



Delaware Department
of Transportation

Public Workshop Summary

Contract T200411901 - US 40 / SR 72 Intersection Improvements

September 10, 2013 5:00pm – 8:00 pm
Keene Elementary School

The project design team held a public workshop on September 10, 2013 to present the proposed improvements to the public and seek input. A total of 63 people attended the public workshop. Project team members received feedback on these proposed improvements. A total of 27 comment forms were submitted at the workshop and during the subsequent comment period that ended on October 10, 2013. Below is a comment summary along with responses to the common public comments.

Current Design:

As part of the 20-year Transportation Plan for the US Route 40 Corridor approved in June 2000, the Delaware Department of Transportation has proposed improvements to the intersection of US 40 and SR 72 and portions of the approach roadway segments along SR 72. Currently the intersection of US 40 and SR 72 operates at unacceptable levels of service during peak hours, and future projections of traffic are expected to worsen. Without any improvements, it was determined that intersection delay in 2020 will be three to four times greater than it was in 2000. The goals of the project are to improve roadway safety and traffic operations, and improve multi-modal access.

This project involves reconstructing the intersection of US 40 and SR 72 to provide an additional through lane on each approach to US 40. In addition to improving pedestrian and bicycle access, the project also includes providing double left-turn lanes along both US 40 approaches to SR 72, installing a new traffic signal and realigning the intersection at Del Laws Road, and revising the intersection geometry at Broadleaf Drive to allow eastbound left-turns with an acceleration lane to access northbound SR 72.

Common Public Comments:

- ***Install a traffic signal at SR 72 and Broadleaf Drive (Belltown Woods)***
 - Traffic signal warrant studies were completed at the intersection of SR 72 and Broadleaf Drive in 2005 and 2012 and signal warrants are not satisfied. During the 13-hour traffic count that was completed in 2012, there were a total of 131 eastbound left turns from Broadleaf Drive. This quantity accounted for less than 1% of the total intersection volume. DeIDOT recognizes that peak hour traffic volumes and queues along SR 72 often obstruct access to Broadleaf Drive; however, it is anticipated that southbound SR 72 queue lengths will not extend to Broadleaf Drive once the additional through lane is constructed.
- ***Allow northbound SR 72 left turns to Broadleaf Drive – the proposed left turn from Broadleaf Drive will be unsafe***
 - The results of the comments received at the 2005 concept design workshop indicated that allowing the eastbound left turn from Broadleaf Drive to northbound SR 72 was the preferred option. The primary reason to reduce access at Broadleaf Drive is to improve intersection safety. Allowing northbound left turns will create a greater potential for left-turn angle crashes, which typically result in more serious injuries. Modifying the geometry of the median to allow for a northbound left turn will also reduce the storage length for the southbound SR 72 double left turn lanes at US 40. The reduced capacity of the southbound left turn lanes at US 40 could result in traffic queues that obstruct southbound through traffic. DeIDOT will also coordinate with local and regional emergency service providers to maintain sufficient access to Belltown Woods, including the intersection at SR 72 and Broadleaf Drive.
- ***Improve roadway lighting along SR 72***
 - The focus of roadway lighting improvements will be located at the intersection of US 40 and SR 72 in accordance with the DeIDOT Lighting Design Guidelines. Roadway lighting exists at the intersection today and will be upgraded as necessary. In addition, lighting will be installed to improve visibility and safety at the proposed pedestrian crossings within the project limits and along the northbound SR 72 acceleration lane from Broadleaf Drive. A review of the crash data along this section of the SR 72 corridor does not indicate a pattern of nighttime crashes; however, the need for lighting throughout the project limits will be evaluated.

- ***Address drainage issues along Del Laws Road and Route 40***
 - As final design continues, DelDOT will evaluate the need for drainage improvements along Del Laws Road and Route 40. This will include field observations during and after a rainfall event. If there are drainage issues that can be addressed outside the scope of the intersection improvements, DelDOT maintenance crews will be asked to review those locations in advance of construction. It should also be noted that a majority of the proposed runoff along SR 72 within the limits of the project will be conveyed through a new storm sewer system to a newly designed outfall.
- ***A traffic signal at SR 72 and Del Laws Road is not needed – already too many signals on SR 72***
 - To recommend a signal installation, an engineering study must find that intersection conditions satisfy one of nine warrants established in the *Manual on Uniform Traffic Control Devices (MUTCD)*. The first three warrants analyze vehicular volume at the intersection, and are the warrants most commonly met and cited as reason to install a new traffic signal. In 2005, a signal warrant study was completed at SR 72 and Del Laws Road – an 11-hour traffic count was performed on Thursday, May 25, 2005, along with speed studies and delay studies. The results of this study were summarized in a report the same year, which recommended signal installation based on the existing volumes meeting Warrant 1 – Eight-Hour Vehicular Volume, Warrant 2 – Four-Hour Vehicular Volume, and Warrant 3 – Peak Hour.
 - An updated 13-hour traffic count was collected on Tuesday, October 2, 2012 as part of the ongoing US 40/SR 72 Intersection Improvements project and analyzed to determine if existing volumes still met signal warrants. Based on the 2012 count data, the volumes still satisfied Warrant 2 – Four-Hour Vehicular Volume, and Warrant 3 – Peak Hour. Warrant 1 – Eight-Hour Vehicular Volume was satisfied for 7 of the 8 required hours, falling one side-street vehicle short of the necessary volume to meet the hourly criterion. However, having still fully met two of the warrants, a signal is still proposed.
- ***Address landscaping – especially at Fox Run***
 - A comprehensive evaluation of tree impacts will be completed in accordance with Delaware State Law to ensure that tree mitigation requirements are satisfied. Landscaping improvements are proposed along both sides of SR 72 adjacent to Fox Run Shopping Center and Fox Run Apartments. The proposed plantings will be designed to provide the maximum benefit for shielding the view of the Fox Run Shopping Center.

- ***We would like to have a sound barrier along SR 72***
 - A noise impact analysis will be completed in accordance with the requirement of DelDOT's noise policy and Federal Highway Administration (FHWA) guidelines. Existing noise level monitoring was conducted at twenty (20) sites within the project area on December 4, 2012. A preliminary Traffic Noise Model (TNM) was developed using the field data to evaluate and validate existing noise conditions. The model incorporates vehicle noise emission levels, updated for modern vehicle classification, traffic speed and traffic volume, sound propagation factors from atmospheric absorption, divergence, intervening ground, intervening barriers, and intervening rows of buildings and areas of heavy vegetation. The TNM validation model determines the legitimacy of predicted noise levels and noise abatement measures by evaluating the model's ability to reproduce the measured noise levels. Once the model is validated, the proposed roadway alignment and design year traffic data are input for the build alternative to determine impacts due to traffic generated noise and to determine the effectiveness of abatement measures if necessary. The results of the noise analysis will determine if a noise wall is warranted. The preliminary noise analysis is still under review and should be complete by the end of 2013. Once completed, the noise analysis will be available for review upon request.

- ***Concerns about speeding and posted speed limits along SR 72.***
 - Beginning at the southern project limits to north of Broadleaf Drive, the posted speed limit along SR 72 will be 40 MPH. Under existing conditions the posted speed limit in the project limits varies between 40 MPH and 50 MPH. DelDOT understands the concern regarding excessive vehicle speeds along SR 72. Widening SR 72 to provide an additional through is intended to improve traffic operations and safety; however, with improved operations, it is possible that vehicle speeds may increase. During the planning and design of any roadway, the geometry and other design elements are selected according to the expected operating speeds of traffic. The 85th percentile is often cited in traffic engineering handbooks and manuals as the starting point for establishing speed limits. The 85th percentile speed is the speed at or below which 85 percent of drivers travel in free-flow conditions at representative locations on the roadway. The 85th percentile speed is based upon the idea that most drivers will not put themselves at risk by driving at a speed that they feel is unsafe, but will drive speeds at which they are confident and comfortable. Engineers have used the 85th percentile speed to help set speed limits since the 1940s. Based on speed studies from 2012, the existing 85th percentile speed in the project limits range from 41 MPH to 52 MPH. It is important to note that posted speed limits are typically not as effective as consistent, visible police enforcement.

- ***Traffic signal timing and coordination needs to be improved.***
 - DelDOT recognizes the concern about signal timing and spacing along SR 72 between Mabel Lane and US 40. The Department will evaluate signal timing and coordination needs to optimize traffic operations at each intersection. The existing signals along SR 72 and US 40 are currently coordinated. The primary issue is that the existing traffic exceeds the capacity of the intersections in the project area. During an average day, approximately 50,000 vehicles travel through the intersection at US 40 and SR 72, including almost 4,000 during peak hours. It is anticipated that the addition of a through lane in each direction along SR 72 will significantly improve signal operations. It should also be noted that the intersection improvements and signal timing will not completely eliminate the potential for vehicle queuing and intersection delays.