

Summary and Conclusions

The NC 54/I-40 Corridor Study represents a two-year effort to explore, analyze, plan and build consensus for viable land use and mobility strategies that achieve an effective balance between competing regional and local travel needs in this regionally significant corridor that serves multiple jurisdictions. The goal has been to define a long term vision and strategic blueprint for mobility and livability that supports future development while maintaining a safe and efficient transportation network.

The outcome of this planning process is a master plan that provides a strategic set of recommendations intended to improve livability, personal mobility and access, while also serving regional and through traffic needs. It is important to set a proper context for this study. The Durham-Chapel Hill-Carrboro MPO identified the need for this study due to the high growth pressures facing this corridor, recognizing that its strategic location is fueling more intensive land development activity in the area, and a detailed transportation plan is needed to guide local and state agency decision-making. The corridor is essential not only to the University of North Carolina at Chapel Hill and its medical facility services, but to the Town of Chapel Hill and the City of Durham because of the regional and local accessibility it provides.

A multi-agency steering committee has guided the study's progress and recommendations quite effectively. This process also entailed a vigorous public participation program that included numerous meetings and a series of three well-attended public workshops held at key milestones in the plan's development. Numerous public comments shaped the direction and recommendations of this final report.

In general, this corridor is facing significant increases in traffic congestion from regional traffic demands, and lacks sufficient alternatives for parallel capacity. The corridor is largely constrained by environmentally sensitive lands, existing development and established neighborhoods. There are policies in place in Chapel Hill and on the University of North Carolina at Chapel Hill campus that restrict the amount of available parking, and encourage the use of transit in reaching destinations

served by this corridor. Yet the heavy traffic, high-speeds and lack of multimodal facilities along the corridor create barriers that limit the usefulness of walking and bicycling for transportation. This also influences transit usage, as every rider is a pedestrian for at least a portion of their trip.

The analysis of growth and transportation indicates that substantial capacity improvements will be needed by 2035 with or without new development anticipated to occur in the corridor. The I-40 interchange at NC 54 is fast approaching its capacity, and the proximity of the Farrington Road intersection creates operational challenges that affect much of the corridor. Heavy through traffic volumes projected along the corridor require intersection modifications that will help reduce delay. While the planned light rail transit system will help when it becomes operational sometime around 2025, it will not eliminate congestion. Rather, the light rail network provides a sound basis to guide future growth into the planned station areas as part of a nodal development strategy that will help reduce trip lengths, lower vehicle miles traveled per capita, and provide for more location-efficient housing choices to increase the financial flexibility of those residents.

While the recommended land use plan increases growth in the corridor beyond the levels assumed for the adopted Long Range Transportation Plan, most of that additional growth is expected to occur in Orange County because the LRTP assumptions appear low relative to development potential and future plans.

The recommended transportation network is defined in phases timed with anticipated levels of future growth. A series of roadway improvements to enhance local street connectivity for alternate routes, relieve bottlenecks at key interchanges and intersections through grade separation, increase operation efficiency through "superstreet" intersection treatments will support anticipated growth through 2035. Excess latent demand must be satisfied by transit and non-motorized modes, reflecting constraints in ultimate roadway capacity and parking availability.

Much of the potential future growth will need to wait until the light rail system is operational. However, the plan calls for expanded park-and-ride opportunities north and east of the NC 54/I-40 interchange to serve regional commuters, satellite parking for nearby employment centers, and future light rail transit stations by capturing a reasonable share of single occupancy vehicles before they enter the corridor. Expanded local bus, Bus Rapid Transit, and commuter express routes are planned to meet the corridor's growing needs in the interim to light rail, and these services will complement the rail system when it is built.

A network of non-motorized transportation facilities, along with signage/markings for shared on-road use

where appropriate, is needed to create a more accessible corridor and study area. This addresses travel along the NC 54 corridor by bicyclists and pedestrians, as well as crossing the corridor safely and efficiently. Elsewhere in the study area, the network provides additional connections between residential areas, commercial destinations and regional facilities, such as the American Tobacco Trail.

The appendix to this report contains a set of design guidelines that are intended to help local governments move forward with several of the land use and transportation recommendations. Implementation of this plan will take place in a number of ways.

Performance Measures and Monitoring

Establishing benchmarks and targets is an effective way to measure progress toward plan implementation. The NC 54/I-40 Corridor Study is a multi-year, multi-phase effort aimed at improving overall mobility and accessibility, consistent with plans to create development focal points as places that become multipurpose destinations. Given the concerns of some residents and many stakeholders about traffic conditions and future development plans, it makes sense to take an approach in partnership with NCDOT and the local governments that addresses various aspects of this report to track progress toward achieving outcomes of this planning effort, not merely the programming and construction of capital projects. The recommended approach is for the MPO to prepare a biannual monitoring report every two years to document progress toward achieving the mobility goals outlined in this study. This report would document transportation system conditions over time using the performance measures defined in this report and expanded to address specific implementation activities and accomplishments. The report would fit within the MPO's established Congestion Management Process, and should include the following categories of reporting as related to the corridor study area:

- Local Government Mobility Strategy Actions (cities, counties, MPO)
 - Transportation Demand Management policies and programs
 - Transportation System Management (e.g., intersection improvements, Advanced Traffic System Management (ATMS) implementation)
- Collector street network connections
- Transit service changes/improvements
- Funding allocations/developer commitments
- Parking changes/strategies
- Land development activity in the corridor
 - Summary of approved development plans/projects
 - Type and scale of land use
 - Development order agreements for transportation
 - Developer-financed mitigation
- Constructed developments
- Multimodal infrastructure
- Access management / circulation improvements
- City- or County-initiated land use actions
- Zoning changes/variances
- Land use changes
- Land Development Code revisions
- Transportation Characteristics/Patterns
- Duration of congestion (peak spreading)
- Transit ridership for routes serving the corridor
- Carpool and vanpool activity

The recommended process for the monitoring report is for the MPO to prepare the report every two years for review by the steering committee and Transportation Advisory Committee, and the partner agencies provide comments based on their review. The biannual report and related review comments are intended to be advisory, and provide an opportunity for the MPO and NCDOT to assess changes in conditions and determine whether additional measures may be needed or other strategies can be implemented. It is suggested that the MPO schedule a joint coordination meeting to address the report findings and agency review comments. This provides a basis for next steps and agreement on strategies for subsequent two-year reporting period. Important changes in the plan should be addressed through the Comprehensive Plans and land development codes in the local governments, the MPO 2040 LRTP and Congestion Management Process, not solely as a result of the biannual report.