

City of Waxahachie 2007 Comprehensive Plan

CHAPTER 4: TRANSPORTATION PLAN



It is not surprising that, given their multiple roles in urban life, streets require and use vast amounts of land. In the United States, from 25 to 35 percent of a city's developed land is likely to be in public rights-of-way, mostly in streets... If we can develop and design streets so that they are wonderful, fulfilling places to be, community-building places, attractive public places for all people of cities and neighborhoods, then we will have successfully designed about one-third of the city directly and will have had an immense impact on the rest.

Allan B. Jacobs – Great Streets



Table of Contents

Introduction.....4.1

Thoroughfare Planning.....4.3

 Functional Classification 4.3

 Figure 4-1: Access & Mobility According to Roadway Type.....4.3

 Table 4-1: Roadway Functional Classifications & General Planning Guidelines 4.4

 Context-Sensitive Design..... 4.5

 Process of Design 4.5

Recommended Thoroughfares4.7

 Highways..... 4.7

 Local Roadways & Cross-Sections 4.7

 Table 4-1: Comparison of Previous & Newly Recommended Roadway Sections 4.8

 Major Thoroughfares..... 4.8

 Figure 4-2: Type A-1 & A-2 Major Thoroughfare 4.9

 Figure 4-3: Type B Major Thoroughfare..... 4.10

 Figure 4-4: Type C-1 & C-2 Major Thoroughfare 4.10

 Secondary Thoroughfares & Collector Streets 4.11

 Figure 4-5: Type D-1 & D-3 Secondary Thoroughfare..... 4.11

 Figure 4-6: Type D-2 & D-4 Secondary Thoroughfare..... 4.12

 Figure 4-7: Type E-1 & E-3 Collector Street 4.12

 Figure 4-8: E-2 Collector Street..... 4.13

 Minor Streets..... 4.13

 Figure 4-9: F Minor Street 4.13

 Plate 4-1: Thoroughfare Plan Map..... 4.14

 Retail-Related Streets..... 4.15

 Figure 4-10: Type R-1 Local Retail Street 4.15

 Figure 4-11: Type R-2 Local Retail Street 4.15





Alternative Transportation Options4.17

- Transit Opportunities.....4.17
 - Regional Transit4.17
 - Local Transit4.18
- Pedestrian & Bicycle Trail Opportunities4.20
 - Figure 4-12: Various Configurations for Trail Integration Along Roadways 4.20

The Trans-Texas Corridor.....4.23

Transportation Policies4.25

- General Roadway Policies4.25
 1. Consider Context-Sensitive Design (CSD) Solutions for New Roadways & Roadway Improvements4.25
 2. Ensure Coordination Between Roadways & the Future Land Use Plan4.26
 3. Use Positive Aesthetics Along Roadways to Enhance Waxahachie’s Character4.27
 4. Proactively Pursue Improvement of the U.S. 77 Corridor.....4.28
 5. Design for Shared Access & Cross Access4.29
- Multi-Modal Policies.....4.30
 6. Offer Viable Pedestrian & Bicycle Transportation Choices4.30
 7. Pursue Establishment of Regional Transit4.31
 8. Investigate the Feasibility of Internal Transit Within the City4.31
 9. Ensure Transit Options Are Safe & Well-Designed4.32
- Participation Policies.....4.32
 10. Investigate Increased Developer Participation in Roadway Infrastructure4.32
 11. Continue to Work with State, County, & Regional Planning Agencies4.33





Introduction

A community's transportation system is vital to its ability to grow in a positive manner. Transportation is inherently linked to land use. The type of roadway dictates the use of adjacent land, and conversely, the type of land use dictates the size, capacity and flow of the roadway. Many of the decisions regarding land uses and roadways within Waxahachie have already been made; three major highways run through the City, and local rights-of-way in much of the City have been constructed or planned. A major challenge for Waxahachie now lies in the accommodation of population growth within the existing transportation system and in the accommodation of new land development through the expansion of that system.

More specifically, the transportation system should:

- ❖ Provide mobility and accessibility at appropriate levels according to the type of roadway.
- ❖ Focus on multi-modal transportation options, including pedestrian/bicycle access and ultimately transit.
- ❖ Expand as needed to meet the needs of the City's growing population and additional development.
- ❖ Be economically feasible for the citizenry and the City.
- ❖ Be correlated with regional considerations, such as new/expanded highway systems and transit availability.



A rural roadway in Waxahachie

It is important to note that the references made herein regarding the transportation system should not be viewed as references solely to roadways. Communities across Texas and the nation are becoming increasingly aware of the problems inherent in constructing a system for the automobile alone. Pedestrian and bicycle accommodation is important to creating a community that will be sustainable for decades to come. Therefore, another challenge for the City lies in the integration of pedestrian and bicycle facilities such that these facilities actually create alternative modes of transportation.

This *Transportation Plan* is divided into several sections. First is a general discussion of thoroughfare planning, with the concept of context-sensitive design (CSD) outlined. Next is an explanation of the





various recommended types of thoroughfare cross-sections. Some of these cross-sections are represented on the *Thoroughfare Plan Map*, while others (the minor roadways) are not shown because they are generally laid out as development occurs. Both existing and recommended thoroughfares are shown on the *Thoroughfare Plan Map*, which will help guide decisions within the City and its ETJ regarding rights-of-way connections and allocation as development occurs. Third is a discussion of the other modes of transportation that should be considered by Waxahachie as the City continues to expand its transportation system; these modes will become increasingly important as the City and the region continue to grow in population and development. Fourth, the Trans-Texas Corridor is discussed. Finally, the transportation policies are outlined. These policies should be used in conjunction with the *Thoroughfare Plan Map* to guide transportation decisions as Waxahachie continues to grow in population and geographic area.





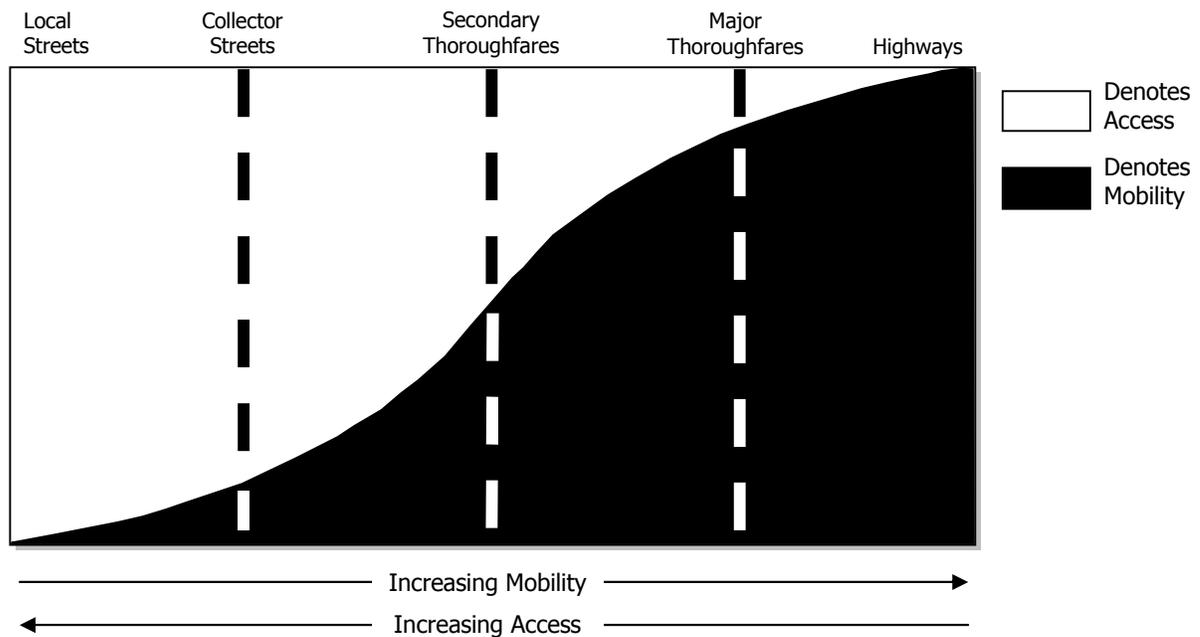
Thoroughfare Planning

The following discussion builds upon Waxahachie's past of traditional thoroughfare planning, which focuses on providing optimal mobility and access for automobiles. Then included is a discussion on how to plan roadways in keeping with the concepts of context-sensitive design (CSD). Both ideals – traditional thoroughfare planning and CSD – form the basis of the thoroughfare cross-sections that are recommended in the following section of this chapter.

Functional Classification

Waxahachie's *Thoroughfare Plan Map, Plate 4-1*, is based upon a classification system that depicts the function of every roadway in the thoroughfare system. Roadway types generally include highways, arterials, collectors, and local streets. Their functions can be differentiated by comparing their ability to provide *mobility* with their ability to provide *access* to various locations. These different functions of each roadway type are illustrated in *Figure 4-1* below.

Figure 4-1: Access & Mobility According to Roadway Type





As the illustration shows, access decreases as the thoroughfare type changes from local streets to freeways, while mobility increases. It also shows that roadways that are intended to provide mobility, such as arterials and freeways, should not be compromised by an abundance of separate access points for land uses. This will be addressed later within this *Transportation Plan*. *Table 4-1* below describes the roadway types shown in *Figure 4-1* in relation to various characteristics such as their respective continuity, distance spacing, intersection spacing, and on-street parking. This should be used as a general reference for the thoroughfare discussion within this chapter.

Table 4-1: Roadway Functional Classifications & General Planning Guidelines

TYPE OF ROADWAY	Function	Approx. Spacing	Direct Land Access	Minimum Roadway Intersection Spacing ³	Speed Limit (mph)	Parking	Comments
HIGHWAYS (Interstate Highway 35, U.S. Highway 287)	Traffic Movement	4 miles	No direct access ideally	1 mile	60 to 70 mph	None	Supplements capacity & major thoroughfare system; provides high-speed mobility.
MAJOR THOROUGHFARES (U.S. Highway 77, East and West Main, John Arden Drive)	Moderate distance inter-community traffic; Land access should be primarily at inter-sections	1/2 to 1 1/2 ¹ miles	Restricted; some movements may be prohibited; Number & spacing of driveways controlled; May be limited to major generations on regional routes.	1/8 mile 1/4 mile on regional route	35 to 45 mph	None	"Backbone" of the street system.
SECONDARY THOROUGHFARES & COLLECTORS (East and West Ross Street, Bryson Street, Solon Road)	Collect/ distribute traffic between local & major streets; Direct land access; Between neighborhood traffic movement.	1/4 to 1/2 ² mile	Safety controls; limited regulation. Residential access prohibited; commercial access allowed with shared driveways.	300 feet	30 mph	Limited	Through traffic should be discouraged.
LOCAL STREETS	Direct land access; Pedestrians should be considered	As needed	Safety controls only.	200 feet	30 mph	Allowed	Through traffic should be discouraged.

¹ Spacing determination should also include consideration of (travel projections within the area or corridor based upon) ultimate anticipated development.

² Denser spacing needed for commercial and high-density residential districts.

³ Spacing and intersection design should be in accordance with state and local thoroughfare standards.

Source: North Central Texas Council of Governments





Context-Sensitive Design

The following discussion is about a somewhat different approach to thoroughfare planning than the approach that has generally been taken by communities in the past. Traditional thoroughfare planning is mainly focuses on providing optimal mobility and access for automobiles. Context-sensitive thoroughfare planning considers automobiles, but also considers broader aspects related to roadways such as slowing down traffic in special areas, providing for better pedestrian access, and reflecting the character of the area being traveled through. The key concept behind context-sensitive design (CSD) is that the elements of the street should complement the adjacent development; for instance, a roadway may need to be designed as a six-lane boulevard as it travels through a major retail area, but may need to be altered to a minor street configuration as it travels through a residential neighborhood. The first part of this section describes the general process of context-sensitive design. The second part outlines several roadway sections that would be appropriate for use in Waxahachie when a context-sensitive roadway design is needed.

Beyond functional purposes of permitting people to get from one place to another and to gain access to property, streets – most assuredly the best streets – can and should help to do other things: bring people together, help build community, cause people to act and interact, to achieve together what they might not alone. As such, streets should encourage socialization and participation of people in the community...The best streets create and leave strong, lasting, positive impressions; they catch the eyes and the imagination.

Jacobs, Allan B. – Great Streets, page 312, Massachusetts Institute of Technology, 1995

Process of Design

The process of designing CSD roadways is similar to the process of designing traditional thoroughfares in that automobile traffic is considered with traffic counts, traffic demand, and level of service information-gathering efforts. However, the difference is that automobile traffic is only one element considered, among numerous others, in the design of CSD roadways. The Institute of Transportation Engineers (ITE) has recently released a publication entitled *An ITE Recommended Practice: Context Sensitive Solutions in Designing Major Urban Thoroughfares for Walkable Communities*. This publication outlines various principles that should be considered during the design process to arrive at a solution for a context sensitive roadway project. These principles⁴⁻¹ are as follows:

1. The project satisfies the purpose and needs as agreed to by a full range of stakeholders. This agreement is forged in the earliest phase of the project and amended as warranted as the project develops.
2. The project is a safe facility for both the user and the community.

⁴⁻¹ Outlined on page 9 of *An ITE Recommended Practice: Context Sensitive Solutions in Designing Major Urban Thoroughfares for Walkable Communities* (2006).

3. The project is in harmony with the community, and it preserves environmental, scenic, aesthetic, historic and natural resource values of the area; in other words, exhibits context sensitive design.
4. The project exceeds the expectations of both designers and stakeholders and achieves a level of excellence in people's minds.
5. The project involves efficient and effective use of the resources (time, budget, and community) of all involved parties.
6. The project is designed and built with minimal disruption to the community.
7. The project is seen as having added lasting value to the community.

The Texas Department of Transportation (TxDOT) has begun to incorporate CSD concepts in some of its newer projects. The City should explore the possibilities of CSD solutions on any of its joint projects with TxDOT (e.g., U.S. Highway 77).

Also, the new set of thoroughfare sections shown and discussed in the following section of this *Transportation Plan* have been established with due consideration of CSD concepts. For this reason, in some cases, a recommendation has been made to include an alternative cross-section for some thoroughfares that is different than was recommended in the previously adopted Comprehensive Plan.





Recommended Thoroughfares

Highways

Highways are defined as high-capacity thoroughfares along which direct access to property is generally minimal or eliminated altogether, with ingress and egress controlled by access ramps, interchanges and frontage roads. There are two major highways that traverse Waxahachie – Interstate Highway 35 and U.S. Highway 287. There is another highway, U.S. Highway 77 (also referred to as U.S. 77 and by various local street names), but it does not adhere to this definition because of the way it functions – that is, there is direct access to the land uses along U.S. 77. (Refer to *Localized Roadways & Cross Sections* for more discussion.)

Construction and maintenance of State highways is not usually the responsibility of municipalities. The Texas Department of Transportation (TxDOT) and federal monies generally fund improvements of this type of roadway facility. However, maintenance and construction funding for many TxDOT projects have recently been reduced, requiring local entities to contribute to State projects. Also, local entities that are affected and impacted by improvements to highways often participate in decision-making and in the public input process.



Intersection of U.S. Highway 287 and U.S. Highway 77

Local Roadways & Cross-Sections

Local roadways are the roads that most affect Waxahachie citizens on a daily basis. The various types of roadways are discussed below. *Table 4-1* on the following page shows a comparison of the previously recommended thoroughfare cross-sections and the new thoroughfare cross-sections. Both are valid ways in which to design thoroughfares. The previous thoroughfare sections should primarily be used 1) when rights-of-way have already been established (i.e., through a plat), and 2) when a roadway is being extended and there is no way to easily transition to the new cross section for that roadway type. The principal reason for providing new or alternative cross sections within this *Transportation Plan* is to





integrate CSD concepts into the design of new roadways in Waxahachie – concepts like better integration of pedestrians and bicycles, and designing roadways for the desired speed. Also, it should be noted that the cross sections shown represent minimum requirements, and that there are other engineering-related requirements that are not represented here.

Table 4-1: Comparison of Previous & Newly Recommended Roadway Sections

Thoroughfare Name	Previous Comprehensive Plan					2007 Comprehensive Plan					Design Speed (mph)	Relationship Between Previous & Recommended
	Type	Paving	No. of Lanes	Lane Width	ROW Width	Type	Paving	No. of Lanes	Lane Width	ROW Width		
Major Thoroughfare	A-1	86	6	12	100	A-2	86	6	12	120	Above 50	Equivalent
Major Thoroughfare	B	80	6	11	100	B	80	6	11	110	40-50	No change
Major Thoroughfare	C-1	66	4	12	90	C-2	58	4	11	90	40-50	Equivalent
Secondary Thoroughfare	D-1	60	2 T; 2 P	12; 10	80	D-3	52	2 T; 2 P	11; 8	74	40-50	Equivalent
Secondary Thoroughfare	D-2	48	2 T; 2 P	14; 10	70	D-4	44	4	11	64	40-50	Equivalent
Collector Street	E-1	40	2 T; 2 P	12; 8	60	E-3	38	2 T; 2 P	11; 8	60	40-50	Equivalent
Collector Street	E-2	36	2; 1 P	18	60	E-2	36	2; 1 P	18	60	40-50	No change
Minor Street	F	30	2	15	50	F	30	2	15	50	30-40	No change
Local Retail Street	None					R-1	38	2 T; 2 P	11; 8	74	25-35	New
Local Retail Street (Access Easement)	None					R-2	60	2 T; 2 Head-In P	11; 19	90	25-35	New

T – Travel; P- Parking; ROW - Right-of-Way
NOTE: All numbers in feet.

Major Thoroughfares

Roadways identified as arterials are designed to convey relatively heavy volumes of traffic. These roadways are primarily intended to provide mobility, and because of the speed and volume of traffic, access to properties should be minimal. It should be noted that each major thoroughfare section has been recommended as a divided roadway with a raised center median. While the median could be a painted turn-lane that allows for less controlled left turns, the recommendation is for a raised median.



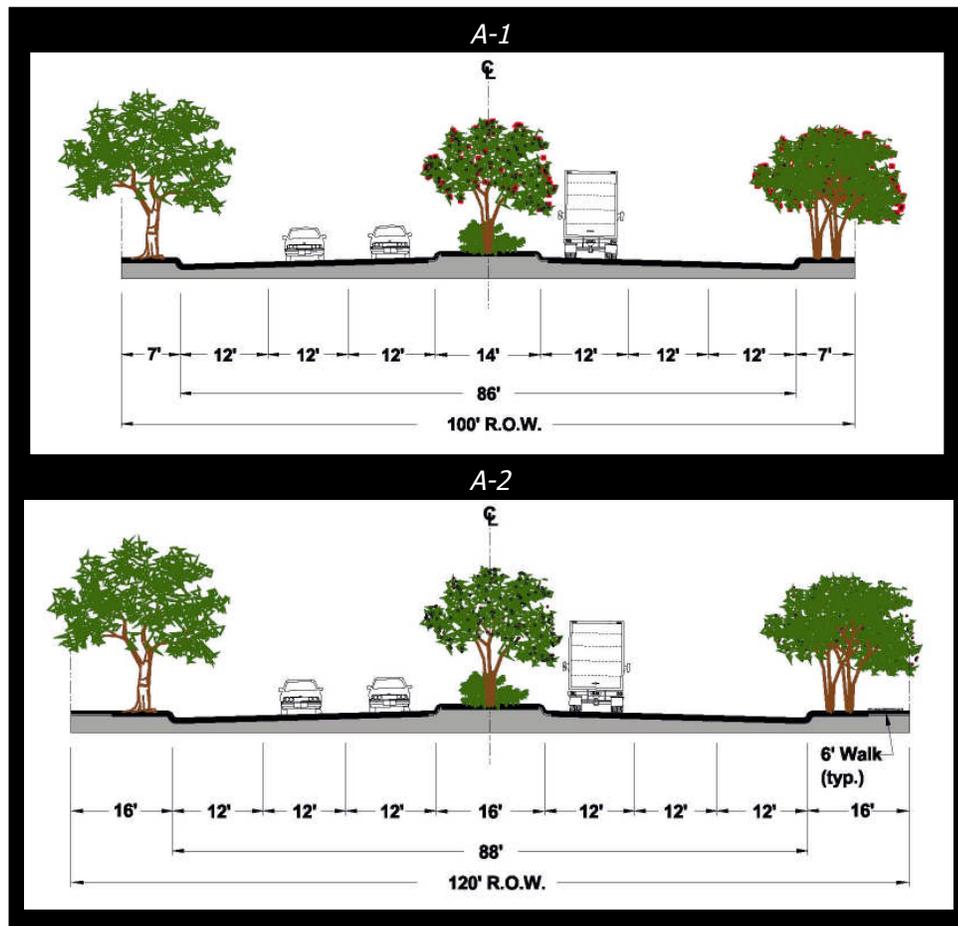


2007 Comprehensive Plan

Not only has a raised median been proven to be the safer alternative,⁴⁻² it provides for better access control to developments adjacent to the arterial roadway, thereby allowing for greater mobility. Raised medians also provide an area for streetscape enhancements such as lighting, landscaping, and special signage.

Refer to the *Thoroughfare Plan Map, Plate 4-1*, for the recommended locations of new major thoroughfare roadways. The recommended major thoroughfare sections are shown in *Figure 4-2, 4-3* (Page 4.10), and *4-4* (page 4.10). The first is consistent with the City's current Subdivision Ordinance requirements, the latter standards should be amended into the Subdivision Ordinance.

Figure 4-2: Type A-1 & A-2 Major Thoroughfare

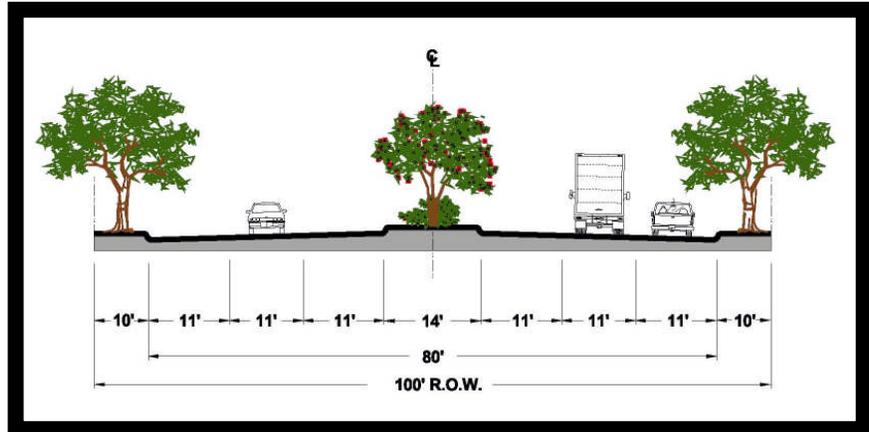


⁴⁻² TRIP: The Roadway Information System, "National Information: Highway Safety Fact Sheet: How Road and Bridge Improvements Save Lives"; ADDRESS: www.tripnet.org/hsfactsheet.htm.



Figure 4-3: Type B Major Thoroughfare

The wider ROW of A-2 compared to A-1 allows for a wider (i.e., safer) median and wider easements for utilities. The major difference between the Type A-1 and Type A-2 Major Thoroughfare and the Type B Major Thoroughfare is the anticipated amount of large-truck traffic. The wider lanes recommended in A-1 and A-2 is intended to accommodate this more-intensive traffic.

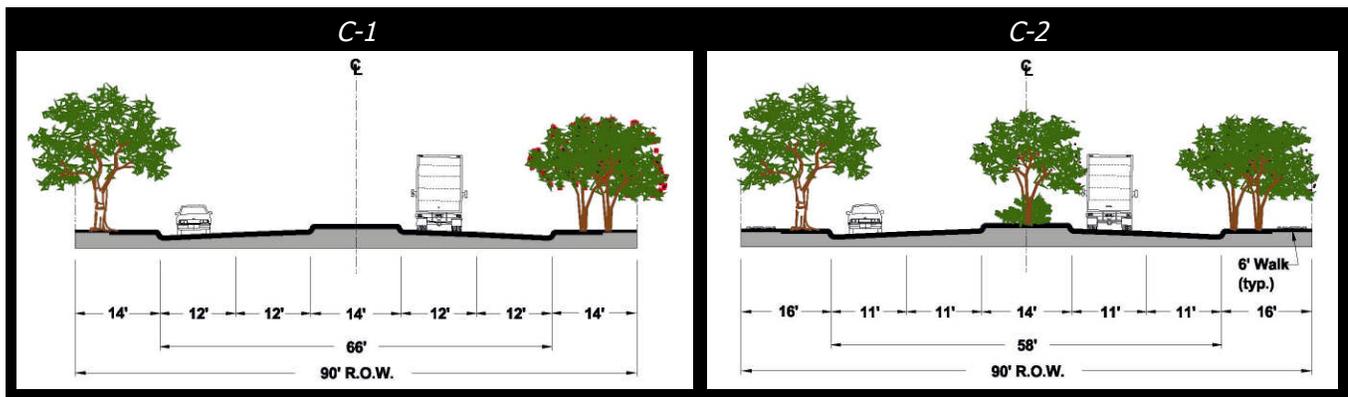


The C-1 and C-2 major thoroughfares below (Figure 4-4) are comparable, but the lane widths in C-2 have been reduced. This will help keep travel speeds at the desired level of approximately 40 to 50 miles per hour. The rights-of-way are the same, and this leaves a couple of extra feet for easements to accommodate utilities and off-street sidewalks. For safety, sidewalks on this type of major thoroughfare should be setback from the roadway pavement, and there should be trees, landscaping, light posts, and/or bollards in between the sidewalk and the pavement.



The pedestrian sidewalk is separated from this roadway with trees and lamp posts.

Figure 4-4: Type C-1 & C-2 Major Thoroughfare





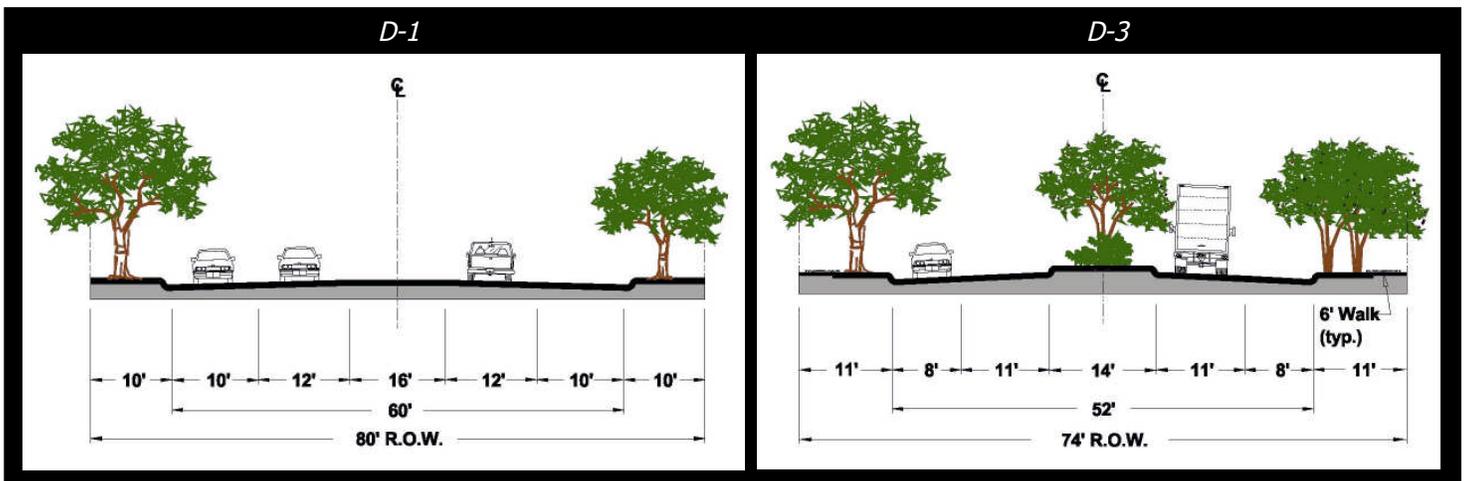
Sidewalks are not specifically represented within the major thoroughfare roadway cross sections. However, they are required according to the City's Subdivision Ordinance. Sidewalks are required to be at least five feet wide along these roadways in relation to nonresidential developments.

Secondary Thoroughfares & Collector Streets

Secondary thoroughfares and collector streets are generally designed to distribute traffic from local access streets and funnel it to major thoroughfares (i.e., from residential developments). Secondary thoroughfares are intended to provide more mobility than collectors, and collectors are intended to provide more access than secondary thoroughfares. Collectors should provide access to adjacent land uses, but access should still be managed through the use of shared driveways and other techniques that minimize disturbance of the free-flow of traffic (see *Transportation Policy #5*). These types of roadways should carry lighter volumes of traffic than major thoroughfares.

Refer to the *Thoroughfare Plan Map, Plate 4-1*, for the recommended locations of new secondary thoroughfares and collector streets. The recommended roadway sections for these roadway types are shown in *Figures 4-5 through 4-8*; two different sections are provided for most types. The first is consistent with the City's current Subdivision Ordinance requirements, the latter standards relate to CSD concepts and should be amended into the Subdivision Ordinance.

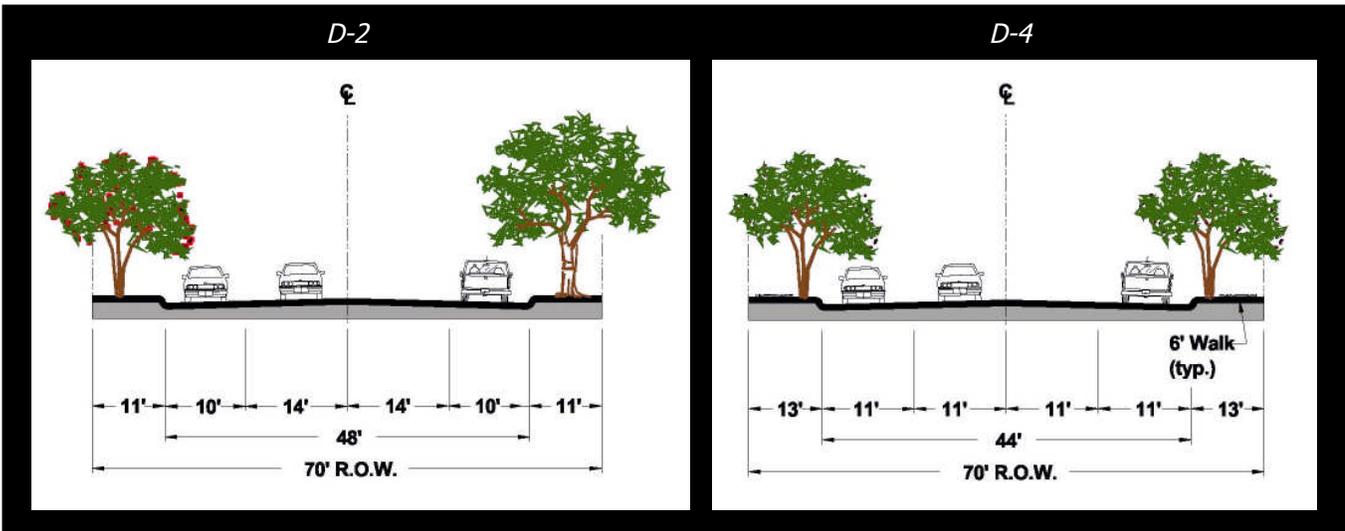
Figure 4-5: Type D-1 & D-3 Secondary Thoroughfare



The difference between the D-1 and D-3 Secondary Thoroughfares is that the D-3 section has reduced lane widths that better relate to the usage of the lanes; this conforms to CSD concepts. The 11-foot lane

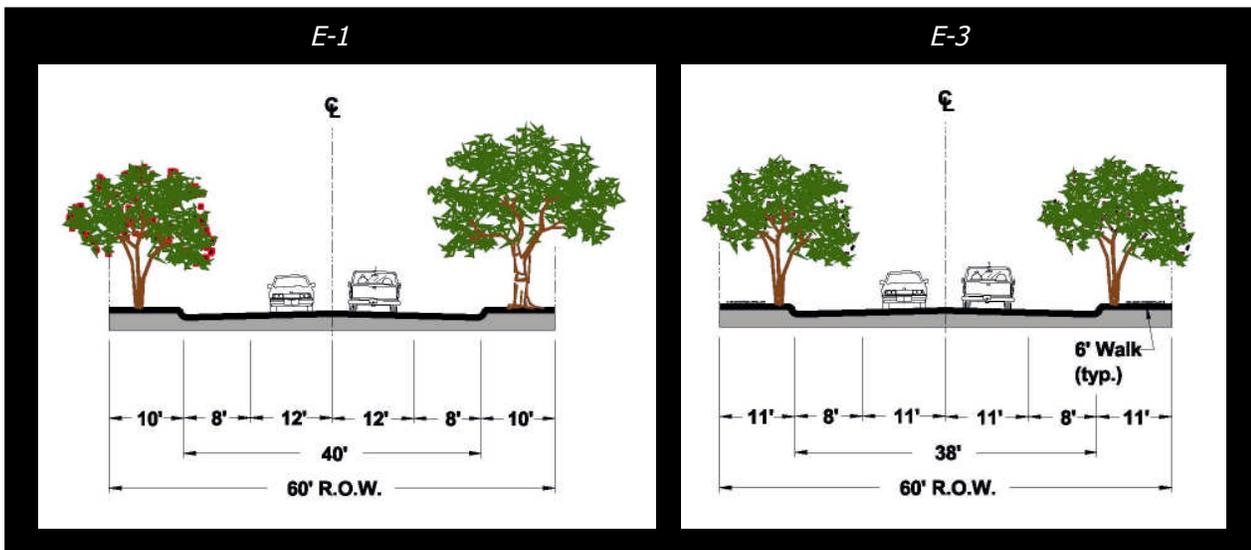
widths will help travelers stay within the design speed of the roadway, between 40 and 50 miles per hour, and the 8-foot lane is wide enough for cars to park on either side of the travel lanes. The reduction in lane widths also reduced the overall amount of right-of-way.

Figure 4-6: Type D-2 & D-4 Secondary Thoroughfare



The differences between D-2 and D-4 are the lane widths and the number of travel lanes. The lane widths for travel lanes are reduced in D-4 to 11 feet, and the parking lanes in D-2 are wide enough in D-4 to become travel lanes. Also, sidewalks are shown in D-4.

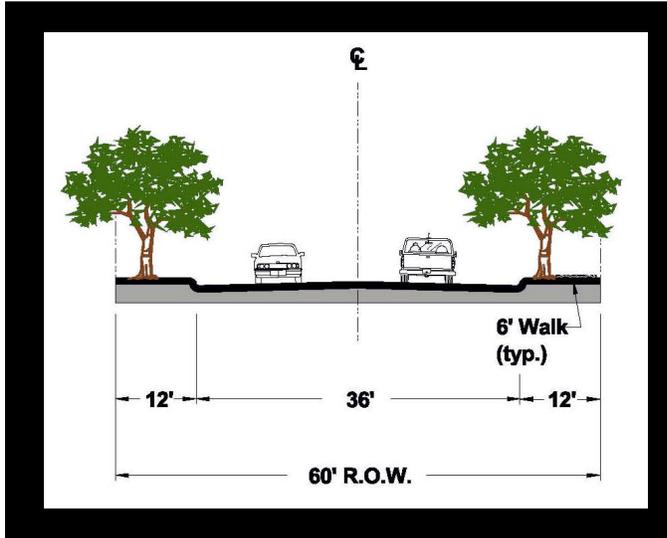
Figure 4-7: Type E-1 & E-3 Collector Street



2007 Comprehensive Plan

The E-3 Collector Street section (on the previous page) shows reduced lane widths from the E-1 section. The 8-foot parking lanes stay constant. Also, sidewalks are shown in the right-of-way area.

Figure 4-8: E-2 Collector Street

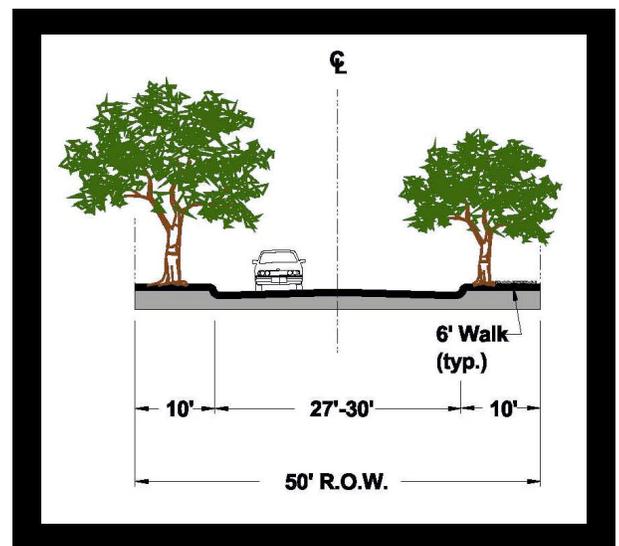


The E-2 Collector Street shown in *Figure 4-8* at the left is consistent with the City's current regulations for this roadway type. The pavement width of this street allows for two travel lanes and for parking on one side of the roadway. The E-2 roadway should be used in residential or mixed use areas as an interior collector street.

Minor Streets

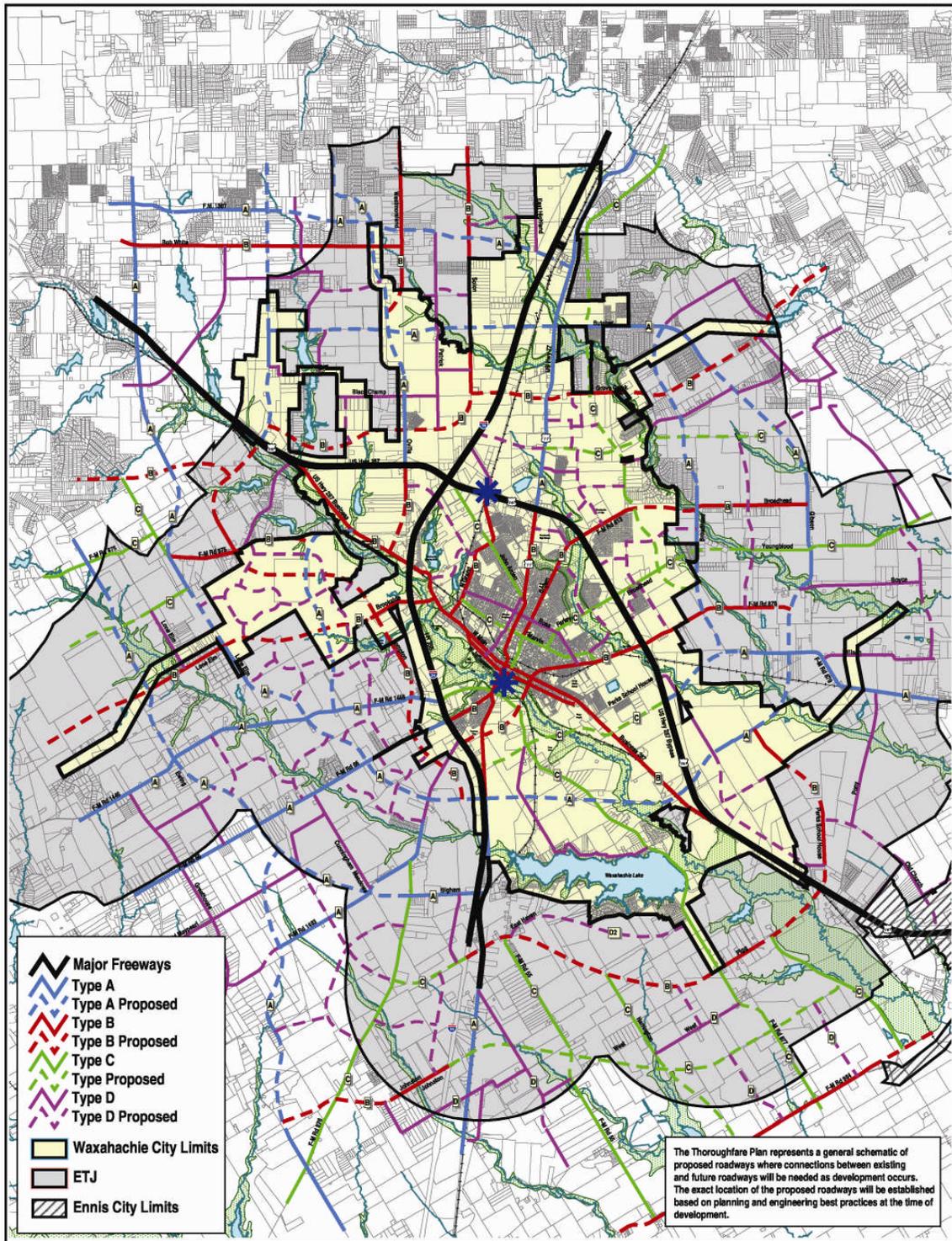
Whereas the principle objective of major thoroughfares is to provide mobility, the principle objective of minor streets is to provide access to adjacent properties. The mobility aspects of minor streets are secondary to accessibility. Due to the fact that minor streets are generally constructed within residential areas, safety is an important issue. To ensure that these roadways are not used a great deal for mobility purposes and to ensure their ability to provide access safely, minor streets should be configured to discourage through-traffic movement by using traffic calming elements such as offset intersections, curvilinear streets, discontinuous streets, and stop signs.

Figure 4-9: F Minor Street



Minor streets are not shown on the *Thoroughfare Plan Map*, because decisions as to the locations of minor streets are usually made as development occurs; such decisions are heavily dependent on the type of development that is occurring and the need for connectivity to/with adjacent developments. The recommended minor street section is shown in *Figure 4-9*. A 30-foot pavement width is currently the minimum permitted. This width should be permitted to be reduced to 27 to 28 feet in residential areas where alleys are provided. The F Minor Street should be used in residential or mixed use areas as an interior street that does not carry much traffic.







Waxahachie

Plate 4-1



Dunkin Sefko & Associates, Inc.
Urban Planning Consultants - Dallas, Texas
Date: October 2007

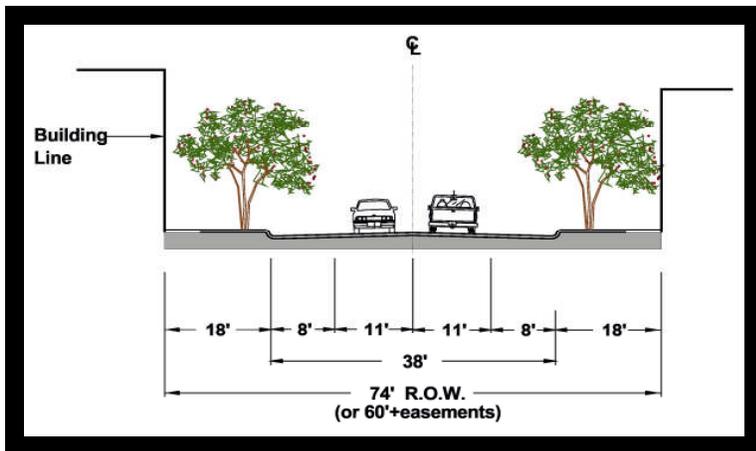
Thoroughfare Plan Map



Retail-Related Streets

Within this *Comprehensive Plan*, new concepts for retail areas have been recommended. One important aspect to these new concepts is more of a pedestrian concentration. Another important aspect is an increase in the quality of the retail development in terms of spatial considerations, like breaking up parking areas and placing buildings closer to the pedestrian edge. To integrate these new retail concepts into this Transportation Plan, two new cross sections for local retail streets are shown below. These streets should be used in the interior areas of retail developments. These streets would also be appropriate in mixed use areas.

Figure 4-10: Type R-1 Local Retail Street

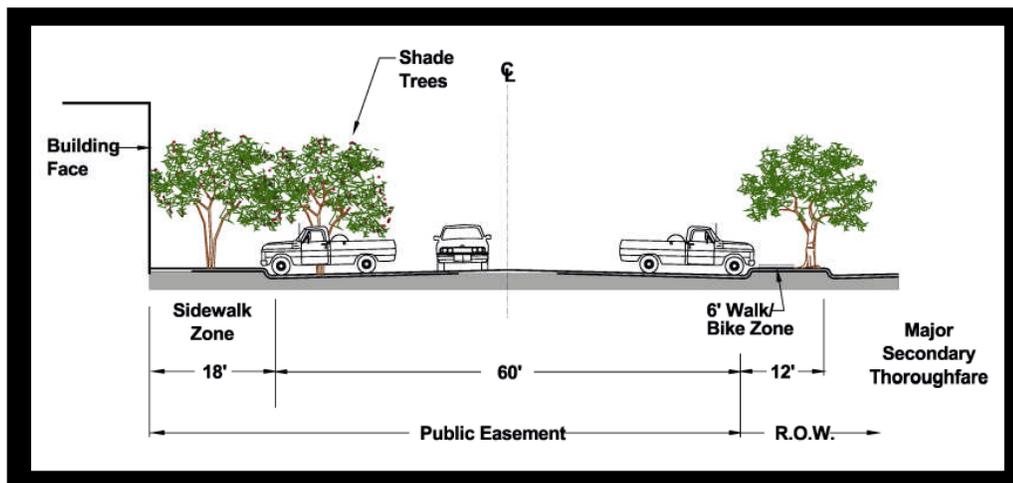


The R-1 Local Retail Street provides for two travel lanes with on-street parking lanes on either side. There are 18 feet provided on both sides of the street for pedestrians, trees, street furniture, outdoor dining, etc.

The R-2 Local Retail Street (below) also provides for two travel lanes, but with head-in or angled parking instead of parallel. Again, there is ample room on either side of the street for pedestrian-focused elements. The R-2 Local Retail Street is for situations where retail faces a

major roadway and some buffer or “teaser” parking is desired out front. This also provides for a public “browsing” lane for slower traffic without affecting major roadway capacity, and convenient parking close to the stores that would accommodate most off-peak demand.

Figure 4-11: Type R-2 Local Retail Street





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Alternative Transportation Options

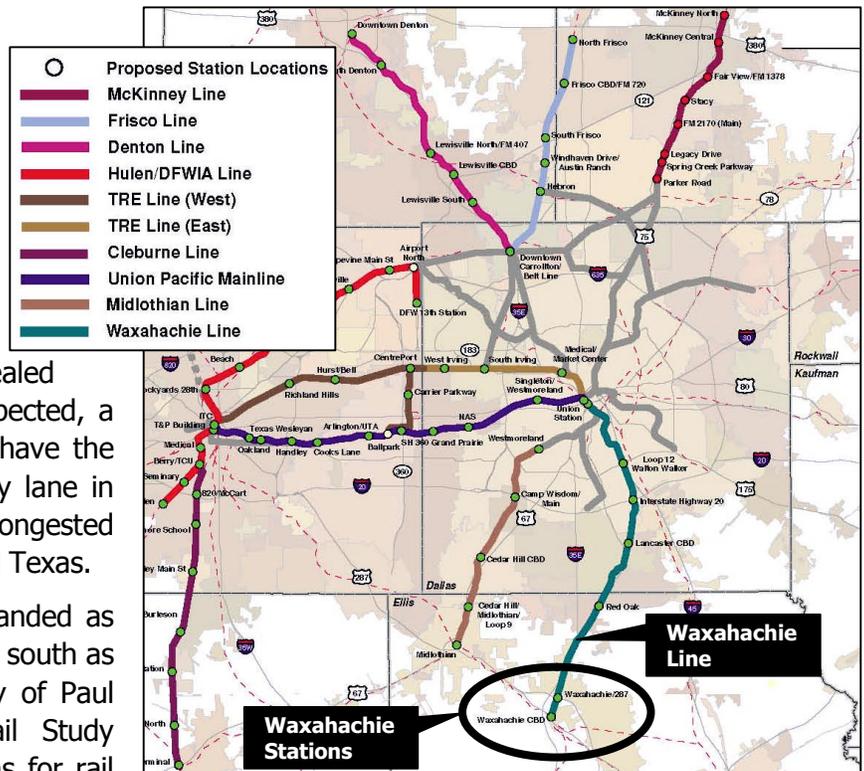
One of the objectives of this *Transportation Plan* is to put forth concepts of transportation options that will provide an alternative to the automobile, specifically transit and pedestrian/bicycle modes. The major challenge to meeting this objective is putting forth these concepts in a way that make such alternatives realistic and convenient for the citizens of Waxahachie to use. Transit and trail concepts, and why they should be proactively pursued by the City, are discussed below, and policies that support these concepts are outlined in *Transportation Policy #6* through *#9*.

Transit Opportunities

Regional Transit

The North Central Texas Council of Governments (NCTCOG) has completed a Regional Rail Corridor Study that examines how the current rail system (generally operated by Dallas Area Rapid Transit) could be expanded to meet the future anticipated travel demand in the Metroplex. The NCTCOG's study revealed that with the amount of ridership expected, a connected regional rail system could have the effect of adding on additional freeway lane in each direction to some of the most congested highways and tollways in North Central Texas.

The DART rail has recently been expanded as far north as Plano, and is almost as far south as Interstate Highway 20 (in the vicinity of Paul Quinn College). The Regional Rail Study recommends various future expansions for rail



Source: Regional Mobility Initiatives. NCTCOG. Vol IX, No. 1, October 2005.

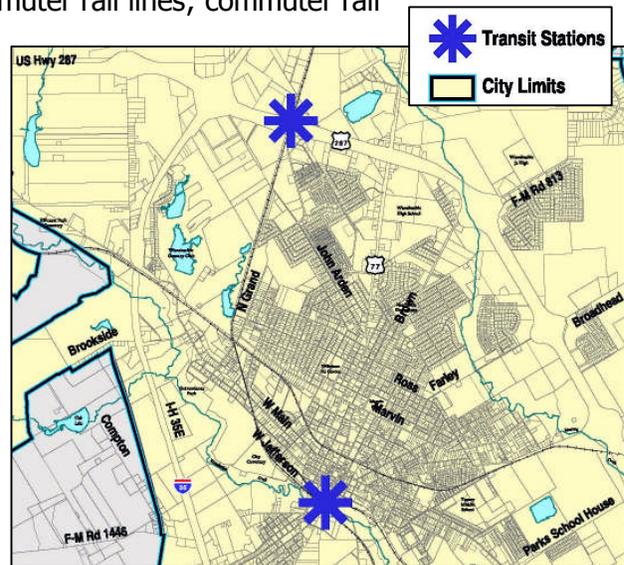




linkages, one of which would provide commuter rail service to Waxahachie. The service is planned along the existing rail line that travels between the City and the Dallas-Fort Worth Metroplex, although use of the rail line for transit would have to be negotiated with Union Pacific and Burlington Northern Santa Fe.⁴⁻³

Regardless of the challenges, the fact that Waxahachie has existing rail lines makes the eventual expansion of rail services to and through Waxahachie a realistic possibility. The easements associated with these railroad lines can be used for light rail or commuter rail lines; commuter rail is more likely due to the expense of laying new light rail lines. In anticipation of an eventual commuter rail line through Waxahachie, two locations for a transit station have been shown on the *Thoroughfare Plan Map*. These locations are consistent with the NCTCOG’s Regional Rail Study.

One of the major factors in transit ridership is convenience, specifically in terms of 1) accessibility to and from the transit stop itself, 2) accessibility to other locations in the Metroplex, and 3) reliability of the transit system. Meaning that in order for people to use transit, it is not enough simply to establish the transit system and transit stop – the transit mode must be as convenient or more convenient for people to use than their private vehicle. Therefore, it will be extremely important for the transit stops in Waxahachie to be accessible by pedestrians and by automobile (i.e., a park-and-ride situation). It will also be important for the transit system to connect with other areas of the Metroplex that people desire to go on a daily/weekly basis, such as employment centers or concentrated shopping areas. And finally, the system itself must be reliable for people to use it – transit must be available consistently at peak travel times, such as during morning and evening rush hours.



Local Transit

A localized transit system should be considered either immediately prior to, or following, the establishment of regional rail. Recommendations are not being made for the type of technology or look of the transit in this *Transportation Plan*; however, it should be recognized that any type of transit technology used should strive to be unique so that it attracts businesses and promotes Waxahachie as a distinctive City in the area. A wheeled trolley system or buses designed to resemble trolleys would be an

⁴⁻³ Regional Mobility Initiatives. NCTCOG. Vol IX, No. 1, October 2005.





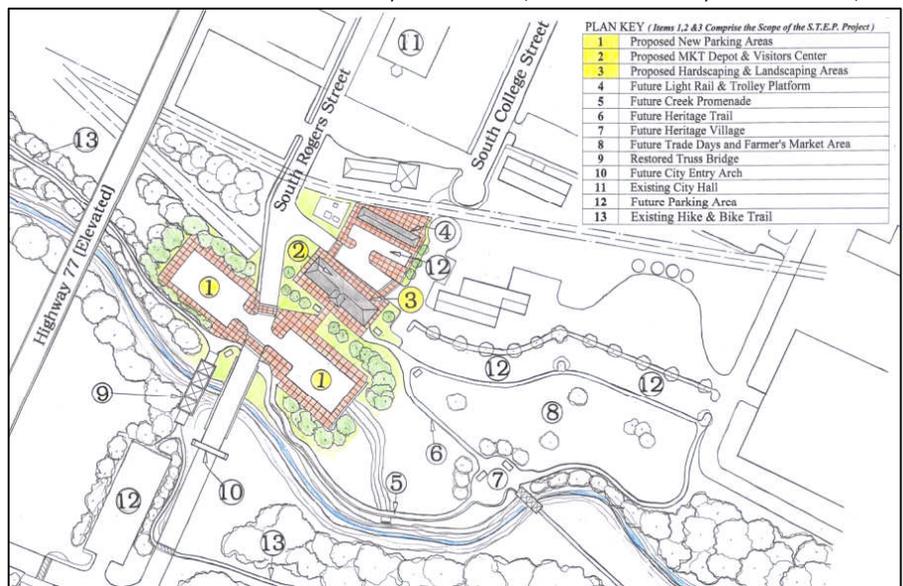
2007 Comprehensive Plan

effective way to achieve this uniqueness, and trolley-like facilities would further enhance the sense of history that is already present in Downtown Waxahachie.

As a result of existing conditions in Waxahachie, planned land used, and the projected regional rail transit, certain areas have been identified as areas that would benefit from local transit. These areas include the following prominent features:

- ❖ Downtown Waxahachie – City Hall, the Ellis County Courthouse, offices, retail shops and restaurants.
- ❖ The planned regional rail transit stop south of Downtown – planned park-and-ride areas, existing and future trails, the planned MKT (Missouri–Kansas–Texas) Visitor Center.
- ❖ The planned regional rail transit stop at U.S. Highway 287, which includes major retail land uses.
- ❖ Baylor Medical Center at Waxahachie.
- ❖ The Southwestern Assemblies of God University and the Navarro College local campus.

Source: City of Waxahachie, Consultant – Anthony Mottla Architects, Inc.



MKT Railroad Passenger Station, Multi-Modal Re-Use Project

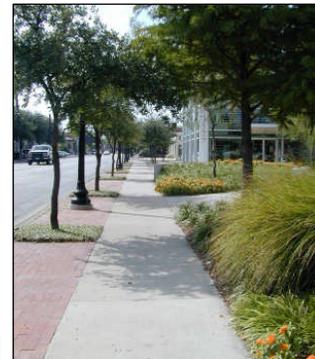
It should be noted that these routes represent only the initial transit circular routes that should be established. These are priority routes that would serve anticipated mixed use/higher density areas and as feeder lines to currently proposed rail stations. An expanded system with additional routes, especially east-west routes, should be added as the system is increasingly utilized.





Pedestrian & Bicycle Trail Opportunities

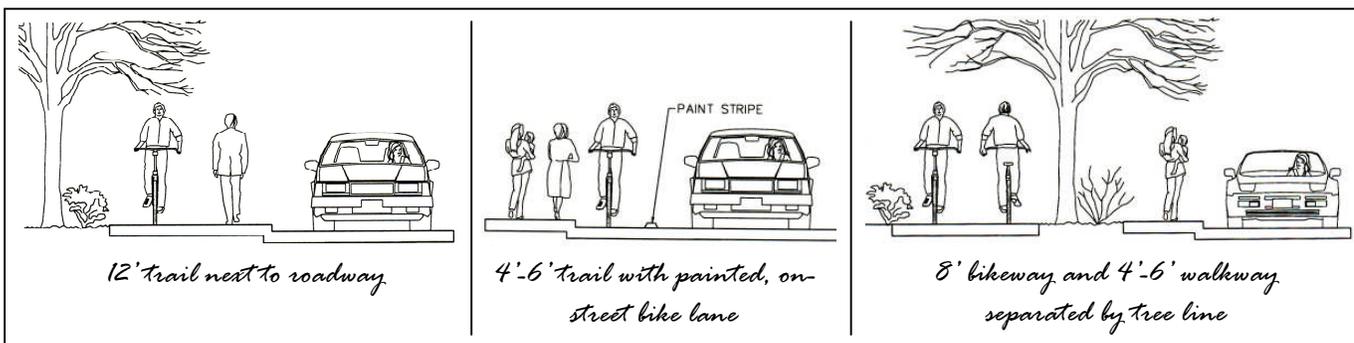
Another method of reducing the number of automobiles on the roadways in Waxahachie is to provide pedestrian and bicycle connections through the integration of on- and off-street trails. On-street trails are synonymous with "sidewalks", and can be integrated along roads in a variety of ways, as shown in *Figure 4-12* below. This would be more effective at reducing traffic locally than would a transit system, which is really focused on addressing regional transportation needs. The *Parks Master Plan* will contain specific information on the recommended system of trails, including locations and widths; see Chapter 9 for an Executive Summary of the *Parks Master Plan*.



Pedestrian & bicycle connections should be provided in both neighborhoods and nonresidential areas.

Although some trails within Waxahachie should be more recreation-based, to really provide an alternative to the automobile, some trails need to be located to provide connections between residential and nonresidential land uses. Areas such as residential neighborhoods, schools, retail areas, public areas, and the future transit stations should be pedestrian- and bicycle-friendly, and should feature on- and/or off-street trails for connectivity purposes.

Figure 4-12: Various Configurations for Trail Integration Along Roadways





2007 Comprehensive Plan

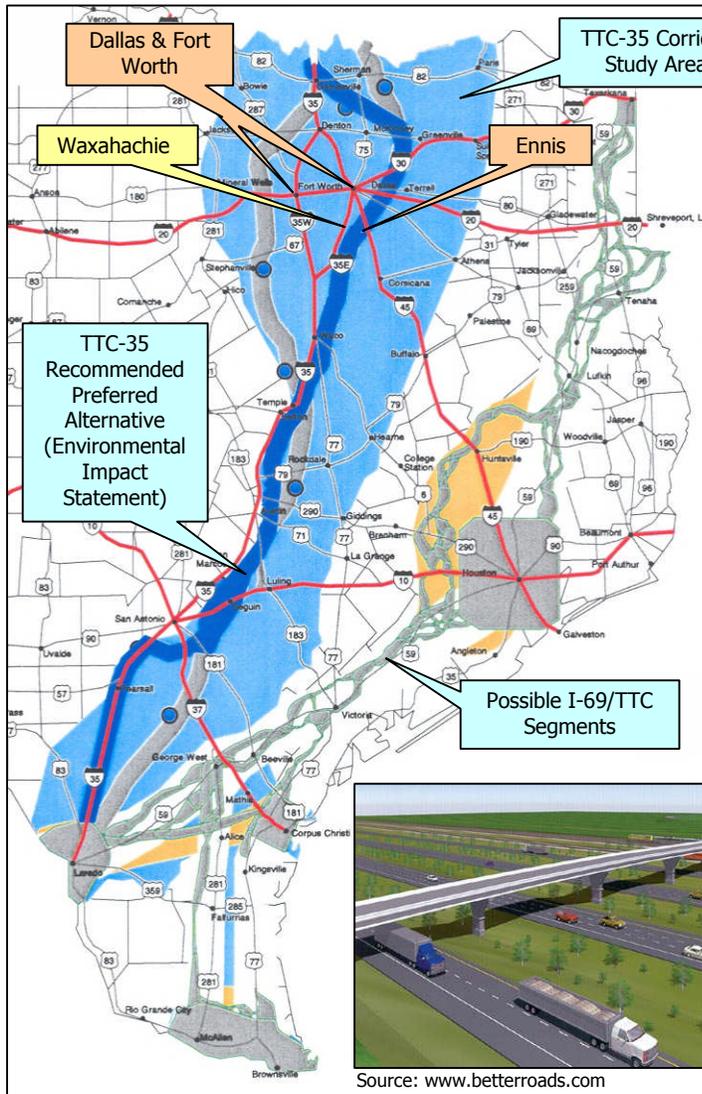
The City is currently experiencing a high level of development and related population growth. The time to consider the integration of a trail system throughout Waxahachie is now—when the City still has ample developable land to make trails a viable transportation alternative as development occurs. Retroactive integration of trails is much more challenging and costly than if such trails are completed at the time the initial development occurs.



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The Trans-Texas Corridor



The Trans-Texas Corridor (TTC) is a term used to describe a proposed system of transportation networks across Texas. This system is proposed to have a right-of-way wide enough not only accommodate automobiles, with separate lanes for cars and freight trucks, but also for freight rail, commuter rail, and utility infrastructure (water lines, oil and gas pipelines, etc.). There are two main facets to this system. One is referred to as the TTC-35, which will essentially parallel existing Interstate Highway 35 and will traverse Texas from the Mexico border to the Oklahoma border. The second is referred to as the I-69/TTC, which will use the existing State Highway 69 as a basis for its alignment and will also cross Texas from Mexico to Arkansas. I-69/TTC will then continue north to Canada through numerous states. Both elements of the TTC will generally bypass large metropolitan areas due to the amount of right-of-way that will be needed and the difficulty of securing the right-of-way in heavily developed areas.



It is TTC-35 that is most relevant to discuss with regard to Waxahachie. The I-69/TTC does

not impact Waxahachie because it is far east of the City and the surrounding area.

The corridor study area for TTC-35 is between Waxahachie and Ennis, about two miles east of Waxahachie's City limits at the edge of the City's ETJ. The proximity of the TTC-35 could impact Waxahachie, especially if the study area is moved farther west. The City should remain aware of the process of development of the TTC-35, its alignment, and how it may in the future affect Waxahachie.



Access to Waxahachie from TTC-35 should be of primary importance for economic development purposes; this includes automobile and rail access. In order to benefit Waxahachie economically, and to have the least impact on Waxahachie and surrounding cities (e.g., Ennis), the best location for the City is likely where the ETJ boundaries of Waxahachie and Ennis meet at U.S. Highway 287 as it is currently planned. This location would also have the least impact in terms of physical displacement of people and businesses.

TTC-35 is concept many years from construction – it is still very much in the planning stages. Planning involves three steps prior to construction; these are 1) environmental studies, 2) route selection, and 3) route design. In April of 2006, a Draft Environmental Impact Statement was completed as part of the first step. Throughout the summer of 2006, there have been public hearings held for citizens to voice their opinions on the TTC-35 in general and on the identified preferred route. The next step is to prepare a Final Environmental Impact Statement, which is anticipated in the fall of 2006 subsequent, to the public input/hearings. Federal approval of that document is not anticipated until the summer of 2007. Through the description of the planning process for TTC-35, it is clear that if it actually comes to fruition, it is many years, or perhaps decades, in the future. The fact remains, however, that Waxahachie needs to continue to be aware of and involved in the planning and development process of TTC-35.





Transportation Policies

The *Goals & Objectives* in Chapter 2 and the concepts outlined previously within this chapter provide a basis for these transportation policies. The *Implementation Strategies* (Chapter 9) will outline specific ways in which the City can implement these policies, along with other recommended policies from other chapters of the *2007 Comprehensive Plan*. It should be noted that the policies are in no specific order of importance.

General Roadway Policies

1. Consider Context-Sensitive Design (CSD) Solutions for New Roadways & Roadway Improvements

- ❖ Ensure that automobile transportation is not the sole consideration when new roadways are constructed and when existing roadways are improved.
 - The principles for CSD solutions, outlined on page 4.5 and 4.6, should be integrated into the decision-making process. These principles are as follows
 - Existing elements that positively contribute to the local environment, such as mature street trees or median landscaping, should be preserved.



Sometimes roads are like rivers. Increase their flow too much and they can drastically reshape their surroundings. Pump up the traffic on a road through a small town, for example, and all sorts of new gas stations, billboards, and fast food outlets spring up; soon, the road widens and sprawl, like a mudslide, buries the town's character, pride, and sense of place.

People & Pavement: Transportation Design That Respects Communities, page 2. Michigan Land Use Institute, Special Report, February 2004.

Roadways in Legacy Town Center are designed to be context-sensitive.



- For long-term sustainability and livability, pedestrian and bicycle transportation should be a prime consideration. (Also see Policy #6.)
- ❖ Design roadways for the automobile speed that is desired. Common roadway aspects that can achieve desired speeds include lane widths, overall street width, on-street parking, and the radii of intersection turns.
- ❖ Enhance the environment of roadways where walking and biking is desired. Such enhancements could include benches, trees (for shading), lighting, and elements that create interest such as public art and small gathering spaces.
- ❖ Work with TxDOT to incorporate CSD solutions on any joint projects between TxDOT and the City (e.g., U.S. Highway 77).

2. Ensure Coordination Between Roadways & the Future Land Use Plan

The recommendations reflected on the *Thoroughfare Plan Map* for expanded and future roadways are based primarily on the recommended *Future Land Use Plan*. Transportation is inherently linked to land use. Therefore, as changes are made to the *Future Land Use Plan Map*, changes may need to be reflectively changed in relation to the *Thoroughfare Plan Map*.

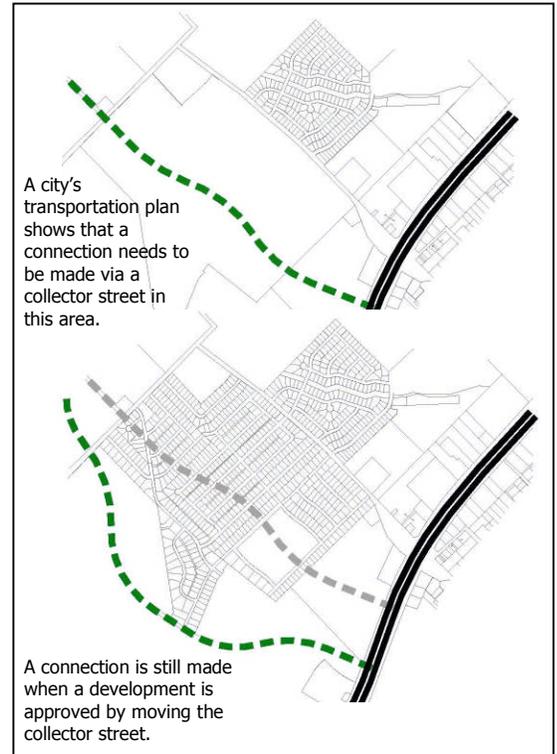
- ❖ Consider the placement of new developments in relation to roadway types.
 - Ideally, neighborhoods should be developed between major thoroughfares and collector streets in the future so that traffic may be diverted from (as opposed to through) residential areas.
 - Homes should be oriented to front onto minor streets, not major or collector streets, wherever possible. When homes back to collector streets, an alley should be provided so that access is not from a collector street.
- ❖ Consider existing development as roadway improvements are made. Wherever existing rights-of-way that have been identified as a different type of roadway than the type it is as it exists currently (e.g., an existing minor collector is shown as a major collector), this is a recommendation that the roadway be widened when and if development occurs. Existing residents and businesses should be disturbed to the least extent possible.



This residential street is designed in relation to adjacent land uses; its neighborhood feel allows for on-street parking and provides sidewalks and street trees.



- ❖ Secure rights-of-way as development occurs. The *Thoroughfare Plan Map* shows various areas of the City linked by major or collector roadways. These are not actually engineered locations for these roadways; these are approximate locations that need to be connected with roadways as development takes place in relation to these locations.
 - The appropriate amount of right-of-way should be secured at the time of development.
 - If a development proposes to locate in an area that a roadway has been recommended, the roadway could be moved to allow for the development to take place. However, it is still important for a connection to be made with a roadway, and therefore, an alternative location for the roadway should be established (see the illustration at the right).



3. Use Positive Aesthetics Along Roadways to Enhance Waxahachie's Character

The highest level of visibility that Waxahachie has is along its roadways. It is likely that more people will travel on a thoroughfare through the City than will live in Waxahachie, visit the Downtown area, use a park facility, or use a trail. The image of Waxahachie that people encounter while traveling to and through the City is extremely important – this image will affect whether the City is perceived as a quality place to live, shop, work, etc.

- ❖ Recognize the importance of its image along roadways, and should take proactive measures to ensure that this image is positive.
 - Streetscape enhancements should be considered as roadways are constructed or improved. Examples include articulated pedestrian hike/bike



Trees, banner signs, and lighting along streets in Downtown project a positive image of Waxahachie.



facilities, pedestrian crosswalks, landscaped medians, and street trees. Each recommended roadway cross-section within this *Transportation Plan* includes these elements, as appropriate, within the rights-of-way.

- The various highways that traverse Waxahachie, such as Interstate Highway 35 and U.S. Highway 287, provide prime opportunities for a positive image of the City to be reflected. Special lighting elements, banner signs, and gateways are effective streetscape elements that would enhance these highway corridors.
- ❖ Consider requiring a 10-foot-wide landscape/access easement along arterials when subdivisions are platted, if these elements are not provided for within the right-of-way. Some cities require easements along arterial roadways for streetscape enhancement. This easement would serve to open up the visual corridor, provide an enhanced image for the community, and provide space for trails.
 - ❖ Refer to discussion of other street enhancement concepts within the *Neighborhood Livability & Image Enhancement Plan*, Chapter 3.



Landscaping elements along Interstate Highway 75 provide a positive visual image.

4. Proactively Pursue Improvement of the U.S. 77 Corridor

In a process that is paralleling this comprehensive planning process, an analysis of the functioning of U.S. 77 is being conducted. Aspects of this roadway being analyzed include traffic progression through signalized intersections, traffic counts at the PM peak hour, access issues, and safety issues. The findings of this study will

- ❖ Use the findings of the *U.S. 77 Corridor Study* as a guide for future decisions made in relation to U.S. 77.
- ❖ Ensure that decisions that are made, especially with respect to widening this corridor, consider CSD solutions. Land adjacent to U.S. 77 is heavily developed, and therefore CSD solutions will be extremely important to the sustainability of this adjacent development.



U.S. Highway 77 Corridor



5. Design for Shared Access & Cross Access

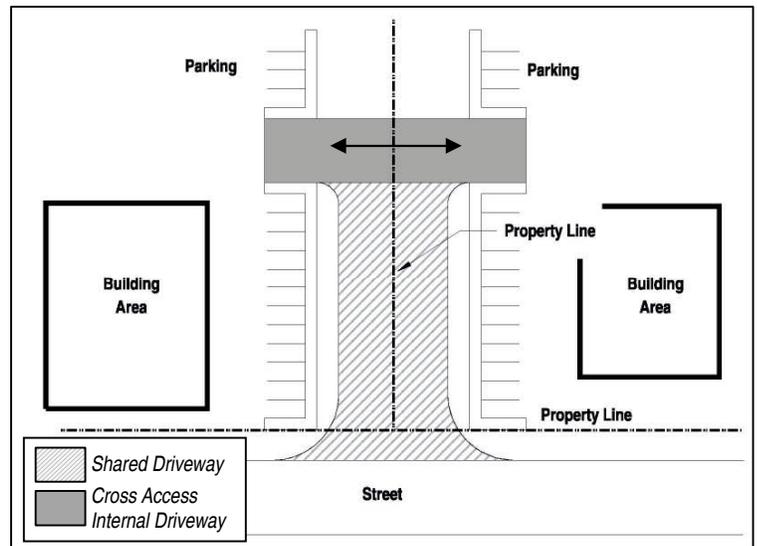
Roadways that are intended to provide mobility, such as major thoroughfares, should not be compromised by an abundance of separate access points for land uses. Collector roadways are intended to provide both mobility and access, but the former is much more effective if the latter is controlled.

- ❖ Require new nonresidential developments along major thoroughfares and collector roadways to establish shared access driveways.

- New nonresidential developments should be required to share the driveway of the adjacent development, if possible (i.e., if the driveway is positioned near the lot line/setback line of the lot that is being developed).
- New nonresidential developments should be required to make provision for sharing their driveway with the adjacent development in the future, if the adjacent lot is not yet developed.

- New nonresidential developments that require more than one driveway by current regulations should construct that driveway at least one driveway such that it is or can be shared.

- ❖ Require new nonresidential developments along major thoroughfares and collector roadways to establish cross access with adjacent developments.



Shared Access Driveway & Cross Access Internal Driveway

- New developments should be required to provide access to adjacent development through an internal driveway.
- If adjacent development has not yet occurred, provision for future cross access should be made.



Multi-Modal Policies

6. Offer Viable Pedestrian & Bicycle Transportation Choices

The only way to reduce the dependence on the automobile is to provide viable and realistic transportation alternatives. The specific means by which this *Transportation Plan* recommends reducing such dependence in Waxahachie are transit (discussed in the following policies, #7 through #9) and local pedestrian/bicycle connections. Integration of these two concepts within the City – now, when the City has much room for population growth and land development – will make Waxahachie a more sustainable and livable community in the long-term. Integration of pedestrian and bicycle access should be pursued in the following ways.



This retail parking lot provides a pedestrian concentration.

- ❖ Require new residential developments and nonresidential developments of all types (where possible) to make provision for pedestrians and bicyclists, including access to and through the development.
- ❖ Construct sidewalks alongside all new or improved roadways. However, these on-street sidewalks should not be the only type of pedestrian/bicycle access provided. Off-street trails should also be actively established.

Source: www.mesalek.com



Source: Dan Burden, www.ci.alexandria.va.us



- ❖ Consider aspects related to the design of developments that help increase pedestrian and bicycle usage. Such aspects include providing continuous sidewalks or trails, creating short blocks, and providing a safe pedestrian/bicycle environment with clearly identified crosswalks and bicycle lanes.

Bicycle lanes can be provided in many different ways.

- ❖ Refer to the *Parks Master Plan* for more detail about trail integration within Waxahachie.





7. Pursue Establishment of Regional Transit

- ❖ Work with the North Central Texas Council of Governments (NCTCOG) and area transit agencies (as they are created) to establish regional rail as soon as possible. A regional rail line connecting Waxahachie to the DFW Metroplex would likely have several positive effects, including boosting the local economy, increasing the local population, and increasing local tourism opportunities.
- ❖ Ensure that current ownership of railroad rights-of-way by public entities is maintained to allow regional transit to be established more easily and in a less costly manner.
- ❖ Work with private entities that currently have ownership of railroad rights-of-way. These entities will have to be amenable to either a public purchase or long-term lease of these rights-of-way in order for regional transit to occur. Within the NCTCOG's Regional Mobility Initiatives report, they assess the "ease of implementation" of the various planned transit rail lines. For the Waxahachie Line (see the illustration on page 4.15), the report notes that the rights-of-way must be negotiated with the Burlington Northern Santa Fe and the Union Pacific Railroads.
- ❖ Proactively plan for regional rail by ensuring that locations planned for transit stops have an appropriate amount of retail, employment, and residential density developed and/or permitted in order to support transit. Within Waxahachie, there are two rail stations currently proposed by the NCTCOG. Transit-oriented development (refer to the *Future Land Use Plan*, Chapter 3) should be encouraged within proximity to these locations.

Source: www.tranweather.com



The Trinity Railway Express (TRE) is the commuter train between Dallas and Fort Worth.

8. Investigate the Feasibility of Internal Transit Within the City

- ❖ Explore the potential for future localized transit within Waxahachie. The Downtown area is perhaps the most viable location to center a transit system around. Other key locations that local transit could serve include regional transit stops, Downtown, local higher education venues, the hospital, and new mixed use developments. Local transit is discussed in detail previously within this *Transportation Plan*.



- ❖ Ensure that a local transit system achieves the following:
 - Effectively connect various areas of the City,
 - Effectively connect the regional rail stations, and
 - Be unique in its design, thereby providing Waxahachie with a recognizable City element.



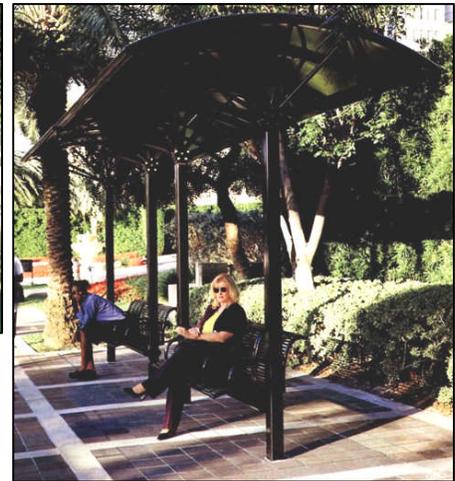
Example of a Wheeled Trolley

9. Ensure Transit Options Are Safe & Well-Designed

One key way to increase the use of transit is to design transit stops to be safe and inviting. The design of transit stops may differ based on the type of transit provided, but the following general concepts should be considered as stops are designed.



Source: www.uta.edu



Examples of Well-Designed Bus Stops

- ❖ Provide pedestrian and bicycle connections to transit stops.
- ❖ Provide shelters at transit stops to protect users from weather elements (rain, sun, wind etc.) to the furthest extent possible.
- ❖ Provide benches and signage that provide a welcoming environment.
- ❖ Ensure that transit stops along roadways are located such that transit users are protected from automobile traffic through setbacks, tree placement, balusters, etc.

Participation Policies

10. Investigate Increased Developer Participation in Roadway Infrastructure

Chapter 395 of the Texas Local Government Code addresses the issue of developer participation in the construction of off-site facilities such as water, wastewater, and roadways. Waxahachie already has water and wastewater impact fees. The state law outlined in Chapter 395 allows cities in Texas to decide whether to assess fees for roadway construction to new residential and nonresidential development. Impact fees can be described as fees charged to new development





based on that development's impact on the infrastructure system. The primary advantage to having this funding source is that it provides cities with the increased ability to plan and construct capital roadway facilities so that the needed infrastructure system capacity is available when the market warrants.

- ❖ The City is in the process of developing roadway impact fees, which are an appropriate funding mechanism for the roadway infrastructure that will be needed as development occurs.
 - Implementing impact fees would help the City manage roadway expenditures that will have to be made for new development in the coming years.
 - With impact fees, the development community is responsible for paying its related share of the cost of growth and the impact of that growth on local infrastructure systems.
 - With impact fees, new roadway facilities will likely be financed through taxes (e.g., ad valorem, sales tax), which are paid by existing as well as future residents.

11. Continue to Work with State, County, & Regional Planning Agencies

- ❖ The City should ensure that it has active participation and representation in making decisions about roadway infrastructure in the region.
 - Coordination with the Texas Department of Transportation (TxDOT) will continue to be needed to optimize access and circulation on State roadways within the City.
 - Coordination with Dallas Area Rapid Transit (DART) will continue to be needed to optimize the opportunity for Waxahachie to obtain rail service and a rail stop in the future.
 - Communication with Ellis County authorities will continue to be needed to ensure that Waxahachie's interests are reflected in any decisions regarding the Ellis County Outer Loop, especially in terms of alignment and access.
 - Participation in NCTCOG planning efforts may also help Waxahachie foster relationships that would ultimately help with transportation planning as well as with funding transportation improvements.