

and freight corridor and is critical in connecting northwestern Wisconsin to the Twin Cities market.

2. Area Growth

St. Croix County has been and will continue to be one of the fastest growing counties in the state. Additionally, the WIS 64/US 63 corridor experiences a substantial amount of tourist-oriented traffic, particularly on weekends. This tourist traffic combined with local traffic illustrates WIS 64's importance to regional mobility and access.

3. Safety

a. Crash Rates

All three of the segments studied had total crash rates below the statewide average from 2000 to 2002. Two segments, however, had fatal crash rates that were well above the state average. Segment 1 (WIS 65 to US 63/WIS 46) had a fatal crash rate almost three times higher than the statewide average. Segment 2 (US 63/WIS 46 to County D) had a fatal crash rate almost double the statewide average.

b. Intersection Crashes

In general, intersection crash rates above 1.5 crashes per million entering vehicles indicate a need for investigation of intersection improvements. The intersection of WIS 64 and US 63 North had a crash rate above this value. In addition to a high crash rate, the intersection of WIS 64 and US 63 North had an unusually high number of rear-end-type crashes. Three of these crashes occurred when vehicles moving eastbound through the intersection collided with vehicles slowing or waiting to turn left.

c. Crash Types

The most common type of crash on all three segments was noncollision with the majority of these single vehicle crashes involving deer.

d. Crash Severity

From 2000 to 2002, US 63 between WIS 64 and the Polk County line had a nonfatal injury crash rate of 55 per 100 MVM, above the statewide average for a rural State Trunk Highway of 45 per 100 MVM. The segments between WIS 65 and WIS 46 and between WIS 46 and County D had crashes that resulted in fatalities.

e. Contributing Factors

Deer were a factor in a large number of the crashes on all three segments. Alcohol was a contributing factor in two of the fatal crashes; wet pavement conditions were also a contributing factor in two of the fatal crashes. Driver error including failure to yield, improper passing, inattentive driving, and excess speed was also involved in a large number of crashes.

4. Traffic Operations

a. Traffic Volumes

Current traffic volumes on WIS 64 range from about 4,400 to 5,600 vehicles per day (vpd). US 63 North carries about 3,300 vpd. On average, the vehicle miles traveled on state highways has tended to increase between 2% to 3% annually. To determine the range of future traffic volumes for this corridor, two types of projections were used: (1) WisDOT Central Office projections, and (2) projections using historical traffic trends. The WisDOT Central Office projections forecast from 7,600 to 9,100 vpd on WIS 64 and about 5,600 vpd on US 63 in 2032. Forecasts based on historic trends predict from 13,600 to 17,500 vpd on WIS 64 and 10,300 vpd on US 63. Figure 2.02-1 shows the traffic projections.

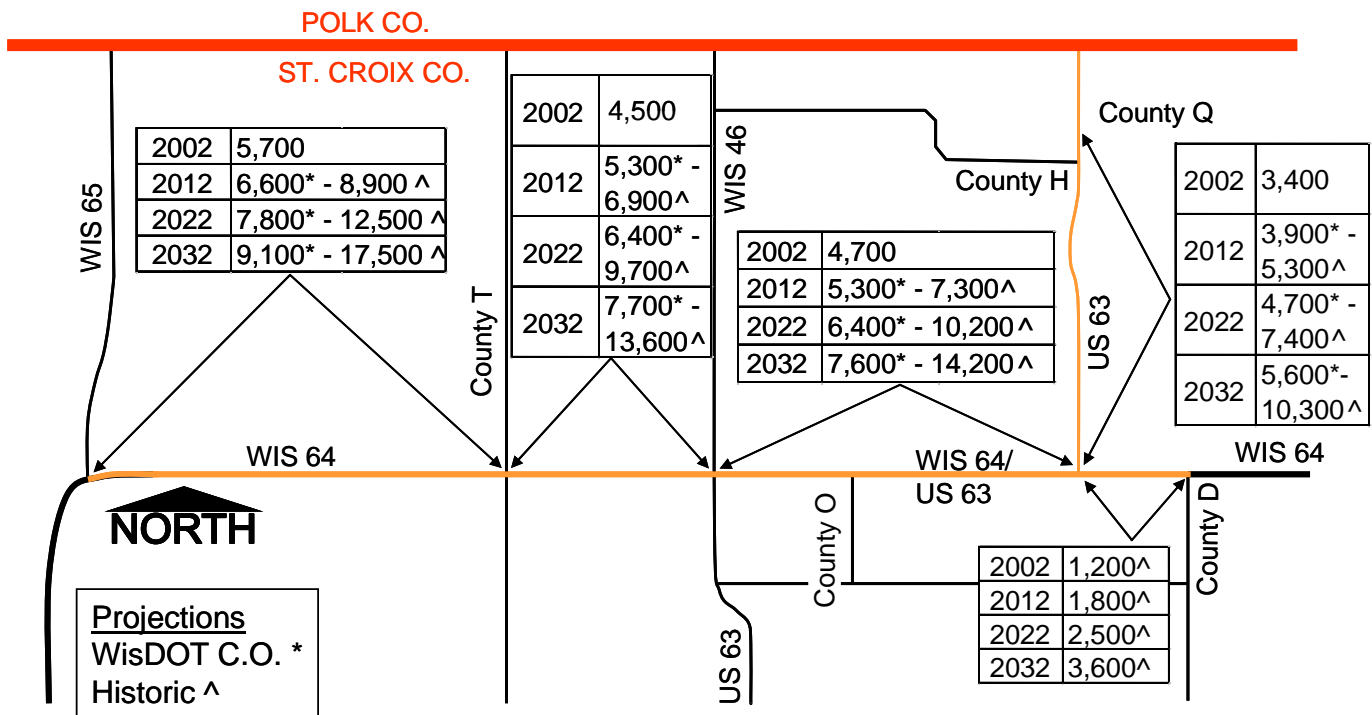
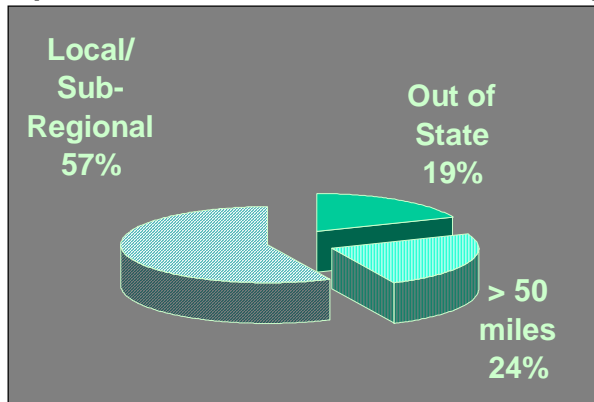


Figure 2.02-1 WIS 64 and US 63 Traffic Projections

Weekday Traffic Composition
(~700 veh on Wed. Afternoon)



Weekend Traffic Composition
(~1900 veh on Fri. Afternoon)

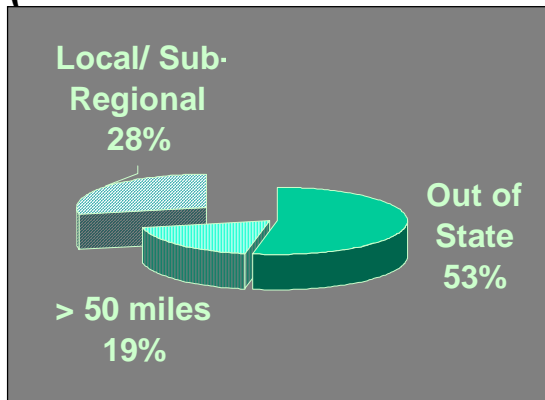


Figure 2.02-2 Vehicle Mix on WIS 64 and US 63

b. Vehicle Mix

The WIS 64 corridor experiences a substantial amount of tourist-oriented traffic particularly on weekends. The study team performed a license plate survey in August of 2002 and found that more than 70% of summer weekend traffic is nonlocal. The volume of traffic increased dramatically on Friday afternoon and is almost 3 times that of other weekday afternoons. This tourist traffic combined with local traffic illustrates WIS 64's importance to both regional mobility and local access. Figure 2.02-2 shows the vehicle mix on the corridor.

c. Rural Two-Lane Operation

In rural areas, the operation of a roadway is primarily characterized by a two-lane operations analysis. With this analysis, the level of service is largely determined by the ability of travelers to travel at their desired traveling speed and the ability to pass slow-moving vehicles when necessary. Two operational measures, average speed and percent time-spent-following, are used to describe the quality of service provided to motorists on a two-lane highway. LOS A is the highest quality of traffic service, and LOS F is the lowest quality of traffic service.

LOS C is considered the lower limit of acceptable operations on Corridors 2020 routes such as the study corridor. Using WisDOT Central Office traffic projections, the existing corridor operates at LOS C and will continue to operate at LOS C through 2032. In 2032, Section 2 will operate close to the LOS D threshold. Using traffic projections based on historic trends, all of the study corridor will operate at LOS D by 2032. The current sections operate at LOS C, yet most will fall to LOS D by 2022.

d. Intersection Operation

In urban areas, intersection LOS is the primary evaluation measure for operation levels. Intersection operation is less of a measure of operation in rural areas, yet it still provides insight on how difficult it may be to enter and cross the highway. Intersection LOS is determined by the average delay (in seconds) of vehicles entering the intersection. LOS E is often considered to be the limit of acceptable delay and LOS F for the total intersection is considered to be an indication of the need for improvement. Many communities establish a delay of up to 55 seconds for signalized intersections and 35 seconds for unsignalized intersections, both corresponding to LOS D, as their minimum standard. Corridors 2020 Routes strive to maintain LOS C operations or better.

Using the more conservative Central Office projections, most intersection movements will operate at acceptable levels through the year 2032. The four-way stop-controlled US 63 South/WIS 46 intersection begins to experience greater delays in the year 2032 with the eastbound approach operating at LOS D.

Using traffic projections based on historic trends, multiple intersections are expected to experience unacceptable operations by 2032. The US 63 South/WIS 46 intersection begins experiencing unacceptable delays in 2012. By 2022 this location as well as the County T and US 63 North intersections experience operations from LOS D to LOS F. By the year 2032, County O also experiences unacceptable operations.

e. Traffic Signal Warrants

The need for traffic signals is usually determined by using a set of criteria called Signal Warrants. Signal warrants are listed in the Manual on Uniform Traffic Control Devices and currently there are up to 15 criteria that can justify signals.

At the WIS 64/US 63 South/WIS 46 intersection, none of the five warrants analyzed are currently being met. According to the lower traffic projections, one warrant would be met in 2022 and three would be met in 2032. According to the high traffic projections, two warrants would be met in 2012, and four would be met in 2022.