SHROYER ROAD PROJECT
POST CONSTRUCTION REVIEW
February 25, 2020

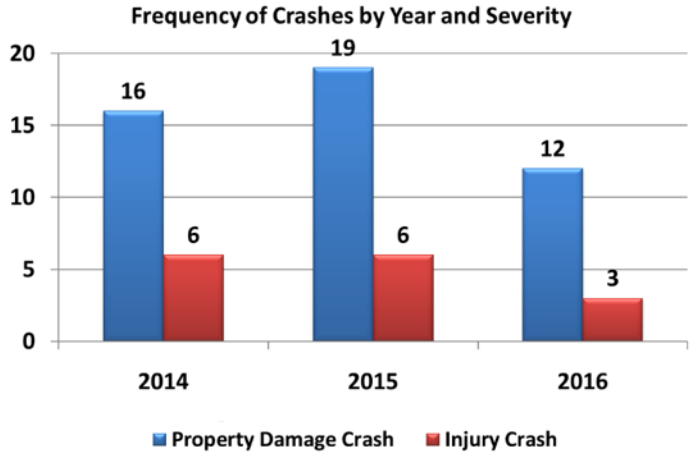
The city of Oakwood completed a roadway improvement project on the 1.1 mile section of Shroyer Road in 2017. The project converted Shroyer Road from two lanes in each direction (4-lane section) to a single through lane in each direction and a left turn lane (3-lane section). The reduction of the number of through lanes is called a *Road Diet*. Other improvements that were constructed as part of the *Road Diet* included the following components:

- Exclusive left turn lanes at each of the 16 cross street intersections.
- Dedicated bike lanes on both sides of the street between the roadway and adjacent curb.
- Increased the distance from the travel lanes to the sidewalks from 2 feet to 7 feet.
- 16 raised center medians with trees and mulch.
- Two mid-block pedestrian crossings: one crossing north of Wonderly Avenue and a second north of Telford Avenue. Both crossings were equipped with flashing beacons to alert motorists of pedestrians.
- Improved pedestrian/bikeway crossing at the north end of the project north of Dellwood Avenue. This was also equipped with flashing beacons.

The project was commissioned to address safety concerns identified in a 2016 Shroyer Road Safety Study. The *Road Diet* concept was selected to improve the safety performance of Shroyer Road for all transportation modes (e.g., vehicle, pedestrian, bicycle) by reducing all crash types.

Safety performance issues with the existing 4-lane configuration are based on crash data obtained from the Transportation Information Mapping System (TIMS) maintained by the Ohio Department of Transportation (ODOT). This ODOT crash database contains Ohio Department of Public Safety (ODPS) crash records used for the following safety analysis within the city of Oakwood:

- A total of 62 crashes occurred over a 3-year period (2014-2016).
- Injury crashes comprised 24.2% of all crashes which was higher than the statewide average of 23.5%.
- Rear-end crashes comprised 38.7% of all crashes which was nearly 2 times higher than the statewide average of 20.7%.
- Excessive vehicle speeds at 6-11 MPH above the posted speed of 35 MPH.



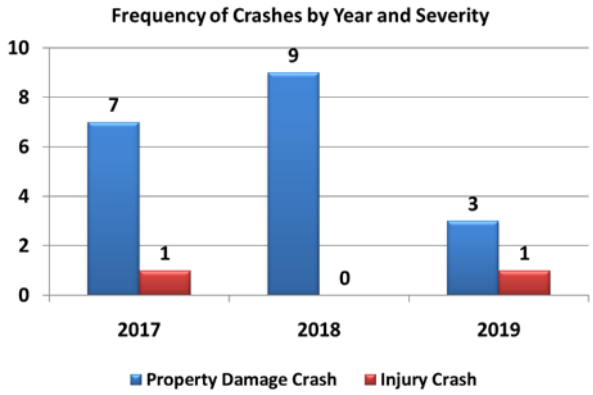
The project objectives were to:

- Reduce total number of crashes.
- Reduce crash severity by reducing vehicle operating speeds.
- Increase pedestrian and bicycle safety.

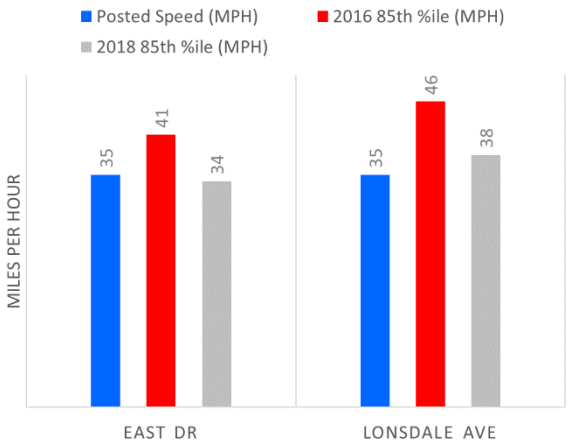
The project also provided an opportunity to enhance the roadway streetscape.

Below are comments and statistics on how the project met expectations and has been deemed a success:

Reduction of total crashes. The total number of crashes that occurred over a 3-year period (2017-2019) was equal to 21 crashes – a 66% reduction from the 3-year period within the same segment of Shroyer Road before construction (2014-2016).



Reduction of crash severity. The percentage of crashes resulting in injuries over a 3-year period (2017-2019) was reduced to 9.5% or 2 crashes. The 3-year time period before construction (2014-2016) experienced a total of 15 injury crashes representing 24.2% of all crashes. The number of injury crashes was reduced by 87% due in part to the reduction of operating speeds. Vehicle speeds were measured in two locations along Shroyer Road before and after the project and were found to have decreased between 6 and 11 MPH. Operating speeds after construction were within 3 MPH of the posted speed limit thereby reducing crash severity.



The *Road Diet* is naturally managing vehicle speeds so less traffic enforcement is required. Moving citations issued by the Oakwood Public Safety Department reduced by 85% when comparing 2016 data (236 citations) to 2018 data (36 citations).

Pedestrian/bicycle safety. A child was struck by a vehicle in 2015 which focused attention on solutions to increase pedestrian safety. No pedestrian crashes have occurred over the last 3 years (2017-2019). One bicycle crash occurred after construction of the *Road Diet*. An investigation revealed that the cyclist was at fault, abruptly departing the bike lane and striking a vehicle legally traveling northbound on Shroyer.

The *Road Diet* has improved the safety of all travel modes (vehicle, pedestrian, and bicycles) and the quality of life. During the 2016 study phase, research suggested that crash reductions up to 47% could be expected with a *Road Diet*. The actual safety performance experienced by the city of Oakwood has outperformed national averages: a reduction of the total number of crashes (-66%); of crash severity (-87%); of pedestrian crashes (-100%); and of operating speeds (-6 MPH) to name a few of the primary safety metrics.

The research also suggested that higher risk drivers (< 25 years old and > 65 years old) would benefit from a *Road Diet*. The Oakwood data shows crashes in these age groups reduced from 40 to 10 crashes in the before-after comparison.

In addition to the safety metrics that make the *Road Diet* a success for Oakwood residents and for motorists using Shroyer Road, the quality of life has also been enhanced by increasing the offset of the travel lane to the sidewalk by 5 feet and aesthetic enhancements attributed to the landscaped medians.