##### Contractor

ACME Concrete Paving, Inc.

<http://www.acmecpi.com/index.html>

##### Facility

City Street including Intersections

##### Project Type

Bonded Concrete Overlay on Asphalt

##### Average Daily Traffic

12,980, with 3,685 trucks

##### Construction Timeframe

Aug. 2012 to Oct. 2012

### Construction Factors

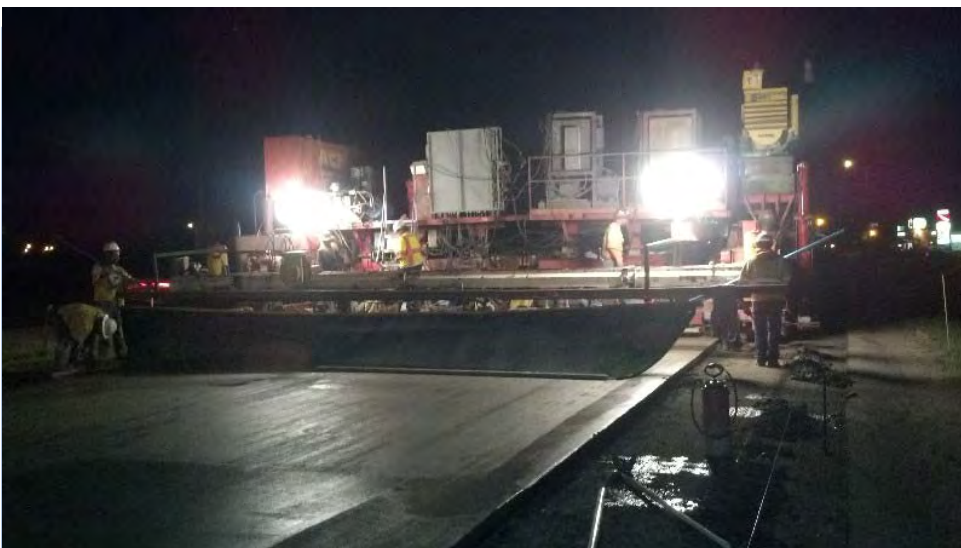
- Contractor placed 6 and 7 in. concrete overlays on six intersections.
- Over 85,000 square yards of intersection and side street overlays were placed on existing asphalt pavements.

### Equipment & Materials Factors

- Conventional mixtures utilized 30% fly ash replacement of cement.
- Fast-track mixtures utilized 20% fly ash replacement of cement.
- Mixture gradations were optimized for workability.

### Other project details

- With no possibility of advanced surveys due to heavy traffic, field designs were required for each lane closure segment.
- Each intersection required full concrete coverage at the intersection core plus an additional 800 ft of stopping/braking zones.



Presented by the

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