2.4.2 Application of Performance-Based Planning Framework

Development of the 2035 LRTP was guided by an evaluation of the cumulative performance of proposed transportation investments in relation to their impact on transportation goals. As part of plan development, all alternative transportation scenarios (as defined in Section 3.5.1) were first evaluated using the LRTP performance measures. Those strategies that performed the best in relation to these metrics were prioritized for inclusion in the financially constrained LRTP, which also was evaluated in the context of the performance measurement framework. In this way, the performance measurement framework was able to be applied throughout plan development, via initial Needs Plan Development and Alternatives Analysis, and subsequently as part of the financially constrained 2035 LRTP.

In addition to applying the framework at a systems level as part of alternatives analysis and evaluation of the financially constrained plan, several of the measures also were evaluated at the corridor level as part of the CMP update. In this way, the impact of various transportation strategies on the corridors included in the CMP route network also were evaluated, to supplement the overall system-level assessment.

A summary of the 2035 LRTP evaluation as it relates to the performance framework is provided in Section 4.5.

2.5 Overview of Plan Concepts

A number of strategic planning concepts were integrated throughout development of the 2035 LRTP to support development of a more sustainable, multimodal, and cost-effective transportation plan. These concepts include Complete Streets, Transit, Bicycle/Pedestrian, Travel Demand Management, Safety and Security, and Intermodal, as well as financial feasibility for investing in these concepts. These plan concepts align with the 2035 Goals and Objectives and shaped, to a great extent, development of the 2035 LRTP.

2.5.1 Complete Streets

Roadways are often designed using a preset menu of cross-sections that focus on single-occupancy vehicle mobility and level of service for streets with pre-defined functional classifications. However, these methods are changing as cities develop and grow, and existing rights-of-way become more constrained. Standard cross-sections may be less likely to perform effectively. Increased concern to provide multimodal transportation options that are safe, sustainable and environmentally sensitive requires a more analytical process, one that considers the various user perspectives and the surrounding land use context, in addition to the street function. Implementing a concept of more inclusive, multimodal, user-based roadway design would encourage planners and engineers to build road networks that are safer, more livable, and welcoming to everyone; in essence completing our streets to better connect people and places with multimodal transportation options.

Creating complete streets means transportation agencies must change their orientation toward building primarily for cars. Instituting complete streets within the TPO as part of the Transportation Plan helps to ensure that member agencies routinely design and operate the entire right-of-way to enable safe access for all users. Places with complete streets policies are making sure that their streets and roads work for drivers, transit operators and users, pedestrians, and bicyclists, as well as for older people, children, and people with disabilities. Complete streets are designed and operated to enable safe access for all users. Motorists, freight drivers, transit operators and riders, bicyclists and pedestrians of all ages and abilities must be able to safely move along and across a complete street.

An ideal complete streets policy must apply to everyone traveling along the road but does not mean that all streets should require the same design elements. Complete streets policies should result in the creation of a complete transportation network for all modes of travel. Instead of trying to make each street perfect for every traveler, communities can create an interwoven array of streets that emphasize different modes and provide quality accessibility for everyone. This can mean creating bicycle boulevards to speed along bicycle travel on certain low-traffic routes; dedicating more travel lanes to bus travel only; or creating more walkable segments of routes that already are overflowing with people on foot. It is important to provide basic safe access for all users regardless of design strategy and networks should not require some users to take long detours.

For many years, multimodal streets have been treated as 'special projects' requiring extra planning, funding, and effort. The complete streets approach is different. Its intent is to view all transportation improvements as opportunities to create safer, more accessible streets for all users, including pedestrians, cyclists, and public transportation passengers. Under this approach, even small projects can be an opportunity to make meaningful improvements. In repaving projects, for example, an edge stripe can be shifted to create more room for cyclists. In routine work on traffic lights, the timing can be changed to better accommodate pedestrians walking at a slower speed. A strong complete streets policy will integrate complete streets planning into all types of projects, including new construction, reconstruction, rehabilitation, repair, and maintenance.

Making a policy work in the real world requires developing a process to handle exceptions to providing for all modes in each project. The Federal Highway Administration's guidance on accommodating bicycle and pedestrian travel named three exceptions that have become commonly used in complete streets policies: 1) accommodation is not necessary on corridors where nonmotorized use is prohibited, such as interstate freeways; 2) cost of accommodation is excessively disproportionate to the need or probable use; and 3) a documented absence of current or future need. Many communities have included their own exceptions, such as severe topological constraints. In addition to defining exceptions, there must be a clear process for granting them, where a senior-level department head must approve them. Any exceptions should be kept on record and publicly available.

An Ideal Complete Streets Policy

- Includes a vision for how and why the community wants to complete its streets.
- Specifies that 'all users' includes pedestrians, bicyclists and transit passengers of all ages and abilities, as well as trucks, buses and automobiles.
- Encourages street connectivity and aims to create a comprehensive, integrated, connected network for all modes.
- Is adoptable by all agencies to cover all roads.
- Applies to both new and retrofit projects, including design, planning, maintenance, and operations, for the entire right of way.
- Makes any exceptions specific and sets a clear procedure that requires high-level approval of exceptions.
- Directs the use of the latest and best design standards while recognizing the need for flexibility in balancing user needs.
- Directs that complete streets solutions will complement the context of the community.
- Establishes performance standards with measurable outcomes.
- Includes specific next steps for implementation of the policy.

Effective complete streets implementation must be sensitive to the community context and would not require inappropriately wide roads in quiet neighborhoods or miles of little-used sidewalks in rural areas. A strong statement about context can help align transportation and land use planning goals, creating livable, strong neighborhoods.

The traditional performance measure for transportation planning has been vehicular level of service (LOS) – a measure of automobile congestion. Planning for Complete Streets requires a broader look at how the system is serving all users. Communities with complete streets policies can measure success through a number of ways: the miles of on-street bicycle routes created; new linear feet of pedestrian accommodation; changes in the number of people using public transportation, bicycling, or walking (mode shift); number of new street trees; and/or the creation or adoption of a new multimodal level of service standard that better measures the quality of travel experience.

Taking a complete streets policy from paper into practice is not easy, but providing some momentum with specific implementation steps can help. Policies can guide communities to adopt complete streets principles in plans, develop new design guides, institute better ways to measure performance, or offer workshops and other training opportunities to planners and engineers.

It is through this type of integrated, balanced approach that the performance-based goals of this plan can provide an optimized solution to best meet the needs of all road users.

All travelers seek a similar experience: convenience, safety, comfort, access to destinations and reasonable travel time. Complete streets reduce crashes through comprehensive safety improvements (Goal 1) with the routine implementation of features such as sidewalks, road diets that provide center turn lanes, bicycle lanes, crosswalks and other traffic calming devices.

This commitment to a true network of complete streets will provide the best opportunity for an integrated multimodal transportation system. Even a small mode shift to walking,

biking and transit can have a sizable impact on vehicle-miles traveled and local congestion (Goal 2). The creation of a systemic process to evaluate not only the transportation, but land use context for each project will yield a coordinated solution that will maximize transportation investments with planned growth (Goal 3).

Sustainable and environmentally friendly transportation options (Goal 4) are enhanced by providing for the needs of pedestrians, cyclists, and transit users by default rather than by exception. Mode shifts to these low-impact travel options can further extend the life of our transportation system and be enhanced through intelligent transportation system features (Goal 5).

Integrating the needs of all users, pedestrians, bicyclists, public transportation riders, motorists, older people, children, and people with disabilities, early in the life of a project minimizes costs associated with including facilities for these travelers. Complete streets policies ensure early multimodal scoping, saving money by avoiding costly project delays. Complete streets are a sound financial investment in our community that provides long-term savings (Goal 6). An existing transportation budget can incorporate complete streets projects without requiring additional funding, accomplished through reprioritizing projects and allocating funds to projects that improve overall community mobility. Complete streets provide benefits to the community in many other ways, from public health to sustainability and from improved property values and economic revitalization to increased capacity and improved mobility for all. Americans expect a variety of choices, and a multimodal system of complete streets provides alternatives to driving. Implementing complete streets allows for an efficient and optimal use of limited resources: time, fuel, land, public health, the environment, and money.

The Complete Streets concept was integrated throughout 2035 LRTP plan development process. Prior to the TPO Board adoption of the plan's goals and strategies which considered Complete Streets as a performance measure, a Complete Streets workshop was held by the TPO on May 15, 2009. The workshop provided an educational opportunity for TPO staff and planning partners on the planning, policy, and design of Complete Streets. Engineers, planners, elected officials, TPO staff/technical/board members, health professionals, and traffic professionals were in attendance. Following this workshop, the Complete Streets performance measure was established as part of the Performance-Based planning framework by the TPO Executive Board on June 16, 2009. This measure is a policy level, initial attempt to integrate this concept into the plan process and is a measure of project sponsor commitment to implementing complete streets principles (e.g., through voluntary provision of sidewalks, bicycle lanes, or other appropriate design elements). It will support an assessment, over time, of increasing or decreasing project sponsor support for implementation of complete streets planning into project development activities. To support initial integration of this concept into the plan process, the TPO calculated the additional incremental funding that would be needed to implement complete streets design elements (specifically, striped bicycle lanes, sidewalks, ADA elements, and transit-supportive (nonroadway) infrastructure such as bus stops and bus shelters) for a number of corridors in the region. These corridors were identified as part of the Bicycle and Pedestrian Master Plan as conducive for complete streets design (see Section 5.2.1). This additional

amount of money was then included in the total project cost for proposed roadway projects on these facilities, with the additional cost covered by federal revenue (STP-Urban funds). Over time, with each future LRTP update, it is the goal of the TPO to move towards more focused implementation of the Complete Streets concepts with a transition from the generalized federal funding allocation set aside by the TPO to line-item costing for specific projects to be supported by local and State funding, in addition to federal funds, as appropriate. Section 4.4.1 provides additional detail related to the Complete Streets funding amount programmed in the LRTP.

2.5.2 Transit

An important part of any transportation system, especially in urban areas, is mass transit. Public transportation has been an important component of mobility in Chattanooga for many years. Public transit systems generally include both fixed route transit and on-demand (e.g., paratransit) components. The fixed route transit system links the various neighborhoods throughout a system with major activity and destination points. Fixed route transit is operated on defined routes and schedules. On the other hand, on-demand modes have routes and schedules that respond to user demand. Paratransit, as an example, is a flexible, demand-responsive transportation service that is designed to carry passengers from their origins to specific destinations (often door-to-door) by immediate request or prior reservation.

Transit service within the CHCNGA region is a developing and critical resource for all residents. The multifaceted system also is multijurisdictional, providing transportation services that cross city, county and state lines. Currently, transit services in the Chattanooga area are provided by the following agencies: CARTA, Catoosa County Transit (Catoosa Trans-Aid), Dade Transit (DT), and Walker County Transit (WCT).

Mass transit is an integral part of the city, and has been for over a century. The importance of mass transit will only become greater, as the Chattanooga area continues to grow, both inside the already urbanized area, and beyond. CARTA is, currently, the only provider of fixed route mass transit in the Chattanooga area, operating over 70 vehicles on 16 routes. CARTA operates almost 180,000 vehicle revenue hours, with over three million unlinked passenger trips, annually. These numbers include the very popular free Downtown Electric Shuttle, which account for nearly one million passenger trips annually. CARTA's free electric shuttle service within downtown Chattanooga provides frequent service (approximately five-minute headways) between the Chattanooga Choo-Choo and Tennessee Aquarium. The shuttle also is served by two pay parking facilities (Shuttle Park North and Shuttle Park South). With more than 23 electric vehicles, the system is the largest electric shuttle system in the United States. CARTA currently has plans to expand the electric fleet into regular passenger bus service. In addition, Blue Cross-Blue Shield of Tennessee has recently began operating a hybrid electric bus to provide transportation to its employees traveling between the remaining offices in Downtown Chattanooga and Cameron Hill, the new large "campus" headquarters.