

Report for
**Indiana Department of
Transportation**

US 50 Dearborn County
Purpose and Need

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PURPOSE

The Indiana Department of Transportation (INDOT) has evaluated the state highway system relative to levels of passenger vehicular traffic as well as freight movement. Creating efficient connectors between major population and industrial areas within the state and across its borders is necessary to encourage economic growth and fiscal health for Indiana. As part of the evaluation, INDOT has developed classifications of the state highway system in order to prioritize the needs and importance of each corridor. A three-tiered structure has been developed based on levels of use and connectivity. Statewide Mobility Corridors are at the apex of the structure. These corridors are identified as being able to provide high-speed, safe, free-flowing arterial connections between metropolitan areas within the state and to surrounding states. They are also major freight movers and part of the State's goal to connect all areas with populations of 25,000 or more. Statewide Mobility Corridors should offer upper level design standards, carry longer distance commuter traffic effectively, and bypass congested areas.

US 50 has been designated as a Statewide Mobility Corridor by INDOT. The purpose of this study is to evaluate that portion of US 50 from Dillsboro to I-275 in Dearborn County in terms of the ideal characteristics of a Statewide Mobility Corridor as determined by INDOT identify those portions of the corridor that fail to meet the mobility corridor guidelines, and identify potential transportation projects to improve poorly functioning elements of the corridor.

BACKGROUND

Dearborn County is primarily rural, however the eastern portion of the county in the Aurora/Greendale/Lawrenceburg area exhibits urban characteristics. Single passenger vehicular travel to work is the dominant method of commuting. Public transit is basically non-existent; there is no passenger rail service, nor any public use airports within the County limits. Dearborn County residents rely almost exclusively on vehicular travel, elevating the need for current roadways to provide adequate levels of service. The County's accessibility to the Greater Cincinnati area continues to fuel the urbanization of the eastern portion of the corridor area, raising the level of commuter traffic. Tourist traffic also continues to grow with the success of the nearby Argosy Casino as well as Perfect North Slopes. This study will identify corridor needs and identify and evaluate alternatives to meet those needs.

NEED

One of the mandates of INDOT's Statewide Long-Range Multimodal Transportation Plan is to maintain existing facilities and service, which includes appropriate expansion of capacity to ensure the effective transportation of people, goods, and freight. Safety and the acknowledgement that an effective transportation system is an integral part of the economic security of the State are also key elements.

The need for the project will be broken down into four categories including (1) congestion, (2) safety, (3) Tanners Creek crossing, and (4) US 50's role as a Statewide Mobility Corridor. For ease of presentation the Corridor is divided into four segments:

- Segment 1–Dillsboro to Aurora (SR 262 to SR 148)
- Segment 2–Aurora to Lawrenceburg (SR 148 to SR 48)
- Segment 3–Lawrenceburg (SR 48 to Arch Street)
- Segment 4–Greendale (Arch Street to IR 275)

1. Congestion

Highways and intersections are typically evaluated in terms of vehicular traffic operations based on Level of Service (LOS). The LOS ratings range from A, indicating free-flowing conditions with little to no congestion, to F, which signifies failure of the transportation facility. LOS D is often considered the threshold of acceptable operations, with LOS E and LOS F representing unacceptable conditions.

Existing conditions analysis shows that Segment 1 functions adequately. Traffic moves smoothly and the roadway generally appears to conform to design standards for a Rural Arterial classification. The westernmost section of Segment 1 serves mostly agricultural or low density residential areas, becoming more commercialized as the corridor reaches Aurora. Forecasted traffic levels for 2031 indicate that Segment 1 should continue to operate with little or no congestion through both the AM and PM peak hours.

Segment 2 also currently functions adequately. The most congested location within Segment 2 is the SR 148 to Wilson Creek Road area. The existing Level of Service (LOS) for this section during the PM peak hour is LOS C. Analysis using 2031 traffic volume forecasts predicts operations in this section to decrease to LOS D.

Segment 3, from SR 48 to Arch Street, experiences significant congestion at the US 50 and SR 48 intersection during the existing AM peak hour, while other locations function adequately. The existing PM peak hour sees more congestion at all locations and significant friction for turning movements across the highway. The US 50/SR 48 intersection currently operates at LOS E overall. Forecasted traffic volumes will create overall failure of the SR 48 and Main Street intersections during the PM peak hour in 2031. Queuing will also become a serious concern causing intersection blockage and impairing corridor safety.

Segment 4 currently operates adequately with the exception of the US 50/SR 1/IR275 (Bellevue Road) intersection. This intersection operates at LOS F overall during the PM peak hour. Vehicles making turns at this intersection experience long queues and traffic signal cycle failure (waiting through more than one signal cycle before getting through the intersection). Future traffic levels should be able to function adequately across Segment 4, except for the US 50/SR 1/IR 275 intersection which will experience extreme delays and queuing due to congestion.

2. Safety

The westernmost section of Segment 1 experiences no major safety issues. Crash data shows that total accident rates rise above the statewide average, however, moving east from Coles Lane in Segment 1 to Wilson Creek Road in Segment 2. The injury crash rates are also above the statewide average throughout much of this portion of US 50.

Segment 3, which contains the urbanized area of Lawrenceburg from SR 48 to Arch Street, had intersection crash rates below the state threshold for considering safety improvements. The US 50 and SR 48 intersection had the greatest number of both total crashes and injury crashes.

Segment 4 has one intersection with an overall crash rate that warrants attention. The US 50/Arch Street intersection currently experiences 2.05 crashes per million vehicles entering the intersection. INDOT typically considers a rate above 2.0 as the threshold above which safety improvements should be considered. No crash data was available for the US 50/SR 1/Bellville Road intersection, so it is unknown if this intersection also poses a safety risk for the corridor. Although the total and injury crash

rates are higher than average along some portions of US 50, there were no fatalities along the study corridor from 2003 through 2005.

3. Tanner's Creek Bridge

Tanner's Creek Bridge is located on the west side of Lawrenceburg. It has received a sufficiency rating of less than 50, classifying it as functionally obsolete. The bridge is eligible for federal funding for replacement. The bridge provides the only major crossing over Tanner's Creek for the county. The lack of alternative routes hinders the response times of emergency vehicles. A major accident or construction on or near the bridge could severely limit mobility for all travelers on US 50 and would be a major concern for emergency responders. In order to fulfill the mandate to provide a safe and effective transportation system, various alternative solutions to alleviate congestion, improve safety, and provide system redundancy by constructing a parallel crossing over Tanner's Creek will be examined. The City of Lawrenceburg has significant concerns regarding safety and alternate routes if the bridge is out of service and is currently reviewing options to replace the structure or provide an additional crossing.

4. Role as Statewide Mobility Corridor

US 50 is a Statewide Mobility Corridor, demonstrating its significance to vehicular and commercial truck movement through the state. The westernmost section of the US 50 Corridor from Dillsboro to Aurora appears to function adequately in regard to traffic operations. Future vehicular volume forecasts fail to produce a significant level of congestion in the Dillsboro area. However, safety issues are currently evident in several segments of the Corridor as expressed by the higher than average crash data in Segments 1, 2, and 4. Existing volume-to-capacity ratios present strong evidence that the eastern section of the US 50 Corridor is failing to fulfill its function as a Statewide Mobility Corridor. Currently, Segments 3 and 4 of the Corridor cannot provide high speed, free-flowing conditions, efficiently service the large volume of through traffic, or provide adequately for heavy commercial traffic flow. Forecasts of future traffic volumes indicate even greater periods of congestion and a further reduction in the ability of this section of US 50 to provide adequate mobility between neighboring urban communities. The only major crossing of Tanner's Creek is functionally obsolete and the local population has expressed a desire to provide an additional crossing to address both congestion and the lack of system redundancy.