

TYLER

1st

Building our future, together



10. Transportation and Circulation DRAFT

Chapter 10 :: TRANSPORTATION AND CIRCULATION

The intent of this document is to detail amendments from the 2014 and 2020 updates while continuing to memorialize the original text. Items updated through the 5-year update process will be accompanied with a Tyler 1st logo within the original Tyler 21 document. The text from the original document begins after the Tyler 21 logo appears in the text.



GOALS	POLICIES FOR DECISION MAKERS
<p>Improve travel in Tyler with new road extensions and new roads, as needed.</p>	<ul style="list-style-type: none"> • Adopt a priority system and criteria for implementing the Master Street Plan to create new connections. • <u>Ensure local street connectivity among subdivisions.</u>
<p>Continue to improve traffic safety.</p>	<ul style="list-style-type: none"> • Support data collection, priority improvements and enhanced enforcement.
<p>Improve traffic flow on South Broadway and other highly-traveled streets throughout the Tyler area.</p>	<ul style="list-style-type: none"> • Implement signal improvements and synchronization. • Implement strategies to improve access management.
<p>Improve the appearance and function of arterial roads throughout Tyler.</p>	<ul style="list-style-type: none"> • Explore a long-term Boulevard and Parkway Plan for major and minor arterials.
<p>Encourage efficient travel and alternatives to transportation by car.</p>	<ul style="list-style-type: none"> • Support transportation-efficient land use policies. • Include pedestrian and bicycle modes in planning for road improvement or construction projects. • <u>Consider park and ride options both locally and regionally.</u>
<p>Improve existing public transportation and conditions for future improved service.</p>	<ul style="list-style-type: none"> • Promote land use policies that support public transportation with appropriate densities.
<p>Preserve rights-of-way and locations for future transportation routes and services.</p>	<ul style="list-style-type: none"> • Evaluate future needs for roads, multi-use trails and paths, and logistics (freight and distribution) centers before disposing of right-of-way and to preserve future options.
<p>Evaluate traffic impacts of large development projects.</p>	<ul style="list-style-type: none"> • Support requirement of a Traffic Impact Analysis for projects meeting certain size thresholds.

GOALS	POLICIES FOR DECISION MAKERS
<p>Enhance the existing asset management system for roads and transportation facilities.</p>	<ul style="list-style-type: none"> • Adopt a “Fix It First” policy to ensure maintenance of transportation infrastructure. • Adopt a priority system and criteria for resolving deferred maintenance.
<p>Explore strategies to manage truck traffic.</p>	<ul style="list-style-type: none"> • Collaborate with the NETRMA to study the economic and transportation benefits of a logistics center.
<p>Facilitate annual regional coordination on transportation planning.</p>	<ul style="list-style-type: none"> • Communicate Tyler plans and seek input from neighboring municipalities.



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TRANSPORTATION FACTS

- **TYLER ROADWAYS (2012):**
 - > 93 miles of principal arterials
 - > 27 miles of minor arterials
 - > 63 miles of collectors
 - > 572 miles of local roads
- **VEHICLE OWNERSHIP (2011):**
 - > 9.7% of households do not have access to a vehicle (9.4% in 2000)
 - > 40.8% of households have 1 vehicle (40.9% in 2000)
 - > 37.4% have 2 vehicles (36.3% in 2000)
 - > 12.1% have 3 or more vehicles (13.4% in 2000)
- **TYLER PUBLIC TRANSPORTATION:**
 - > 5 bus routes
 - > 203,114 passenger trips in 2012
- **WORK DESTINATION OF SMITH COUNTY RESIDENTS (2000):**
 - > 89% of Smith County residents work in the county
- **HIGH TRAFFIC INTERSECTIONS:**
 - > 2011 total intersection volumes in average vehicles per day*:
 - > South Broadway and Loop 323 (south): over 88,130 vehicles
 - > Old Jacksonville Hwy. and Loop 323: over 69,000 vehicles
 - > Troup Hwy. and Loop 323: over 76,190 vehicles
 - > U.S. 69 (Mineola Hwy.) and Interstate 20: over 66,000 vehicles
 - > South Broadway and Shiloh Road: over 60,000 vehicles
 - > South Broadway and Grande Boulevard: over 60,000 vehicles
 - > Frankston Hwy. and Loop 323: over 69,000 vehicles
 - * Total intersection volumes include traffic entering the intersections from all streets.
- **TRANSPORTATION TO WORK FOR TYLER RESIDENTS (2011):**
 - > 63% of residents spent less than 20 minutes getting to work
 - > 29.4% took 20-44 minutes each day
 - > 7.4% spent over 45 minutes on a one-way commute
- **TYLER POUNDS REGIONAL AIRPORT**
 - > Features three runways with the longest being 8,330 feet long of new high strength concrete pavement.
 - > Frequent commercial flight schedule every day of the week.
 - > Approximately 140 based aircraft
 - > About 95,000 commuters annually
 - > Over 1,240,000 gallons of aviation fuel sold in 2018.
 - > Three rental car companies inside the terminal.
 - > Two full service FBO's for corporate and general aviation.

WHAT DOES IT MEAN?

- Most Tylerites depend on automobiles to get around.
- Almost 50% of households have 2 or more vehicles.
- The vast majority of workers in Smith County commute to jobs in the county.
- There are more cars driving on South Broadway than on Interstate 20 on a daily basis.
- Many vehicles pass through Tyler or enter the city for work and shopping opportunities.
- Most regional traffic uses U.S. 69 and Loop 323 to access destinations.
- Traffic signal efficiency has been enhanced with the addition of 56 Flashing Yellow Arrow left turn improvements.
- Vehicle progression along major arterials is maximized by four Adaptive Signal Control Systems.
- Tyler has 5 bicycle routes totaling 20.3 miles.
- Most East Texans use Tyler Pounds Regional Airport when flying out of an East Texas Airport.

Sources: U.S. Census Bureau; City of Tyler; Master Street Plan; TxDOT; Tyler MPO



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Continue to improve traffic safety.	<ul style="list-style-type: none"> • Support data collection, priority improvements and enhanced enforcement.
Improve traffic flow on South Broadway and other highly-traveled streets throughout the Tyler area.	<ul style="list-style-type: none"> • Implement signal improvements and synchronization. • Implement strategies to improve access management.
Improve the appearance and function of arterial roads throughout Tyler.	<ul style="list-style-type: none"> • Explore a long-term Boulevard and Parkway Plan for major and minor arterials.
Encourage efficient travel and alternatives to transportation by car.	<ul style="list-style-type: none"> • Support transportation-efficient land use policies. • Include pedestrian and bicycle modes in planning for road improvement or construction projects.
Improve existing public transportation and conditions for future improved service.	<ul style="list-style-type: none"> • Promote land use policies that support public transportation with appropriate densities.
Preserve rights-of-way and locations for future transportation routes and services.	<ul style="list-style-type: none"> • Evaluate future needs for roads, multi-use trails and paths, and logistics (freight and distribution) centers before disposing of right-of-way and to preserve future options.
Evaluate traffic impacts of large development projects.	<ul style="list-style-type: none"> • Support requirement of a Traffic Impact Analysis for projects meeting certain size thresholds.
Enhance the existing asset management system for roads and transportation facilities.	<ul style="list-style-type: none"> • Adopt a “Fix It First” policy to ensure maintenance of transportation infrastructure. • Adopt a priority system and criteria for resolving deferred maintenance.
Explore strategies to manage truck traffic.	<ul style="list-style-type: none"> • Collaborate with the NETRMA to study the economic and transportation benefits of a logistics center.
Facilitate annual regional coordination on transportation planning.	<ul style="list-style-type: none"> • Communicate Tyler plans and seek input from neighboring municipalities.

FINDINGS

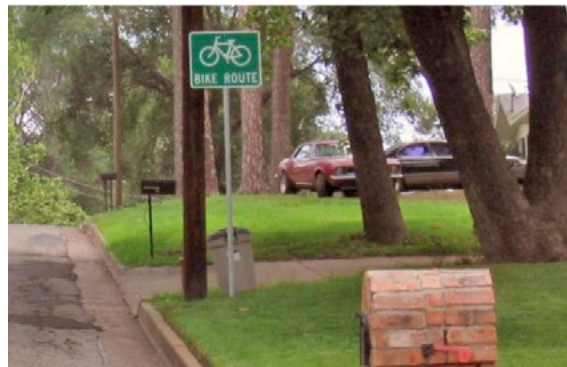
- Traffic congestion is a problem on southern arterials while many wide roads in other parts of the city are oversized for the traffic volumes they carry.
- Employment destinations are very dispersed around the city. The hub and spoke layout of the arterial roadways results in spacing between the arterials that is too wide outside South Loop 323, leading to traffic congestion on arterials.
- 80% of commuters drive to work alone, according to the 2000 Census, and less than 1% take public transportation to work. Carpooling accounts for a substantial 15%.
- Access management on most Tyler arterial roads is poor.
- Public transportation provides coverage to major destinations within Loop 323 and on South Broadway, with limited schedules.
- Pedestrian conditions on arterials, even where there are sidewalks, are minimal, lacking shade and other amenities.
- Pedestrian sidewalks and paths are discontinuous in both older sections and newer parts of Tyler, including commercial areas as well as residential areas.
- Bicycle routes have limited signage.

CHALLENGES

- Managing traffic congestion on South Broadway and other South Tyler arterials.
- Increasing access to and use of public transportation.
- Improving arterial traffic flow on South Broadway and Loop 323.
- Reducing local street cut-through traffic issues and speeding.
- Reducing single-occupancy vehicle trips.
- Modifying freight and goods movement to create safer local roads.
- Creating continuous, linked pedestrian and bicycle facilities including sidewalks, bicycle paths and new connections to trails, high traffic generators and public transportation routes.
- Ensuring safe walking routes with pleasant conditions for access to schools and other destinations by residents and visitors.



Traffic at South Broadway Avenue and Loop 323



Bike route through North Tyler neighborhood

TRANSPORTATION FACTS

- **TYLER ROADWAYS (2004):**
 - > 86 miles of principal arterials
 - > 24 miles of minor arterials
 - > 63 miles of collectors
 - > 570 miles of local roads
- **VEHICLE OWNERSHIP (2000):**
 - > 9.4% of households do not have access to a vehicle (9.8% in 1990)
 - > 40.9% of households have 1 vehicle (38.9% in 1990)
 - > 36.3% have 2 vehicles (37.3% in 1990)
 - > 13.4% have 3 or more vehicles (14% in 1990)
- **TYLER PUBLIC TRANSPORTATION:**
 - > 4 bus routes
 - > 190,695 passenger trips in 2004; 2.5% decrease from 2003
- **WORK DESTINATION OF SMITH COUNTY RESIDENTS (2000):**
 - > 90.1% of Smith County residents work in the county
- **TYLER AS A REGIONAL DESTINATION:**
 - > Total city population: 101,160 in 2005
 - > Total regional population: approximately 650,000
 - > Over 270,000 people enter Tyler each day for business, services, or leisure
- **HIGH TRAFFIC INTERSECTIONS:**

2002 total intersection volumes in average vehicles per day*:

 - > South Broadway and Loop 323 (south): over 80,000 vehicles
 - > Old Jacksonville Highway and Loop 323: over 70,000 vehicles
 - > Troup Highway and Loop 323: over 70,000 vehicles
 - > U.S. 69 (Mineola Highway) and Interstate 20: over 60,000 vehicles
 - > South Broadway and Shiloh Road: over 60,000 vehicles
 - > South Broadway and Grande Boulevard: over 60,000 vehicles
 - > Frankston Highway and Loop 323: over 60,000 vehicles

* Total intersection volumes include traffic entering the intersections from all streets.

Sources: U.S. Census Bureau; City of Tyler; Master Street Plan; TxDOT; Tyler MPO

WHAT DOES IT MEAN?

- Most Tylerites depend on automobiles to get around.
- Almost 50% of households have 2 or more vehicles.
- The vast majority of workers in Smith County commute to jobs within the county.
- There are more cars driving on South Broadway than on Interstate 20 on a daily basis.
- Many vehicles pass through Tyler or enter the city for work and shopping opportunities.
- Most regional traffic uses U.S. 69 and Loop 323 to access destinations.
- Tyler's infrastructure should be sized for a regional population to accommodate the number of people who enter the city daily.

An excellent transportation system provides an efficient and effective balance between access and mobility. The overall goal of transportation is access: we travel to reach destinations and the opportunities that those destinations represent. Transportation is accomplished through mobility: our physical movement through space. We often hear today about the importance of integrating transportation decisions and investments with land use choices. What this means is that transportation systems should serve land use choices—not the reverse.

This section of the Tyler 1st Comprehensive Plan offers the opportunity to consider a variety of factors that affect transportation access and mobility. It is important to weigh potential conflicts and trade-offs in different parts of the city, depending on community goals for that area. If we always opt for increased auto travel mobility—that is, higher speeds and lower travel times—land use access should be reduced, as in a limited access interstate highway. If we want more access—that is, destinations clustered together in close proximity—mobility will be reduced. Enhanced auto travel tends to reduce other types of access, while enhanced nonmotorized travel and public transit tends to result in less speed for auto travel.

Level of Service (LOS) is a concept developed to measure the user's travel experience on a particular transportation facility, such as a road, a sidewalk, a bike lane, or a public transit route. Developed for motorists, the LOS system for traffic operations gives an A to F grade based primarily on speed and lack of congestion. LOS A is free-flowing traffic with no congestion and LOS F is very congested, stop-and-go traffic with motorist waits through multiple signal cycles at intersections. LOS measures are now being applied and refined for pedestrians and bicyclists as well as motorists. Bicycle LOS for on-road travel includes consideration of adjacent traffic volumes, speed and the width of the shoulder or bicycle lane. Pedestrian LOS is also affected by traffic on the adjacent roadway, the number of conflict points, and the amount of time pedestrians must wait to cross a street. LOS conditions on the same road may be quite different for different types of users.

In evaluating transportation proposals and improvements, it is important to understand LOS interactions and provide a reasonable LOS to all users, taking into account the functional classification of the transportation facility. For example, freeways are not suitable for pedestrians and bicyclists, so motorist LOS should prevail. However, in other conditions, it is important to analyze roads and streets in terms of the land uses around them and the potential users. Particularly in the case of roads that cross the city, going from the outskirts, through the core, and then into the countryside again, the streets may function quite differently with changes in surrounding land use. Moreover, the absence of pedestrians or bicyclists should not be assumed to mean there is no demand for pedestrian- or bicycle-friendly facilities. In Tyler, the land use goals for areas such as downtown and the North End, as well as other neighborhoods and commercial areas, must be analyzed in transportation planning.

A. Current Conditions

COMMUNITY ISSUES

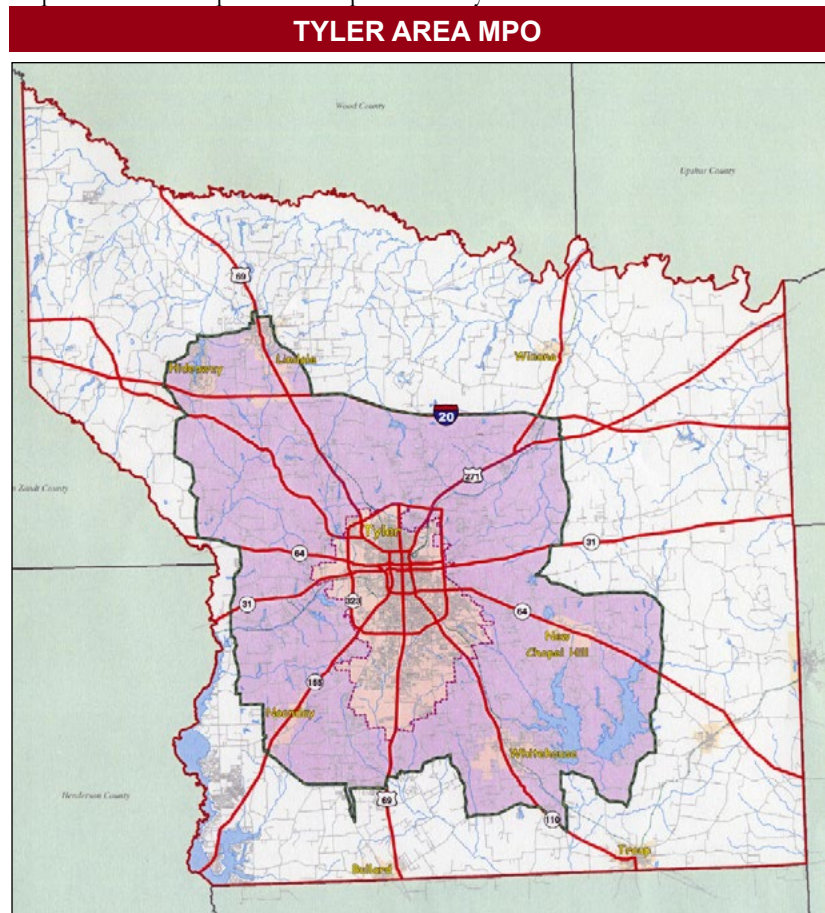
As described in the “Community Speaks” chapter, the community survey demonstrated that traffic congestion is a major preoccupation for survey respondents and better traffic management is the goal that attracted the biggest consensus. Discussions during the Visioning Retreat, the Neighborhood Open Houses, with the Steering Committee and Working Group indicated that, in addition to resolving some of the city’s traffic problems, many people would like to be able to walk and bicycle more in the city.

The Tyler 1st Vision focuses on the importance of “a superb transportation system,” “interconnected neighborhoods,” providing “transportation options,” and attractive public spaces, including streets and sidewalks. The Vision and Principles develop these ideas further with an emphasis on alternatives to the car:

- “Provide continuous bicycle and pedestrian routes and trails that connect city destinations
- Adopt land use strategies that create higher-density, mixed use clusters of ‘transit-ready’ development that can support expansion of the public transportation system
- Preserve potential new transportation corridors and work with regional partners to support efficient transportation throughout East Texas.”

TRANSPORTATION PLANNING IN TYLER

The City of Tyler is the largest municipality in the Tyler Metropolitan Planning Area. The federal government requires that a Metropolitan Planning Organization (MPO) made up of elected officials and other representatives of communities within urbanized areas of over 50,000 population develop plans for the transportation system, including all modes of transportation and identifying and prioritizing improvement projects. In 2004 and 2005, the Tyler MPO and the City of

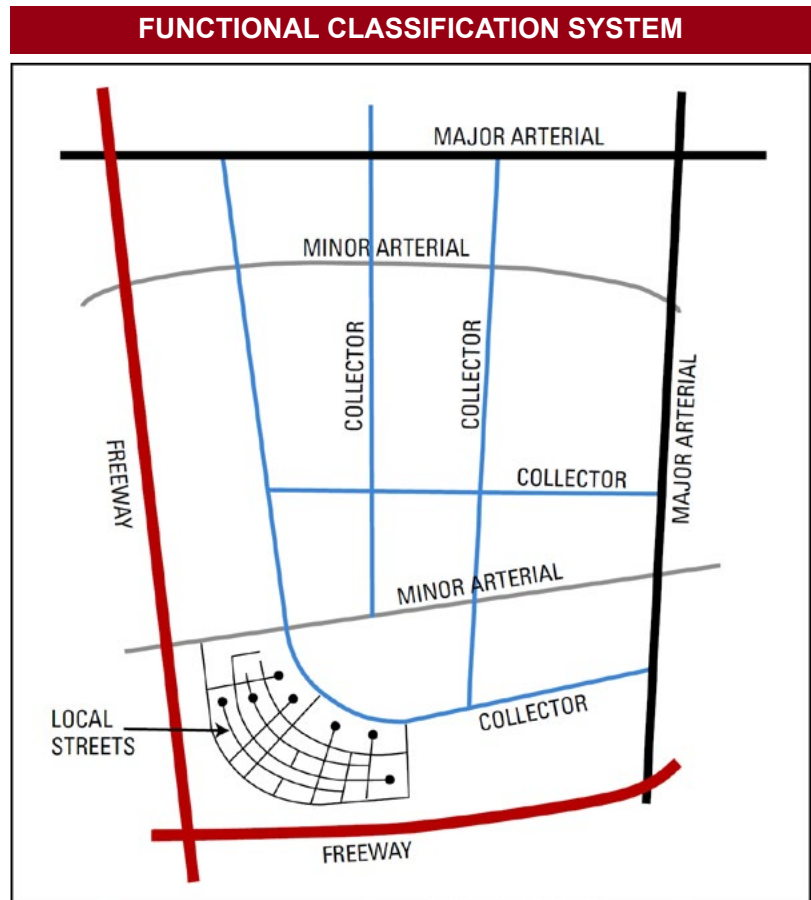


Source: City of Tyler Master Street Plan (2005)

Tyler contracted with the same consultant group to develop the long-range regional plan—the Tyler Area Metropolitan Transportation Plan 2030 (adopted December 2004)—and the City of Tyler Master Street Plan for the city (adopted April 2005). The MPO Plan identifies projects for short- and long-term implementation, evaluates them for potential benefits and costs, and provides a priority list of projects to be funded as well as a list of desired but unfunded projects. The Master Street Plan identifies recommended future roads and road classifications, but does not make recommendations on priorities or timing. Decisions on local transportation investments are made annually by the Capital Improvements Board after city departments are canvassed on their views of capital needs. Tyler Transit also works with the East Texas Council of Governments on transit planning. The East Texas Regional Transportation Coordination Plan (November 2006) contains recommendations for region-wide public transportation collaboration and improvements. These three plans served as the foundation for this discussion of existing conditions.

ROAD NETWORK

The City of Tyler road network features a grid in the historic core with an overlay of radial arterials and a circular beltway. A second, limited access circular beltway is under construction. Newer sectors of the city, particularly outside Loop 323, have less grid-like road networks, and therefore less connectivity. Subdivisions with curving streets are more likely to be self-contained “pods” with one or two entrances/exits onto a major road. At almost 2,000 people per square mile, Tyler has a higher population density than other Texas cities of similar size, such as Abilene (1,103), Waco (1,351), Wichita Falls (1,474), San Angelo (1,582), Longview (1,342) and Temple (834). With higher density of development comes the need for a denser and more connected network of roadways.



Source: City of Tyler Master Street Plan (2005)

Functional Classifications

Road networks are classified in a hierarchical system designed to provide different levels of mobility and access. The Tyler functional classification system includes the following:

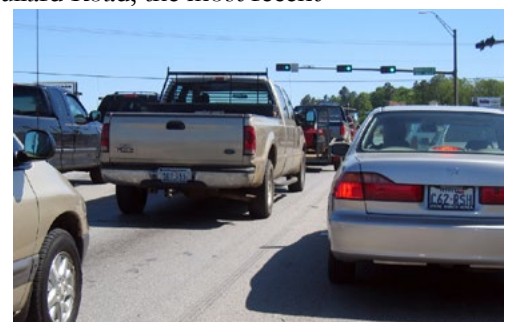
- *Freeways/tollways* are limited-access, high-speed roads for high volumes of traffic, including I-20 and Loop 49 in the Tyler area. I-20 is a four-lane divided highway with a speed limit of 70 mph.
- *Major arterial roads* carry large volumes of traffic through communities, with the emphasis on mobility rather than access. They connect large concentrations of development or traffic generators. In Tyler, major arterials include Loop 323 and the federal and state-numbered roads that radiate from the city center and Loop 323: U.S. 69, U.S. 271, State 31, State 64, State 110 (Troup Highway) and State 155 (Frankston Highway). In addition, Grande Boulevard is a major arterial in development. All of these major arterials have at least four lanes, with six lanes in most of U.S. 69, Loop 323, State 31, State 155, and State 110. Farm-to-Market Road 2493 (Old Jacksonville Highway) is increasingly functioning as a major arterial.
- *Minor arterials* connect sectors within the community to the major arterials, carrying medium volumes of traffic through a sector of the city. Among the minor arterials in the city of Tyler are North Broadway Avenue, Shiloh Road, and Rice Road. Minor arterials generally have two to four lanes.
- *Collector streets* connect neighborhoods, parks and other local destinations with the arterial system, carrying less traffic than arterials and serving smaller areas. Collectors include Texas College Road, Bonner Avenue, Rieck Road, Old Bullard Road, and Hollytree Drive.
- *Local streets* provide access to property and distribute traffic between land and the road network. Most local roads have two lanes.

Functional Classification	Volume Ranges (vehicles per day, vpd)
Local Streets	<2,500 vpd
Residential Collectors	2,500 to 5,000 vpd
Major Collectors	5,000 to 8,500 vpd
Minor Arterials	8,500 to 24,000 vpd
Major Arterials	24,000 to 36,000 vpd
Freeways/Expressways	>36,000 vpd

TRAFFIC VOLUMES

Except for 2006 traffic counts on South Broadway and Old Bullard Road, the most recent traffic data available for city and MPO roads is from 2005. Comparison of data from 2002 and 2005 shows that the majority of roads saw average daily traffic (ADT) volumes increase by three percent annually. The greatest annual percentage increase (16.7%) occurred on a rural section of Highway 31W west of Spur 364.

The greatest peak hour traffic volumes were on Loop 323 near South Broadway Avenue; on South Broadway Avenue south of Loop 323; and on Fifth Street east of Beckham Avenue. Roads currently operating at or below capacity (LOS E or F) include:



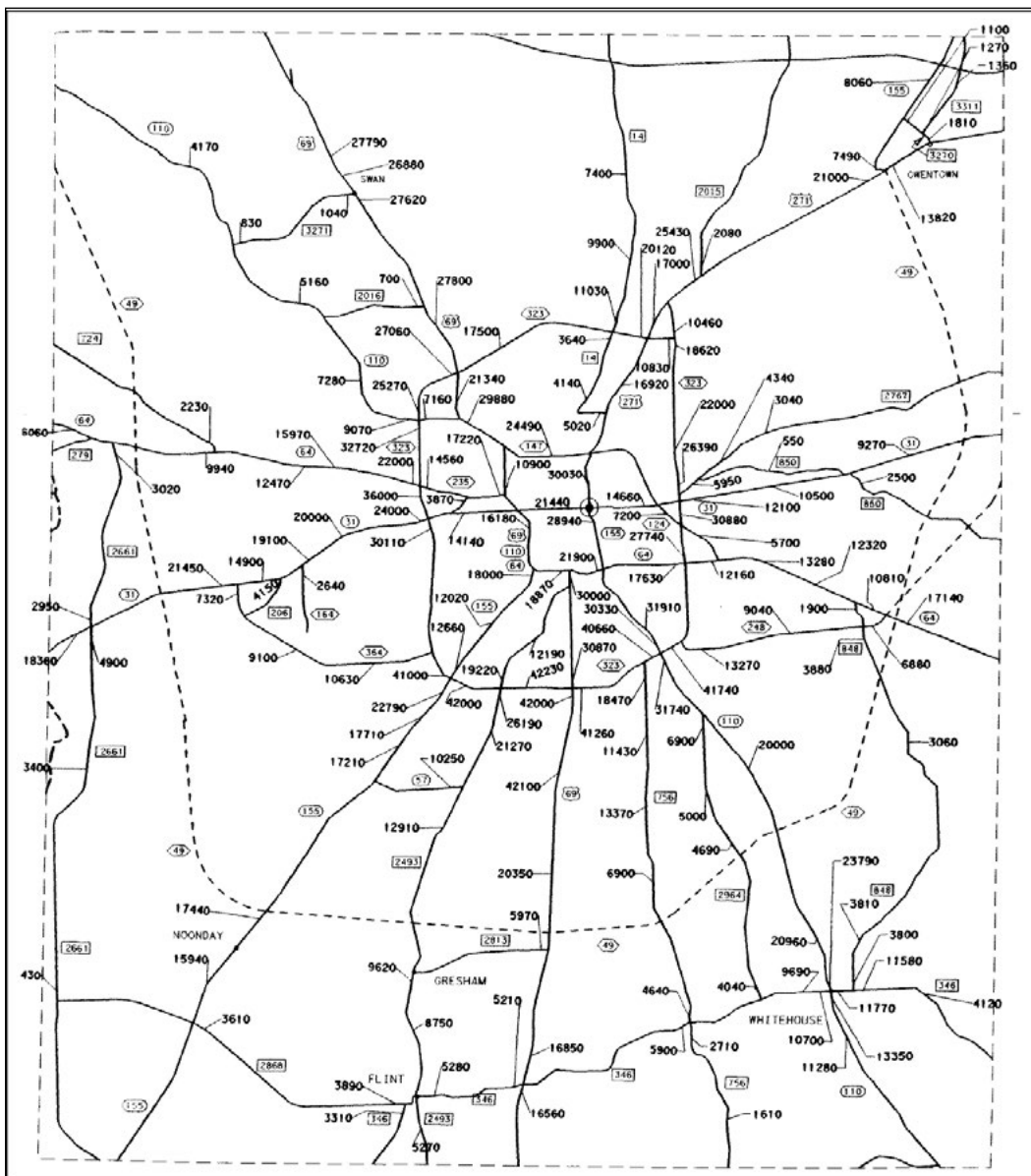
From 2002 to 2005, average daily traffic (ADT) volumes in Tyler increased by 3% annually.

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- Loop 323 East
- Old Jacksonville Highway
- Troup Highway
- South Broadway Avenue

The capacity of some multi-lane roads is underused, meaning traffic volumes are quite low for their size. These roads include North Loop 323 at Texas College Road with 17,500 ADT; Glenwood Boulevard with 10,900 ADT; 24,490 ADT on Gentry Parkway at Palace Avenue. U.S. 69 /110 is a location with approximately 120 feet of pavement - six lanes with two turn lanes and shoulders - for fewer than 30,000 vehicles per day. Thirty thousand vehicles is at the high end for a four-lane divided roadway.

2005 TYLER HIGHWAY TRAFFIC COUNTS



Source: City of Tyler

At the same time, TxDOT officials have estimated that an average of 270,000 vehicles enter Tyler every day for some purpose. This volume of vehicles should be analyzed and taken into account when evaluating the proper size for transportation infrastructure.

TRUCK TRAFFIC

Estimates of truck traffic based on 2002 traffic data in the most recent MPO Long-Range Plan show substantial truck traffic on Tyler’s major roads. I-20 in the Tyler area carries many trucks, accounting for a third of the traffic in some areas. Trucks make up 6% to 15% of traffic on Loop 323. Concentrations of truck traffic can be found just off Loop 323 near major distribution centers such as Brookshire’s, Trane, and Delek Refinery United Technology Centers. Residents report that trucks do not always follow truck routes and end up driving through the center of the city. Although the construction of Loop 49 should divert some of the truck traffic, the dispersal of major distribution centers around Loop 323 means that trucks will continue to constitute an important component of traffic flow, with the associated impacts. According to the Tyler Economic Development Council, there are 19 motor freight carriers with a terminal in the city and a total of 21 serve the area.

CRASH DATA

Not surprisingly, the locations with the greatest number of accidents reflect the traffic volumes in the city. Half of the top ten accident locations in 2005 were at southern Loop 323 intersections and another three are at South Broadway Avenue intersections south of the Loop. Only Broadway Avenue and Fifth Street and West Front Street and Loop 323 were outside of the southern section of the city.

TOP TEN ACCIDENT LOCATIONS - 2005	
Loop 323/Broadway	73
Loop 323/Troup	70
W. Front/Loop 323 S SW	66
Broadway/Shiloh/Rice	51
Loop 323/Old Jacksonville	46
Loop 323/Copeland	39
Broadway/Fifth	35
Broadway/Rieck	35
Loop 323/Old Bullard	32
Broadway/Independence	24
Total	471

Source: Tyler Police Department

NEIGHBORHOOD TRAFFIC ISSUES

The City’s Transportation Engineer keeps a log of requests and complaints from citizens about traffic issues. A review of this log for the years 2001-2006 shows that there were many complaints about signals and signal timing, which is being addressed as part of the adaptive signal project that emerged from the South Broadway Congestion Management Study undertaken in conjunction with Tyler 1st. Although there were few direct complaints about cut-through traffic, about 5% of the total 708 issues referred to speeding or speed limits and 20% involved requests for stop signs. Not all of these situations, of course, were deemed suitable for installation of a sign.

Localized traffic congestion has become noticeable around schools and colleges. The City has been working with T.I.S.D. to manage traffic around schools when students arrive and leave. Major streets around TJC and UT-Tyler are also congested at peak hours, with impacts on neighborhoods.

PUBLIC TRANSPORTATION

The majority of Tylerites use personal vehicles to get around the city. However, over 3,000 Tyler households (9.4%) in 2000 reported to the census that they did not have access to a vehicle. Less than one percent of workers, however, took public transportation (including taxis) to work, while a substantial number carpooled. Public transportation in Tyler is generally transportation of last resort—for people who cannot or prefer not to drive and cannot find someone to give them a ride, including senior citizens and young people; for low-income people who cannot afford a car; and for people with disabilities. It serves a critical role for those populations, but service is limited.

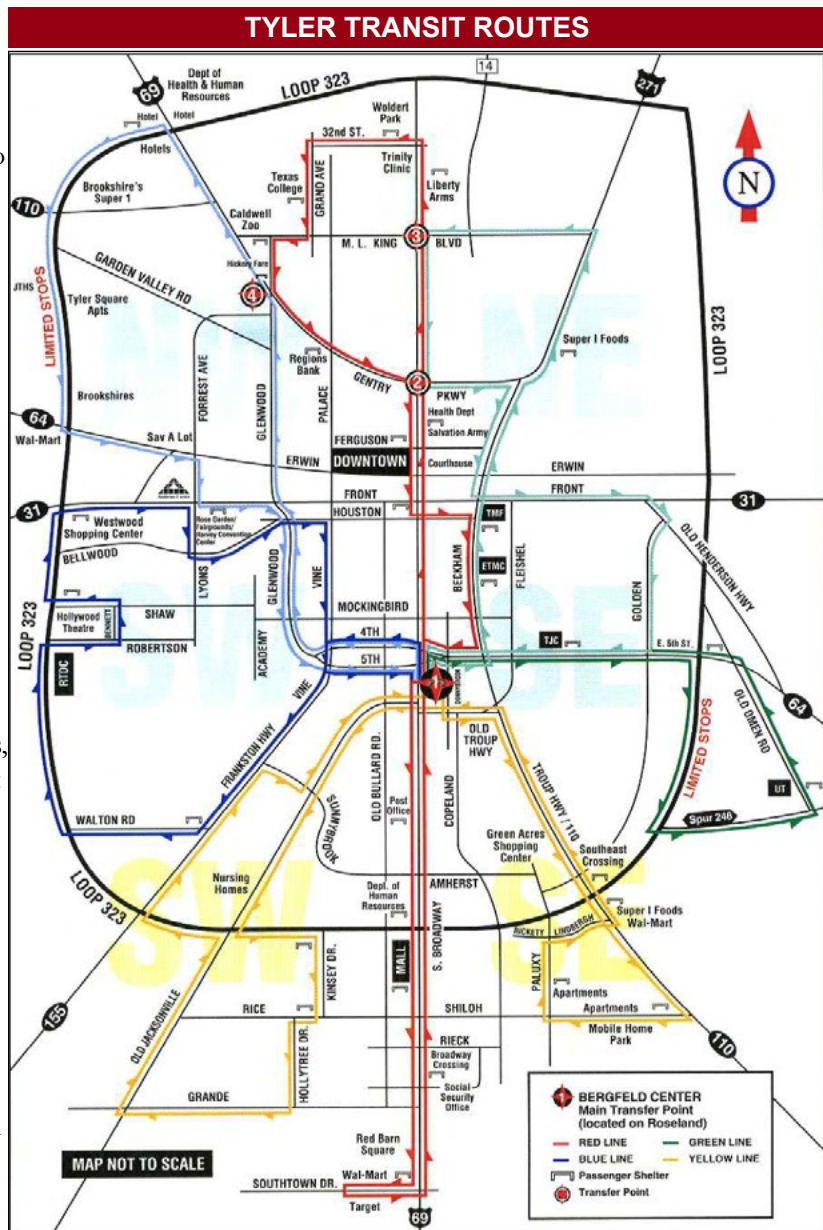
Public transportation in Tyler consists of four fixed-route bus lines and a paratransit system available by reservation for persons with disabilities. Fares are \$0.75 for adults; \$0.35 for elderly or disabled persons; and \$0.25 for children. Transfers are free. Paratransit trips cost \$1.50.

The four bus lines service major government offices, shopping areas, entertainment areas, and apartment complexes within Loop 323 and extend as far as Southtown Drive outside Loop 323 to the south. Buses operate from 6 a.m. to 8 p.m. Monday through Friday, with 30-minute headways from 6 a.m. to 7 a.m. and 6:15 p.m. to 8 p.m. All other trips have 40-minute headways. Saturday service is available from 9 a.m. to 5 p.m. with 40-minute headways. There is no transit service on Sundays.

COMMUTING TO WORK

WORKERS 16 YEARS AND OVER	36,809	100.0%
Car, truck, or van—drove alone	29,250	79.5%
Car, truck, or van—carpooled	5,396	14.7%
Public transportation (including taxicab)	207	0.6%
Walked	502	1.4%
Other means	665	1.8%
Worked at home	789	2.1%
Mean travel time to work (minutes)	18.8	(X)

Source: Census 2000



Source: City of Tyler

Total passenger trips declined in recent years from 195,300 in 2003 to 158,836 in 2005. Because the system is small, with limited routes and long headways between buses, and destinations in Tyler are dispersed throughout the city, transit ridership is not attractive to anyone who has the ability and the means to travel by private car. Transit use is too slow and too inconvenient unless the traveler effectively has no choice. Without the development over time of a series of compact, higher-density activity clusters, expansion of the public transportation system cannot be cost-effective or affect traffic congestion.

From November 2005 through December 2006, grant funds provided for an innovative Monday through Friday service extension until midnight which was designed to serve second- and third-shift workers. Users who needed service had to reserve by phone before 3 p.m. and were then provided with either small transit vehicles or taxis to take them wherever they needed to go, regardless of whether it was on an established route. Monthly ridership for this service increased from 403 in November 2005 to 3,649 in October 2006. Tyler Transit is seeking to reinstate this service with new funding.

NON-MOTORIZED TRAVEL: PEDESTRIAN AND BICYCLE FACILITIES

In public meetings and in the community survey, Tyler residents repeatedly expressed the desire for more opportunities for walking and biking in safe and attractive conditions. Until very recently, Tyler has not paid much attention to providing these facilities. The older parts of the city have more sidewalks, but even there, many blocks lack continuous sidewalks or any sidewalks at all. Before 2000, subdivisions were typically built without sidewalks. Developers are now required to provide sidewalks in new developments and new transportation projects also include sidewalks, though often little else to provide a comfortable walking environment. The only off-road multi-use (pedestrian/bicycle) path is currently in Rose Rudman Park, though private developers have also included walking trails within some recent subdivisions. There are several on-road bicycle routes marked with signs, but there are no bicycle lanes and the signage is sometimes inadequate to make the route clear.



Dead-end sidewalk and a “desire line” showing that pedestrians need a continuation of the sidewalk.



Tyler’s arterials are dangerous for pedestrians to cross.

AIR AND RAIL TRAVEL

Tyler Pounds Regional Airport is community-owned and serves East Texas with American Airlines passenger flights to Dallas and Continental flights to Houston, with 78,971 enplanements in 2006. After a period of decline from 1994 to 2002, the number of enplanements has been increasing since 2003. With Tyler’s transition to a services economy with a more professional work force, this trend is expected to continue. The Airport Master Plan update completed in 2006 forecasts 114,000 enplanements by 2014 and 179,320 by

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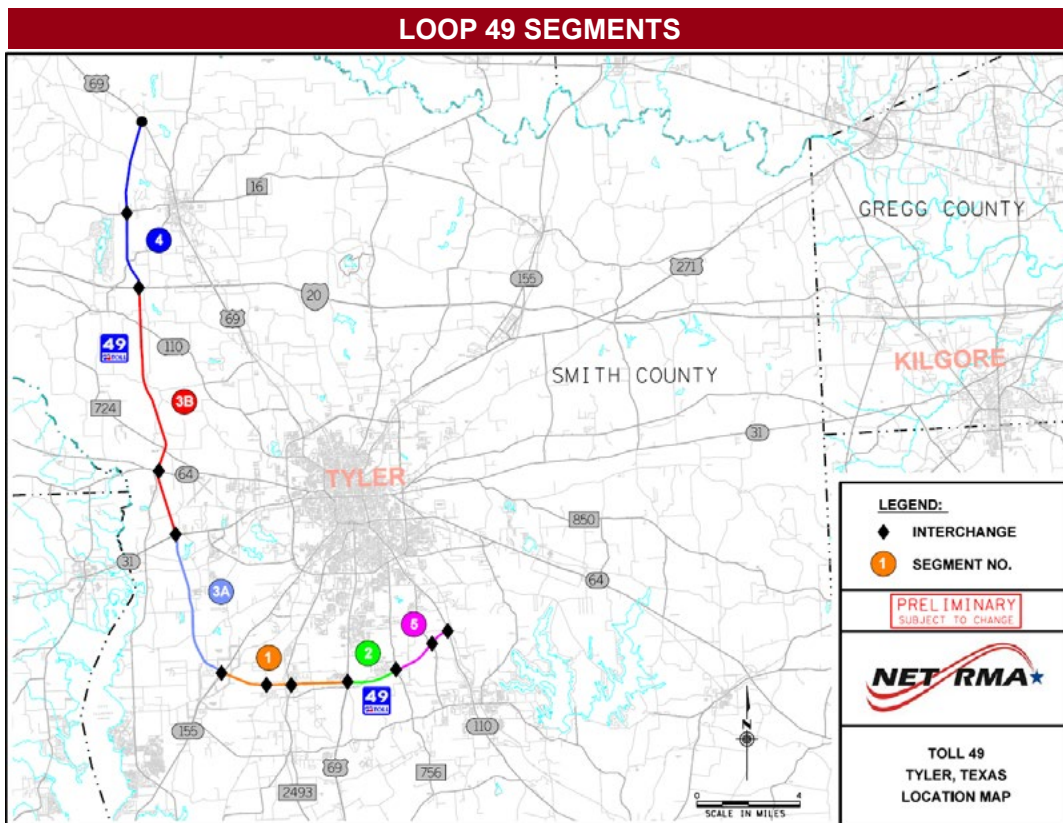
2024. Cargo shipments are expected to see significant increases in air mail, while growth in freight shipments will be very modest. Tyler is also a general aviation airport providing recreational flying and flight training. According to the Airport Master Plan, general aviation trends are not linked to local economic and population growth.



There is no passenger rail service in Tyler. The closest Amtrak service is in Mineola and Longview. The Union Pacific Railroad provides rail freight service in Tyler.

NORTHEAST TEXAS REGIONAL MOBILITY AUTHORITY

The Northeast Texas Regional Mobility Authority (NETRMA) was formed in 2004 to advance transportation infrastructure projects in Northeast Texas. Formed originally by Smith and Gregg Counties, it now has representatives from six counties, several Metropolitan Planning Organizations (MPOs) and cities, and the Texas Department of Transportation (TxDOT). The first project the RMA has taken up is the implementation of a long-standing plan to build an outer loop connecting the Tyler area to I-20. Because the



Source: NETRMA

state could not foresee financing this road for another 25 years, the Texas Transportation Commission designated Loop 49 a toll road and the RMA was formed to work with TxDOT in managing the design, construction and financing of this road. The first two-lane section opened in late 2006.

The RMA has bonding capacity and although it is currently concentrating on roadway enhancement projects, it is also authorized to sponsor other transportation projects such as downtown parking garages, intermodal freight hubs, commuter rail links between North East Texas and the Dallas “DART” high speed rail system, freight rail links to the Port of Houston and the Port of Shreveport/Bossier, and similar projects.

PROGRAMMED TRANSPORTATION IMPROVEMENTS

The MPO Transportation 2030 Plan and the Tyler Master Street Plan were developed assuming that land use and demographic conditions and trends will continue as in the past. As Tyler has grown, its system of arterial and collector roads has not kept up with increasing traffic. Most of the transportation improvements in these plans are designed to enhance road connectivity, particularly the density of east-west arterial links, and to increase road capacity on arterials. As more development has been occurring in the areas between Tyler’s traditional hub-and-spoke roadway system that are more distant from the city center, the need for more arterials to connect the spokes has become evident as traffic congestion increased. Future development patterns may result in the need for different kinds of transportation improvements.

Tyler Area Metropolitan Transportation Plan 2030

2004 Improvements Completed:

- Loop 323 from TX 64 to Commerce Street: widen from 4 to 6 lanes
- Grande Boulevard from Spring Creek to Sutherland Drive: new 4-lane minor arterial with center turning lane
- South Broadway Avenue from Loop 323 to Grande Boulevard: signal improvements and raised medians
- Loop 49, Segment 1: new toll freeway

Short Term Projects (2005-2014):

Local:

- Charlotte Drive from Loop 323 to Van Highway: widen to a 2-lane collector with center turning lane
- Bellwood Lake Drive from north portion to Briarwood Road: extend as a 2-lane collector
- Towne Park Drive from Loop 323 to TX 155: construct a 4-lane minor arterial with center turning lane
- New Sunnybrook Drive from Loop 323 to TX 155: construct a 4-lane minor arterial
- Shiloh Road from Hays Avenue to Old Omen Road: widen to a 4-lane arterial with center turning lane
- Shiloh Road from New Copeland Road to TX 110: widen to a 4-lane arterial with center turning lane

- Lake Placid Street from TX 155 to Old Jacksonville Highway: construct a 4-lane minor arterials with center turning lane
- Grande Boulevard from Sutherland Drive to New Omen Road: construct 4-lane minor arterial with center turning lane
- Grande Boulevard from TX 155 to Loop 49: extend 4-lane divided minor arterial and add interchange at Loop 49
- Old Omen Road/New Omen Road from Shiloh Road to Grande Boulevard: widen to 4 lanes to Shiloh and then extend as a 4-lane divided minor arterial
- Rice Road from TX 155 to Old Jacksonville Highway: construct new 4-lane minor arterial with center turning lane
- Donnybrook Avenue from Shiloh Road to Rieck Road: widen from 32 to 40 feet urban street

State:

- Loop 323 south of TX 31: widen to 6 lanes and construct railroad underpass
- Loop 49 from South Broadway Avenue to TX 155: construct toll features along roadway
- Old Jacksonville Highway (FM 2493) from Grande Blvd to FM 2813: reconstruct to a 4-lane urban arterial with center turning lane
- Loop 323 from Copeland Road to TX 64: install raised median
- TX 110 at Loop 323: add dual left-turn lanes

Long-Term Projects (2016-2030)

The long-term state projects are located outside the current city limits of Tyler. They involve widening of portions of TX 32, TX 64, FM 14, and Spur 248.

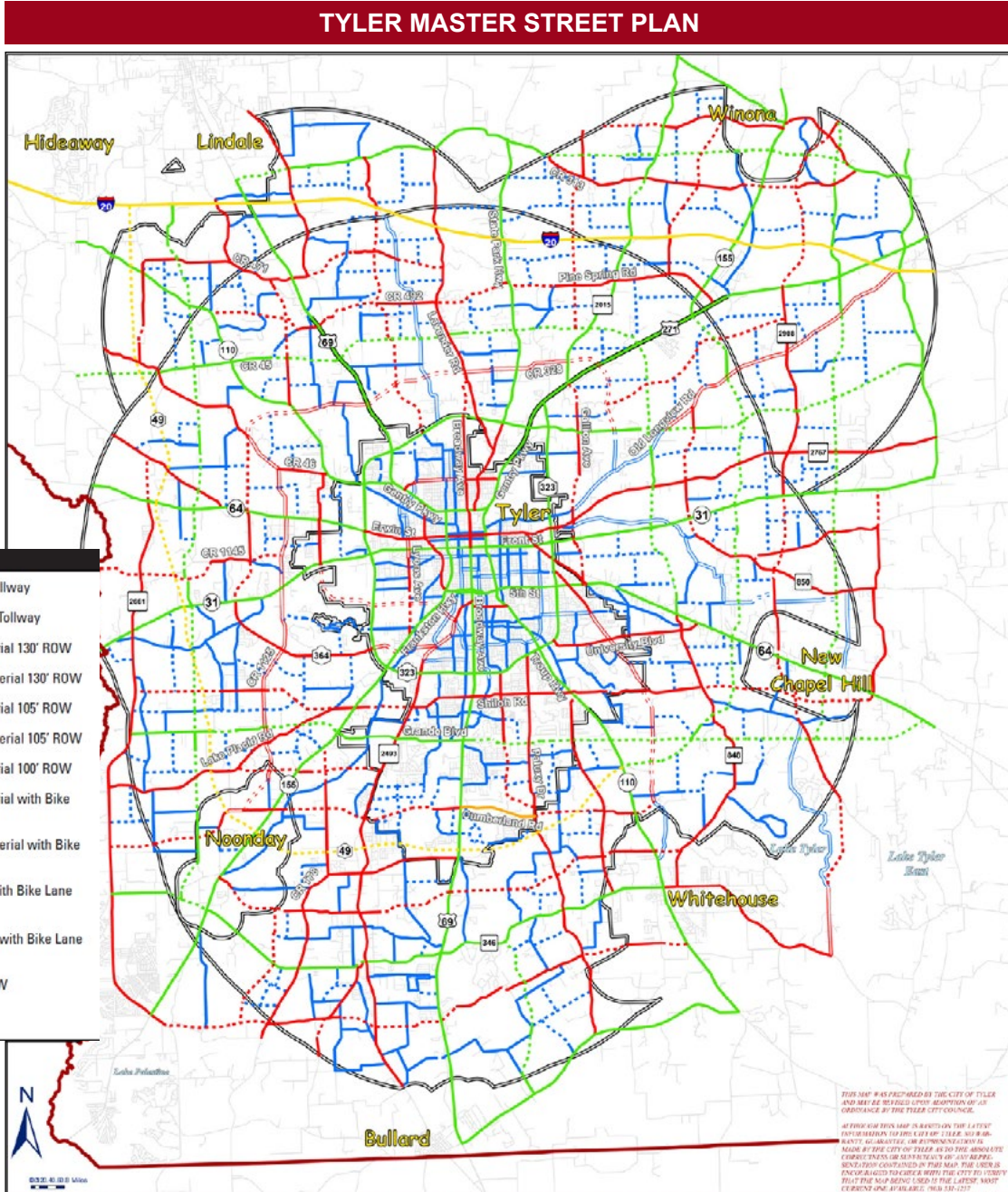
Unfunded Projects

All local projects that were not identified for the short-term plan were considered “unfunded” because the City and County have not yet determined priorities for these projects. In the current city limits they include extension of Bellwood Road; widening of Roy Road from Paluxy Drive to FM 2984 to a four-lane divided minor arterial; and widening of Erwin Street from Bonner Avenue to Glenwood Boulevard as a four-lane divided principal arterial.

There are also \$36 million in unfunded transit projects ranging from improved amenities such as benches and bus shelters to an additional local bus route, a commuter bus route to high-speed rail, and a dedicated maintenance facility.

Tyler Master Street Plan

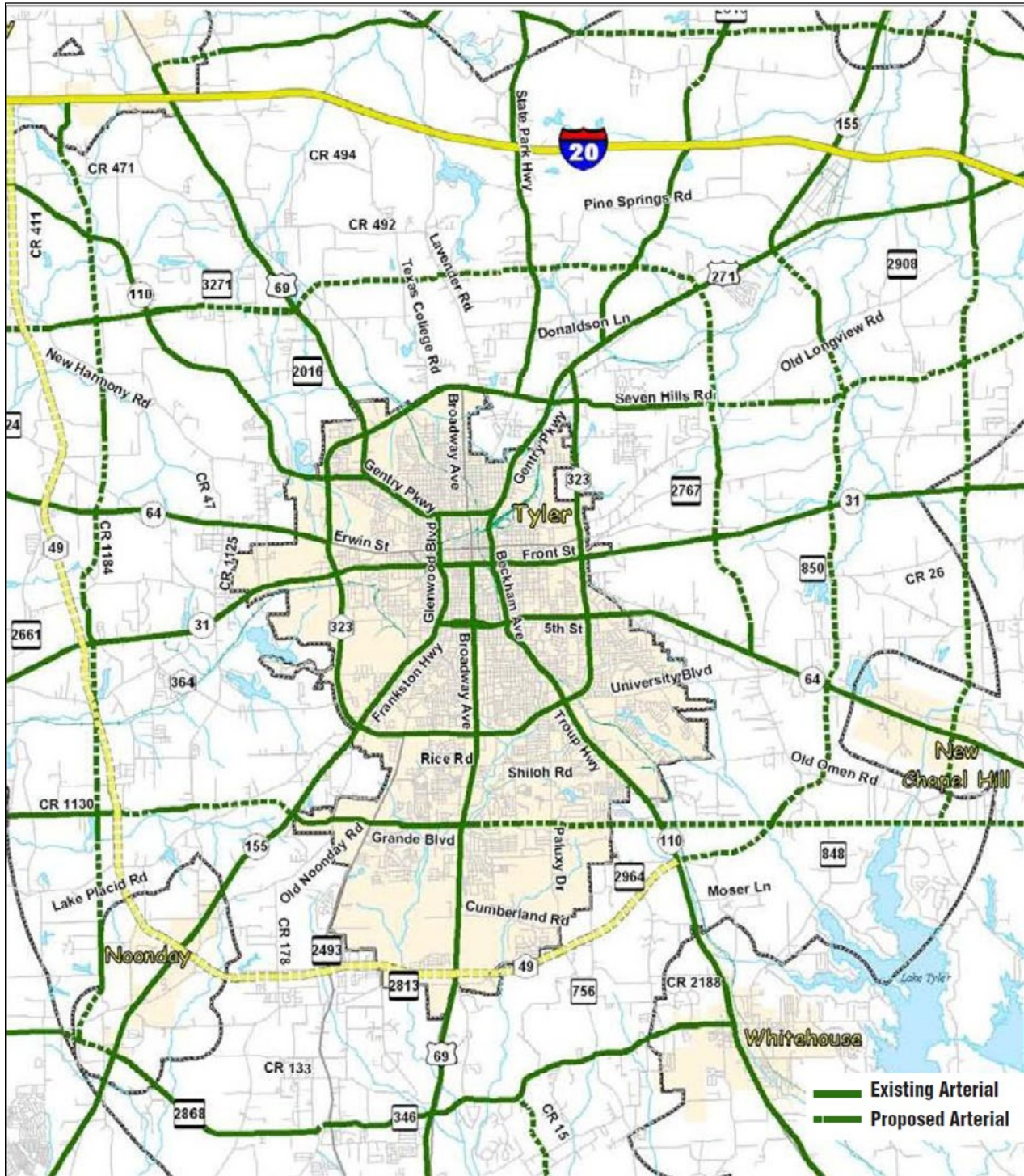
As noted earlier, Tyler’s Master Street Plan (MSP) identified new road locations but does not discuss priorities, a timeline or funding. The Plan proposes creating several new major arterial connections within the ETJ and one major arterial extension within the current city limits: Grande Boulevard. These are shown as dotted green lines in the map below. While Grande Boulevard is called a minor arterial in the MPO plan, the MSP upgrades it to a major arterial.



Source: City of Tyler Master Street Plan (2005)

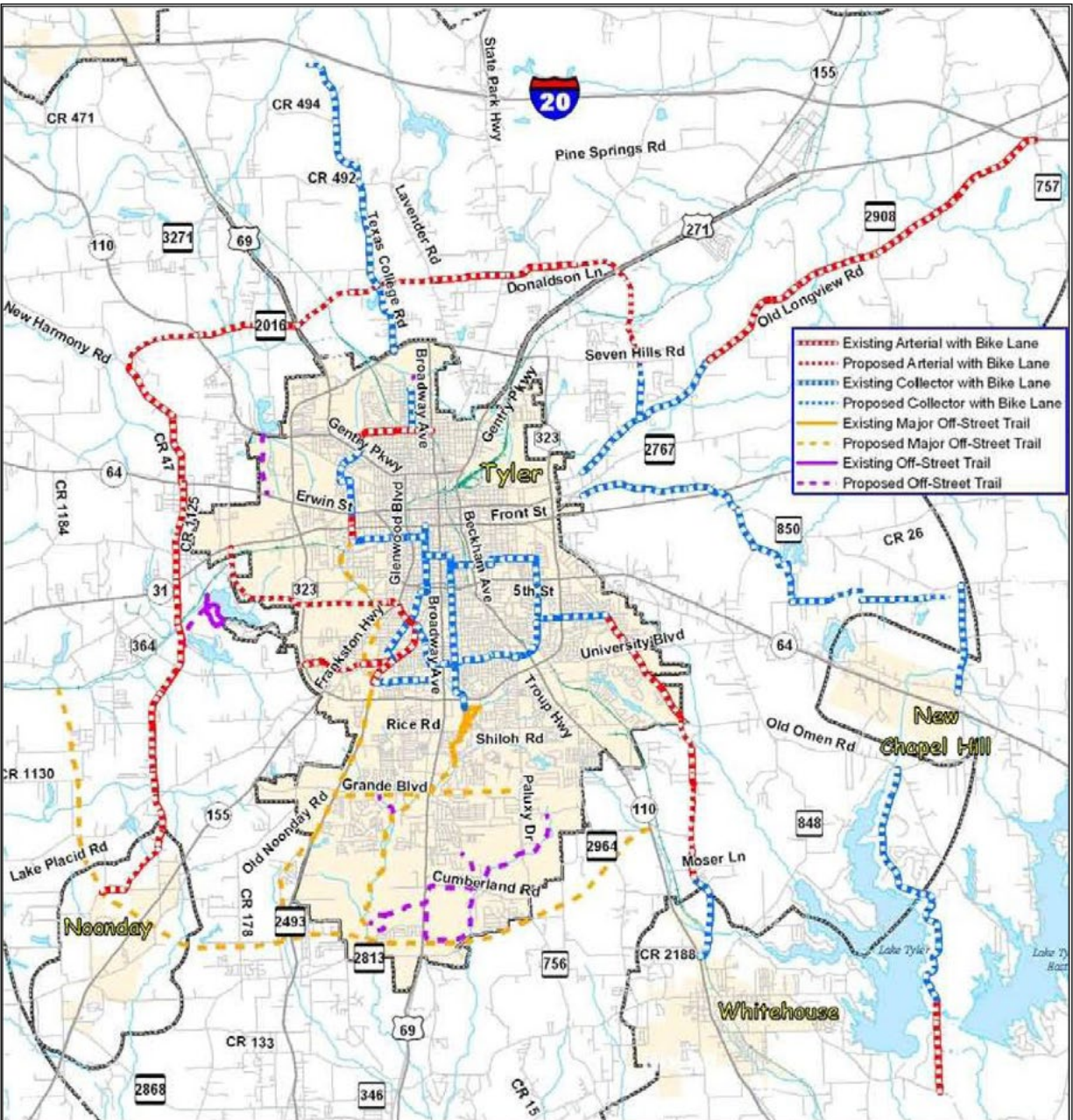
In addition to the major arterials and the new Loop 49 freeway, the MSP proposes increasing the connectivity of the city’s existing minor arterials throughout the ETJ, shown here with dotted red lines, as well as increasing the number of marked bicycle routes. At present, roadway spacing for north-south routes is adequate inside of Loop 323. A continuous east-west route south of Fifth Street inside Loop 323 may be needed.

MASTER STREET PLAN MAJOR ARTERIAL FREEWAY SYSTEM



Source: City of Tyler Master Street Plan (2005)

BICYCLE FACILITIES IDENTIFIED ON THE MASTER STREET PLAN



Source: City of Tyler Master Street Plan (2005)

ACCESS MANAGEMENT AND TRAFFIC CONGESTION

Access management controls the ability of motorists on a road to enter abutting properties. Appropriate access controls depend on the type of road and the character of the surrounding area. Generally, the higher the permitted speed on a road, the more limited the access to adjacent properties. I-20 and Loop 49 are examples of roads designed for high-speed travel with access to land along the road only through a limited number of



Numerous curb cuts/driveways within short distances of each other create traffic congestion on arterials.

interchanges. The functional classification system for roads designates arterial roads to emphasize mobility (speed) over access. However, many Tyler arterials have numerous driveways to adjacent properties, which, as traffic increases, will create congestion. While South Broadway is the obvious example in Tyler, other roads also suffer from the same conditions.

Access management helps preserve traffic capacity, often eliminating the need to widen roads with more lanes, and reduces the potential for crashes. In addition, access management has been shown to have a positive economic effect

on communities and transportation corridors. Proper access management preserves the flow of traffic within and through corridors and supports the transportation needs of retail and commercial development while providing improved mobility for commuters and other travelers. Moreover, by limiting the number of conflicts between motorists and other users, well-designed access management strategies can also improve conditions for pedestrians, bicyclists and transit users. Access management strategies include consolidation of driveways by working with property owners of abutting commercial sites to provide cross access and internal circulation roads, so that motorists do not need to enter the arterial in order to access more than one property, and establishment of zoning overlay districts to improve access management and traffic flow as properties redevelop over time.

CONNECTING TRANSPORTATION PLANNING AND LAND USE

As transportation needs in the Tyler area become more complex and the cost of improvements balloons while funding constraints increase, efficient transportation becomes ever more important. Transportation efficiency means striving for optimum use of existing roadway space, reduced capital investments to expand or maintain mobility, reduced congestion and travel times, and improved regional air quality and public health. The economic benefits of efficient transportation systems include lower public capital and operating costs; less time spent in commuting and other travel; and attraction of knowledge workers through the creation and protection of amenities valued by highly-skilled and mobile workers (such as walkable neighborhoods and multi-use greenways).

Transportation efficiency is achieved with a supporting mix of land uses. Efficient use of roadway space involves not only private vehicles but also transit and non-motorized travel. Transportation-efficient land use requires a change from the development models typical of the last half century that emphasized separation of land uses; spread out, low-density development; and a focus on mobility for motorists. Auto travel is the travel mode least dependent on appropriate land uses because all the motorist needs is access to a gas station before the tank runs dry. The elements that support more efficient travel behavior include:

- A mix of complementary land uses in a relatively small area
- Compact, dense residential or employment development with a mix of housing types and affordability
- Connectivity of motorized and non-motorized facilities
- Management of parking supply and use
- Improved safety and environment for pedestrians and bicyclists

Because Tylerites are experiencing increasing traffic congestion, many are beginning to think about the potential for more transit. Long-distance commuting to the Dallas area is still relatively rare, but many people think it will be on the increase in the next few decades. Tyler Transit and the RMA are discussing ways to link Tyler and East Texas with a potential high-speed rail system. At present, however, Tyler's development patterns and continuing trends towards low-density sprawl and dispersed destinations would not support expansion of public transit. The most densely populated areas of Tyler barely support the minimum density levels needed for bus transportation. Small areas of higher-density development, such as dispersed apartment complexes, do not have the critical mass for transit. The lowest densities for considering bus and rail transit are as follows:

- 7-8 households per acre around bus stops
- 15-20 households per acre for rail
- 50 employees per gross acre for a shift from cars to transit or walking

As Tyler plans for the long-term future, it is important to shape land uses to make more efficient transportation possible. Promotion of "transit-ready" densities in designated locations with a mix of residential, office and commercial uses, as well as mixed-use village-style subdivision districts, where residents can walk or bike to find convenience goods, will allow Tyler to benefit from future opportunities for transit and multi-modal investment. Current transit services are not competitive with auto travel in terms of time and convenience. Continuation of the current transportation-land use model will inevitably result in more miles traveled, more congestion, and more asphalt-covered land, but the land use model would make it expensive and difficult to break out of a vicious circle.

Sufficient household or job density must be accompanied by sufficient connectivity. An interconnected transportation system offers multiple routes to local destinations using a variety of transportation modes. Suburban-style development patterns typically force all traffic into collector or arterial streets, which increases the traffic load and congestion on these streets. More street connections are created when smaller blocks provide more intersections, allowing travelers to use local streets to get to local destinations. Studies have shown that increasing the number of intersections per mile to 10-16 has the effect of improving LOS for cars by decreasing delays and the amount of local traffic on arterials.

Efficient management of parking is another key element of cost-effective land use/ transportation policies. A community whose transportation system is almost exclusively focused on automobiles ends up covering an ever-increasing percentage of land with asphalt for car storage (otherwise known as parking) as well as roadways. Studies of local parking requirements have found that they often exceed peak parking demand on a typical day. Retail parking lots are often built to accommodate needs on one day of the year—December 24—and remain half-empty the rest of the time. Parking strategies such as shared parking,



Parking lots often are built to accommodate needs on peak shopping days and remain half-empty the majority of the time.

maximum parking limits, and phased parking development have been implemented in many communities to avoid over-paving for parking. In order to work, changes to parking strategies must occur along with changes in development patterns and expansion of alternative transportation modes.

Transportation system efficiency also must focus on improving the efficiency of freight and commercial transportation. Freight vehicles typically represent 10-20% of total vehicle mileage but impose large impacts. Tyler's most recent MPO plan found several locations around Loop 323 where percentages approached or exceeded those levels. Residents report that trucks are too often seen on the minor arterials within Loop 323, where even lower percentages of truck traffic can cause significant impacts.

It is expected that completion of Loop 49 will divert some truck traffic that currently uses Loop 323, but trucks will continue to serve Tyler's manufacturing plants and distribution centers. There may also be opportunities to enhance freight use of the rail lines that pass through Tyler.

CONTEXT-SENSITIVE DESIGN AND LIVABLE STREETS

The City of Tyler Master Street Plan and the MPO Long-Range Plan are frameworks, not design manuals or cookbooks. New roads, road improvements, and other types of transportation facilities need to be designed with their surrounding context and community goals in mind. This is called "context-sensitive design." This approach recognizes that roads can serve different functions at different locations along their route, for example, the many places throughout the country where state highways also function as the commercial main streets of towns they pass through. Although these roads function as major arterials in a regional context, they have local importance and must provide good access in the main street areas. Context-sensitive design also reflects planned changes, so that a downtown slated for revitalization avoids a road "improvement" that creates a wide, high-speed arterial road where economic development efforts and incentives are focused on creating walkable environments.

"Livable Streets" are streets designed for people and not just to move vehicles. This means they are focused on improving the travel experience and environment for pedestrians and cyclists as well as accommodating vehicles. Tyler's transportation planning until very recently has focused exclusively on vehicles. While residents are concerned about traffic congestion, they also say they want more opportunities to walk and bike. A holistic transportation program should include planning for pedestrians, bicyclists and alternative travel modes.

A transportation system that is calibrated to serve different types of land uses and community contexts increases property values, both residential and commercial. People are sensitive to traffic impacts and transportation options when they decide where to live or shop. Enhancing the functionality and the appearance of major roads through a closer coordination of transportation and land use connections will improve quality of life and add value for everyone.

B. Recommendations

GOAL:

- 1. Improve travel connectivity in Tyler with new road extensions and new roads, as needed.**

ACTIONS:

1a. Implement the Master Street Plan to create new connections.

The Master Street Plan (MSP) adopted in 2005 contain a set of new roads intended to enhance east-west arterial connections, as well as road extensions, minor arterials and collectors intended to eliminate discontinuities inside Loop 323 and spread traffic demand away from major roadways. The MSP was updated in 2012 to include provisions for urban and rural street cross-sections. Although the Master Street Plan should be used as the foundation for new road projects, it is important that all road projects be designed with sensitivity to its context. Road classifications and cross-sections should not be viewed simply as a “cookbook” requiring no further evaluation.

TYLER 1ST

The MSP should be a “living document”, not a historical document. Therefore, periodic revisions by a technical committee of experts, using current congestion and diversified growth patterns, would provide logical and current recommendations. Most arterials in Tyler are TxDOT highways, thus, roadway classifications and cross-sections must be in conformity with TxDOT guidelines. Logical termini should be the primary focus of the MSP.

TYLER 1ST

1b. Rank proposed new roads and road connections according to established criteria.

As the Master Street Plan does not rank proposed projects, the City has developed the Capital Improvement Project (CIP) list as a ranking mechanism to set priorities for implementation of the Master Street Plan. CIP rankings are based on MSP recommendations. Traffic volumes, congestion patterns, land use and diversified growth can significantly change in a few years. Evaluation criteria should include the following:

- Public benefit in terms of projected LOS improvement on the area’s road system, including consideration of need based on traffic volumes and coordination with other infrastructure improvements
- Adverse impacts on the surrounding area
- Public benefit in terms of the number of travelers likely to be affected
- Level of need for travelers most affected
- Condition of existing roadway (typically a “pavement condition index” taken from a pavement management system)
- Additional factors for multimodal transportation in ranking for proposed new roads
- “Bonus points” awarded to roadways designed to include sidewalks, bike lanes, nature trails, transit routes and advanced or intelligent traffic control devices
- Revenue streams, other than half cent sales tax

TYLER 1ST

TYLER 1ST

1c. Establish policies and procedures for regular review and updating of the Master Street Plan.

As recommended in the MSP, a set of policies and procedures should be established to make city regulations and procedures consistent with the plan. The City Council can schedule an annual public hearing to evaluate the progress of the plan and review any needed changes to

city policies and procedures. The Tyler Area MPO and the Traffic Engineer should prepare the review for the Council hearing. In addition, it is essential that the MSP be reviewed and reevaluated approximately every five years within the context of a Tyler 1st Comprehensive Plan review, so that plans for new roads are integrated with land use trends and changes. In addition to the five year formal review schedule, the MSP should be reviewed more often by a technical committee. The technical committee should review the MSP after completion of major roadways, commercial, industrial, institutional, recreational or residential developments.



1d. Ensure coordination with TxDOT and neighboring communities on the Master Street Plan.

The MPO and the Traffic Engineer should ensure that TxDOT is aware of the Master Street Plan. The MPO Executive Director should be the primary liaison to ensure adequate City and TxDOT project coordination. Other than the MPO process, TxDOT is not legally required to comply with any City adopted policies. City staff should play an active role in the TxDOT project development process by reviewing and commenting on environmental assessments or environmental impact statements for TxDOT projects in and adjacent to Tyler.

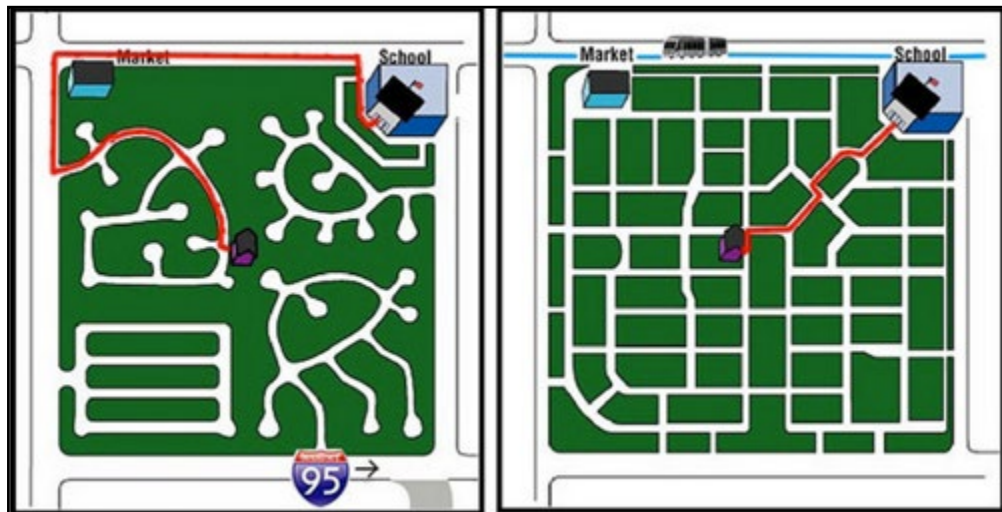


1e. Ensure local street connectivity among subdivisions.

In addition to street connectivity as recommended by the adopted Master Street Plan, local street connections that connect neighborhoods, schools, parks, and other public places are necessary. These connections can provide alternative traffic options for local trips to reduce arterial street congestion, as well as incentivize other forms of transportation such as bicycle and pedestrian traffic. New subdivision proposals should be evaluated for their connections to existing and/or planned streets at the time of preliminary plat approval. When adjacent to unplatted tracts of land, subdivisions should provide at least one street stub every 1,000 feet to provide a future connection that will link the developments. A street connectivity index may also be considered to identify how many future street connections may be needed. Blocks should be limited to 600-1,000 feet in length to provide internal connectivity as well.



2020 UPDATE



LOW CONNECTIVITY

HIGH CONNECTIVITY

1f. Consider park and ride options locally and regionally.

Collaborate with current property owners throughout the City to create bus stops for direct bussing to the Midtown District and City transfer station. Also, adopt recommendations from the Transit Route Study to address transit connectivity needs.

GOAL:

2. Continue to improve traffic safety.

ACTIONS:

2a. Continue to identify and monitor locations with high crash rates and develop potential enforcement actions or other improvements to reduce crashes.

Continue to collect data on crashes and develop a list of high-priority traffic safety improvement locations. Monitor these locations to understand the reasons for high crash rates. High rates could be a result of a variety of factors, ranging from poor signage, poor enforcement, conflicts between vehicles and other users, excessive speed on roads with excess capacity, poor geometrics, inadequate signals, to poor driver education.

Red light running is a significant source of crashes at intersections. Some communities have installed automated enforcement systems that use vehicle sensors and cameras to identify violators and automatically issue citations. Recent studies have concluded that these systems can reduce red light violations and improve safety. Side crashes are significantly reduced. Some studies have found an increase in rear-end crashes, but even where that is the case, the rear-end crashes are less costly in human and vehicle damage. A red light camera system with installation costs approximately \$100,000. A single camera can be moved around so that potential violators cannot be sure where it might be located.



Local access drives separate cars going to businesses along arterials from through traffic.



Parking lots should include green edges and landscaped islands.

Concerns about camera systems focus on privacy, fairness and the idea that the systems are really about making money. The responses to these concerns are:

- Privacy – People do not have a privacy expectation on a public street and driving is a regulated activity requiring a license and adherence to rules on public streets.
- Fairness – Unintentional running of red lights is just as dangerous and illegal as intentional violations.
- Money-making – There is a concern that lights can be set to increase the likelihood of inadvertent violations and more fines (especially if the system is run by a private contractor). Studies have found that red light camera systems do not tend to be large revenue generators.
- Separate high accident locations into On State Highway System locations versus Off State Highway System locations.

POTENTIAL SOUTH BROADWAY AVENUE IMPROVEMENTS



- Utilize TxDOT funding programs such as Hazard Elimination and Safety (HES) to improve On-System locations.
- Continue to actively participate in all available Selective Traffic Enforcement Program (STEP) grants offered by TxDOT.
- Consider partnership with TxDOT Traffic Safety Branch to promote various Public Information and Education (PI&E) campaigns on traffic safety.

2b. Continue to improve traffic incident (crash) management.

Reduce detection and response times to crashes and clear crashes from the roadway quickly and reopen lanes to traffic. The creation of a Traffic Management Center (TMC) could integrate real-time traffic signal management with dispatching emergency response vehicles and equipment. By actively monitoring traffic conditions using video and other sensors, detection and response times to crashes and clearing crashes from roadways would be significantly reduced.



GOAL:

3. Improve traffic flow on South Broadway Avenue and other highly-traveled streets throughout the Tyler area.

ACTIONS:

3a. Implement South Broadway Avenue improvements recommended in the congestion mitigation plan developed as part of the Tyler 1st project and evaluate their sustainability to other highly-travelled streets.



- Dallas Phasing is outdated and has been superseded by Flashing Yellow Arrow (FYA) operation. Continue to implement FYA across the City.
- Implement geometric changes (turn and through lane additions) at the intersections of South Broadway Avenue with Loop 323, Independence Road, Shiloh Road/Rice Road, Rieck Road, Donnybrook Road, Grande Boulevard, Robert E. Lee Drive and Southtown Drive. These turn lane additions will improve the level of service (LOS) at each intersection to at least LOS D, ranging from 35 to 55 seconds of average delay per vehicle, which is considered acceptable operation in an urban environment.
- Implement access management improvements through internal circulation improvements in abutting properties, a South Broadway Corridor Zoning Overlay District for improved redevelopment site design standards, and elimination of superfluous curb cutouts. An example of a first step in that direction is the recent elimination of a curb dividing the Luby's and Brookshire's parking areas on Rice Road.
- Initiate a study of longer-term design solutions to South Broadway Avenue as part of a citywide Boulevard and Parkway Plan.
- Explore alternative options for increasing the capacity on major roadways in the City of Tyler using the appropriate designated right-of-way.
- Consider buss turnouts at the stable bus stops along Broadway.
- Review and study the speed limits and increase the speed as appropriate.



3b. Work with T.I.S.D., colleges, and major employers to improve traffic flow at peak hours.

The City should continue to work with T.I.S.D. to manage traffic around schools during morning and afternoon drop-off and pick-up times. Traffic congestion already exists

around UT-Tyler and TJC, and as enrollment increases at these schools, congestion may also increase. Working with these institutions can help improve traffic flow and reduce traffic impacts on adjacent neighborhoods. Similar measures can be taken to manage congestion near the city's largest employers.

- Encourage partnerships between UTT, TJC & TC Tyler Transit to establish express intercampus shuttles to minimize campus congestions and parking issues.
- Consider Park & Ride lots to provide off campus parking, thus, reducing demands for on-street parking around campuses.
- Consider additional color coded information signage to institutions.

3c. Improve traffic signal operations along arterials throughout the city.

In addition to South Broadway, there are other arterial roads that today experience congestion and are projected to experience congestion in the future. Regular attention to signal operations can enhance traffic flow, eliminating or forestalling the need for more costly physical changes.

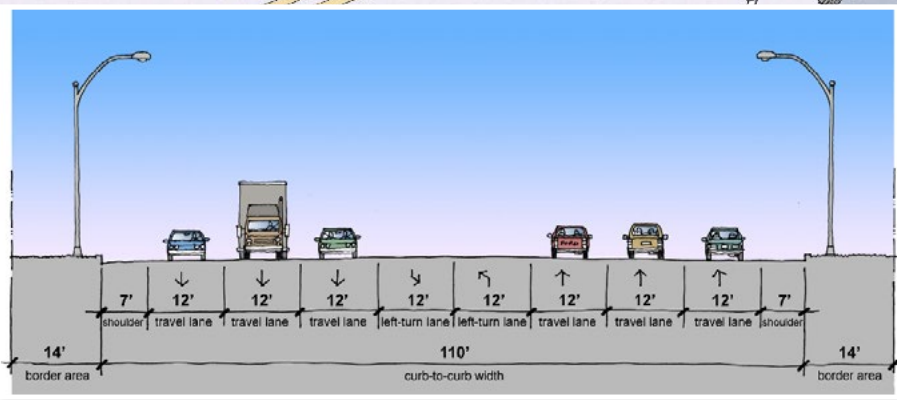


- Monitor and update signal timing at least once every three years.
- Implement adaptive control for areas with unpredictable changes in traffic demands.
- Remove unwarranted traffic signals.
- Maintain even spacing between signal installations.
- Reduce detection and response time to signal malfunctions.
- Consider the creation of a Traffic Management Center (TMC) to actively manage signal operations could significantly reduce traffic congestion throughout the City.
- Continue the installation of flashing yellow arrow signals.

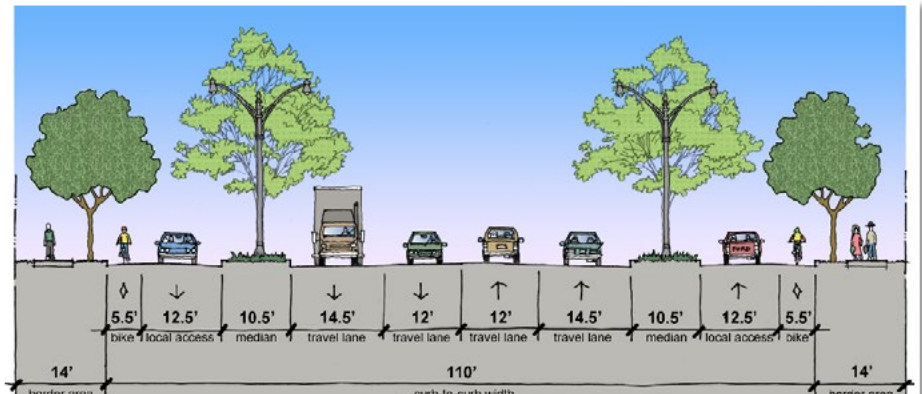
3d. Implement access management strategies on existing arterials.

The City has adopted TxDOT access management criteria for state roads but not for local arterials. Performance standards are needed for permitting new curb cuts and the TxDOT criteria could serve as the foundation, with more flexibility for denser conditions. In addition, the City can work with property and business owners to manage access through improved internal circulation where feasible. Corridor zoning overlay districts on major arterials such as Loop 323 and Gentry Parkway, as well as South Broadway Avenue, can promote improved access management and design as properties redevelop. These overlay districts would not change base zoning but would establish design criteria for redevelopment and new development. Existing property owners would be required to meet these standards at the time of significant changes to the property, including land, structures and facilities, with thresholds that could be defined in terms of increased size, increase in traffic generation, change of use, and so on. The access management criteria may include requirements such as the following:

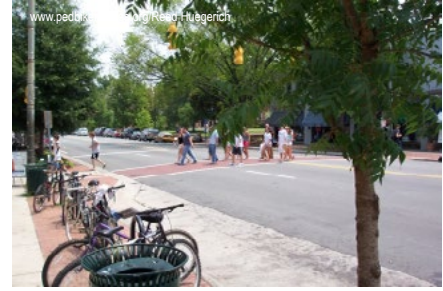
- Continue to encourage shared access and ensure ingress/egress points are installed at appropriate locations.
- Joint use driveways with joint maintenance agreements for sharing of access driveways to South Broadway Avenue by adjacent developments. Where sharing is not possible in the short term, reservation of rights of way for future inter-parcel connections to be required.



Potential Gentry Parkway boulevard improvements



- Creation of local access drives, to the degree feasible, connecting adjacent developments, with easements and joint maintenance agreements.
- Internal cross-access drives, plus pedestrian access ways, to connect adjacent developments, with cross access easements and joint maintenance agreements.
- Building layouts to reduce walking distances between buildings.
- Parking to be sited so that users can easily access multiple buildings on foot.
- Parking designed with a series of fields grouped with trees and pathways.
- Shared parking between adjacent developments that have different hours of normal activity.
- Sidewalks and pedestrian paths to be constructed to the principal uses from parking areas, outparcels, surrounding streets and public sidewalks.
- Delivery and loading areas to be separated from public access routes (vehicle and pedestrian) and parking areas.
- Developments meeting large size criteria to provide plazas or similar public spaces.
- Drive-through facilities to be designed as integral to buildings, not stand-alone, with safe access through clearly defined pedestrian circulation which minimizes vehicle/pedestrian conflict points.



Pedestrian safety can be improved through marked crosswalks (top) and push-button pedestrian signals (right).



Other issues to be considered include on-street parking. Elimination of on-street parking tends to promote speeding. However, where there is congestion at peak travel times and more road capacity is needed, on-street parking can be prohibited during these periods. This is a common strategy for rush hour in many cities and preserves on-street parking during other periods.



GOAL:

4. Improve the appearance and function of arterial roads throughout Tyler.

ACTIONS:

4a. Explore a long-term Boulevard and Parkway Plan for major and minor arterials.

A number of Tyler roads function as major or minor arterials, generally with four or more lanes. On some of these roads, or on some segments of these roads, traffic congestion is common and road capacity is at or nearing its limits.



Traffic calming measures, such as raised crosswalks and roundabouts, can help reduce speeds and improve circulation.

Access management is a major issue on these roads because motorist turns into and out of numerous driveways slow down through traffic. On other arterials, road capacity is much greater than needed by existing traffic volumes. There are parts of major arterials, such as Loop 323 and Gentry Parkway, where residential driveways connect directly to the road. A number of minor arterials, such as Glenwood Boulevard, are primarily residential except for limited commercial development at intersections.



Road improvement projects should include bicycle lanes.

A long-term vision to transform many of Tyler's arterials into true boulevards and parkways has the potential both to improve traffic flow on congested roads, by separating through and local traffic, and to improve quality of life and appearance on some of the roads that are inappropriately highway-like for the predominantly residential uses that exist along them. In some cases, it may be possible to improve conditions for motorists and for people who live and work along the road by reducing road widths where traffic volumes are not expected to be more than 20,000 vehicles per day. Although reducing the number of lanes in a road is a worrisome prospect to most people, a number of projects of this type have been completed around the country with great success. In exploring the potential for changing road configurations, many communities use temporary barriers or striping, accompanied by public information campaigns, to test the impacts of alternatives.



Most arterial roads in Tyler are TxDOT highways. TxDOT should be encouraged to include bicycle lanes on these State highways during project development on all new or widening projects to ensure appearance and functions of arterials are improved.

GOAL:
5. Encourage efficient travel, alternatives to transportation by car, and creation of livable streets.

ACTIONS:
5a. Include pedestrian and bicycle modes in planning for all road improvement or construction projects, as appropriate to road classification and surrounding existing and future land uses.



Transit improvements should include more frequent bus service and ADA-compliant bus shelters.

When road projects are under study and design, it is important to include study of pedestrian and bicycle existing conditions and potential facilities. Traffic counts should include pedestrians and bicyclists. Analysis of those counts should include discussion of conditions and surrounding facilities, because the potential demand may be great, but the conditions



are so hostile that few pedestrians venture into the road. Space should also be provided for alternate modes of transportation within existing rights-of-way. Including pedestrian and bicycle facilities in road improvement projects is more cost-effective than retrofitting projects later. Complete streets with medians, safe biking areas and reduced travel lanes are supported in the MSP. New facilities should also include features that make streets more human scale and comfortable with the use of landscaping, trees and sidewalks.



5b. Create a pedestrian plan for Tyler.

Continue to utilize and reference the Pedestrian Access Study to identify priorities and develop a work plan to improve pedestrian conditions and safety around the city. A pedestrian plan should include:

- Analysis of existing conditions for pedestrians and identification of focus areas for pedestrian planning
- Design policies, standards and guidelines for pedestrian facilities in different kinds of environments in the city
- Policies, standards and guidelines for interactions and conflicts between pedestrians and vehicular traffic, such as regulations for safe and visible crosswalks, pedestrian-activated walk signals, and so on.
- A systematic plan for completion of discontinuous sidewalk networks. This plan can include opportunities and incentives for private property owners to join together to build sidewalks. The City has a list of approved contractors that residents may hire to construct sidewalks to City standards.
- Identification of priority needs for pedestrian safety, completion of discontinuous sidewalk networks, building of new sidewalks, and addition of pedestrian facilities (such as push buttons and walk signals) at signalized intersections.
- Identification of priority routes, such as walking routes to schools, parks and neighborhood retail areas.

5c. Identify routes with excess capacity and evaluate unneeded travel lanes for use as bike or transit lanes.

Routes with excess vehicular capacity are generally TxDOT facilities, such as Gentry Parkway and North Loop 323. Locations with more lanes than are needed for existing traffic volumes should be evaluated for the potential to create designated bicycle or transit lanes. Streets and roads designated for future boulevard or parkway redesign could be retrofitted in the interim for cycling or transit lanes at relatively low cost. As discussed earlier, some low-volume streets with excess capacity may be suitable for



In Seattle, WA, rapid transit buses operate in dedicated busways.



road narrowing. Bicycle lanes can still be retained if this option is chosen.

Work with TxDOT to reconsider bike lane policies on State highways. Exclusive bicycle lanes should not be needed on low volume roads. Signaling and marking share lanes on certain roadways designated as bike routes is a viable option.

5d. Explore the use of traffic calming techniques to reduce speeds while improving traffic flow in appropriate locations.

Traffic congestion on major arterials can encourage cut-through traffic and speeding on neighborhood roads. The 20% of Tyler traffic complaints over a five-year period that involved requests for stop signs, plus a small percentage directly concerned with speeding and crosswalks, suggest that there may be some intersections where traffic calming techniques could be beneficial. The traffic complaint log should be analyzed once a year to see if there are any locational patterns or trends that emerge.

Traffic calming elements at strategic locations are increasingly used in a wide range of communities to moderate speeding and discourage high-speed cut-through traffic without constant enforcement, stop signs, or traffic signals. These elements also they keep traffic moving. An effective traffic calming strategy has the following characteristics:

- The prevailing speed becomes the desired speed for the road.
- Drivers tend to choose speeds within a narrow speed distribution.
- A constant speed is possible over the entire length of the road segment with traffic calming elements.
- It is compatible with all transportation modes.
- It is effective 24 hours a day.
- There are no parking impacts.
- Convenient access to adjacent streets and properties is maintained.
- There are no negative emergency response impacts.
- Consider a mechanism for citizens to recommend streets suitable for traffic calming.

Traffic calming interventions are relatively inexpensive to build and maintain, with the typical cost ranging from \$5,000 to \$20,000. Traffic calming can include narrowing of wide intersections, roundabouts, raised crosswalks or speed tables, chicanes and other elements. The appropriate traffic calming strategies for specific roads and intersections require analysis of each location.

GOAL:

6. Improve public transportation.

ACTIONS:

6a. Implement transit improvement items, as appropriate to Tyler Transit, that are listed in the regional transit plan and evaluate other potential improvements.

The regional transit plan includes the following items relevant to Tyler:

- Ensure that all transit stops and approaching sidewalks comply with requirements of the Americans with Disability Act.
- Evaluate creating a transit transfer center in the medical district in Tyler. A transit center



in the medical district would provide amenities for regional travelers who need to transfer between city and regional routes. The center should accommodate pick up and drop off areas, as well as safe and comfortable waiting areas.

- Establish a vehicle sharing system. There are a number of public and nonprofit organizations that own vehicle fleets that remain unused for much of the day or during certain times of the week. They include school districts, churches, and human services agencies. Collaboration with these organizations could provide Tyler Transit with opportunities to provide more service.
- Conduct targeted education and outreach to promote transit use.
- Provide business-sponsored shopping day and special event transit service.
- Increase frequency of bus service to limit wait times for transit riders.
- Review the transit plan to identify high-traffic destinations as well as opportunities for park and ride or public/private shuttle partnerships.

Other potential public transportation improvements include:

- Construction of bus pull-out lanes
- More publicity for transit routes
- Evaluation of possible use of smaller buses that run more frequently
- Installation of additional and more comfortable bus shelters
- Posting of the route map at major stops
- Evaluation of the potential for Bus Rapid Transit (BRT) and the threshold densities and system organization needed to make it realistic.
- More bus shelters
- Street markings for bus stops (for other traffic)
- Explore bus rapid transit, bike sharing, bus pullouts and convert existing fleet to compressed natural gas.



6b. Promote transit-ready densities in key locations to prepare for future transit investment.

As traffic congestion has become more serious in some parts of Tyler, residents are beginning to talk about the potential for a more advanced public transportation system. However, Tyler's development pattern and current development trends could not justify the public investment needed for more advanced public transit. The highest-density areas of the city barely support bus transportation and the pockets of density in the city are small and randomly located. As Tyler grows, development and redevelopment should be directed to important intersections for the creation of higher density, mixed-use centers that, as a network, would support advanced public transit. Tyler's wide and multi-lane arterial roads suggest that Bus Rapid Transit (BRT) could be a suitable form of public transportation for a city with "transit-ready" mixed-use centers. BRT is much less costly than light rail and, after success in Latin America, is being implemented in a number of U.S. and world cities.

GOAL:

7. Preserve rights-of-way for future transportation routes and services.

ACTIONS:

7a. Identify and protect rights-of-way (ROW) for future roads, multi-use paths and greenways, and locations with potential for logistics (freight and distribution) centers.

The Master Street Plan has identified locations where future roads will be needed, and the City should refer to the plan when reviewing development proposals, including subdivision proposals in the ETJ. However, it is also important to make sure that potential ROW is not compromised for other uses. Abandoned railroad ROW should be reserved for multi-use trails. Road ROW along certain roads may prove valuable in the future for BRT or light rail. In the long term, high-speed rail to Dallas may include a Tyler stop and the NETRMA has asked TxDOT for first right of refusal on all abandoned rail ROW. This does not preclude the City from putting trails in these rail corridors.



- Implement the Master Street Plan and provide for five year updates.

GOAL:

8. Evaluate and mitigate the traffic impacts of large development projects.

ACTIONS:

8a. Continue to implement a Traffic Impact Analysis requirement for development projects meeting threshold sizes.

Large development projects proposed where they will affect heavily-used streets and roads are subject to a Traffic Impact Analysis (TIA) as part of development review. Proposed developments expected to generate 200 vehicle trips during the peak traffic hour or 2,000 vehicle trips during a 24-hour period are required to submit a TIA. The intent of the TIA is not to deny projects but to ensure that they are well-designed to accommodate transportation needs and impacts. Project proponents must develop mitigation strategies for unacceptable impacts resulting in a drop in the street's level of service in collaboration with the City traffic engineer and planning department, requiring a sign-off on the traffic plan before obtaining a building permit.



- Continue with the required TIAs to encourage shared driveways for access management.

GOAL:

9. Enhance the existing asset management system for transportation facilities as well as other municipal infrastructure assets.

Municipal infrastructure asset management systems are databases linked to the City's Geographic Information System (GIS) and used to store and manage information about infrastructure systems, such as roads and bridges, that supports analysis of priorities and decision making to coordinate and optimize the allocation and distribution of maintenance budgets. The City of Tyler's current asset management process is not linked to GIS. Implementation of new technology linked to the City's GIS will provide advanced capability to make cost-effective decisions.

- Consider sharing this information with the public.

ACTIONS:

9a. “Fix It First”—if it can be fixed—create a priority system for a work program to maintain existing roads and transportation facilities.

Use asset management systems, including pavement management, to ensure continuing maintenance of high-traffic roads. Develop a priority system for catch-up on deferred maintenance or development of capital improvements on neighborhood streets and roads. A good pavement management system will indicate when the City should fund maintenance activities in order to extend the life of the pavement.

GOAL:

10. Explore strategies to manage the impacts of truck traffic.

ACTIONS:

10a. Review compliance with truck routes by truckers and make improvements as needed.

Residents report truck traffic using inappropriate routes to travel through the city. One of the reasons for this is that signage about truck routes is inadequate, especially at the city’s major gateways. Truck traffic should be monitored; truck routes, signage, and enforcement should be reviewed, including issues such as defined lanes for movement of oversized loads; and there should be outreach to large shippers in the Tyler area about trucking routes.

- Benchmark truck counts on Loop 323 and compare after Toll 49 is established for a period.
- Consider asking other communities how they handle truck routes and issues.
- Consider partnering with truck stops to disseminate the information on City truck routes and the restrictions accordingly.
- Consider color coding the signage for the truck routes in the City.

10b. Study the potential for efficient freight handling through the creation of a “logistics center” or “freight village.”

Tyler’s economic role in the regional transportation system could be enhanced with development of a center that advances freight efficiencies for the city and the region. Often called logistics centers or freight villages, these centers consolidate shipments and provide opportunities for co-location of multiple transportation modes and shippers, warehouses, storage areas, and appropriate public agencies. Potential sponsors of a logistics center could include the airport and the NETRMA.

GOAL:

11. Facilitate annual regional coordination on transportation planning.

ACTION:

11a. Continue to work with neighboring communities on transportation planning and establish an annual invitation to discuss common transportation issues.

Many transportation problems and opportunities are regional, not local. Although neighboring cities are represented in the Metropolitan Planning Organization by one of their members,



the City should have a regular, direct dialogue with all its neighboring communities. An annual meeting to discuss problems, exchange information, and look for joint solutions would be very beneficial to Tyler as well as the other communities.

11b. Continue regular communication with the RMA.

The North East Texas Regional Mobility Authority (NETRMA) is a regional transportation coalition that serves Bowie, Cass, Cherokee, Gregg, Harrison, Panola, Rusk, Smith, Titus, Upshur, Wood and Van Zandt counties. The RMA seeks to promote infrastructure and economic development projects and works with TxDOT on design and construction of transportation projects, including Loop 49 in Smith County. The RMA is an important transportation resource for Tyler, and it is important that the City continue to meet with the RMA to discuss problems, exchange information, and work on solutions that will benefit Tyler and its neighboring jurisdictions.