## **POR US-224 at SR-225 Safety Study**

- Ranked #8 on the 2020 ODOT HSIP Rural Intersection list and #1 (locally and overall) on the AMATS High Crash Intersection by Community list (2018-2020).
- Existing Conditions: Two-way stop control with dual stop signs, overhead flashing beacons, and single-lane approaches.
- High volume of northbound right turning trucks and eastbound left turning trucks overlap into oncoming lanes to make their movements.
- The PM peak has LOS E with 2022 volumes, and continues to worsen to LOS F with 2027 and 2047 volumes. Due to truck over-tracking conflicts, it is expected actual operations are likely worse than the capacity analysis results being shown.
- Compared to other countermeasures considered for this intersection, a roundabout is the optimal countermeasure to reduce the failure to yield angle crashes, best improve capacity through the future, and best improve access management.

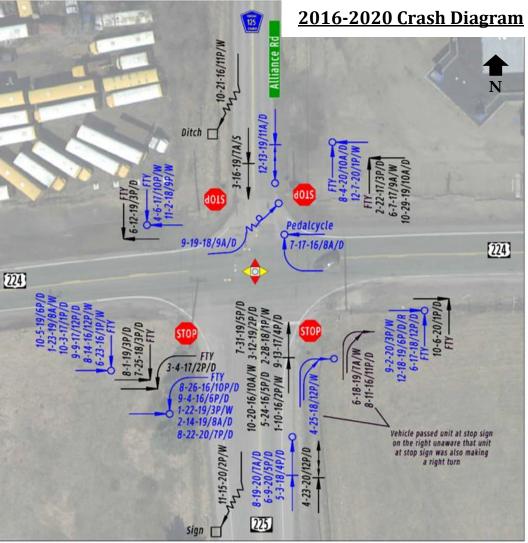
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**Recommended Long- Term Countermeasure:** reconfigure intersection to be a roundabout with a CR-1 single circulating lane and single lane approaches. [224] US-224/SR-225 **US-224** JOHN VASI 8186 STATE ROUTE 224 LEGEND FULL-DEPTH PAVEMENT TRUCK APRON SR-225 CONCRETE TRAFFIC MEDIAN DRIVEWAY LANDSCAPI EXISTING

| Project Phase           | Safety<br>Study | Interchange<br>Mod. Study |              | PE - Detailed<br>Design | Right of Way<br>/Utilities | Construction   |                |  |
|-------------------------|-----------------|---------------------------|--------------|-------------------------|----------------------------|----------------|----------------|--|
| Fiscal Year             | 2023            |                           | 2026         | 2026                    | 2026                       | 2027           | Total          |  |
| Project Phase Completed | х               |                           |              |                         |                            | N/A            |                |  |
| Previous Safety         | \$29,096.00     |                           |              |                         |                            |                | \$29,096.00    |  |
| New Safety              |                 |                           | \$777,200.00 | \$137,200.00            | \$97,900.00                | \$3,666,100.00 | \$4,678,400.00 |  |
| Sponsor Funding         |                 |                           |              |                         |                            |                | \$0.00         |  |
| Total                   | \$29,096.00     | \$0.00                    | \$777,200.00 | \$137,200.00            | \$97,900.00                | \$3,666,100.00 | \$4,707,496.00 |  |

| Application Scoring  |           |         |          | Benefit - Cost Calculator                           | Expected Annual Crash Adju      |  |
|--|-----------|---------|----------|---|---------------------------------|--|
| Category   | Scoring   | Points  | Points   | Net Present Value of Project \$4,256,962.20         |                                 |  |
| Category   |           | Awarded | Possible | Net Present value of Project \$4,256,962.20         | Number of Fatal & Incapacitatin |  |
| Ratio of Observed Fatal and Serious Injuries to Observed Total Crashes | 0.09      | 18      | 30       |   | Injury Crashe                   |  |
| % of the Potential for Safety Improvement to Total Expected Crashes    | 25.29%    | 20      | 20       | Net Present Value of Safety Benefits \$3,308,631.33 |                                 |  |
| Relative Severity Index  | 57,825.04 | 20      | 20       |   | Number of Injury Crashe         |  |
| Equivalent Property Damage Only Index                                  | 6.50      | 20      | 20       | Net Benefit (\$948,330.87)                          |                                 |  |
| Location Equity Measure  | 12.00%    | 2       | 10       |   |                                 |  |
|  | Total     | 80      | 100      | Benefit / Cost Ratio 0.78                           | Number of Total Crashe          |  |

| Project Funding         | oject Funding      |                           |                       |                         |                            |                |                |  |  |
|-------------------------|--------------------|---------------------------|-----------------------|-------------------------|----------------------------|----------------|----------------|--|--|
| Project Phase           | Safety<br>Study    | Interchange<br>Mod. Study | PE -<br>Environmental | PE - Detailed<br>Design | Right of Way<br>/Utilities | Construction   | Total          |  |  |
| Fiscal Year             | 2023               |                           | 2026                  | 2026                    | 2026                       | 2027           | Total          |  |  |
| Project Phase Completed | х                  |                           |                       |                         |                            | N/A            |                |  |  |
| Previous Safety         | \$29,096.00        |                           |                       |                         |                            |                | \$29,096.00    |  |  |
| New Safety              |                    |                           | \$777,200.00          | \$137,200.00            | \$97,900.00                | \$3,666,100.00 | \$4,678,400.00 |  |  |
| Sponsor Funding         |                    |                           |                       |                         |                            |                | \$0.00         |  |  |
| Total                   | \$29,096.00        | \$0.00                    | \$777,200.00          | \$137,200.00            | \$97,900.00                | \$3,666,100.00 | \$4,707,496.00 |  |  |
| Application Scoring     | polication Scoring |                           |                       |                         |                            |                |                |  |  |



## ROPOS TEMPOR

| PING<br>G RIGHT-OF-WAY<br>SED RIGHT-OF-WAY<br>RARY RIGHT-OF-WAY |                       | Vehicle Direction<br>Backing<br>Pedestrian<br>Out of Control<br>Overturn | Injury Fatal Fixed Object Parked Vebicle TEXT Date/Time/Road/Egress Direc |     | ehicle  | Road: FTC = Failure To Control   D = Dry FTS = Failure To Stop   W = Wet FTY = Failure To Yield   I = Ice LOC = Left of Center   S = Snow RRL = Ran Red Light   OVI = Operating Vehicle Impaired |            | TOTAL CRASHES ON PAGE       FREQUENCY     CRASH SEVERI       10     2016     21     NON - INJUL       7     2018     25     INJURY OR FA       13     2019     46     TOTAL |         |
|---|-----------------------|--|---|-----|---------|--|------------|---|---------|
|   | Cra                   | sh Type  | Numb  | er  | Percent |  | Crash Year | Number  | Percent |
|   | I                     | Angle  | 32  |     | 42.7%   |  | 2011       | 5   | 6.7%    |
|   | Rear End<br>Left Turn |  | 19  |     | 25.3%   |  | 2012       | 4   | 5.3%    |
|   |                       |  | 10  |     | 13.3%   |  | 2013       | 2   | 2.7%    |
|   | Fixe                  | Fixed Object   |   |     | 6.7%    |  | 2014       | 3   | 4.0%    |
|   | Right Turn<br>Backing |  | 3   |     | 4.0%    |  | 2015       | 7   | 9.3%    |
|   |                       |  | 3   |     | 4.0%    |  | 2016       | 10  | 13.3%   |
|   | Sideswi               | pe – Passing   | 1   |     | 1.3%    |  | 2017       | 7   | 9.3%    |
|   | Ped                   | lalcycles  | 1   |     | 1.3%    |  | 2018       | 7   | 9.3%    |
|   | Ove                   | rturning   | 1   |     | 1.3%    |  | 2019       | 13  | 17.3%   |
| n I   | _                     |  |   |     | _       |  | 2020       | 9   | 12.0%   |
|   | Expec                 | ted Annual Cr  | ash Adj   | ust | ment    |  | 2021       | 8   | 10.7%   |
|   |                       |  |   |     |         | 1  |            |   |         |

