

4 | TRANSPORTATION

Transportation Policies

- POLICY 1:** Provide a full range of mobility choices.
- A. Anticipate and benefit from potential commuter rail.
 - B. Plan development that is 'transit-ready' around Lancaster's desired stations.
 - C. Minimize impacts of potential high-speed rail.
- POLICY 2:** Take advantage of Lancaster's location within regional mobility systems (highways, public transportation, freight, air, etc).
- POLICY 3:** Use Transportation improvements to strengthen key destinations within Lancaster.

Introduction

The purpose of a city's transportation system is to provide the safe and efficient movement of people and goods within a comprehensive network of streets that complement the surrounding land uses. In addition to handling current and future congestion, a city's transportation systems should be both livable and equitable. Creating a livable transportation environment means providing a system that serves people instead of just vehicles. Creating an equitable transportation system refers to ensuring that our transportation decision benefit people at all socio-economic levels.

To ensure that Lancaster's transportation system meets these livability and equitable ideals as the system is expanded, a number of challenges must be addressed. The City will continue to attract residents and businesses and the cities in the surrounding area will continue to grow, which will increase the volume of traffic that regularly travels to and through Lancaster.

All of these challenges point to the need for a system that is less focused on the automobile and more attuned to developing and promoting alternative modes of transportation as viable options for mobility.

The Preferred Future Land Use Scenario and the growth it is expected to create establish the foundation for the Transportation Strategy. This section evaluates existing transportation conditions, establishing the basis for re-evaluating the City's transportation investments.

Existing Transportation System

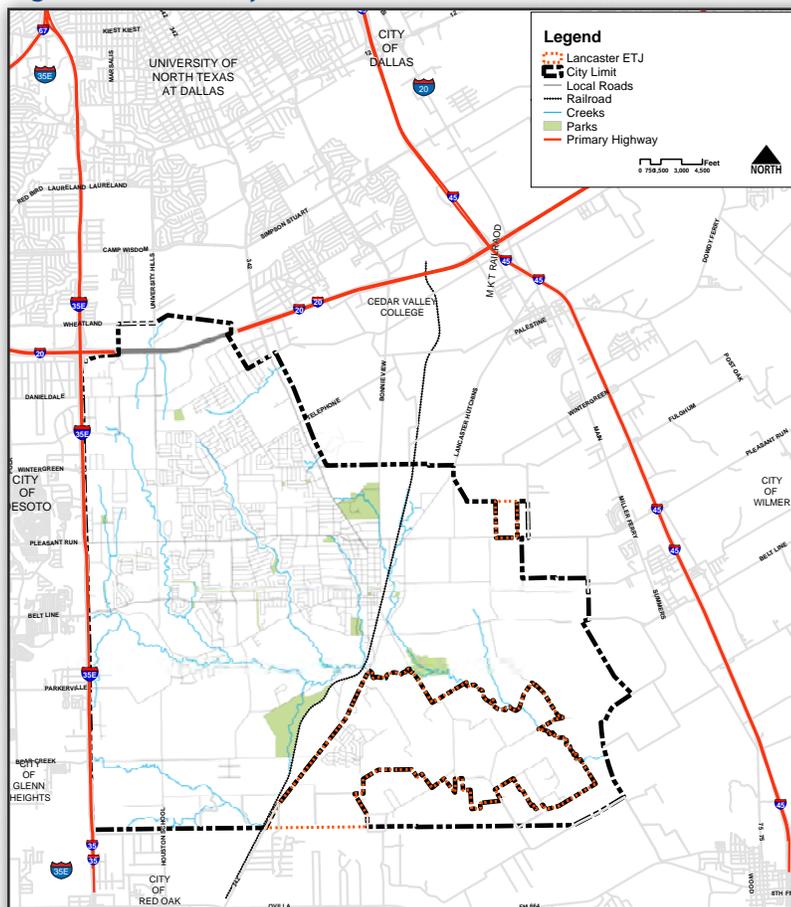
Lancaster is a well-connected city that is located south of Dallas between Interstates 35E and 45 and south of Interstate 20. The City of Lancaster has excellent freeway and arterial access as it is bounded by these three Interstate facilities. In addition, the majority of the Lancaster residents live within a 15 minute drive of the Ledbetter Station on DART's Blue Line and a bus route with 30 minute peak headways that connects from Cedar Valley College to the Ledbetter Station.

Lancaster is enhanced by excellent connectivity, and due to its location in the Dallas-Fort Worth Metroplex does not experience the same congestion levels seen in other similar cities. This is a result of the level of capacity of the roadways within and around the City of Lancaster.

Roadway and Highway System

Interstate 35E, which forms the western boundary of the City, is a highly traveled interstate with typical volume levels of just over 100,000 daily trips at the southern portion of Lancaster and over 150,000 at the north part of Lancaster (source: TxDOT Statewide Planning Map, 2013 AADT). Many of the commercial businesses of Lancaster are located along 35E due to these high volumes, which are conducive to retail and fast food businesses.

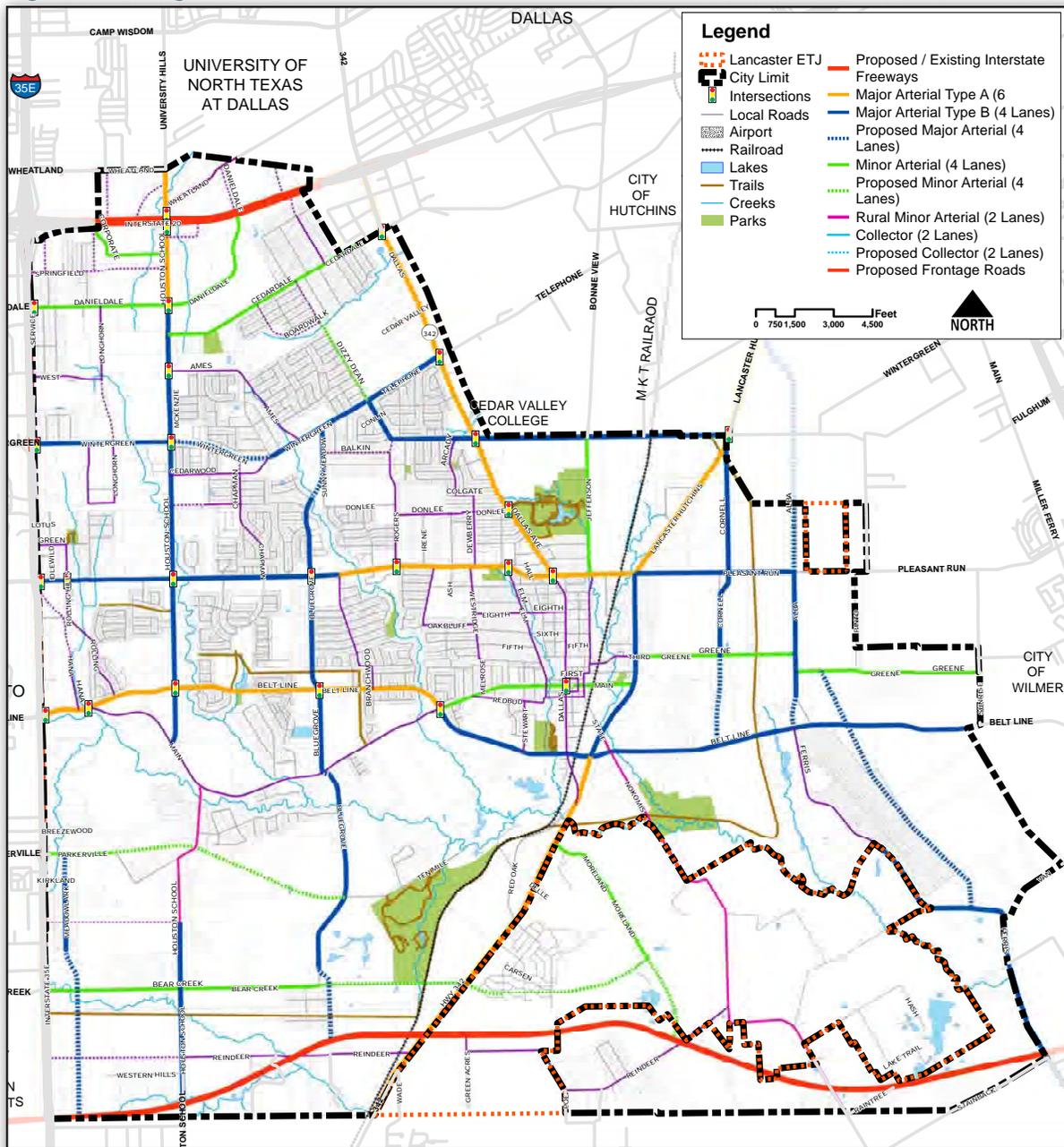
Figure 4.01 - Nearby Interstates



The current development conditions along Interstate 20 and 45 are focused more on logistics and freight business due to its proximity to the highway network and the location of rail in the more eastern portions of Lancaster.

Within the City of Lancaster there are a number of major arterials that help to move traffic throughout the City and to surrounding jurisdictions. Houston School Road, Highway 342 (Dallas Ave), Jefferson Street/Bonnie View Road and Lancaster Hutchins Road are the major north/south arterials. Major East/West arterials include Danieldale Road, Wintergreen Road, Pleasant Run Road, Belt Line Road and Bear Creek Road. Several east/west arterials are not fully connected, such as Wintergreen Road/Telephone Road and Bear Creek Road. The connection/extension of these arterials could alleviate some pressure from other arterials, while opening up new areas of the City for development.

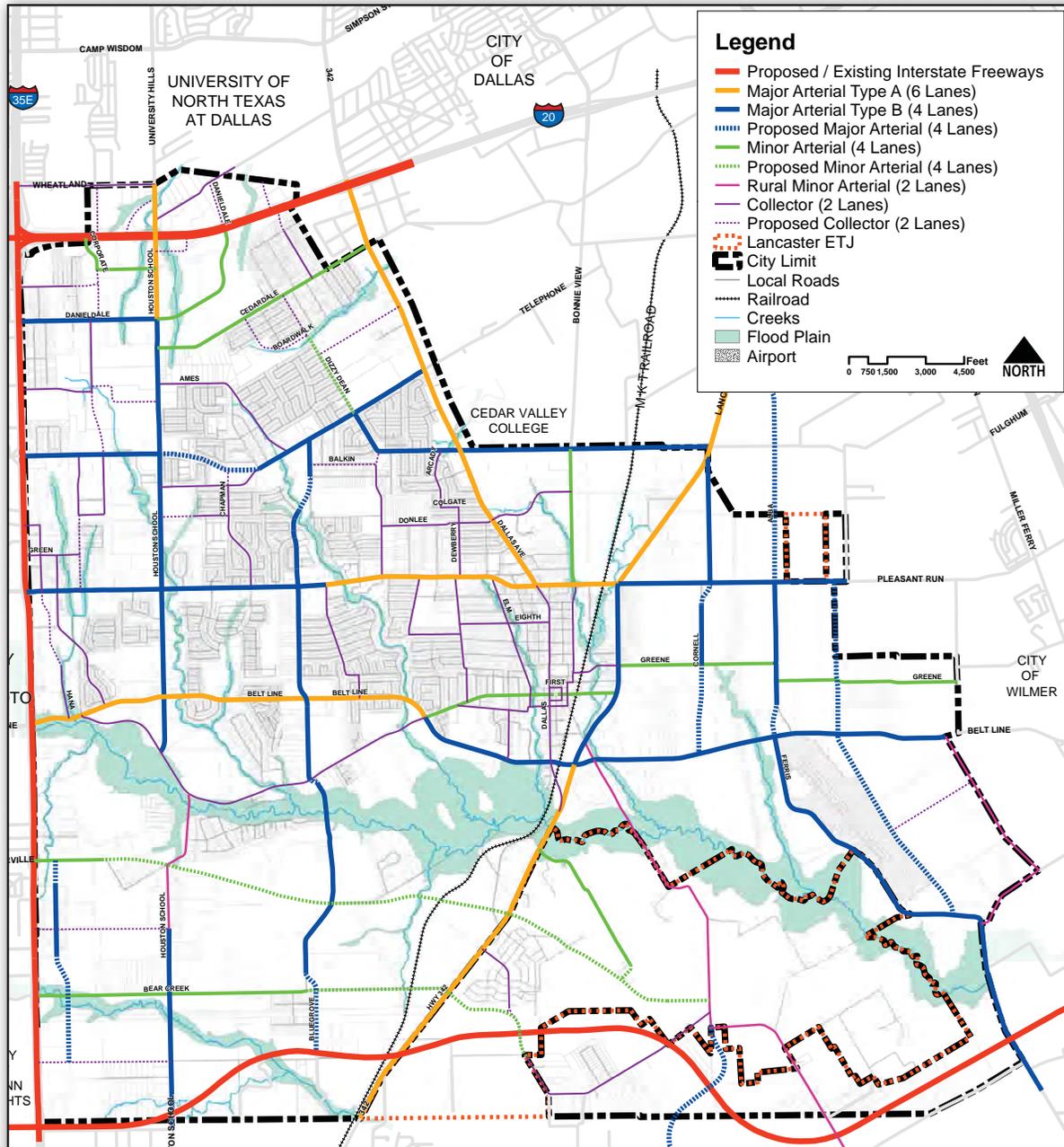
Figure 4.02 - Signalized Intersections



Signalized Intersections

Currently there are 24 intersections within Lancaster that are signalized. The majority of these signals are located at intersections of Interstates/Freeways, Major Arterials, and Minor Arterials. There are no signalized intersections east of Hwy 342 or south of Belt Line within the City limits. Currently there are 24 intersections within Lancaster are signalized. The majority of these signals are located at intersections of Interstates/Freeways, Major Arterials, and Minor Arterials. There are no signalized intersections east of Hwy 342 or south of Belt Line within the City limits.

Figure 4.03 - Master Thoroughfare Plan

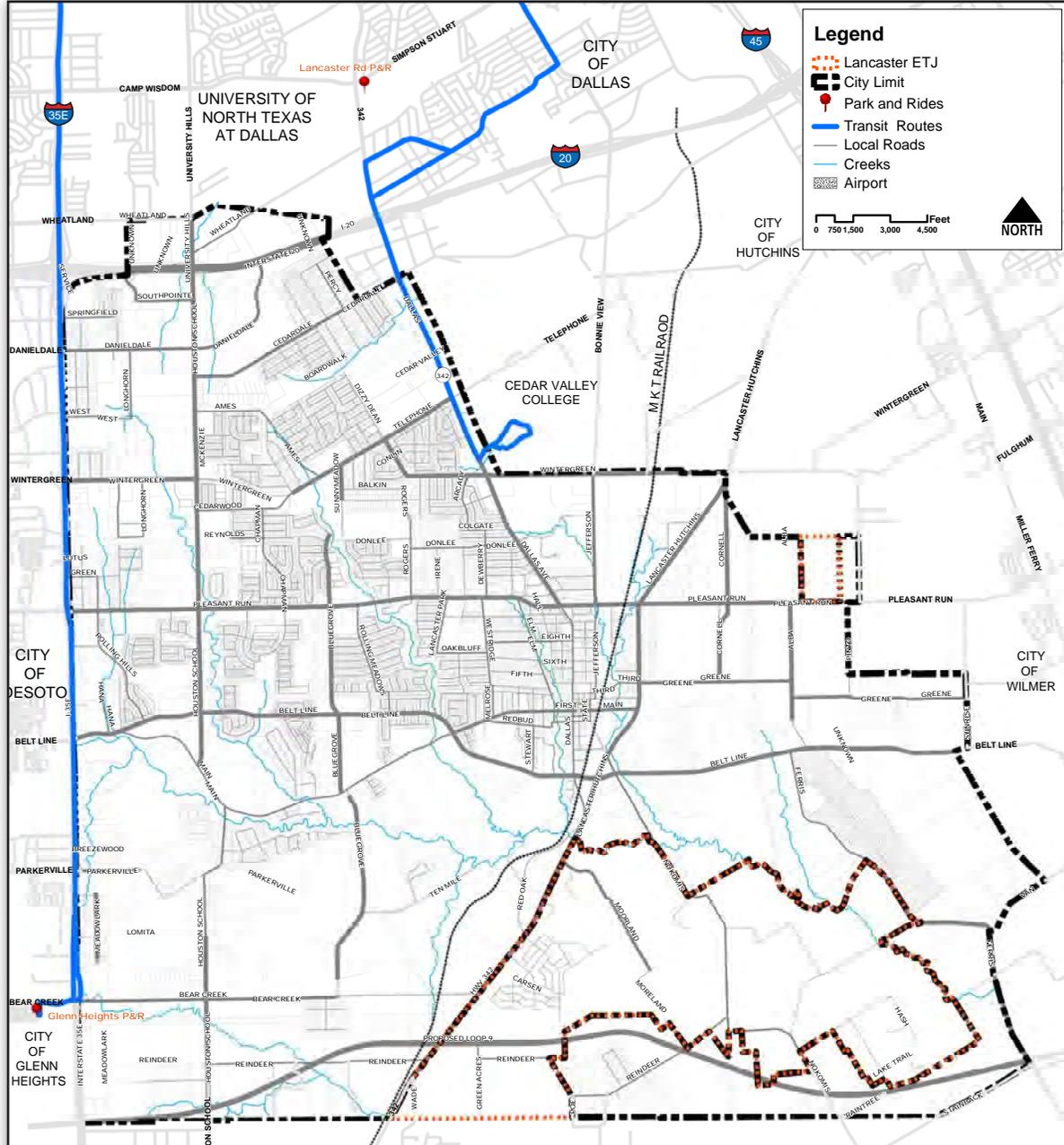


Master Thoroughfare Plan

The Master Thoroughfare Plan (MTP) is the guiding document on the location and design of major roadway facilities within Lancaster. The MTP dictates the number of lanes for a roadway facility by its thoroughfare classification system. Each classification outlines design features of the roadway. The current MTP was developed in July of 2012. Typically, MTP's are updated every 5 years. However, with the potential changes to the future vision of Lancaster due to the comprehensive plan update, it is necessary to also update the MTP in the process.

Also identified on the MTP is the proposed Loop 9. This facility would enter the city limits on the west at the intersection with I-35E, and continue east within the city limits and extraterritorial jurisdiction (ETJ). Introduced in 1964, this loop has been revisited, studied, and realigned multiple times, the most recent look starting in September 2012. The updated alignment of Loop 9 will be presented in the Updated Master Thoroughfare Plan.

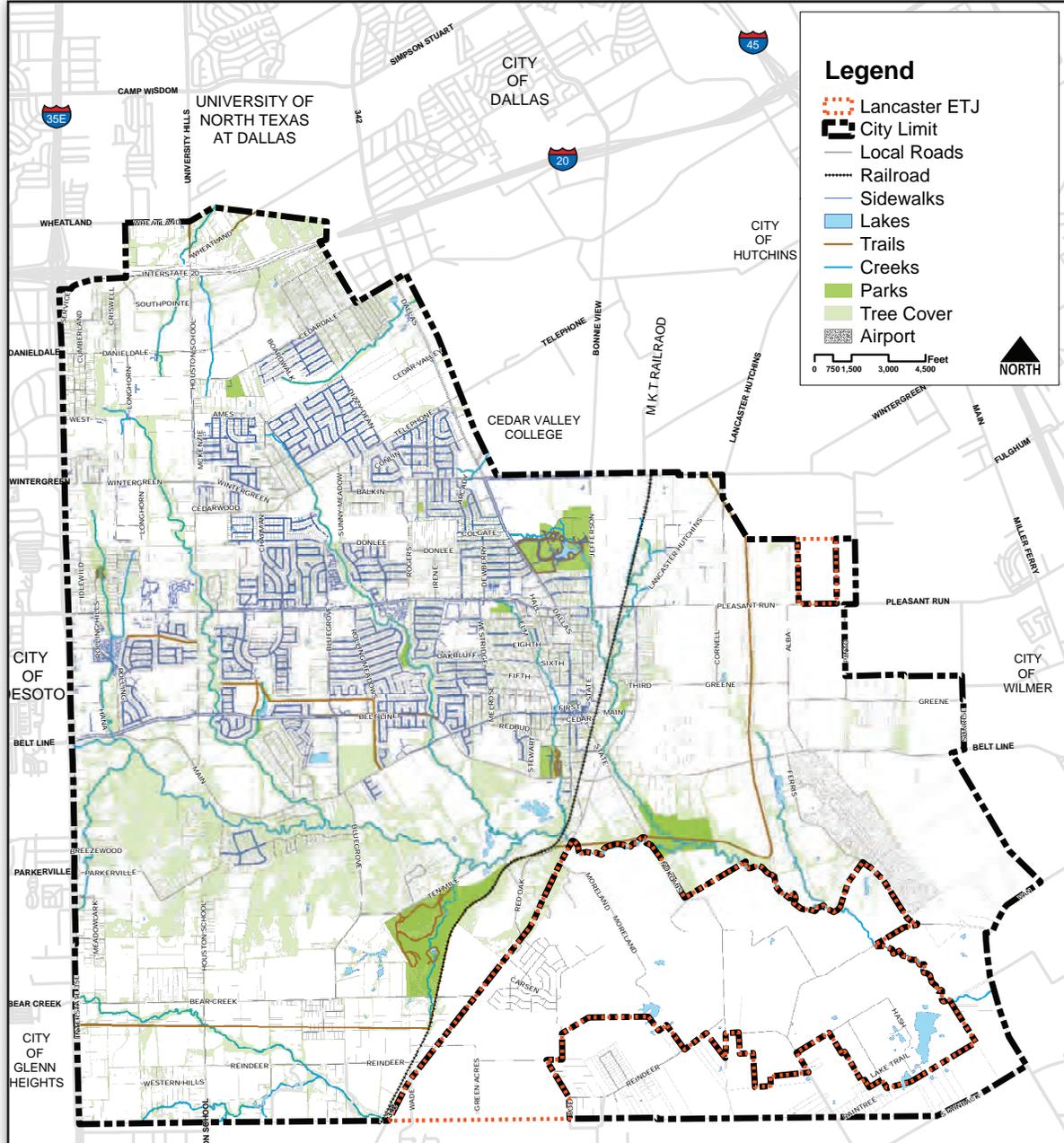
Figure 4.04 - Existing Transit Routes



Transit Services

As of 2015, the City of Lancaster is not one of the 13-member Dallas Area Rapid Transit cities, although it benefits greatly from the close proximity of Glenn Heights Park and Ride and the bus route that serves Cedar Valley College. In addition, the southernmost blue line light rail station is located on Highway 342 at Ledbetter, only 7 miles north of downtown Lancaster. The majority of residents live within a 15 minute drive of the Ledbetter Station on DART's Blue Line and a bus route with 30 minute peak headways that connects from Cedar Valley College to the Ledbetter Station.

Figure 4.05 - Existing Trails and Ped Facilities



Bicycle and Pedestrian System

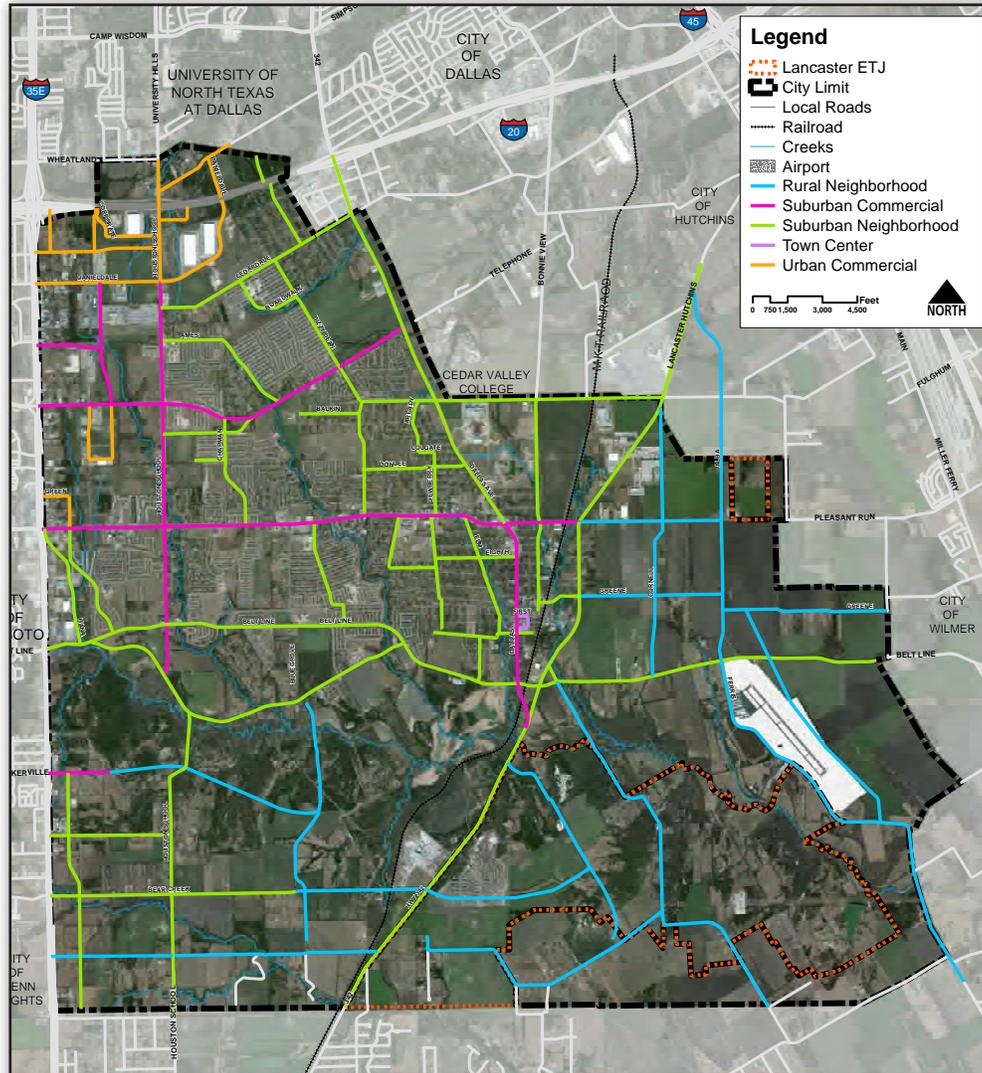
There are currently 14 parks within the City of Lancaster, with expansion and improvements planned for two of them. Several trails are located throughout the City, mainly near the creeks. These trails serve mostly recreational purposes for local neighborhood residents. Several trails are located in large parks such as 10 Mile Creek Preserve and Cedardale Park and Complex. The Pleasant Run Trail however, is a major attraction for bicyclist in the DFW area. Many people travel to Lancaster for bicycle functions which capitalize on this trail.

Within platted subdivisions, sidewalks are well connected and are in good condition. Outside of these subdivisions, there are limited sidewalk connections. East of Lancaster Hutchings Road, there are no sidewalks due to the rural nature of the current land use context.

Transportation Improvements

The influence of the transportation network reaches farther than just roadways. It affects connectivity, community character and design, congestion levels and more. Designing a network that takes into account these factors can produce a thriving well-connected network.

Figure 4.06 - Street Context Design



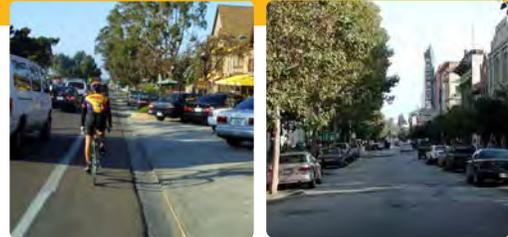
Roadway and Highway System

Within the City thoroughfare network it is important moving forward that the designing of new streets be more integrated into the local environment. The process of designing streets based on the surrounding local environment or context is known as context sensitive design or complete streets. As part of the comprehensive plan update for Lancaster, a defined set of street contexts were developed for Lancaster. Context were divided into five categories that outline characteristics of the roadway related to land use, travelway, streetside, transit, and bicycles. The five contexts are shown in Figure 4.06.

Figure 4.07- Street Context Framework

Urban Commercial Streets

Land Use *Wide range of uses, including live, work, shop & play *Minimal building setback	Travelway *Slower speeds on collector streets *Higher speeds on arterial streets *On-street parking encouraged *Emergency vehicle accommodation desirable	Streetside *Moderate to high pedestrian activity *Wide sidewalks with landscaping buffer *Pedestrian scaled lighting and street furniture	Transit *Frequent transit service *Stops spaced no greater than 1/2 mile *High quality, weather protected stops	Bicycles *Shared lanes with bicycles and vehicles *Bike lanes desirable where ROW is available
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Town Center Streets

Land Use *Residential and service retail *Minimal setbacks	Travelway *Low speeds along town streets *Emergency vehicle accommodation desirable *On-street parking common	Streetside *Moderate pedestrian activity *Wider sidewalks with landscaping buffer	Transit *Transit service available	Bicycles *Bike lanes desirable on collector streets
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Suburban Neighborhood Streets

Land Use *Primarily residential *Homes can front on low volume street	Travelway *Low to moderate speeds and volumes *Driveway management important *Emergency vehicle accommodation desirable *On-street parking common	Streetside *Low to moderate pedestrian activity *Wider sidewalks with wide landscaping buffer *Trees to provide shade	Transit *Transit service available	Bicycles *Bike lanes desirable on collector streets *Off-street trails where ROW permits
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Suburban Commercial Streets

Land Use *Wide range of uses including live, work, shop, play, dining, and lodging	Travelway *Higher speeds and volumes *Driveway management important *Raised medians desirable to increase safety *4+ lanes common	Streetside *Low to moderate pedestrian activity *Wider sidewalks with wide landscaping buffer *Pedestrian access to transit and adjacent land uses	Transit *Transit service available *Stops spaced no closer than 1/4 mile to increase efficiency	Bicycles *Bike lanes desirable on collector streets *Off-street trails where ROW permits *Bike lanes may require buffer due to traffic speeds and volumes
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Rural Neighborhood Streets

Land Use *Limited range of uses including special industrial, agricultural and single-family	Travelway *Slower speeds on collector streets	Streetside *Low pedestrian activity *Landscaping and trees to provide shade	Transit *Transit Service limited	Bicycles *Shared lanes with bicycle and vehicles *Shared-use path desirable where ROW is available
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Context types benefit the engineering department of the City by helping to identify what features should be considered as roadways are redeveloped or built. For example, a street designed and built in a rural area will have different characteristics than one designed for the downtown.

Connectivity

In addition to providing mode choices through context sensitive design, appropriate network connectivity is essential to maximizing accessibility and increasing the number of route options. Well-networked streets provide shorter, more direct routes between destinations. This increases the efficiency and reliability of the road network. A classic example of a well-connected street system is the traditional grid pattern. Grid street patterns result in dispersion of traffic throughout the system. While major arterials exist within the grid pattern, local travelers are able to use interconnected local streets, freeing the arterials for the movement of longer distance travelers.

Many of Lancaster’s older neighborhoods maintain this grid pattern including the downtown, however some of the neighborhoods throughout the city have utilized a conventional suburban development pattern with cul-de-sacs and fewer access points. These areas have been designed to collect traffic from residential areas and channel most trips onto major thoroughfares. This pattern tends to require large intersections, creates greater congestion on arterials, and often discourages pedestrian and bicycle travel.

Figure 4.08 - Subdivision Example

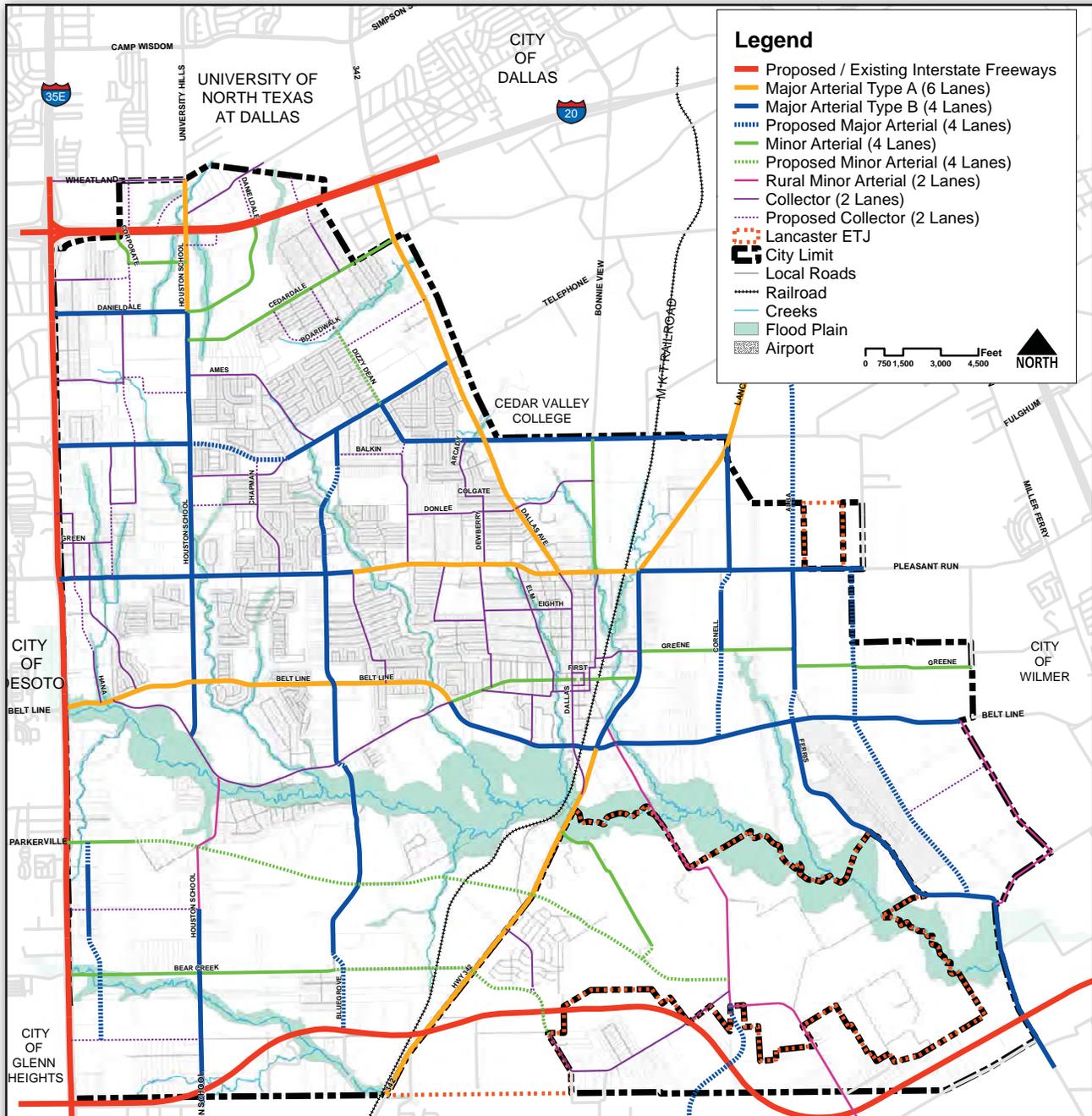


Figure 4.09 - Traditional Vs. Conventional Network Comparison



Source: Kimley-Horn and Associates, INC. and Digital Media Productions as published in the ITE publication, Design Walkable Urban Thoroughfares; A Common Sense Approach.

Figure 4.10- Master Thoroughfare Plan - Update



Master Thoroughfare Plan Update

The process of developing a master thoroughfare plan involves balancing the existing supply of infrastructure with the projected needs of the future. These future needs help to determine how much vehicle capacity is required and what multi-modal elements should be considered such as walking, biking or riding transit. Included in each roadway recommendation is also the amount of required right-of-way that is needed as the thoroughfare is developed. Preserving the right-of-way is an important part of the plan for the regional entities such as the cities and counties as well as the residents, business owners and developers.

As part of the comprehensive planning process, the Master Thoroughfare Plan (MTP) for Lancaster was evaluated and updated. The updated plan assessed existing roadways for number of lanes, connectivity, and congestion. The majority of the changes to the MTP included new connections between existing facilities and extensions of existing roadways.

Functional Classification

Most cities use a traditional functional classification system to group roadways according to the type of service they are intended to provide. This organized system assists citizens and developers in understanding the types of roadways that are planned for the region’s transportation system and how those roadways may be designed. The street types or functional classification in Lancaster identifies thoroughfares as Major Arterial Type A, Major Arterial Type B Minor Arterial, Rural Minor Arterial, Collector, and Local streets. The Interstates surrounding Lancaster are not classified as thoroughfares in the region but serves as important role in moving traffic into and through the City. The Figures 4.11–4.16 are general examples of the cross sections for each type of thoroughfare in Lancaster

Figure 4.11 - Major Arterial A

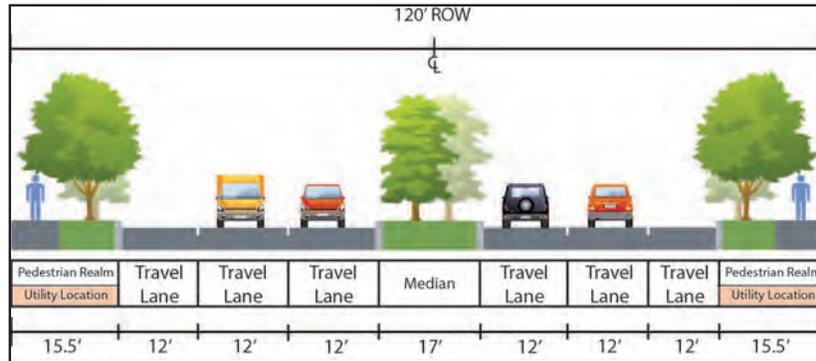


Figure 4.12 - Major Arterial B

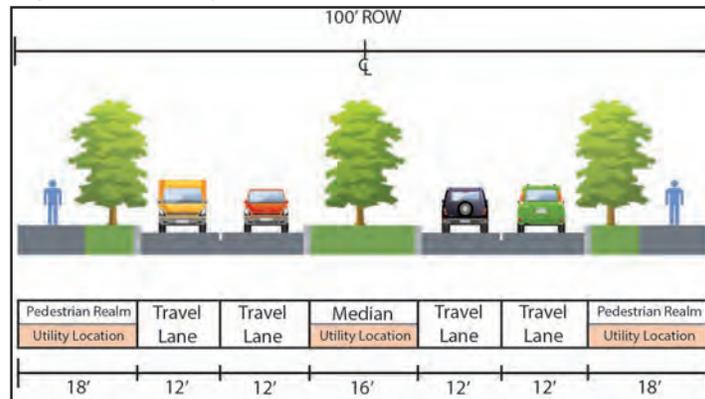


Figure 4.13 - Minor Arterial

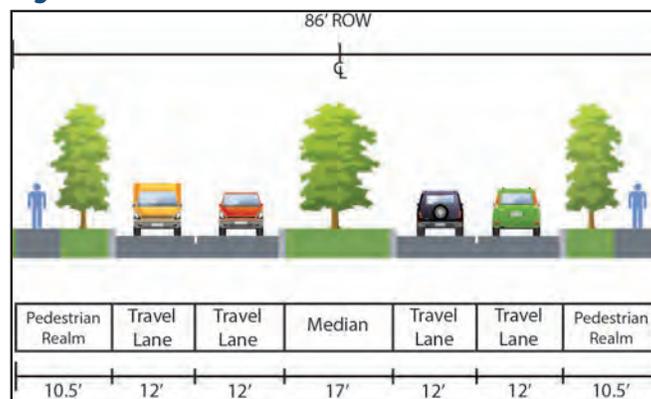


Figure 4.14 - Rural Minor Arterial

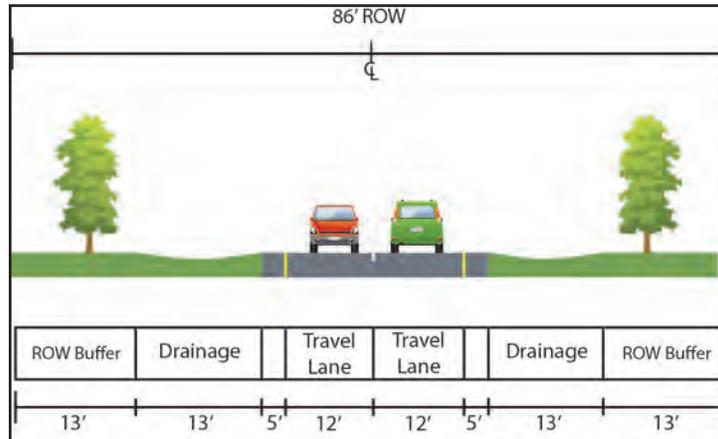


Figure 4.15 - Collector

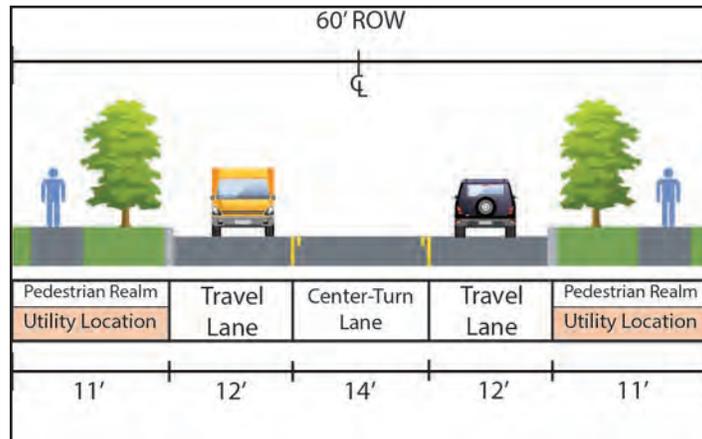
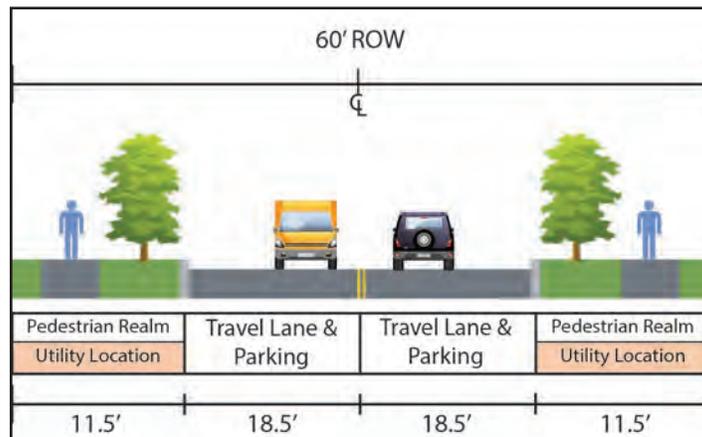


Figure 4.16 - Local Street

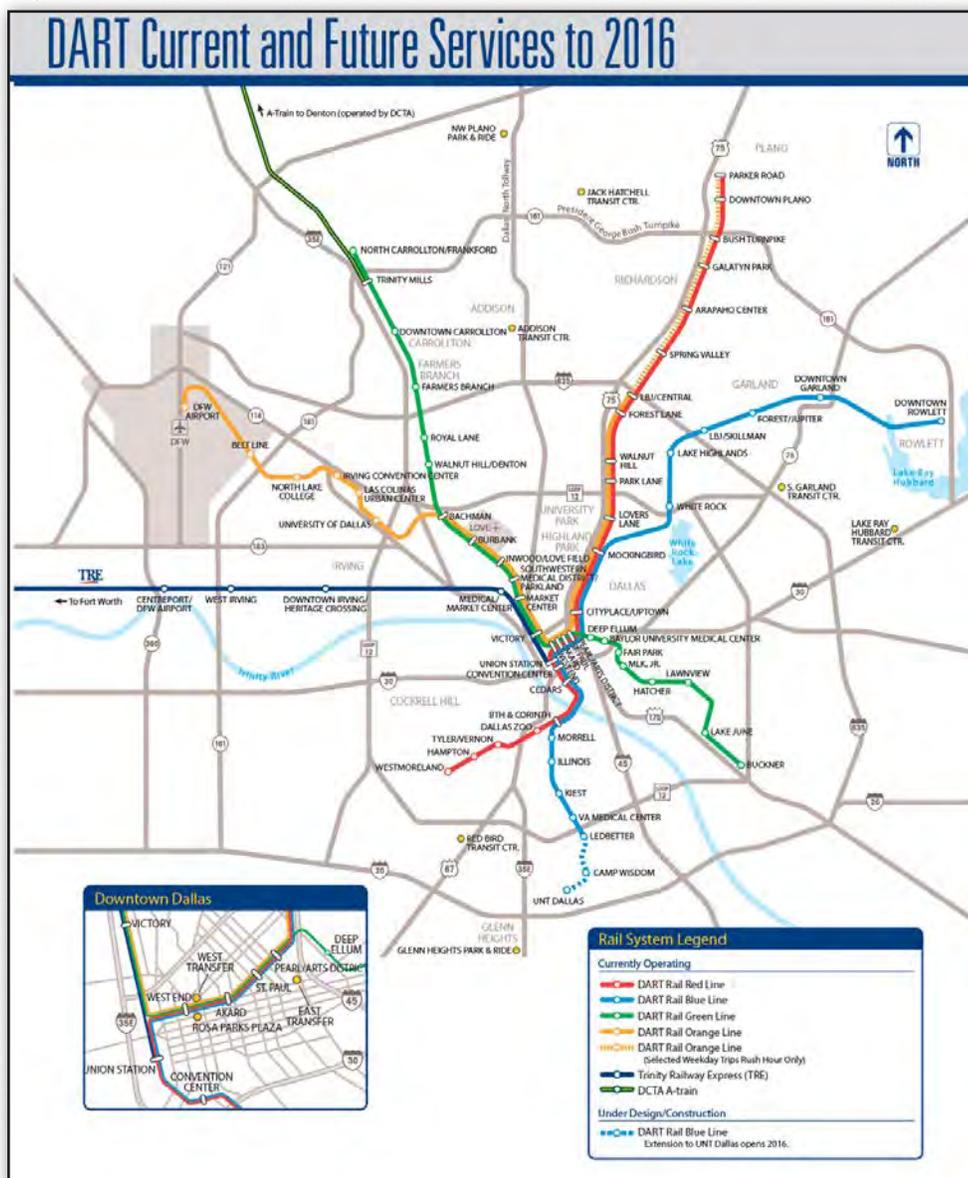


Future Transit Opportunities

For many in Lancaster, the car will remain the only viable form of transportation, but there are also people that are dependent on alternative modes of travel such as public transit. There are also people that choose to use public transit to reduce travel cost and to avoid congestion as they commute through the DFW region. Resources for transit service must also be prioritized to serve the current transportation needs of the region’s diverse population, as well as to respond to shifting demographics and generational priorities.

Effective transit service can have a significant financial impact to individuals. When considering the cost of fuel, maintenance, and insurance, the costs of car ownership are large. A robust public transit system provides a productive and equitable alternative to a car-dependent transportation network. Compared to owning a vehicle, transit provides an affordable transportation option, and is particularly important for those that cannot drive due to age, income, or disability.

Figure 4.17 - DART Future Service



Dallas Area Rapid Transit (DART)

Although Lancaster benefits from the proximity of DART bus and light rail service in adjacent cities, it currently does not have any direct transit access. In order to improve accessibility to transit for Lancaster residence, the City should consider becoming a member agency for DART. This will provide better connections from within the City to the last station of the blue line whether it is at the current station, or the future UNT Dallas station, which is currently planned to be open in 2016.

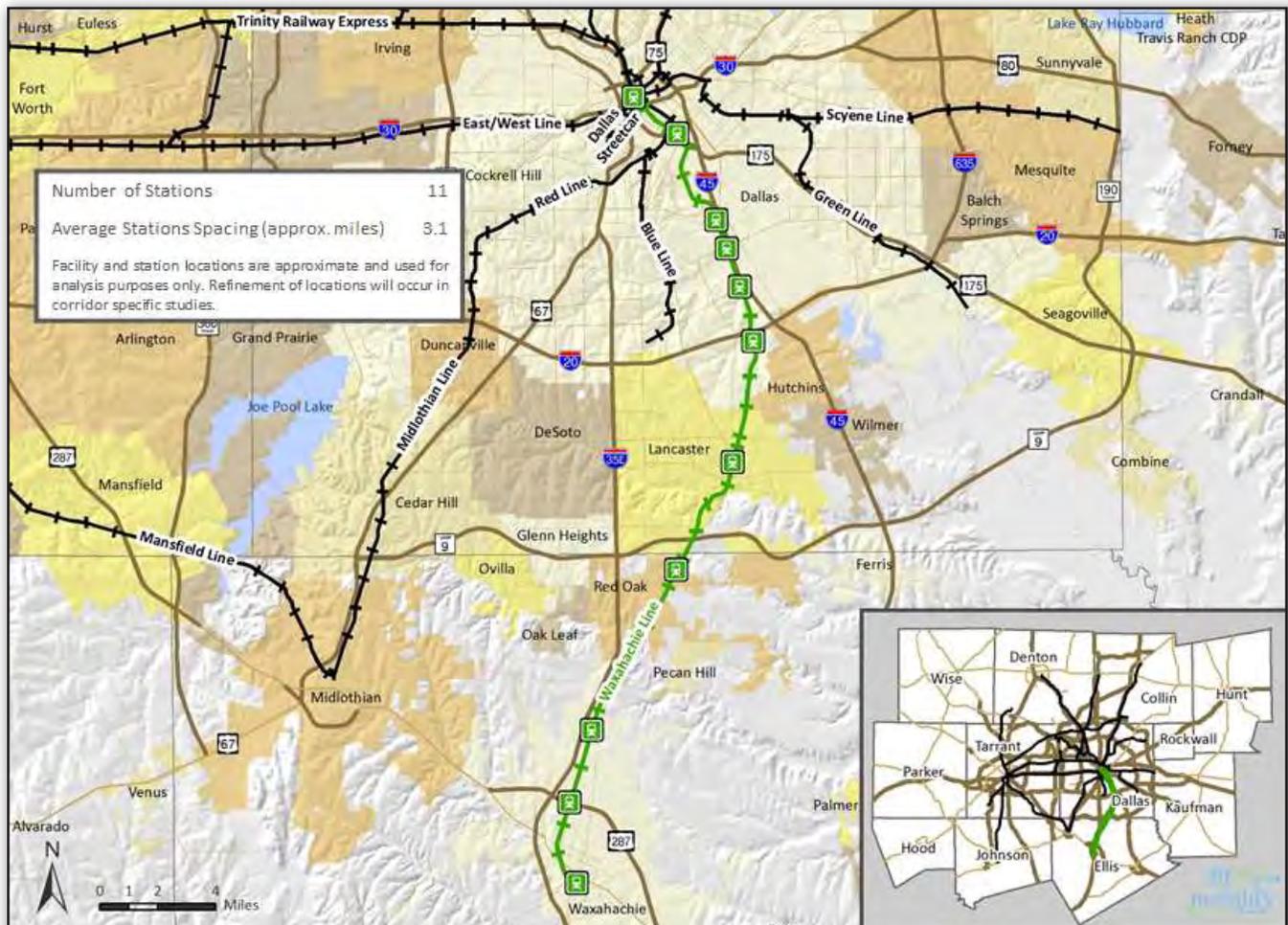
Commuter Rail Service

With the population expected to exceed 8.5 million by 2030 in the Dallas-Fort Worth (DFW) Metroplex, the need for alternative transportation choices in the DFW region is exceptionally important. The North Central Texas Council of Governments (NCTCOG) assists in coordinating transportation efforts across the region including transit. NCTCOG continues to study the ability to have regional commuter rail lines providing passenger rail service across the region. One of these includes a line that goes from downtown Dallas through Lancaster to Waxahachie along the existing Burlington Northern and Santa Fe (BNSF) rail line.

The current alternative for the Waxahachie line is to include a stop in downtown Lancaster that would provide 20 – 60 minute headways between Lancaster and downtown Dallas. To prepare for this opportunity, the City of Lancaster needs to begin preparing the potential station area for appropriate transit related development and services. This may include enhanced housing options that accommodate higher potential transit ridership within ¼ mile of the commuter rail station.

Figure 4.18 - Waxahachie Line

Source: North Central Texas Council of Governments



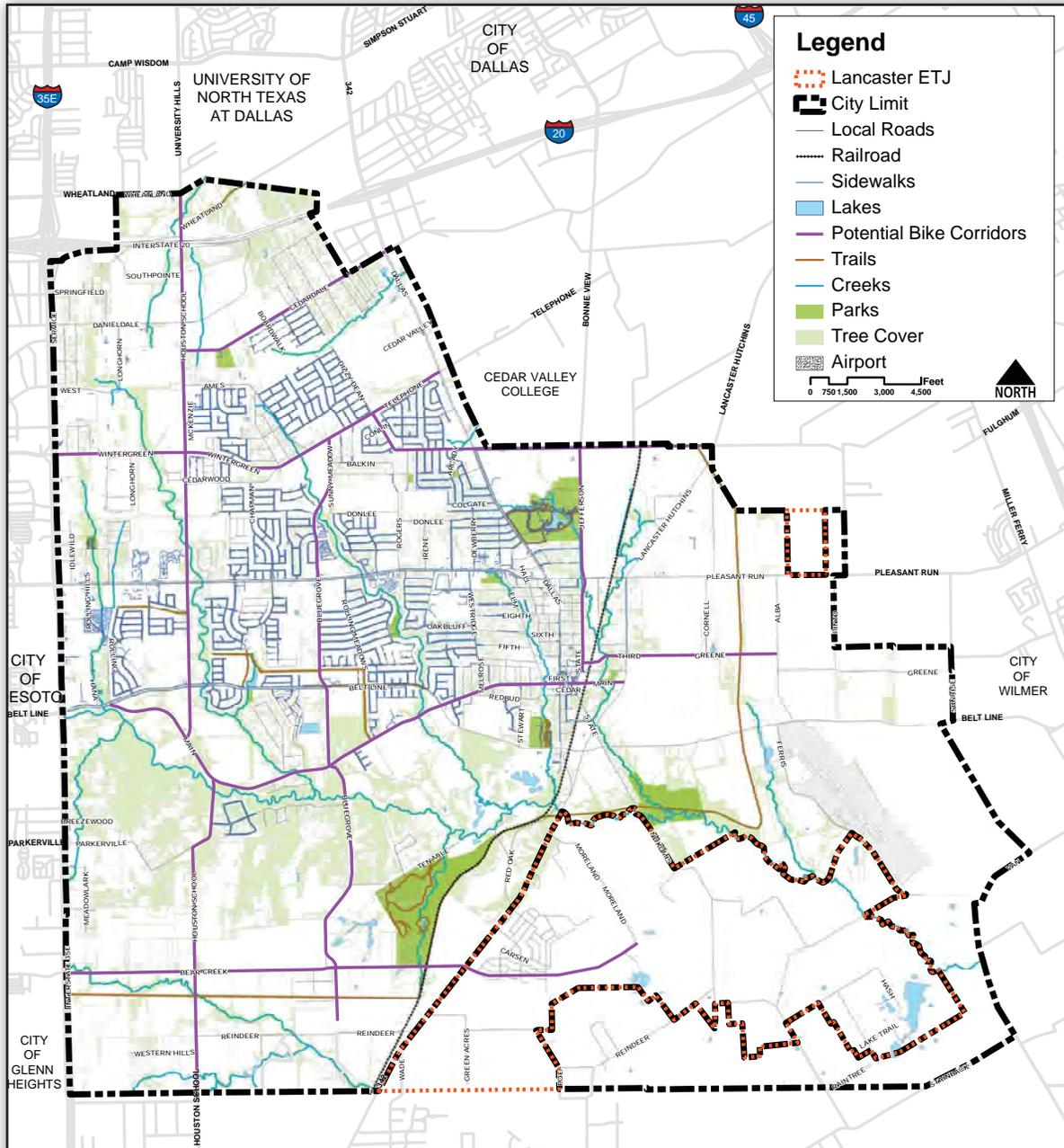
Bicycle and Pedestrian Enhancements

A city's bicycle and pedestrian network is intended to provide transportation alternatives and recreational opportunities for all ages and abilities. The installation of bicycle and pedestrian facilities can be the most visible element of a city's multi-modal transportation program. The pedestrian network provides for shorter trips and activities by users for either recreation, accessing transit, going to work, shopping, or going to school. People tend to enjoy walking in areas where other people are because it shows that the community is a welcoming place for non-motorized trip choices and supports the safe use of streets by all road users.

Using bicycles, sidewalks, and trails is a transportation choice that benefits personal health, reduces traffic congestion, and enhances quality of life. Interest in bicycling for commuting or recreation is increasing, but many novice riders do not feel comfortable riding on-street with traffic. Trips by bicycle can go much further than walking because of the ease of travel. However, some of the biggest challenges for users are the end of the trip due to insufficient facilities such as bike racks and storage. Concerns about safety, barriers, and lack of infrastructure often lead to the use of cars for many typical short trips. The implementation of increased bicycle and pedestrian facility choices not only addresses safety, but enhances long-term community livability, creates welcoming streets and neighborhoods, and strengthens local economic competitiveness.

Providing connections between existing trails and key destinations in Lancaster will be important to improve the bicycling opportunities for residents of Lancaster. These connections can be in the form of on-street facilities such as bike routes, shared bike lanes or bike lanes or they can be in the form of off-street trails as is currently existing in Lancaster. See figure 4.19 for examples

Figure 4.19 - Bicycle and Pedestrian Enhancements



Transportation Implementation Strategy

The following implementation strategies are distilled from the issues and opportunities identified in this Chapter to help the city bring its transportation policies into alignment with the goals of the comprehensive plan. Further detail on strategies, priorities, timeframes, and partnerships are identified in the Implementation Chapter and Appendix 1 of this report.

- Update Master Thoroughfare plan to reflect changes in the Comprehensive Plan
- Consider developing a plan to connect East/West arterials in the city that are not currently continuous through the city. Areas identified to date include Wintergreen/Telephone Road and Bear Creek Road
- Acquire right-of-way for roadway connections identified in the updated Master Thoroughfare Plan
- Consider Revising codes and ordinances to reflect the 5 types of street contexts that were developed in the comprehensive plan to provide more uniform standards for road construction and expansion in Lancaster.
- Consider Revising codes and ordinances to require a greater number of road connections both within new subdivisions and between new subdivisions and surrounding areas to enhance connectivity, reduce congestion, and provide greater trip route flexibility.
- Consider becoming a member of DART to provide direct connections between Lancaster and Dart Bus and Rail routes, enhancing connectivity to the rest of the Dallas/Fort-Worth Region.
- Participate in the North Central Texas region's processes for evaluating and designing commuter rail and high-speed rail service so these plans can provide the greatest benefit for Lancaster residents and businesses.
- Study the feasibility of a shuttle, bus or other public transportation service within Lancaster, particularly for destinations in key locations (Town Center, Medical District, Campus District).
- Evaluate potential locations for commuter rail routes and station locations that benefit Lancaster residents and businesses.
- Prioritize resources to meet the transportation needs of a diverse and growing population.
- Prepare for the development of a downtown commuter rail stop by rezoning the area around the station to promote greater residential density within ¼ mile of the station and providing transit related development and services.
- Update the 2006 Streetscape Plan and 2006 Trails Plan to reflect recommendations in the Comprehensive plan, including an emphasis on bike and pedestrian infrastructure expansion in the city.
- Complete roadway design studies to support funding and construction of transportation facilities identified in this plan.
- Conduct a study to determine preferred freight traffic routes within Lancaster and use capital projects, incentives or regulations to shift traffic to those routes.
- Determine the annual costs to maintain streets at desired standards, and consider creation of a life-cycle cost fund to provide resources for repair and restoration.

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