

Executive Summary

The Capital Area MPO initiated the Creedmoor Intersection Feasibility and Impact Analysis in an attempt to identify operational and safety improvements for four intersections located along NC 56, NC 50, and US 15 in the City of Creedmoor, NC.

With the development of the region's Comprehensive Transportation Plan (CTP), the unconstrained component of the 2040 Long Range Transportation Plan (LRTP), the City of Creedmoor was selected for additional study for future transportation improvements.

The study aimed to address the items are shown to the right. The study area is shown below.

Document existing roadway conditions, land use, and built environment characteristics

Identify environmental, cultural, and historical concerns

Investigate historical crash data from study intersections

Determine capacity deficiencies

Recommend future access management

Identify short and long-term innovative roadway design strategies



Recommendations

The information gathered from each component of the Creedmoor Intersection Feasibility and Impact Analysis, including existing and future traffic conditions, environmental and cultural impacts, crash data analyses, and access management assessments aided in identifying a wide range of innovative solutions for the four intersections. These solutions include both low-cost near term options as well as future higher cost options encompassing the study area.

Near-Term Improvements by Intersection

Durham Ave. (US 15) and Lake Rd. (NC 56):

- When sidewalks are added to the cross streets, provide ADA compliant pedestrian crossings and amenities, such as timed signal crossings and clearly marked crosswalks.
- Improve the sight distance along the western portion of Durham Ave.

Durham Ave. (US 15) and Wilton Ave. (NC 56):

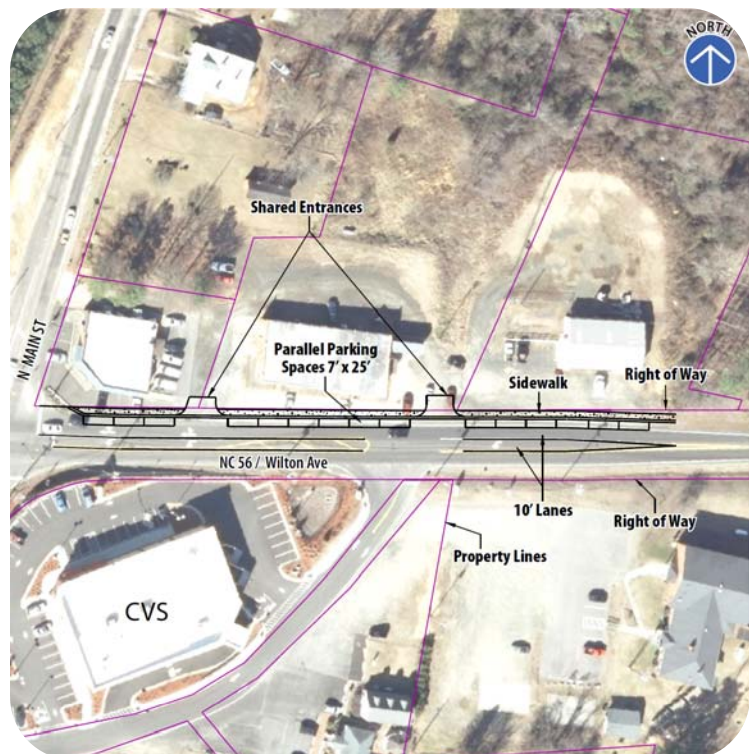
- When sidewalks are added to the cross streets, provide ADA compliant pedestrian crossings and amenities, such as clearly marked crosswalks.
- Improve pavement markings and signage along Durham Ave. and Wilton Ave.

Main St. (NC 50) and Lake Rd.:

- When sidewalks are added to the cross streets, provide ADA compliant pedestrian crossings and amenities including timed signal crossings (if a signal is installed) and clearly marked crosswalks.
- Reduce speed limits along Lake Rd. from 35 MPH to 20 MPH.
- Add reflective sheeting to increase visibility of the eastbound Lake Rd. stop sign.
- Construct a perpendicular intersection by adding a small median and improve pavement markings on the Lake Rd. approach.

Main St. (NC 50) and Wilton Ave. (NC 56):

- When sidewalks are added to the cross streets, provide ADA compliant pedestrian crossings and amenities including timed signal crossings and clearly marked crosswalks.
- Reduce speed limits along Wilton Ave. from 35 MPH to 20 MPH. Include on-street parking and sidewalk. Improve access management. (See Figure to right)
- Consider implementation of the one-way pair scenario or restricting both eastbound and westbound rights during red signal phases.
- Signage improvements would include the ending/beginning of NC 50 to reduce driver confusion.



Recommendations

Near-Term Improvements for the Study Area

One-way pair scenario for Wilton Ave. and Lake Rd.:

The project team recommends construction of a one-way pair for Wilton Ave. and Lake Rd. Construction of the one-way pair would involve converting Wilton Ave. and Lake Rd. into one-way streets. Based on travel pattern observations made in the field, implementation of a one-way pair scenario would effectively create a City block among the four intersections.

Roundabout construction for the Durham Ave. and Wilton Ave. intersection:

The project team recommends construction of a roundabout for the Durham Ave. and Wilton Ave. intersection. Construction of a roundabout would present numerous benefits for the study area as well as the City of Creedmoor.



Recommendations

Long-Term Improvements for the Study Area

A straight line growth of 3% was used to create traffic projections for 2040 design year. The 2040 capacity analysis shows that even with the creation of one-way pairs, there are still many deficiencies. The one-way streets will need to be improved from one lane to two-lanes and many other operational and geometric improvements will need to be included. Also, the roundabout at Durham Ave. and Wilton Ave. will need to be converted to a two-lane roundabout. While all of these improvements may be necessary, the analysis was conservative because it did not include the effect of the proposed Creedmoor Connector project (NC 56 By-Pass).

Potential Network Improvements

Beyond the 2040 improvements, the project team suggests other possible routes for NC 56 (see figure below) to improve network conditions. At the moment, to stay on NC 56 from either direction, the traveler must make two turns. These network improvements would make the transition through the City on NC 56 much smoother as well as create a single thoroughfare. Note that any of these improvements will also work with the one-way pair scenario.

Options 1 and 2 have been discussed throughout the history of NC 56 and have been shown on previous Transportation Improvement Programs. Option 1 is believed to be the original plan for NC 56. Option 3 would include some movement in Lake Rd. to the north to match up with the existing roadway behind the CVS for a transition to the east.

