

Stephenson Highway from 14 Mile to I-75

Troy, Michigan

The City of Troy determined that this four (4)-lane boulevard section of Stephenson Highway was in need of major rehabilitation in 2002. Much of the pavement had extensive cracks and other failures and was showing signs of significant distress due to the high commercial traffic volumes and inadequate roadway drainage. **Spalding DeDecker Associates, Inc. (SDA)** was selected to perform a pavement condition survey to identify all of the repair locations. This was accomplished by utilizing a Global Positioning System (GPS) unit to locate and classify all pavement distresses within the project limits.

Upon compiling all of the field data, three (3) different pavement rehabilitation options were generated for the City to consider.

Option 1: Complete Reconstruction

Option 2: Major Rehabilitation, Including HMA Overlay, Adding Curb and Gutter to the Southbound Side, and Drainage Improvements

Option 3: Repairing the existing pavement with minimal drainage modifications.

The City chose Option 2 which included extensive pavement repairs, overlaying the entire roadway with 3.5" of HMA, and adding curb and gutter on the southbound side to control drainage and improve the appearance of the roadway. The project also included relocating several of the median u-turn crossovers to allow for increased sight distance between headed-up crossovers, as well as other minor geometric improvements.

The original preliminary design for the project was completed in 2003, but since funding was not available at the time, it was shelved for at least three (3) years. In 2006, the City let a maintenance contract to perform concrete pavement repairs on the worst pavement sections or previous repairs that had failed, and used the original set of plans to identify those sections.

The rehabilitation project was reactivated in early 2007 and the plans were updated to reflect current pavement repair needs, as well as any other site changes that had occurred during the previous four (4) years. Additionally, all existing sidewalk ramps within the project had to be reconstructed to meet more stringent ADA design standards. The new ADA requirements also included adding pedestrian pushbuttons for the ADA sidewalk ramps at signalized intersections.

While upgrading the Maple Road and Stephenson Highway intersection with the new pedestrian pushbuttons for the ADA ramps, it was found that the signal equipment for this intersection was older than any other signalized intersection in Oakland County. Because of this, the signal at this intersection had to be completely replaced. This project also included complete signing replacement and pavement markings.

OWNER / CLIENT

City of Troy

PROJECT START - END

August 2008 - September 2008

SDA PROJECT NO.

RB07-005

SOFTWARE

MicroStation

SignCAD