US 422 and SR 88/168/528 Intersection Improvement
Introductions

• Brian Blayney, ODOT District 12 Traffic Planning Engineer
• Tom Sorge, ODOT District 12 Environmental Specialist
• Other Team Members: Dan Dougherty, Devin Hale, David Short, Deb Weaver, Bianca Rozenblad
Existing Conditions

1. Limited Sight Distance
2. Truck Over-Turning
3. Stop Bar Positioning
Recent Crash History

UNIT #1 AND UNIT #2 SOUTHBOUND ON SR 88. UNIT #2 ATTEMPTED TO BACK UP TO GIVE A SEMI ROOM TO MAKE A RIGHT TURN FROM US 422. UNIT #2 BACKED INTO UNIT #1.

UNIT #3 WAS ATTEMPTING TO MAKE A RIGHT TURN ON RED AND TRAVELED LEFT OF CENTER. UNIT #1 SWERVED TO THE RIGHT TO AVOID A CRASH WITH UNIT #3 AND WAS STRUCK BY UNIT #2. FROM IMPACT UNIT #3 NEVER STOPPED AND CONTINUED WEST ON US 422.

<table>
<thead>
<tr>
<th>TYPE_OF_CRASH</th>
<th>Number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Backing</td>
<td>5</td>
<td>26.3%</td>
</tr>
<tr>
<td>Left Turn</td>
<td>4</td>
<td>21.1%</td>
</tr>
<tr>
<td>Angle</td>
<td>4</td>
<td>21.1%</td>
</tr>
<tr>
<td>Sideswipe - Meeting</td>
<td>3</td>
<td>15.8%</td>
</tr>
<tr>
<td>Rear End</td>
<td>3</td>
<td>15.8%</td>
</tr>
<tr>
<td><strong>Grand Total</strong></td>
<td><strong>19</strong></td>
<td><strong>100.0%</strong></td>
</tr>
</tbody>
</table>
Recent Crash History
Traffic Volumes

All Traffic, Peak Hours, By Movement

Peak Hour Count
(June 17, 2014)

AM / PM

US 422

WESTPARK DR

SR 168/
SR 528

150 / 70
62 / 114
152 / 231

239 / 88
425 / 218
23 / 36

44 / 107
182 / 466
4 / 13

114 / 95
24 / 5
11 / 38
SR 38

US 422
Traffic Volumes

Daily Trucks, By Movement

#1
7
36
3

#2
164
47
61

#3
161
324
161

79
316
0
Environmental Studies

• **NEPA Assignment**
  • ODOT is granted FHWA responsibility for all environmental decisions, regulations and laws related to the approval of highway projects in Ohio.

• **Benefits**
  • Streamlining the process
  • Less taxpayers money
Environmental Studies

- **Environmental Coordination**
  - Cultural Resources
    - Phase I History / Architecture Survey

- **Environmental Site Assessment**
  - (Hazardous and Regulated Materials)
    - Environmental Site Assessment Screening

- **Public Involvement**
  - Public Meeting and Comment Responses
Environmental Studies

Cultural Resource Map

Recommended Boundaries for NRHP-Eligible Properties within the Project APE

GRAY & PAPE
CULTURAL RESOURCES CONSULTANTS
Environmental Studies

Environmental Site Assessment Map
Public Meeting

Comment sheets may be turned in at today’s meeting or mailed, faxed, or e-mailed by April 26, 2016 to:

Mark Alan Carpenter
ODOT District 12
5500 Transportation Boulevard
Garfield Heights, OH 44125

E-mail: Mark.Carpenter@dot.ohio.gov

Fax: 216-584-2274
Alternatives

• Five Alternatives Considered
  • Alternatives 1 and 2: Conventional widening to 5 lanes with addition of left turn slots
  • Alternatives 3 and 4: Form left turn slots using existing pavement ("road diet")
  • Alternative 5: Only improve the turning radiiuses on the north leg to provide more pavement.
## Comparison of Alternatives

<table>
<thead>
<tr>
<th>Comparison of Alternatives</th>
<th>Alternatives 1 and 2: Widen Approaches</th>
<th>Alternatives 3 and 4: Road Diet</th>
<th>Alternative 5: Targeted Radius Only</th>
</tr>
</thead>
<tbody>
<tr>
<td>Property Impacts</td>
<td>1.09-1.25 acres, 13-15 parcels, 2-3 buildings, 0.32 acres park</td>
<td>0-0.36 acres, 0-5 parcels, 0 to 1 building, 0 to 0.18 acres park</td>
<td>0.19 acres, 2 parcels, 1 building, minimal park impacts</td>
</tr>
<tr>
<td>Overall Intersection Operation</td>
<td>Reduces delays and queuing</td>
<td>Increases delays and queuing</td>
<td>Modest reduction in delays and queuing due to fewer truck blockages</td>
</tr>
<tr>
<td>Community and Environmental Issues</td>
<td>Significant impact to park, acquisition of Cromwell Building</td>
<td>Acquisition of Cromwell Building, EB left turn into BP Station prohibited</td>
<td>Acquisition of Cromwell Building</td>
</tr>
<tr>
<td>Construction Cost</td>
<td>$1.9M to $2.3M</td>
<td>$214,000 to $958,000</td>
<td>$635,000</td>
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</table>
## Comparison of Alternatives

<table>
<thead>
<tr>
<th>Alternatives</th>
<th>Eastbound</th>
<th></th>
<th>Westbound</th>
<th></th>
<th>Southbound</th>
<th></th>
<th>Northbound</th>
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<tbody>
<tr>
<td></td>
<td>2038</td>
<td>2038</td>
<td>2038</td>
<td>2038</td>
<td>2038</td>
<td>2038</td>
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<td></td>
<td>AM</td>
<td>PM</td>
<td>AM</td>
<td>PM</td>
<td>AM</td>
<td>PM</td>
<td>AM</td>
<td>PM</td>
</tr>
<tr>
<td>No Build</td>
<td>2.3 - LT</td>
<td>8.3 - RT</td>
<td>6.0 - RT</td>
<td>4.3 - RT</td>
<td>5.0 - LT</td>
<td>10.2 - LT</td>
<td>2.1 - LTR</td>
<td>2.2 - LTR</td>
</tr>
<tr>
<td>Alt 1</td>
<td>1.4 - T</td>
<td>4.6 - T</td>
<td>7.1 - T</td>
<td>3.0 - T</td>
<td>4.3 - LT</td>
<td>7.3 - LT</td>
<td>2.0 - LTR</td>
<td>1.8 - LTR</td>
</tr>
<tr>
<td>Alt 2 Split</td>
<td>2.3 - T</td>
<td>7.7 - T</td>
<td>12.5 - T</td>
<td>5.0 - T</td>
<td>5.5 - L</td>
<td>8.8 - L</td>
<td>4.1 - LTR</td>
<td>4.3 - LTR</td>
</tr>
<tr>
<td>Alt 2 No Split</td>
<td>1.3 - T</td>
<td>4.4 - T</td>
<td>8.7 - T</td>
<td>3.9 - T</td>
<td>3.7 - L</td>
<td>5.9 - L</td>
<td>2.1 - LTR</td>
<td>2.0 - LTR</td>
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<tr>
<td>Alt 3</td>
<td>2.0 - RT</td>
<td>10.5 - RT</td>
<td>18.7 - RT</td>
<td>9.3 - RT</td>
<td>6.2 - LT</td>
<td>11.0 - LT</td>
<td>2.6 - LTR</td>
<td>2.3 - LTR</td>
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<tr>
<td>Alt 4</td>
<td>2.8 - RT</td>
<td>11.7 - RT</td>
<td>8.7 - T</td>
<td>5.0 - T</td>
<td>4.8 - LT</td>
<td>9.7 - LT</td>
<td>2.1 - LTR</td>
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<td>Alt 4D</td>
<td>4.9 - RT</td>
<td>20.0 - RT</td>
<td>12.1 - T</td>
<td>4.8 - T</td>
<td>8.3 - LT</td>
<td>15.1 - LT</td>
<td>3.5 - LTR</td>
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<td>Alt 5</td>
<td>2.3 - RT</td>
<td>8.3 - RT</td>
<td>5.9 - RT</td>
<td>4.3 - RT</td>
<td>5.0 - LT</td>
<td>10.2 - LT</td>
<td>2.1 - LTR</td>
<td>2.2 - LTR</td>
</tr>
</tbody>
</table>

**Location of Longest Queue**
- L = Left Turn Lane
- LT = Left-Thru Lane
- T = Thru Lane
- RT = Thru-Right Lane
- R = Right Lane
- LTR = Left-Thru-Right Lane

- **25-50% shorter queue than no build**
- **25-50% longer queue than no build**
- **over 50% longer queue than no build**
Proposed Solution

- Flatten turn radii on north leg
  - Trucks stay in lane while making right turns
  - Trailers off-track on pavement surface
- Continue to mitigate poor sight distance on WB approach with left turn arrow
Preferred Alternative
Evaluation of Alternatives

• What else do we need to know?
  • Business or property impacts
  • Property access concerns
  • Underground features
  • Environmental concern
  • Others?
Public Input Is Important

• Comments will be accepted at the meeting and by mail, fax or e-mail
• Input needed by April 26, 2016
• ODOT will consider input prior to finalizing the preferred alternative
Next Steps

- Choose preferred alternative
- Begin preparation of plans and complete environmental studies
- Purchase needed right-of-way
- Work with utilities to relocate
- Construct the project
Verbal Comments

• Project team will answer questions during the open house
• If you prefer to make a public statement, we’ll take comments at this time:
  • Please sign up to speak
  • Each person will speak in order
  • Please keep remarks to no more than three minutes
Thank You!

For more information, please contact:

• Brian Blayney, ODOT D12 Traffic Planning Engineer, (216) 584-2102, Brian.Blayney@dot.ohio.gov

• Mark Carpenter, ODOT D12 Environmental Coordinator (216) 584-2089, Mark.Carpenter@dot.ohio.gov