STS 2-Lane Traffic Operations Study

US 250 Railroad Overpass Improvement

Waseem U. Khalifa, Ph.D., P.E.
District 11, Bridge Engineer/Program Manager

OTECS - October 25 & 26, 2016
Location Overview

The concrete slab structure (SFN 3401472) carrying Columbus & Ohio RR over US 250 is located in rural western Harrison County just 200 feet east of SR 151.
Location Constraints

- **Deficient Vertical Clearance:**
  - 13’ – 08”

- **Deficient Lateral Clearance:**
  - 8’ – 00” (edge of pavement to abutment)
Study Area
Oil & Gas Activity

US 250 Railroad Overpass Improvement

October 25, 2016
Oil & Gas Activity
Project Scope

- Improve Roadway Geometry by adding turn lanes
- Improve Vertical Clearance

<table>
<thead>
<tr>
<th>US 250 Design Designation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Opening Year ADT (2017)</td>
</tr>
<tr>
<td>Design Year ADT (2037)</td>
</tr>
<tr>
<td>DHV</td>
</tr>
<tr>
<td>Directional Distribution</td>
</tr>
<tr>
<td>Functional Classification</td>
</tr>
<tr>
<td>Trucks (T24)</td>
</tr>
<tr>
<td>Design Speed</td>
</tr>
<tr>
<td>Legal Speed</td>
</tr>
</tbody>
</table>
Alternatives

- **Alternate 1** – This alternative lowers the profile of US 250 while maintaining the existing profile of the CUOH

- **Alternate 2** – This alternative raises the profile of the CUOH while maintaining the existing profile of US 250

- **Alternate 3** – This alternative will provide a hybrid of Alternates 1 and 2, which lowers the profile of US 250 and raises the profile of the CUOH
Preferred Alternative

- Alternate 2 – Raise the profile of the CUOH while maintaining the existing profile of US 250
Preferred Alternative

- Proposed lane configuration West of railroad bridge
Preferred Alternative

- Proposed lane configuration East of railroad bridge
Preferred Alternative

Project Cost

$12,570,108
## Preferred Alternative

### Project Benefit Matrix

<table>
<thead>
<tr>
<th>Problem to be Addressed</th>
<th>Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oversized trucks detour 70 miles due to deficient Vertical Clearance</td>
<td>$342,026</td>
</tr>
<tr>
<td>Truck detour causing increased operating cost</td>
<td>$547,900</td>
</tr>
<tr>
<td>Truck detour causing increased road and bridge damage</td>
<td>$302,021</td>
</tr>
<tr>
<td>Truck detour causing increased emissions</td>
<td>$195,033</td>
</tr>
<tr>
<td>Substandard vertical and lateral clearance</td>
<td>$334,193</td>
</tr>
</tbody>
</table>
FASTLANE Grant Program:

The FASTLANE program is a new program in the Fixing America’s Surface Transportation (FAST) Act to fund critical freight and highway projects across the country.

The FAST Act authorizes $800 million in funding for the FASTLANE program for fiscal year 2016, with 25 percent reserved for rural projects, and 10 percent for smaller projects.
Funding Opportunities

- **FASTLANE Grant Program:**

- **Rural Areas:**

  - *Urbanized Areas with populations fewer than 200,000 and all areas outside Urbanized Areas are considered rural*
Funding Opportunities

Eligible Projects:

- Highway freight project carried out on the National Highway Freight Network (23 U.S.C. 167),
- Highway or bridge project carried out on the NHS including projects that add capacity on the Interstate System to improve mobility or projects in a national scenic area.
- Railway-highway grade crossing or grade separation project.
Funding Opportunities

- **Project Eligibility:**
  - Rural, Railway-highway grade crossing or grade separation project.
  - Small Project – Minimum award $5,000,000
  - FASTLANE Grant amount applied for $7,095,840 (60% of eligible costs)