U.S. Department of Transportation
Federal Highway Administration

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6200 South at Redwood Road, Taylorsville, UT
DISPLACED LEFT TURN INTERSECTION

THE PROBLEM

A nearby interchange with I-215 caused severe congestion at the intersection of 6200 South and Redwood Road during both the morning and afternoon peak traffic periods.

THE SOLUTION

Convert the conventional intersection to a displaced left turn configuration as part of a systemic application on the corridor.

THE OUTCOME

- The new intersection moves traffic so efficiently, the city of Taylorsville decided to widen 6200 South, further increasing throughput.
- The nearby interchange experienced reduced congestion due to the improved flow.

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CORRIDOR LOCATION

40°38'18.8" N, 111°56'19.8" W

Background

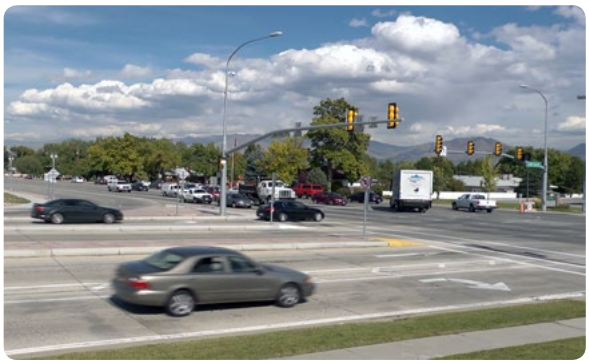
In 2010, the Utah Department of Transportation and Tayorsville City in Salt Lake County, Utah converted four conventional intersections to Displaced Left Turn (DLT) intersections in order to improve traffic flow. One of these was located at Redwood Road and 6200 South, an intersection that experienced severe congestion due to its proximity to the I-215 interchange.

DLT Intersection at 6200 South and Redwood Road
Source: DLT Case Study Video FHWA-SA-14-057

Challenges

In the mornings, vehicles turning north from 6200 South would experience extensive backups. The congestion was so bad that local residents often saw standing queues outside their front doors. A quarter of all traffic at the intersection during the morning peak, about 1,400 vehicles per hour, was attempting to make this left turn movement.[1]

Similarly, during the afternoon peak period, the congestion at Redwood and 6200 South would cause the freeway off-ramps to back up, putting stationary vehicles next to vehicles traveling at highway speeds.



DLT Intersection at 6200 South and Redwood Road
Source: DLT Case Study Video FHWA-SA-14-057

Approach

To assess the differences that would result from installing the DLT, a local engineering firm developed a simulation showing how the DLT would handle traffic compared to a conventional design. The simulation, using projected traffic volumes for the year 2030, showed that the DLT would be able to handle future volumes with far less congestion.[2]

Results

After conversion, drivers and residents noticed an immediate improvement in queuing and congestion levels. Not only did the DLT at Redwood Road and 6200 South reduce the severe recurring congestion at the intersection, it also improved traffic flow at the nearby interchange. The new intersection moved traffic so efficiently, the city of Taylorsville decided to widen 6200 South, further increasing throughput.[3] The improved flow is also estimated to reduce carbon dioxide emissions by 19 tons per year.[4]

1 Telephone Interview with Mel Bodily, April 22, 2014.

2 Ibid.

3 Ibid.

4 Wasatch Front Regional Council, *2010-2015 Transportation Improvement Program*, "Section V. Salt Lake and Odgen/Layton Urban Area Surface Transportation Program, Program Tables and Project Descriptions," August 27, 2009. Available at: http://www.wfrc.org/publications/Part%206%20-%20Section%20V%20-%20STP%20-0809.pdf

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This Fact Sheet is a companion to the Video Case Study (FHWA-SA-14-057)