

6-3. ACTIVE TRANSPORTATION

OVERVIEW

Active transportation, or bicycle and pedestrian modes, is an integral component of Mobility 2050. Active transportation offers numerous options to improve the existing transportation system efficiently and cost-effectively through a variety of systematic enhancements. Active transportation also includes micromobility; as defined by the Federal Highway Administration, micromobility is any human- or electric-powered transportation device, including bicycles, scooters, electric-assist bicycles (e-bikes), electric scooters (e-scooters), and other small, lightweight, wheeled conveyances.

Safe and efficient active transportation infrastructure continuously emerges as a high priority in public feedback and benefits all road users by creating more livable and cost-efficient communities. The region's active transportation network is used as a mode of transportation by people of all ages and abilities to walk and bicycle. The network is not only for recreational use; it is also used for non-recreational trips and a variety of purposes such as traveling to work or school, and as first/last mile connections with transit services, including bus stops and rail stations.

The United States Department of Transportation (USDOT) policy statement on Bicycle and Pedestrian Accommodation Regulations and Recommendations signed on March 11, 2010 highlights the importance *“to incorporate safe and convenient walking and bicycling facilities into transportation projects.”* The policy emphasizes active transportation accommodations should be given the same priority as other transportation modes. Walking and bicycling facilities should

meet accessibility requirements and provide safe, convenient, and interconnected transportation networks that ensure transportation choices are available for people of all ages and abilities, especially children. With this stronger emphasis for multimodal transportation facilities by USDOT, the Texas Department of Transportation Roadway Design Manual contains guidance to plan, design, and construct facilities that safely accommodate bicyclists and pedestrians.

Providing Traveler Choice

The following are considerations that should be given when planning and implementing active transportation facilities:

- All trips less than two miles in length in the urbanized areas should have options available to be accomplished by nonmotorized, transit, or micromobility modes of travel.
- All roadways in the urbanized areas should be designed and constructed to accommodate at least three modes of transportation.
- Roadway projects should implement context-sensitive design approaches compatible with the community and neighborhood in which the roadway is located.

Performance Measures

Federally required performance measures for Metropolitan Planning Organizations are addressed in the **Regional Performance** chapter. Additional performance dimensions related to active transportation include:

- Number of pedestrian fatalities
- Number of pedestrian serious injuries
- Number of bicyclist fatalities
- Number of bicyclist serious injuries
- Number of miles of existing Regional Veloweb
- Number of miles of existing community shared-use paths
- Number of miles of existing on-street bikeways

MOBILITY 2050 POLICIES AND PROGRAMS

Mobility 2050 includes policies and programs that address regional priorities and public needs. Policies guide decision-making and set the framework for long-term goals, while programs provide the funding and resources to turn plans into action across the transportation system.

Policies

BP3-001: Support the planning and design of a multimodal transportation network with seamless interconnected active transportation facilities that promotes walking and bicycling as equals with other transportation modes.

BP3-002: Implement pedestrian and bicycle facilities that meet accessibility requirements and provide safe, convenient, and interconnected transportation for people of all ages and abilities.

MOBILITY 2050 SUPPORTED GOALS



Improve the availability of transportation options for people and goods.

Support travel efficiency measures and system enhancements targeted at congestion reduction and management.

Ensure all communities are provided access to the regional transportation system and planning process.



Preserve and enhance the natural environment, improve air quality, and promote active lifestyles.

Encourage livable communities which support sustainability and economic vitality.



Ensure adequate maintenance and enhance the safety and reliability of the existing transportation system.

Pursue long-term sustainable revenue sources to address regional transportation system needs.



Provide for timely project planning and implementation.

Develop cost-effective projects and programs aimed at reducing the costs associated with constructing, operating, and maintaining the regional transportation system.

BP3-003: Support programs and activities that promote pedestrian and bicycle safety, health, and education.

Programs

For more information on program funding and implementation, see the **Mobility Options** appendix.

BP2-001: Active Transportation Planning and Design

BP2-002: Active Transportation Network Implementation

BP2-003: Active Transportation Education and Outreach

ACTIVE TRANSPORTATION CONTEXT IN NORTH CENTRAL TEXAS

Many cities and counties in the region have developed and adopted bicycle master plans, trail master plans, or a combination of both. Various communities are also developing plans for local pedestrian networks and programs to provide safe routes to schools. In addition, numerous cities and transportation agencies have adopted local policies for bicycle accommodations to encourage bicycling as a form of transportation. Locally adopted community bicycle and trail master plans are used in the development of Mobility 2050 to ensure regional connectivity and continuity.

The types of pedestrian and bicycle facilities available differ from community to community, based on the context and density of the surrounding area where they are located. These facilities provide for nonmotorized modes of transportation and enhance travel throughout the region.

In urban areas of the region, the active transportation network typically includes the greatest density of interconnected sidewalks, off-street shared-use paths, and on-street bikeways where there are high volumes of users requiring connections to transit and major destinations. These urban areas also have a significant number of short-distance trips that can be achieved by walking, bicycling, and micromobility devices in contrast to suburban or rural areas.

Options for Short Distance Trips

According to the 2022 National Household Travel Survey, for households located in urban areas, 47 percent of all trips were three miles or less in distance, and 19 percent of all trips were one mile or less. These trips are ideal for biking, walking, transit, micromobility, or a combination of these modes of travel. By encouraging investment in facilities that support these forms of transportation, the region can shift short trips to walking and bicycling modes, resulting in more transportation choices and improved air quality. Therefore, Mobility 2050 aims to provide options for nonmotorized or transit modes of travel for all trips in the urbanized area that are less than two miles in distance. **Figure 6-12** shows the types of recommendations included in the plan.

Figure 6-12: Active Transportation Recommendation Types



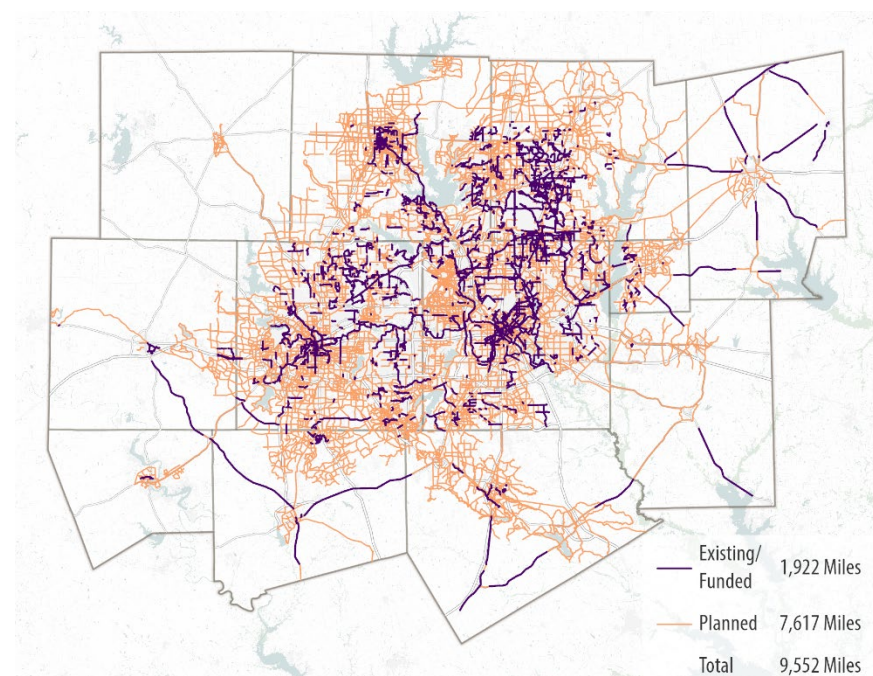
ACTIVE TRANSPORTATION NETWORK RECOMMENDATIONS

Combined Active Transportation Network

The active transportation network in the region consists of supporting community shared-use paths, the on-street bikeway network (including on-street wide shoulders in rural areas), and regional shared-use paths (Regional Veloweb). This network is reflected in the map in **Figure 6-14** and mileage data can be found in the **Mobility Options** appendix.

Mobility 2050 includes extensive research on and the compilation of the locally adopted master plans for active transportation infrastructure throughout the region. By working with local and regional stakeholders, the plan prioritizes corridors for improvement

Figure 6-13: Combined Regional Veloweb, Community Paths, and On-Street Bikeway Network



- The Regional Veloweb and Community Shared-Use Path network does not include recreational paths/loops, private paths, equestrian or nature trails, or wide sidewalks less than 10 feet in width.
- On-street bikeways in the urbanized area include separated or protected bike lanes/cycle tracks, bike lanes, marked shared lanes, and marked bicycle boulevards. On-street bikeways in the urbanized area do not include signed bike "routes," signed "share the road," unmarked wide outside lanes, or signed wide shoulders.
- The use of wide shoulders is included on various roadways linking rural communities outside of the urbanized area.
- Facility recommendations indicate transportation need. Corridor-specific alignment, design, and operational characteristics for the network will be determined through ongoing project development.
- Regional Veloweb and Community Path facility mileages are based on linear miles. On-street bikeway facility mileage is based on centerline miles.

as represented by the Regional Veloweb, areas of highest demand for active transportation travel, and other policies for active transportation infrastructure investment and safety. Mobility 2050 represents the compilation of 84 locally adopted plans with shared-use paths (trails) and 45 locally adopted plans that include on-street bikeway facilities. New and updated regional plans are adopted each year, and the North Central Texas Council of Governments regularly coordinates with local jurisdictions to update a geodatabase of existing, funded, and planned active transportation facilities.

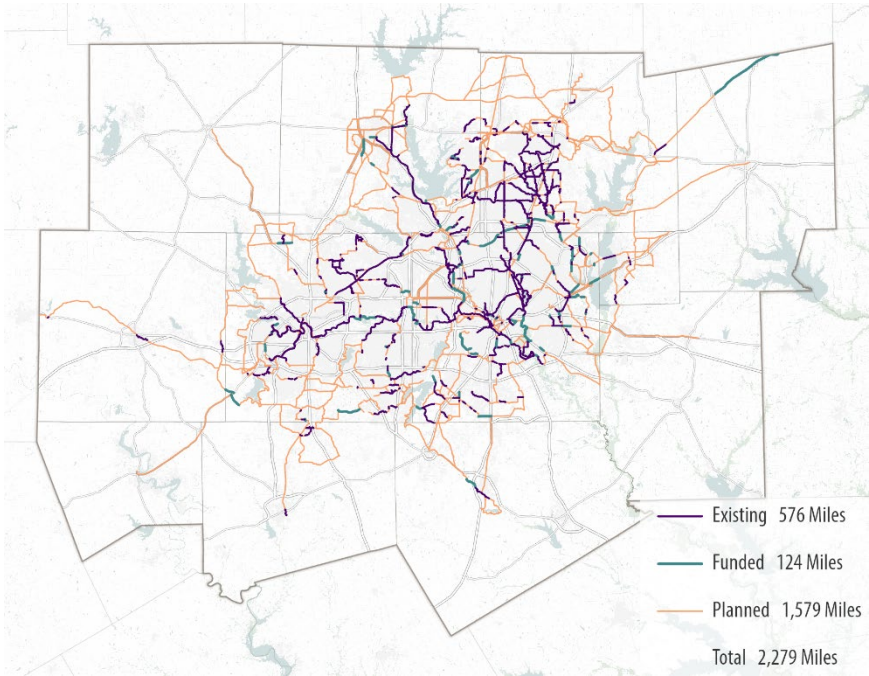
Recommended Off-Street Network: The Regional Veloweb

The Regional Veloweb is a network of off-street shared-use paths (trails) designed for non-recreational trip purposes by bicyclists, pedestrians, and other nonmotorized forms of transportation. The Regional Veloweb serves as the regional expressway network for active transportation, and it extends the reach of the region's roadway and passenger rail transit network for nonmotorized transportation. The Regional Veloweb has planned connections in 12 counties and 119 cities in North Central Texas. Alignments were determined through the cooperative efforts of local governments and North Central Texas Council of Governments staff by:

- Identifying existing and funded facilities
- Reviewing locally planned bicycle and pedestrian facilities
- Locating routes that would provide air quality benefits and access to transit stations and major destinations
- Identifying corridors that provide the greatest potential for regional connectivity
- Identifying routes that provide opportunities to enhance travel and tourism

The Regional Veloweb is reflected in **Figure 6-14** and includes approximately 2,279 miles of shared-use path facilities in various stages of development. The Regional Veloweb's shared-use paths are expected to be consistent with the recommendations and design guidance set forth by the American Association of State Highway and Transportation Officials' (AASHTO) *Guide for the Development of Bicycle Facilities, 5th Edition*. The primary design considerations of Regional Veloweb paths typically include wider cross sections (minimum 12-foot width) and grade-separated crossings of roadways with significant traffic flows. They may have wider 16- to 24-foot sections or separated facilities for pedestrians and bicyclists in areas experiencing high-peak user volumes due to the proximity to transit stations, employment and education centers, and/or other major venues. Design considerations for regional and community pathways are described in more detail in **Table 6-1**. The Regional Veloweb network incorporates certain alignments identified as regionally significant trail corridors, as well as those reflected as statewide priorities in the Texas Department of Transportation statewide Bicycle Tourism Trails Study. The statewide network is comprised of cross-state spines, connecting spurs, and regional routes which extend throughout the North Central Texas region. As such, these corridors are prioritized in the plan for implementation. These alignments are reflected in the **Mobility Options** appendix.

Figure 6-14: The Regional Veloweb



Facility recommendations indicate transportation need. Corridor-specific alignment, design, and operational characteristics for the Regional Veloweb network will be determined through ongoing project development.

Table 6-1: Regional Veloweb 2050 Pathways Classifications and Primary Design Considerations

Regional Pathways 2050 Primary Design Considerations	Community Pathways Primary Design Considerations
Consistent with the guidance set forth by AASHTO for the development of bicycle facilities.	Consistent with the guidance set forth by AASHTO for the development of bicycle facilities.
<u>Minimum width:</u> 12 to 14 feet (typical) with 16- to 24-foot-wide sections or separated facilities for pedestrians and bicyclists in areas with high-peak user volumes.	<u>Minimum width:</u> 10 to 14 feet (typical) with wider sections where warranted due to high-peak volumes.
Typically, independent right-of-way corridors such as greenways, along waterways, freeways, active or abandoned rail lines, utility rights-of-way, and unused rights-of-way.	May include more alignments adjacent to local collector and arterial roadways, and through neighborhoods and areas where right-of-way is more constrained and user volumes are lower.
Continuous linear corridors provide long-distance connections through cities and across counties; provide connections to major destinations, including transit stations, employment and education centers, and/or other major activity venues with high volumes of users.	Corridors generally shorter in length and may terminate within a community, may supplement adjacent on-street bikeways along roadways with higher traffic speeds and volumes not suitable for less experienced bicyclists, and may provide short connections between on-street bikeways and neighborhoods.
Grade-separated crossing of roadways with significant traffic flows. Few, if any, driveway crossings and signalized or stop sign intersections.	May include more at-grade crossings of roadways with signalized or stop sign intersections while minimizing any conflicts with motor vehicles and associated operational and safety issues.
Supported by a network of local community paths, sidewalks, and on-street bikeways that provide connections to local neighborhood destinations.	Serves as an extension of the regional pathway network by providing connections to local neighborhood destinations.
Constructed with a long-lasting impervious surface.	Constructed with a long-lasting impervious surface.

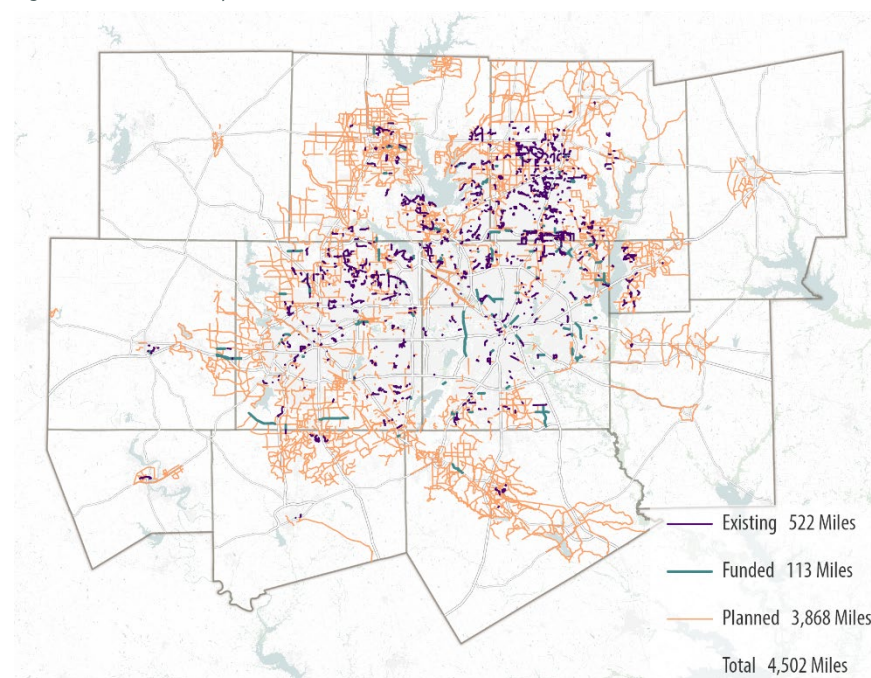
Off-Street Network: Community Shared-Use Paths

Community shared-use path facilities support the Regional Veloweb and help extend the reach of the regional network by connecting it to local and neighborhood destinations. Approximately 4,502 miles of these paths, shown in the map in **Figure 6-15**, are in various stages of development. These facilities are also expected to be consistent with the recommendations and guidance set forth by AASHTO's *Guide for the Development of Bicycle Facilities, 5th Edition*. This network of facilities does not include recreational park loops, private paths, equestrian or nature trails, or wide sidewalks less than 10 feet in width. Mobility 2050 forecasts that a portion of the network of community shared-use paths will be implemented. The paths that will be constructed are primarily located in corridors that serve as extensions of the Regional Veloweb and provide connections to transit facilities and other major local destinations. While not fully funded by Mobility 2050, community shared-use paths provide important connections within communities and will be implemented as funding is available.

Regional On-Street Bikeway Network

On-street bikeways facilitate safe and convenient travel for bicyclists, and they serve as extensions of the Regional Veloweb and community shared-use path network by providing nonmotorized travel connections between housing, employment, major destinations, and transit facilities. The existing and planned on-street bikeway network is shown in **Figure 6-16**. Currently more than 45 locally adopted plans include on-street bikeway facilities representing more than 2,482 linear miles in various stages of development.

Figure 6-16: Community Shared-Use Paths



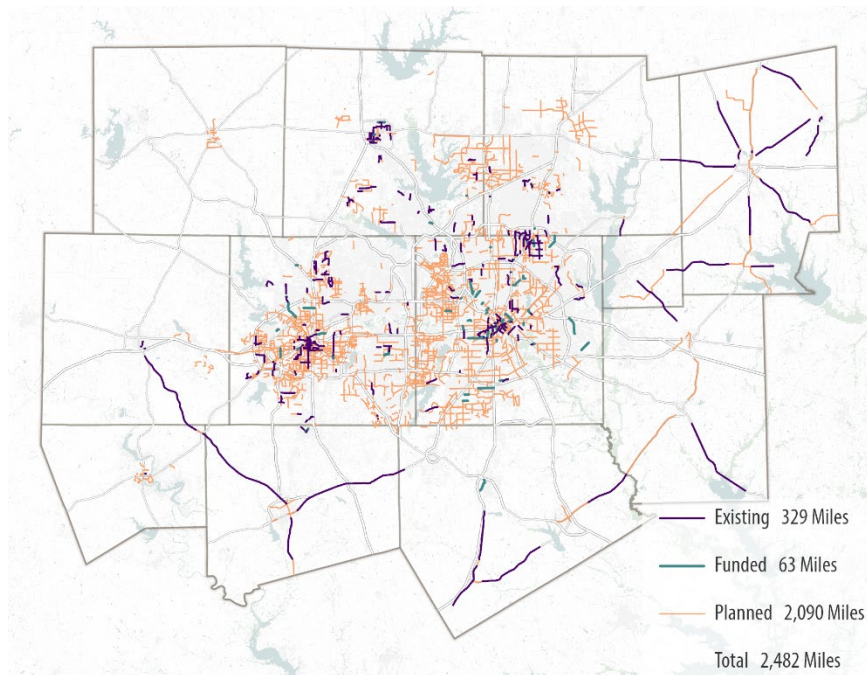
- Community Shared-Use Paths supplement the Regional Veloweb network. These paths do not include recreational paths/loops, private paths, equestrian or nature trails, or wide sidewalks less than 10 feet in width.
- Facility recommendations indicate transportation need. Corridor-specific alignment, design, and operational characteristics will be determined through ongoing project development.
- Community Path facility mileages are based on linear miles.

Consistent with guidance from AASHTO, National Association of City Transportation Officials, and the Federal Highway Administration's *Separated Bike Lane Planning and Design Guide*, the type and design of on-street bikeways can vary based on the community and context in which they are located. The primary factors impacting a bicyclist's level of comfort while riding are motor vehicle speed and volume. **Figure 6-17** illustrates the need for more separation from motor vehicles on roadways with higher volumes and speeds. Bikeways in urban and

suburban areas of the region are recommended to include the following:

- Separated bike lanes/cycle tracks
- Bike lanes
- Marked shared lanes
- Marked bicycle boulevards

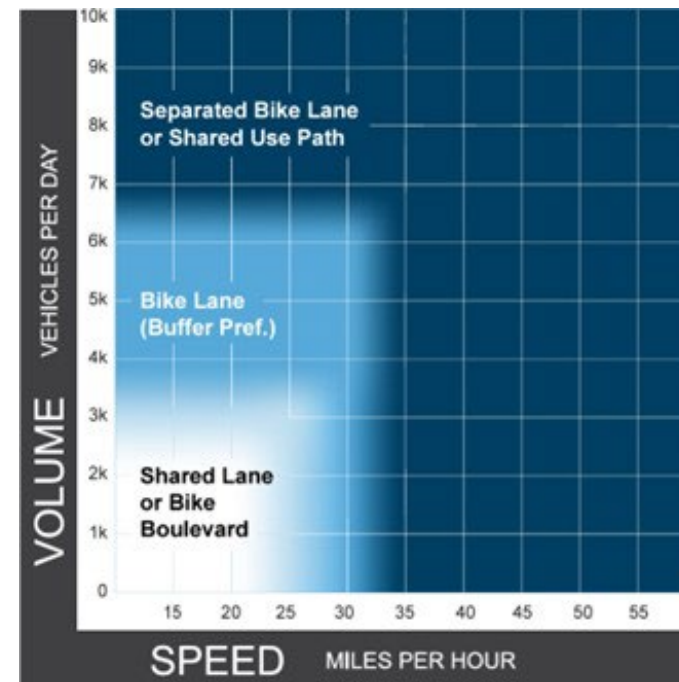
Figure 6-16: On-Street Bikeway Network



- On-street bikeways in the urbanized area include separated or protected bike lanes/cycle tracks, bike lanes, marked shared lanes, and marked bicycle boulevards. On-street bikeways in the urbanized area do not include signed bike "routes," signed "share the road," unmarked wide outside lanes, or signed wide shoulders.
- The use of wide shoulders is included on various roadways linking rural communities outside of the urbanized area.
- Facility recommendations indicate transportation need. Corridor-specific alignment, design, and operational characteristics for the network will be determined through ongoing project development.
- On-street bikeway facility mileage is based on centerline miles.

Safe and comfortable intersections must be addressed when implementing bikeway facilities at the corridor level. Innovative designs such as protected intersections, where bicyclists are physically separated from motor vehicles, serve people of all ages and abilities bicycling for travel.

Figure 6-17: Bicycle Facility Selection Criteria



Communities may also provide on-street bicycle accommodations that include signed bike routes and signed shared roadways without designated bikeway pavement markings, including wide outside lanes. However, these facilities are not represented in Mobility 2050. Bikeways between communities in rural unincorporated areas of the region generally consist of paved shoulders, particularly on roadways with higher speeds or traffic volumes. Paved shoulders in these rural areas provide opportunities for travel between small communities.

Regardless of whether a community is urban, suburban, or rural, end-of-trip facilities such as short- or long-term bicycle parking support bicycling as a mode of travel. *The Essentials of Bike Parking* by the Association of Pedestrian and Bicycle Professionals contains guidance on site selection and recommended designs.

Pedestrian Network

Pedestrian facilities must accommodate a diverse group of travelers of all ages and abilities, including people who walk, jog, use wheelchairs or walkers, or push strollers. Pedestrians tend to be the most vulnerable road users; therefore, pedestrian facilities should be designed and implemented to increase their safety and effectiveness.

The pedestrian network provides a primary mode of travel for short distance trips and it supports other transportation modes. The network of pedestrian facilities should be complete, direct, safe, and enjoyable to use. This can be accomplished by addressing the continuity of the sidewalk network, the streetscape, and the physical context in which the sidewalk is located.

Planning for the pedestrian network requires similar consideration and analysis as planning for roadways. The pedestrian network enhances economic development by connecting places where people like to live and visit, and it improves safety by supporting safe routes to school. When fully developed, the pedestrian network should provide safe links between destinations such as schools, employment, and transit facilities. Programs that invest in this network should prioritize improvements that connect to major destinations, improve safety, and help promote community livability and a healthy lifestyle.

The primary considerations of the pedestrian network include:

- Completing gaps in the sidewalk network
- Completing first/last mile connections to transit services

- Providing safe routes, including crossings on busy streets and major barriers, which are compliant with the Americans with Disabilities Act
- Providing context-sensitive streetscapes

Americans with Disabilities Act and Transition Plans

The Americans with Disabilities Act (ADA) of 1990 is a civil rights statute that prohibits discrimination against people with disabilities. Title II of the ADA addresses public services and the accessibility of public transportation to people with disabilities. After the ADA became effective, public facilities were required to be designed and constructed to be accessible by people with disabilities. Failing to design and construct facilities accessible by people with disabilities constitutes discrimination and is prohibited by law. Title II of the ADA applies to facilities built after 1990, pre-existing facilities, and any organization with 50 or more employees.

State and local governments are required to perform self-evaluations of current facilities and develop a transition plan to address deficiencies by building new projects and by altering existing projects, including performing reconstruction, major rehabilitation, widening, resurfacing, signal installation, and upgrades. This affects pedestrian facilities in the public right-of-way, including sidewalks, curb ramps, and warnings detectable by a range of users. In the case of noncompliance for state or local governments, the Federal Highway Administration will seek a voluntary compliance agreement. If an agreement cannot be met, the Federal Highway Administration will send the case to the Attorney General for action.

The North Central Texas Council of Governments is helping local jurisdictions comply with ADA through policy, funding, and training for officials.

DEMAND ZONES FOR WALKING AND BICYCLING TRAVEL

Demand for pedestrian and bikeway facilities varies across the region, with multiple factors affecting where people can and will walk and bicycle as a means of travel. To identify the demand for walking and bicycling travel, a variety of criteria were used to identify the greatest demand to walk or bicycle for transportation in Adjusted 2020 Census Urbanized Areas with a population over 5,000. Those criteria include:

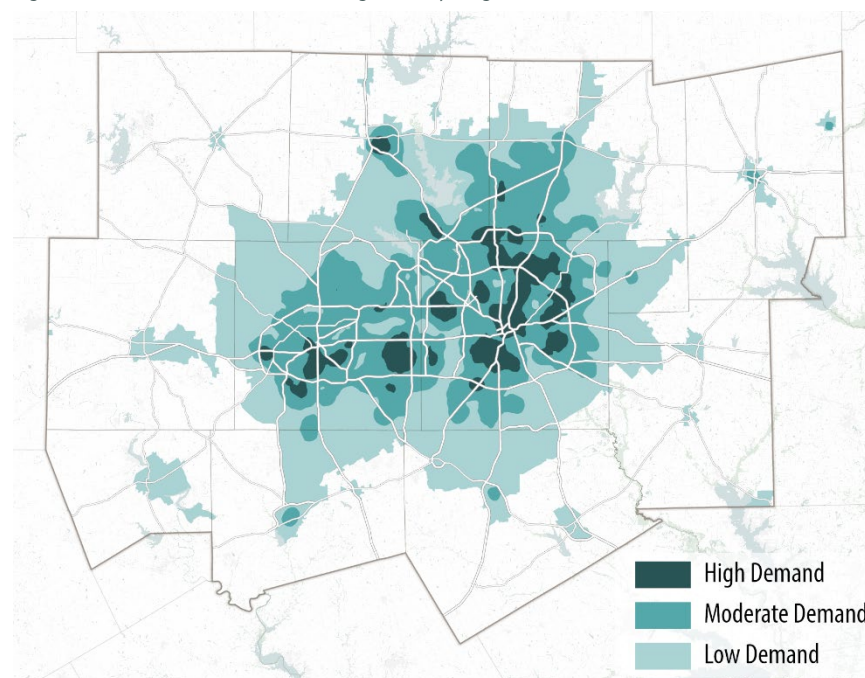
- Employment and population density
- Density of short-distance trips
- Density of low-income populations
- Density of zero-car households

The urban areas represented in **Figure 6-18** are expected to have the highest demand for walking and bicycling travel, thus also have the greatest demand for active transportation infrastructure. As such, these areas with the highest demand should be prioritized for future infrastructure investment, particularly those suited for an urban environment such as on-street bicycle accommodations and sidewalks.

PRIORITY AREAS TO IMPROVE FACILITIES AND ACCESSIBILITY

Mobility 2050 recommends prioritizing improvements to active transportation facilities to close gaps within the larger network, increase the use of facilities, improve safety and the level of comfort for pedestrians and bicyclists, and create easier access to destinations in areas with the highest demand for walking and bicycling trips.

Figure 6-18: Demand Zones for Walking and Bicycling Travel



Demand Zones depict areas with greater demand for walking and bicycling infrastructure. Areas shown as high demand are not project recommendations. These areas have high population/employment density, density of short distance trips, density of low-income populations, density of zero-car households, and vehicle congestion. As such, these areas with the highest demand should be prioritized for future infrastructure investment, particularly those suited for an urban environment such as on-street bicycle accommodations and sidewalks.

In addition to the criteria used in developing the Demand Zones for walking and bicycling travel, prioritization of pedestrian and bicycle facilities improvements should be based on:

- Access to public transportation facilities (transit stations and bus stops)
- Destination density (e.g., mixed-use/transit-oriented development areas, employment centers, central business

districts, education institutions, neighborhood services, community centers)

- Safe crossings of existing travel obstacles (e.g., intersections, major roadways, Interstate interchanges, railroads, and bodies of water)
- Neighborhoods with transit-dependent populations and zero-car households
- Areas with pedestrian and bicycle safety concerns and high rates of crashes
- Connections to existing bicycle and pedestrian facilities
- Routes of statewide and regional significance identified by the Texas Department of Transportation Bicycle Tourism Trails Study

These destinations and routes are places that generate higher than average pedestrian and bicycle traffic. Prioritizing improvements in these areas and corridors will create the greatest benefit for people who travel by walking or bicycling. Other factors to consider when prioritizing projects include community support, cost/benefit analysis, sharing of construction costs, and geographic balance to ensure facilities are evenly constructed throughout the region.

SUMMARY

Active transportation is an important element in providing for the region's diverse needs and enhancing transportation choice. Active transportation provides low-cost mobility options that place fewer demands on local roads and highways. Increased commitment to, and investment in, walking networks and bicycle facilities can help meet goals for cleaner, healthier air; less congested roadways; and more livable, safe, cost-efficient communities. The recommendations made in Mobility 2050 seek to increase active transportation as a viable transportation mode for the residents of North Central Texas.