

# **IR 75 at Miamisburg-Springboro Pike/Austin Pike Interchange and the SR 741 at Miamisburg-Springboro Pike/Austin Pike Displaced Left Turn (DLT) Frequently Asked Questions (FAQs)**

Definition: The Displaced Left Turn (DLT), formerly referred to as a Continuous Flow Intersection (CFI) is an alternative intersection design. At a traditional intersection, through traffic must wait while left turns get their exclusive "arrow". The operation of a DLT is that it allows opposing lefts and through movements to occur at the same time using one signal at the main intersection, and up to four interconnected mid-block signals (one for each leg that has the DLT strategy). For example, while east-west traffic is moving, lefts on the north-south street cross-over stopped oncoming traffic at a mid-block signalized intersection. Then when north-south signals turn green, both through and left movements can go at the same time, because the lefts are adjacent to the through movements, and not conflicting with the thru movements while the traffic is moving.

The subject project was constructed between May 2009 and October 2010.

## FAQs:

1. How much did the interchange and DLT cost?

The total project construction cost = \$40.6M.

2. Who was the contractor on the project and when was it completed?

Prime Contractor was John R. Jurgensen, Co.

3. How much did the DLT cost in comparison to putting in a regular intersection?

According to the TID's estimate for MVRPC CMAQ application, the additional cost to build the DLT was \$1,250,000 including additional R/W of \$692,500.

4. Why did engineers put in a DLT and who made that decision?

Superior ability to handle left turns, the decision to build a DLT was made between ODOT, the local jurisdictions involved in the project, and the Austin Landing developer. This was a collaborative decision-making process which also factored in the "conceptual" access management plan for the area.

5. What is the issue at that intersection that causes the traffic back up?

The northbound left turns and eastbound right turns are the movements that experience congestion and thus backups. The overall traffic demand at the SR 741 and Austin Pike/Miamisburg-Springboro Road intersection, as well as additional intersections along both SR 741 and Miamisburg-Springboro Road/Austin Pike (including the IR 75 interchange ramps) have caused specific movements to back up at different times of the day.

6. What movements are experiencing slowdowns?

The specific movements are the northbound to westbound left turns and the eastbound to southbound right turns.

7. What are some reasons for the increased traffic at that location?

Growth around the interchange and different land use than originally planned.

The continuation of construction work at the interchange of IR 75 and SR 73 to the south.

8. Did the original traffic counts underestimate traffic?

The original traffic projections underestimated two movements (northbound left and eastbound rights) at the intersection of Austin Boulevard and SR 741.

Additional access points on Austin Boulevard have also affected traffic flow in the area.

9. When was the original traffic study done for this project?

The Montgomery County Engineer hired DLZ/Wilbur-Smith in 1999. The original traffic study was completed in 2003.

10. How far in advance are traffic studies typically completed prior to a major project?

It varies for a complex project or projects that affect the interstate, 10 years prior is not unusual. Other factors such as the ability to find financing also affect the timeline between an original study and the construction of a project.

11. How much did the initial traffic study cost?

The original study which included the Major Investment Study, Interchange Justification Study, Environmental Overview, etc. was approximately \$1,700,000. It should be understood the subject project was the preferred alternative resulting from this much larger study that examined existing conditions (traffic safety and operations, land use, etc.) in a study area in southern and western Montgomery County. This included the required improvements to the local road network.

12. Who was responsible for the original traffic study (who hired it done/what company conducted it)?

For the original study, Montgomery County held the contract which was executed by DLZ consultants. The decision to build the DLT, was made during the subsequent Environmental Review (NEPA Process), the Montgomery County Transportation Improvement District (TID), held the environmental contract which was executed by LJB Consultants.

13. How did engineers come to the decision to conduct an operational traffic study of the DLT?

Since opening day of the DLT, two movements were heavy; the northbound left turn and eastbound right turn. In order to analyze the movements and the operations of the DLT the recent traffic engineering study was completed. The traffic study also looked at the feasibility to improve the traffic flow.

The decision was made because the traffic volumes were in some cases higher than anticipated and needed to be analyzed again for the entire traffic network. This allowed ODOT to make changes immediately to the traffic signal timing along the entire corridor and to determine long term improvements.

14. How much did the ME Companies DLT (CFI) traffic study cost?

\$22,000

15. Who was responsible for the DLT (CFI) traffic study in early 2012 (who hired it done/what company conducted it)?

ODOT District 7 used its General Engineering Services design consultant, ME Companies to conduct the operational traffic study that was recently finalized.

16. What issues if any did the operational traffic study find?

The study confirmed/quantified the poor level of service of the northbound left turn lane and eastbound right turn lane. The study reviewed building a single eastbound right turn slip lane and remove the signalized eastbound right turn movement, and to add a second northbound left turn lane (dual northbound left lanes). However, it did recommend the "No Build" at this time because the study unfolded additional concerns with building the dual northbound turn lanes. The primary concern is how will adding the dual northbound left turn lanes affect the I75 interchange; specifically, the I75 northbound ramp intersection.

17. What are ODOT's plans to alleviate traffic issues at this location?

Currently, ODOT is planning to move forward with the design and construction of the eastbound right turn slip lane.

18. Who will pay for the adjustments or improvements at that location and how much will they cost?

The design will be an ODOT expense. Construction funding sources are still being identified by the district.

19. Are there other DLT style intersections in the state of Ohio and if so, have they had similar issues?

There are no others in operation. However, ODOT District 8 has a DLT planned for an intersection in Hamilton County.

20. What agencies are involved in the planning and decisions for this area (the DLT, I-75 interchange, Byers Road, Austin)

Depending on the affected road and the type of funding involved many agencies could be involved in the decision making process including: FHWA, FAA, ODOT, MVRPC, Montgomery County, Montgomery County Engineer, Montgomery County TID, Miami Township, City of Miamisburg, City of Springboro, and City of Dayton.

21. What can drivers expect in the next two years at that intersection?

ODOT is committed to keeping traffic flowing, so we are constantly working on the traffic signal timing. We will pursue the construction of the eastbound right turn slip lane which will improve the operation of the overall intersection.

22. Are there any issues at the I-75 interchange itself?

No capacity issues. Slight traffic signal timing issues have been reported for the AM peak hour.

23. What are the positive advantages of the new interchange and DLT intersection?

The main advantages observed at the DLT intersection was improved safety, increased capacity and reduced delay and travel time.

The new diamond interchange operates at an optimal level of service and has actually relieved congestion at several adjacent interchanges (IR 75 at SR 73, IR 75 at SR 725 and IR 675 at SR 725). A secondary benefit of the interchange is that it has spurred new economic development.