

## EXECUTIVE SUMMARY

### Intersection of State Route 32 & State Route 220 / Germany Road in Pike County

This intersection has been selected for analysis and study based upon a ranking of 183 in the 2003 Highway Safety Program. The ranking has currently dropped to 261 in the 2004 HSP listing. The intersection was ranked 105 in 2002 and it was ranked 219 in 2001. The purpose of the study is to determine safety issues at the intersection and to determine possible countermeasures to address the safety issues.

### EXISTING CONDITIONS

State Route 32 is a four lane divided highway that travels from west to east across southern Ohio. State Route 220 is a local road that intersects State Route 32 from the north. Germany Road is also a local road that intersects from the south across from State Route 220. State Route 220 and Germany Road both stop for State Route 32. State Route 32 is the through roadway. It is a four divided highway with a speed limit of 60 miles per hour. This intersection was newly constructed in the mid 1990's with the project that upgraded State Route 32 from two lanes to four lanes. The intersection obviously meets ODOT design standards. However, there is some sight restriction east of the intersection because of a vertical curve in the pavement for a bridge structure over the CSX railroad. This structure is situated approximately 800 feet east of the intersection. The vertical curve causes some sight restriction for motorists approaching the intersection and for the motorists at the intersection observing the approaching vehicles. An overhead flasher was installed in October of 2002 to address these sight concerns. This flasher was recommended as the result of a safety study. The average daily traffic volume for State Route 32 is 8500 vehicles per day. The average daily traffic volume for State Route 220 is 3200 vehicles per day.

### CRASH ANALYSIS

A three year period of crashes is required to be analyzed for the HSP study. The three years used for this study are 2002, 2003, and 2004. There were 27 accidents that occurred in the intersection during these three years. Most of the accidents were angle collisions. 89 percent or 24 of the 27 accidents were angle collisions. There were 2 right turn accidents, and 1 rear end accident. Of the 24 angle collisions, 13 of them involved vehicles approaching from the east which is the side where the sight is restricted by the vertical curve in the pavement. 59 percent or 16 of the accidents were injury accidents. There was 1 fatal accident. 81 percent or 22 of the accidents occurred on dry pavement. 89 percent or 24 of the accidents occurred during daylight hours. The main contributing factor of the accidents was failure to yield which usually is the contributing factor for angle collisions. Of the 24 angle collisions, all of the accident reports were coded as failure to yield. None of the accident reports were coded as running the stop sign.

### POSSIBLE CAUSES OF THE ACCIDENTS

- The speeds are high on the through roadway. The speed limit on State Route 32 is 60 miles per hour. The actual observed 85 percentile speeds were 63 miles per hour for eastbound traffic and 65 miles per hour for westbound traffic.
- The sight distance is restricted on the east approach of the intersection due to the vertical curve in the pavement on the railroad overpass.
- There are additional conflict points when crossing a four lane highway versus crossing a two lane highway. Essentially, there are two intersections to cross.

### POSSIBLE COUNTERMEASURES

- Install a stop and go traffic control signal. (The intersection does not meet a required warrant to install a stop and go traffic control signal. Furthermore, there would be a safety concern with a traffic control signal because of the sight issue on the east approach of the intersection. There would be potential for rear end collisions on this approach).
- Construct an interchange. (An interchange would be cost prohibitive at this intersection especially with the railroad being situated 800 feet from the intersection).
- Reroute State Route 220 across Shuster Road which already intersects with State Route 32. Currently State Route 220 intersects with Shuster Road approximately one half mile from State Route 32. From this intersection, State Route 220 turns 90 degrees and travels 1.56 miles before it intersects with State Route 32. If Shuster Road were utilized as State Route 220 it would be a straight alignment directly to State Route 32 that would be one mile shorter in length. The benefit would be that this intersection does not have any sight restrictions. However, this benefit would have limited effectiveness if the existing State Route 220 access to State Route 32 remains connected. The existing one half mile of Shuster Road would have to be upgraded to ODOT specifications before it can become a state route.
- Relocate the existing intersection. (This would be a very costly alternative with the right of way issues involved. The right of way costs to purchase new right of way for the relocation would be significant. Also, the right of way at the existing intersection was recently built up with a new convenient store / gas station. We may lose a considerable amount of money in a lawsuit with the property owner of the new store if their access to State route 32 is removed).

(See page 3 for recommendation)

RECOMMENDATION

The DSRT recommends re-routing State Route 220 across Schuster Road. This is an existing local county road that intersects State Route 32 a little more than one mile west of the existing intersection. Schuster Road will have to be upgraded and a traffic light will have to be installed where it intersects with State Route 32. The existing State Route 220 will become a county road and its access will be removed from State route 32. The south side of the existing intersection will remain connected to State Route 32. This leg of the intersection is Germany Road. This is the leg of the intersection that has the new store that was recently constructed. However, this traffic will not be able to cross the median and enter onto State Route 220 because it will be disconnected. A left turn acceleration lane will be constructed in the median for motorists turning left out of Germany Road onto State Route 32.