



WACO METROPOLITAN AREA

Master Thoroughfare Plan



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Waco Metropolitan Planning Organization

Waco Master Thoroughfare Plan

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1. Introduction

The Waco Area Master Thoroughfare Plan provides a resource for local, regional and state transportation planning entities in their quest to accommodate anticipated future growth in McLennan County with an adequate transportation network that complements the surrounding land uses. Complete with maps of proposed roadway improvements and guidelines to encourage context-sensitive roadway design strategies, the Plan helps the MPO and its partner agencies to preserve the capacity of highway corridors in developing areas throughout McLennan County by incorporating recommended projects and policies into local and regional plans and financing programs.

1.1 Purpose and Function of the Thoroughfare Plan

The purpose of the Master Thoroughfare Plan is to establish guiding principles and policies for the development of an efficient, safe countywide roadway network that accommodates all roadway users among the growing residential and employment population of McLennan County, and that enhances the desired character and function of current and future development. To achieve its purpose, the Waco Thoroughfare Plan Update and Design Guidelines provide a set of regional transportation planning and design resources that:

- Helps planners and engineers integrate current and future roadway design elements with desired land uses in ways that increase safety and improve travel experiences for all roadway users; and
- Supports coordinated efforts among all local, regional and state agencies involved in roadway development to create a comprehensive, connected, multimodal network that advances local community development goals.

1.2 Guiding Principles

The Thoroughfare Plan provides a guide for using context-sensitive planning and design techniques to integrate desired types and characteristics of future growth, as identified in local and regional plans, with the physical structure, design elements, and functionality of the transportation network. Toward this end, the recommendations and guidance in the plan address the following overarching goals:

- Maintain and improve regional mobility of people and goods.
- Improve multimodal accessibility to, from, and within local communities.
- Ensure the safety of all roadway users.
- Expand multimodal travel options for people of all ages and abilities and for the movement of freight and goods.
- Increase connectivity, particularly in conventional suburban areas.
- Promote urban vitality, especially in areas that need revitalization.
- Support rural enterprises and preserve the natural environment.



1.3 Comparison to 2000 Plan

The previous Thoroughfare Plan, adopted in the year 2000 and amended in 2004, focused on four basic issues: maintaining an adequate, appropriate and efficient roadway network; coordinating roadways and adjacent development; making cost-effective infrastructure investments; and achieving efficient emergency access and school bus routing. It laid out two major objectives: 1) to create adequate access for emergency vehicles and school buses to all areas of the county and 2) to create a regional plan that promoted traffic circulation and safety. To achieve the objectives, the 2000 Plan included proposed roadway improvements; planning principles regarding the levels and types of roadway accessibility to be included in local land development projects; and policies to encourage coordinated plan implementation.

This 2012 update of the Thoroughfare Plan amends and augments the 2000 Plan in several ways. The 2012 plan includes goals related not only to traditional transportation planning issues, such as regional mobility, local accessibility, and public safety, but also new goals that address suburban connectivity, urban vitality, community character, and travel choices. The expanded array of goals reflects an increased awareness of the need for better coordination between multimodal transportation investments and land use decisions. Concerns and ideas about new approaches to integrated transportation and land use planning have been considered and addressed through several planning initiatives conducted during the past few years, as articulated in the following key documents:

- Connections 2035, The Waco Metropolitan Transportation Plan (MTP);
- Imagine Waco, A Plan for Greater Downtown Waco;
- Future Land Use Study for McLennan County; and
- Comprehensive Plans of the member local governments.

Perhaps most significantly, the 2012 update includes new context-sensitive planning techniques and design guidelines that intertwine desired types and characteristics of future growth with the physical structure and design of the future transportation network.



1.4 About the Context-Sensitive Solutions Approach

The Context Sensitive Solutions (CSS) transportation planning approach helps planners, engineers, and local stakeholders work together to envision and design roadways that support all users and that enhance community character. CSS design guidelines provide specific methods for designing thoroughfares that address the needs of all types of travelers and, at the same time, complement the surrounding land uses. The resulting roadway network is intended to be safer and more attractive for all users, including motorists, transit riders, bicyclists, and pedestrians, as well as people of all ages and abilities. It also enhances the value of roadway corridors as public spaces that enhance the vitality and attractiveness of the places they serve, from urban downtowns and suburban neighborhoods to rural villages.¹

A key resource for the 2012 Plan Update is a 2010 publication by the Institute for Transportation Engineers (ITE) entitled *Designing Walkable Urban Thoroughfares: A Context Sensitive Approach*. The ITE manual, developed in coordination with the Congress for New Urbanism with funds from US DOT and US EPA, provides detailed guidance on how to “promote a collaborative, multidisciplinary process that involves all stakeholders in planning and designing transportation facilities that meet the needs of users and stakeholders; are compatible with their setting and preserve scenic, aesthetic, historic and environmental resources; respect design objectives for safety, efficiency, multimodal mobility, capacity and maintenance; and integrate community objectives and values relating to compatibility, livability, sense of place, urban design, cost and environmental impacts”²

On a related note, the 2012 Thoroughfare Plan is consistent with the 2009 Texas Department of Transportation Project Development Process Manual which recommends the use of Context Sensitive Solutions in the construction and improvement of roadways.³ Transportation systems that follow CSS guidelines complement and enhance urban form while increasing safety on the roadway. These systems accommodate the needs of different travelers while integrating with the surrounding land uses. Corridor design elements balance accessibility and mobility for different contexts and types of users. These specific design elements are described in the Roadway Design Guidelines that accompany this update of the Master Thoroughfare Plan.

¹ More information is available from the US Federal Highway Administration CSS website: www.contextsensitivesolutions.org

² 2010, Institute of Transportation Engineers, *Designing Walkable Urban Thoroughfares: A Context Sensitive Approach*, p. 3.

³ 2009, Texas Department of Transportation, *Project Development Process Manual*, p. 1-13.



2. Thoroughfare System Issues and Opportunities

2.1 Growth and Development Patterns

Located in central Texas, the Waco Metropolitan Area⁴ comprises 1,060 square miles and had a 2010 population of 234,906, as reported by the US Census Bureau. This population is distributed in a relatively compact configuration; most developed land is concentrated around Lake Waco, with smaller village clusters of populations scattering the rural areas of the county. More than 80% of County land is designated as agricultural or forest land. However, two-thirds (67%) of all new County development since 1995 has occurred in rural areas, putting traffic pressures on suburban and rural roadways

Table 1 and Figure 1 shows anticipated population trends between the years 2005 and 2035 for the Waco Metropolitan Area. During this period, the countywide population is expected to increase by 52,319 persons, or 23%, to a total of nearly 277,000 by the year 2035. In a continuation of past trends, much of this future growth is expected to occur in unincorporated areas. This growth pattern will generate more demand for roadway facilities that support regional mobility, complemented by local networks that provide accessibility within and among cities, towns, and villages.

Table 1: Population Forecasts for the Waco Metropolitan Area: 2005 to 2035

Geography	2005 Population	2035 Population	Change	Percent Change	Percent of Metropolitan Growth
City of Waco	117,213	132,397	15,184	13%	29%
Suburban Cities ⁵	55,224	65,422	10,198	19%	20%
Rural Cities ⁶	11,716	13,099	1,383	12%	3%
Unincorporated Areas	40,515	66,069	25,554	63%	49%
McLennan County	224,668	276,987	52,319	23%	100%

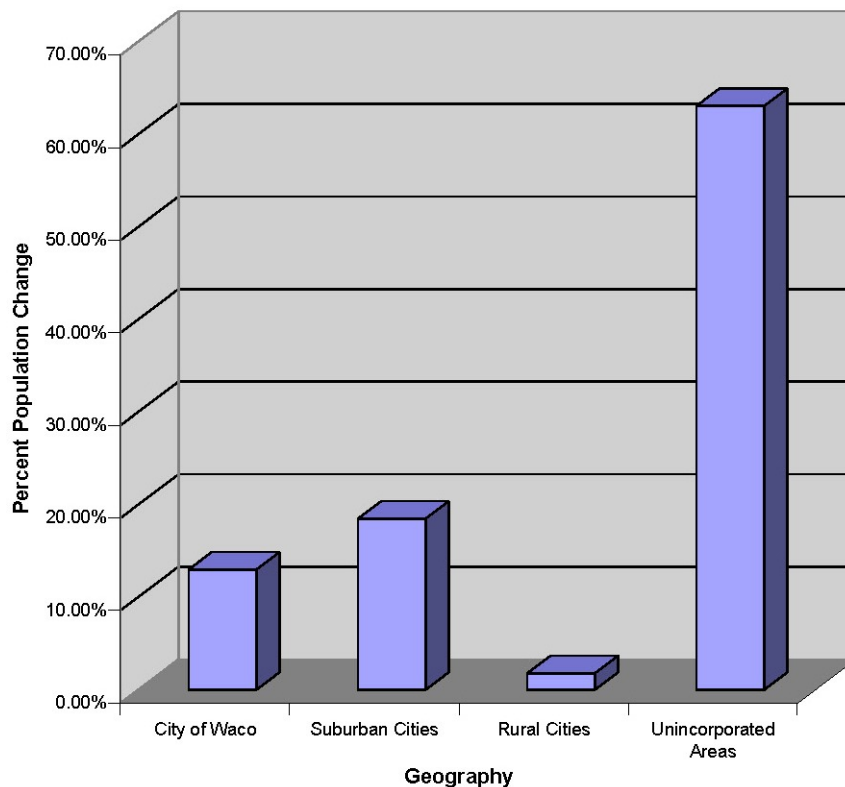
⁴ The Waco Metropolitan Area coincides with the boundaries of McLennan County.

⁵ Includes the cities of Bellmead, Beverly Hills, Hewitt, Lacy-Lakeview, Lorena, McGregor, Robinson, and Woodway.

⁶ Includes the cities of Bruceville-Eddy, Crawford, Gholson, Hallsburg, Leroy, Mart, Moody Riesel, Ross, and West. Source: Connections 2035 – The Waco Metropolitan Transportation Plan



Figure 1: Projected Population Change, 2000-2035



Source: Connections 2035 – The Waco Metropolitan Transportation Plan

In addition to population growth, employment trends have a major influence upon travel demand and roadway usage. In contrast to the robust population growth rate of 23%, the number of jobs in the Waco Metropolitan Area is expected to increase by about 15%. The difference in growth rates is attributed, in part, to anticipated increases in the percentages of retirees and students. In other words, the workforce is not anticipated to grow as much as the general population. However, although job growth overall is expected to be somewhat modest, the anticipated rates of growth vary significantly among the seven geographic clusters within which nearly half of all County jobs are located.

As shown in Table 2 and Figure 2, the number of jobs around the I-35/ Loop 340 interchange is expected to grow from about 1,200 to nearly 5,000, an increase of almost 300%. This rate far exceeds the growth anticipated in any of the other major job clusters; the next highest growth rate is around Texas State Technical College, which is slated to increase by 36% from 3,000 to 4,000 jobs. The numbers of commuters traveling to other employment centers are expected to remain stable or, in the case of the Hillcrest Rd/ MacArthur Drive area, to decrease.



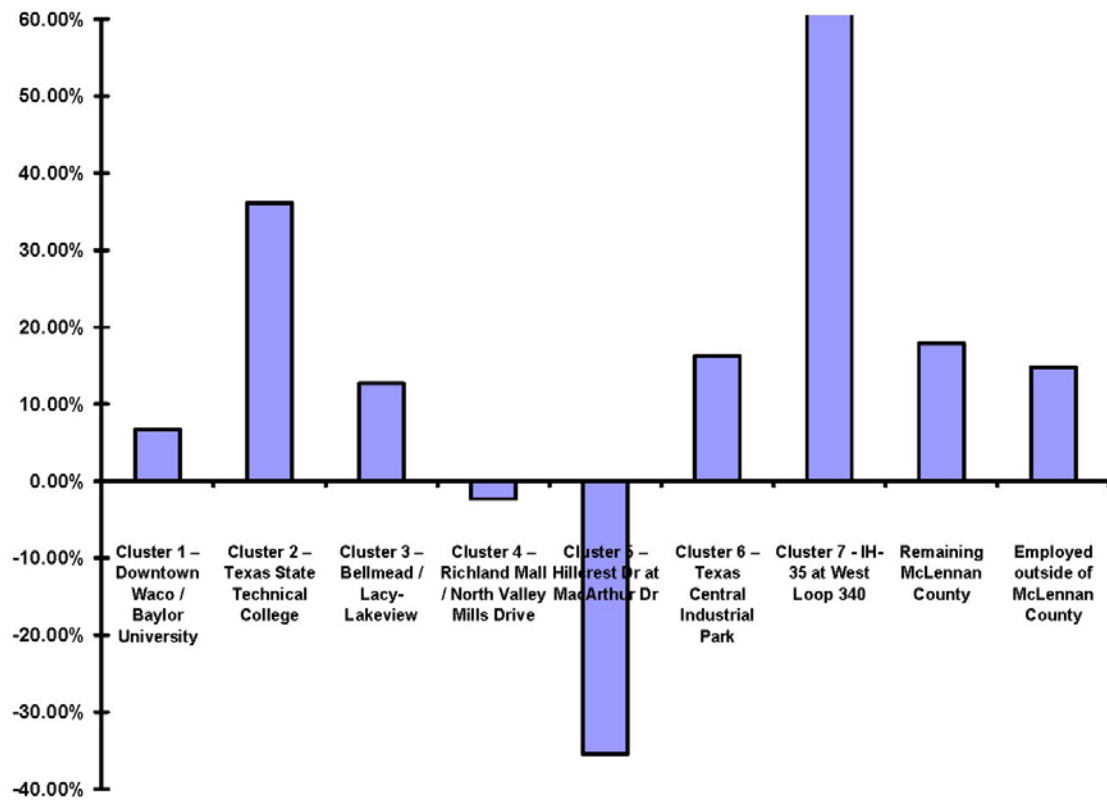
Table 2: Employment Forecasts for the Waco Metropolitan Area: 2005 to 2035

Geography	2005 Total Employment	2035 Total Employment	Percent Change
Cluster 1 – Downtown Waco/Baylor University	9,946	10,608	7%
Cluster 2 – Texas State Technical College	2,994	4,075	36%
Cluster 3 – Bellmead/Lacy-Lakeview	4,582	5,165	13%
Cluster 4 – Richland Mall/North Valley Mills Dr	20,655	20,186	-2%
Cluster 5 – Hillcrest Dr at MacArthur Dr	2,725	1,583	-35%
Cluster 6 – Texas Central Industrial Park	10,436	12,139	16%
Cluster 7 – IH-35 at West Loop 340	1,255	4,838	286%
Total All Clusters	52,317	58,594	12%
Total Workforce	108,438	124,527	15%

Source: Connections 2035 – The Waco Metropolitan Transportation Plan



Figure 2: Projected Employment Growth by Cluster, 2000-2035



Source: Connections 2035 – The Waco Metropolitan Transportation Plan



2.2 Regional Mobility

Interstate Highway 35 is the major highway connecting Dallas, Austin and San Antonio, and carries a significant amount of traffic associated with the North American Free Trade Agreement (NAFTA). Interstate Highway 35 is the most heavily traveled north/south roadway through the County, carrying a large amount of local traffic. Several capacity improvements along the highway are currently being made by TxDOT. Traffic counts have shown steady increases with traffic doubling approximately every 20 years.

Other major regional highways include U.S. Highway 84, U.S. Highway 77, State Highway 6, and State Highway 31. Traffic along all of these roadways is likely to increase in sync with countywide population and job growth. The future thoroughfare system must be capable of accommodating the expanding vehicular traffic volumes generated by new growth, as well as providing convenient access to existing activity centers.

2.3 Local Accessibility

To ensure continued mobility along the region's major thoroughfares, the thoroughfare system must also provide complete networks for local accessibility. These systems should support not only cars, but pedestrians, bicyclists, and transit riders.

Local networks in many of the older cities are fairly complete. However, development within the region has expanded to such an extent that there is a greater need for efficient, well-defined traffic collection and distribution networks within suburban and rural areas. The need for more connected, multimodal networks is particularly evident along growing "strip commercial" development areas on major roadways such as US 84, and among the fast-growing residential growth areas surrounding Lake Waco.

Certain destinations and areas attract large amounts of local traffic and influence traffic patterns. Many of the major local traffic generators listed below are located on or close to major thoroughfares. Bottlenecks and crashes occur at peak travel times on roadways around some of these "hot spots" when local and long-distance drivers jockey for space:

- Waco and other cities in the study area
- Major employment centers such as the Texas Central Industrial Park and L-3 Communications
- High schools, elementary schools and middle schools
- The County Courthouse and other government agencies
- Shopping and business areas along Interstate 35 and the existing arterial system
- Various regional and general aviation airports in Waco and McGregor
- Baylor University, McLennan Community College, and the Texas State Technical College
- Public use areas such as the zoo, museums, and the new entertainment area around the Waco Regional water park.



3. Development Area Types and Context Zones

Appropriate roadway design characteristics are defined by the surrounding community and neighborhood context as well as the intensity, density, and mix of adjacent land uses. In order to apply a Context-Sensitive Solutions approach to thoroughfare planning, the MPO stratified the County into a few broadly defined Area Types that reflect urban, suburban, and rural settings. Within each Area, the Plan further identifies pinpointed subareas called “Context Zones,” which range from high-density city centers to low-density agricultural areas.

The four general Area Types provide overarching land use contexts that help planners to identify typical roadway functions and overall dimensions such as overall right-of-way, lane width, and design speed. For example, the function of a Major Arterial in a Rural Area may be to provide regional mobility, which generally calls for more right-of-way, wider lanes, and higher design speeds. Within Suburban and Urban contexts, however, the functions of this example Major Arterial might change to include both regional mobility and local accessibility. To make the roadway better serve the overarching land use contexts and functions in these Area Types, it may be appropriate to lessen the Major Arterial’s overall roadway footprint and reduce the design speed.

The seven Context Zones are associated with roadway design elements that help planners and engineers to design roadway sections that support a variety of desired development settings. To build upon the example in the previous paragraph, it may be appropriate to reduce the overall dimensions and design speed of a Rural Area Major Arterial when it passes through a Village Center Context Zone, and to add design elements such as sidewalks, crosswalks, angled on-street parking, and landscaped medians. These design elements would support economic development goals such as enhancing the village gateway and encouraging drivers to stop and shop. Within a dense City Center Context Zone, the same Major Arterial may feature wide sidewalks, count-down pedestrian signals, and bus pullouts with attractive shelters, all of which encourage the higher numbers of pedestrians and transit riders found in vital urban areas.

Used together, the Area Types and Context Zones can help planners and engineers determine appropriate roadway design techniques to complement the surrounding built environment by enhancing community character and supporting desired economic development. The Area Types and Context Zones are described briefly in this section. More details about these designations are included in the Roadway Design Guidelines that accompany this Thoroughfare Plan.



3.1 Area Types

As shown in Figure 3, the Area Types are broad categorizations intended to provide an overarching context for decisions about basic roadway dimensions and functions.

- **City Center Area** - The City Center classification is reserved for the highest intensity area in the region and typically represents a balanced mix of high density residential and employment uses. It is also a regional hub for entertainment, civic and cultural uses. The parcels in these areas are usually built to the public frontage with little or no setbacks, forming a continuous street wall. The buildings are typically four or more stories high. The streets in this area are strongly oriented towards pedestrian and transit activity with emphasis on public spaces such as parks, plazas, and squares.
- **Urban Area** - The Urban classification is oriented towards residential uses, typically a range of housing types including attached, semi-detached and detached units. Commercial and civic activity in these areas is focused along major corridors and/or neighborhood and community centers. Buildings are typically two to three stories tall and attached or semi-detached with minimal or no front and side setbacks. Public spaces are mostly parks and other recreational open spaces that are oriented towards residential uses.
- **Suburban Area** - The Suburban classification is oriented towards single family residential uses. Commercial and civic activity in these areas is usually limited to commercial/retail centers. The buildings are typically one to two stories high and detached with varying front and side yard setbacks and parking in front of buildings. Open spaces are usually landscaped as lawns, yards, parks and other recreational green spaces.
- **Rural Area** - The Rural classification is predominantly agricultural with scattered residential development and little or no commercial activity. Building heights, type, and setbacks are highly variable.

3.2 Context Zones

As shown in Figure 4, a variety of locations within each development area can be further characterized as belonging to one of seven basic context zones: City Center, Commercial Center, Village Center, Neighborhood Center, Traditional Neighborhood, Conventional Neighborhood, and Rural Agriculture. Additionally, there are three Special Districts that represent areas of high thoroughfare activity but do not fit cleanly within any of the basic Context Zones. These special districts include Regional Center, Institutional Campus, and Industrial Center.

Detailed descriptions and illustrations regarding appropriate roadway design elements for each Area Type and Context Zone are included in the Roadway Design Guidelines that accompany this plan.



Figure 3: 2000 Thoroughfare Plan and Area Types

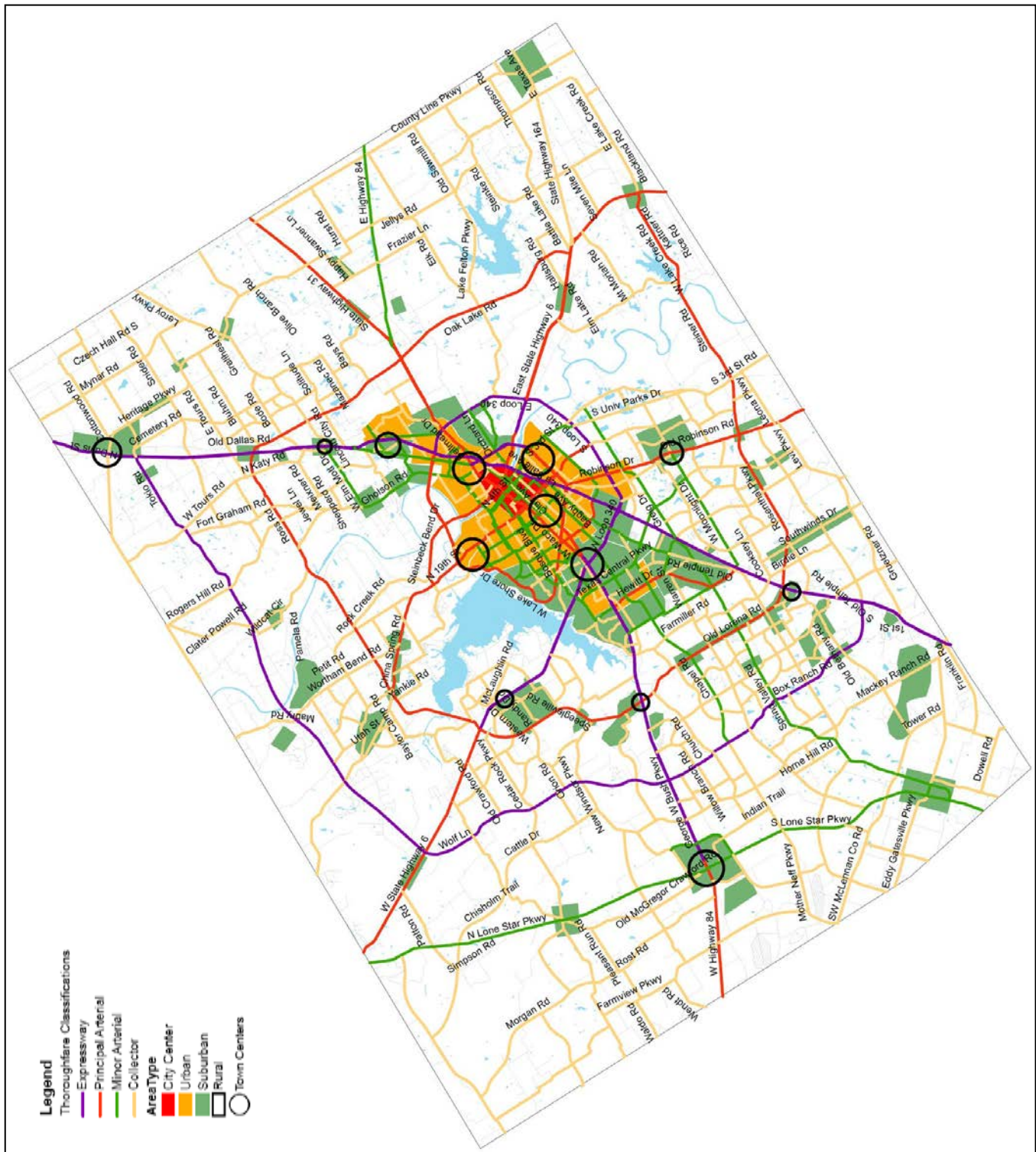
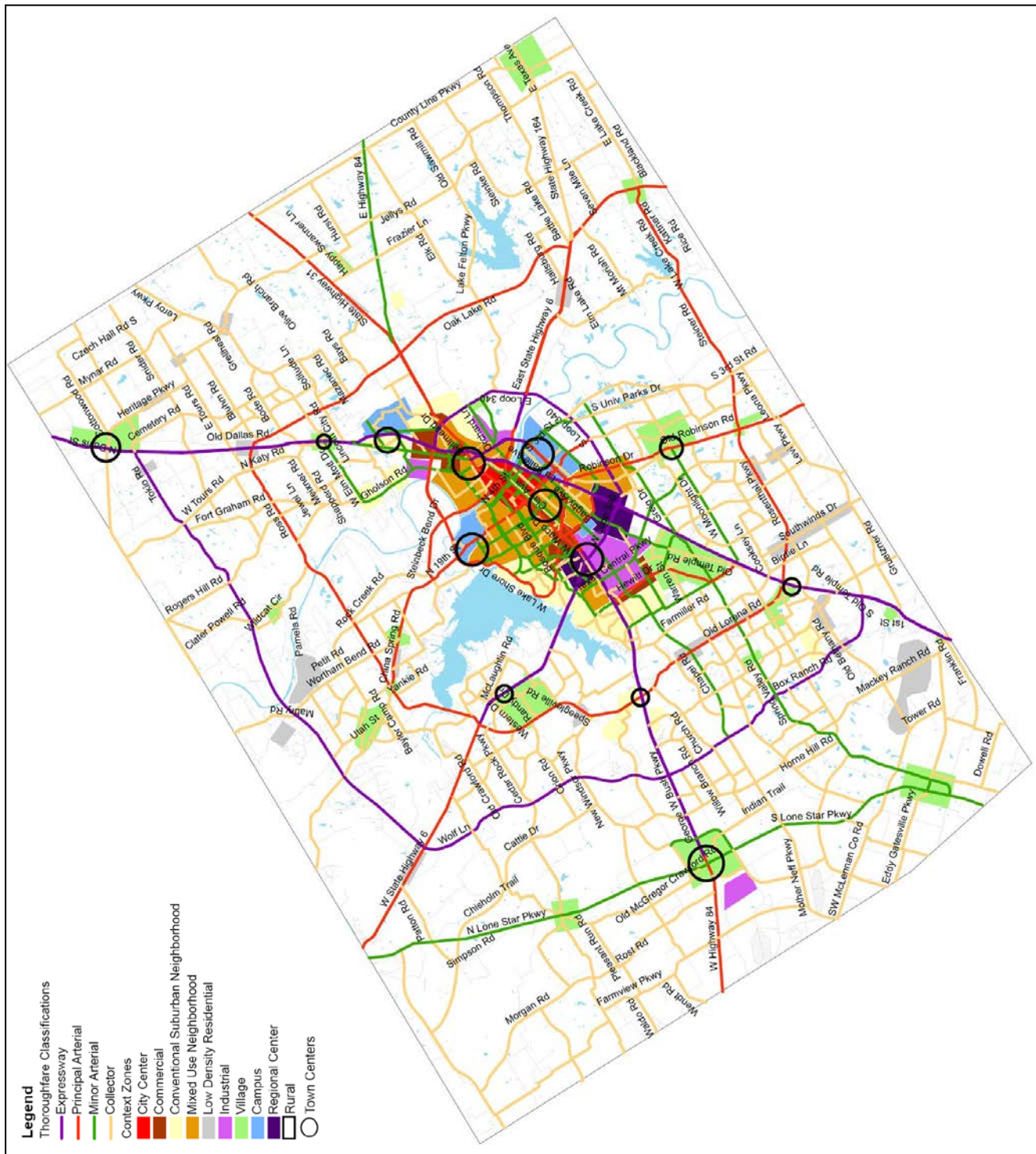


Figure 4: 2000 Thoroughfare Plan and Context Zones



4. The Master Thoroughfare Plan

4.1 Recommended Thoroughfare Network

Figure 5 identifies the recommended future thoroughfare network. It includes proposed new roadway segments and major improvements identified in local and regional plans such as *Connections 2035*. It also reflects an expanded understanding of the context-sensitive approach to roadway design associated with each Thoroughfare Type, as described in the below narrative and summary table. Specific design instruction is presented in the Design Guidelines that accompany this Plan.

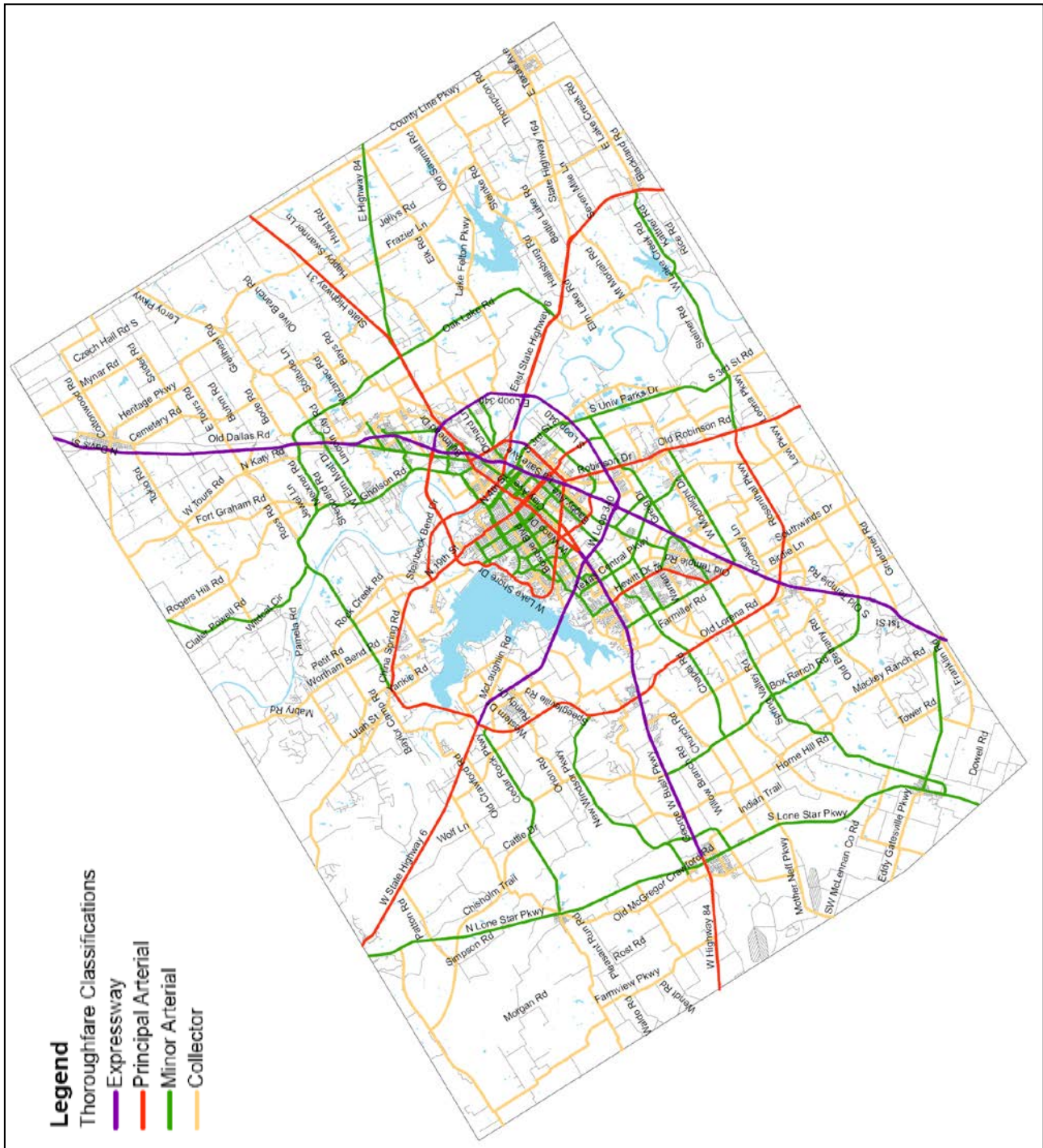
The basic thoroughfare system should be considered as the structuring framework for future growth within McLennan County. The preponderance of regional vehicular traffic movement within the County should be concentrated on the arterial system, while the collector street system should complement the major arterials by supporting a variety of local traffic, including cars, bicycles, buses and pedestrians. Through better pre-planning of neighborhood areas and with developer cooperation, it may be possible to achieve this basic arrangement of primary and secondary thoroughfares.

The process of completing the desired thoroughfare system will require cooperation among all levels of government responsible for highway and thoroughfare development. The significant thoroughfare facilities (i.e., State roads) within the MPO and McLennan County have been developed through a combination of efforts involving the County, local Cities, and various State and Federal agencies. Continued local efforts will be necessary to finance future thoroughfare development and to ensure provision of adequate rights-of-way during the subdivision platting and development process.

In support of this regional collaboration, the MPO will work with member governments to focus its resources on projects that conform to this Thoroughfare Plan, as evidenced by inclusion in the Metropolitan Transportation Plan and the Transportation Improvement Program. Toward this end, the MPO does not intend to include nonconforming projects in the MTP and TIP.



Figure 5: Proposed Thoroughfare Plan



4.2 Thoroughfare Characteristics

Expressways and Arterials

The system of major arterials and expressways is designed primarily for higher-speed vehicle traffic. However, as described in Section 3, in places where major arterials also serve local traffic (such as downtown areas of cities and towns) the design of the roadway may be modified to support more types of roadway users, such as transit riders, bicyclists and pedestrians, and to promote the development of a more vibrant urban center. These types of places are noted on the map as urban “context zones.” The Design Guidelines that accompany this plan provide detailed information about the types of modifications suitable to achieve these goals.

- **Expressways** are high speed (greater than 45 mph), controlled access thoroughfares with no pedestrian access and grade separated interchanges. This thoroughfare classification includes a range of roadway types such as interstates, freeways, toll ways, and parkways, with varying transportation characteristics. These facilities typically do not necessitate context sensitive solutions and are managed by the Texas Department of Transportation, therefore design guidance is not provided.
- **Principal Arterials** function to facilitate higher speeds and regional mobility (longer distance trips) across all modes while responding to the surrounding physical context in a non-obtrusive manner. Within urban areas, arterials are often marked by wide, planted medians that provide for separation of traffic flow, as well as generous sidewalks and furnishing zones within the right-of-way.
- **Minor Arterials** also facilitate higher speeds and increased regional mobility but also provide greater local accessibility than principal arterials. These facilities usually have medians and sidewalks with a smaller buffer between the road than principal arterials.

Collectors and Local Streets

The system of collectors and local streets provides accessibility to, from and within local communities and activity centers. The interconnected, multimodal networks provided by this system make collectors and local streets far preferable to arterials and expressways for making local and intra-regional trips. A well-designed, multimodal collector system helps to reduce the congestion and safety problems along arterials that can occur when local drivers routinely use segments of high-speed roads for short trips. Making the flow of traffic smoother on higher-speed roads, in turn, reduces the temptation for regional truck drivers and automobile travelers to use local streets as de facto bypasses for overcrowded arterials. As with arterials in the Thoroughfare Plan, the design guidelines for collectors and local streets vary depending upon the “context zone” of the area that each roadway segment serves.

As new development occurs, new collectors and local street segments above and beyond those shown on the Thoroughfare Plan map may be needed. The alignment and capacity of these streets should be determined as part of any action on a preliminary plat or a final plat. The MPO recommends that each local city and the County consider updating



local construction standards and subdivision regulations to reflect the context-sensitive roadway design standards contained within the Thoroughfare Plan Design Guidelines. This will help to ensure a consistent approach to developing, over time, a complete network of local and regional thoroughfares.

- **Urban Collectors** serve to carry traffic from larger thoroughfares to local roads, and typically provide a high level of access to adjacent parcels. They serve to connect neighborhoods to each other and to regional roadways. It is very unlikely that a street on the State Highway System will be classified as an urban collector.
- **Major Rural Collectors** facilitate local and regional traffic movement in rural context zones and connect to local streets as well as regional roadways.

Table 3: Typical Thoroughfare Network Characteristics

Thoroughfare Type	Number of Lanes	Right of Way	Design Speed	Vehicles Per Day	Functions Within Different Areas
Principal Arterial	4-6	100-120 ft	35-65 mph	15,000-40,000	Regional mobility in undeveloped areas; accessibility to minor arterials and collectors in urban centers.
Minor Arterial	2-4	60-110 ft	25-65 mph	15,000-30,000	Regional mobility in undeveloped areas; regional and local accessibility in villages, towns, and cities.
Urban Collector	2-4	50-70 ft	25-45 mph	<10,000	Local accessibility in cities and towns.
Major Rural Collector	2-4	40-100 ft	35-65 mph	10,000-15,000	Regional mobility in undeveloped areas; local accessibility in towns and villages.



4.3 Thoroughfare Design

The Waco Master Thoroughfare Plan is supplemented by Roadway Design Guidelines, which are published as a separate document. The Design Guidelines serve as a supplement to the Thoroughfare Plan by providing detailed technical guidance on the development of context sensitive solutions for roadway projects.

The Guidelines document includes descriptions of the compatibility among the thoroughfare types and context zones; provides detailed tables outlining design recommendations and cross sections of the thoroughfare types; and offers guidance for the various elements of a roadway, including the throughway, sidewalk, bicycle facilities, transit infrastructure, and intersections.

Consulting the Roadway Design Guidelines and, where appropriate, incorporating them into area plans and policies will help local, regional and state agency staff and decision-makers to work collaboratively toward implementing the policies and recommendations set forth in this Thoroughfare Plan. It is the intent of the Design Guidelines not to supersede or contradict local and regional plans, but instead to promote flexibility and context-sensitivity within the roadway design process through techniques and strategies aimed at:

- Establishing a balanced array of multi-modal facilities;
- Increasing the level of safety, real and perceived, for all roadway users
- Improving the functionality of roadways;
- Accommodating a variety of roadway types and adjacent land use conditions; and
- Making roadway improvements that support local goals for economic, aesthetic, safety, and environmental benefits.



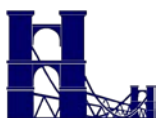
5. Implementation Plan

The Master Thoroughfare Plan establishes a comprehensive approach by which the various departments and agencies responsible for thoroughfare development can coordinate their individual efforts. Examples of these agencies include the MPO, Texas Department of Transportation (TxDOT), the County, and municipalities within the County. The standards and criteria contained in the Design Guidelines that accompany this Plan are intended to promote consistent, context-sensitive design practices throughout the region. This Plan was prepared by analyzing the existing system of thoroughfares, and by proposing recommendations for future thoroughfares based upon the goals described in this section.

5.1 Principles for Applying the Thoroughfare Plan and Design Guidelines

The thoroughfare system shown on **Error! Reference source not found.** should be considered as the structuring framework to support future growth and development within the MPO area and McLennan County. Toward this end, the MPO and its partners should adhere to the following basic principles when implementing the Thoroughfare Plan.

- The MPO should continue to develop a short- and long-term capital improvements program (as identified in the Mobility Plan) for use in establishing funding priorities and schedules for State funded construction, operation, and maintenance of its transportation facilities, as identified within this Plan.
- The MPO should prioritize, phase and schedule transportation system improvements in accordance with the Master Thoroughfare Plan and the ability to fund such improvements. Projects that are not consistent with the Thoroughfare Plan should not be included in the Metropolitan Transportation Plan or the TIP.
- The MPO should continue to promote coordination among the County, TxDOT and other local jurisdictions for transportation planning and project development.
- The MPO, local governments, and TxDOT should use the Thoroughfare Plan and Design Guidelines to identify appropriate design elements and techniques when planning and building new or improved roadway segments.
- MPO member cities and the County should consider updating local construction standards and subdivision regulations to reflect the roadway design standards contained within the Thoroughfare Plan Design Guidelines. This is critical to ensuring adequate provision of right-of-way during the subdivision approval process, and to encourage private sector participation in the development of a complete, interconnected transportation network.
- TxDOT should apply its existing Context-Sensitive Solutions policy to the planning and development of roadway projects within the MPO study area, coordinating efforts with the MPO and local jurisdictions to ensure a consistent approach.



5.2 Thoroughfare Plan Administration

The proper administration of the Master Thoroughfare Plan will require the following actions on the part of the MPO and its local and state partners:

Coordination of Capital Improvements -- The thoroughfare system will be built incrementally over an extended period of 20 or 30 years. Many of the major thoroughfare improvements within McLennan County will be made through cooperative efforts between Waco and other cities since many of them are, or eventually will be, within the extraterritorial jurisdiction (ETJ) of those cities. Future capital improvement bond programs should be coordinated with the State's ability to participate in any of these facilities. The County may also have to assume the responsibility for constructing a reasonable portion of its thoroughfare system as it grows and develops. Other growing counties within Texas have successfully passed bond programs to build roads.

Local Plat Approval -- All plats should be based upon the Master Thoroughfare Plan. The Public Works Director of each member government should require conformance with the spirit and intent of the Plan. When plats are presented to the County Commissioners Court or an area city for approval, a statement should be made by the Public Works Director regarding whether or not the plat conforms with the MPO Plan (or its own plan if it has one). Plats which are not in conformance with the Master Thoroughfare Plan should be denied unless acceptable alternatives are presented for consideration at the time of plat review.

Subdivision Control -- The subdivision of land into building sites represents the first step in the development of urban land uses and the creation of traffic generators. Appropriate amounts of land for future right-of-way must be set aside at the time of subdivision platting so that adequately sized thoroughfares can be built without adversely affecting the value, stability, and long-range character of the area being developed. Specifically, right-of-way must be dedicated in accordance with the Master Thoroughfare Plan as each plat is approved.

Building Lines -- Where widening of existing thoroughfare rights-of-way is contemplated, buildings should be set back to allow for the planned widening to ensure that the uses function properly with the new thoroughfare after the proposed improvement is made. In some cases, it will be desirable to establish building lines by minute order to assure the orderly and uniform development of thoroughfare frontage.

Plan Review and Revisions -- The MPO should review and, as needed, update the Master Thoroughfare Plan at least every five years to ensure that the Plan remains reflective of existing conditions and prevailing trends, and to ensure that it does not become obsolete. Periodic review of the Plan should also take into account ongoing thoroughfare planning initiatives undertaken by the various communities within the County, as well as any thoroughfare planning efforts being conducted by neighboring counties/jurisdictions and/or TxDOT. Such ongoing review and updating will help to ensure that MPO's Master Thoroughfare Plan will continue to be a useful planning tool as the County continues to develop over time.



5.3 Next Steps: Context-Sensitive Corridor Studies

As a follow up activity to this Thoroughfare Plan, the MPO intends to conduct corridor studies of Valley Mills Drive and Hewitt Drive. The intent of these studies, as described in the FY2012-2013 Unified Planning Work Program, is to identify design treatments that improve the overall safety and aesthetic appearance of these corridors while enhancing economic opportunities throughout the commercial areas and neighborhoods they serve.

The studies will engage residents living in close proximity to these corridors as well as adjacent business and property owners. The planning process will include visualization techniques such as artist concepts to present design options for consideration by study participants and local decision-makers. The studies will result in recommended design treatments for consideration by the MPO Policy Board to be included as projects within the Metropolitan Transportation Plan.

5.4 Additional Context-Sensitive Solutions Project Opportunities

The challenge of coordinating thoroughfare types and context zones in some areas, especially in places where thoroughfares serve more than one function, requires land use and transportation planners to work together to optimize facility improvements with development investments. These areas present opportunities for overall community improvement through redevelopment, improved functionality, increased mobility, and/or enhanced public safety.

The potential special projects listed in this section, identified primarily through an extended meeting in October 2011 with community stakeholders and MPO Technical Committee members, represent local ideas for opportunities to transform or improve communities and neighborhoods by using the Context Sensitive Solutions (CSS) approach to coordinate transportation and development plans.

Figure 6 and Figure 7 illustrate the following list of potential CSS project locations. Road segment projects are identified by purple line segments and project area locations are circled. These areas present opportunities for collaborative work among local property owners, governmental agencies, private developers, and other stakeholders to identify new projects for consideration in future planning and funding processes.

1. **4th Street and 5th Street at I-35** – Improve the multimodal connections between Baylor University and downtown.
2. **Potential Redevelopment Area (Old Tire Site) around SR 6 and Business US 77** - Explore a public-private partnership with Baylor to plan and build multimodal local street networks that improve connectivity and accessibility throughout this subarea.
3. **Business US 77** –Revitalize the urban community by converting the facility and the original freeway concepts to an at-grade, medium speed boulevard, and by connecting Lake Brazos Parkway with Marlin Highway.



4. **University Parks Drive and Baylor Avenue** – Improve pedestrian safety by enhancing crossing areas across University Parks Drive and completing sidewalk network on both sides of the street.
5. **3rd Street from Dutton Avenue to Speight Avenue** – Convert 3rd Street to a two-way through street and designate it as a collector to improve mobility through the Baylor University campus.
6. **8TH Street on Baylor campus** – Reclassify as a local street and rely on 12th Street as a collector and Bagby Avenue as a minor arterial.
7. **University Parks Drive from I-35 to State Loop 491** – Improve pedestrian safety and accessibility along this segment through the eastern portion of the Baylor Campus. Reduce conflicts between campus pedestrians and through vehicles by adding continuous sidewalks and enhanced crossing areas.
8. **Area around intersection of Loop 340 and University Parks Drive/FM 3400** – Improve vehicle and pedestrian safety by reducing vehicle speeds on Loop in area of intersection (currently 60 mph).
9. **US 77 from Loop 340 to Moonlight Drive** – Implement Context Sensitive Solutions along US 77/Robinson Drive to complement the mixed-use neighborhoods and village areas in Robinson.
10. **Intersection of South New Road and Old Robinson Road** – Create sidewalks along Old Robinson Road and add other multimodal connections to the high school.
11. **Interchange at South New Road and I-35** – Improve the functionality and safety around the truck stop and intersection with I-35.
12. **Traffic Circle at Valley Mills Road/State Loop 491** – Improve local access, traffic flow and operations, directional signage and multimodal facilities.
13. **Waco Drive from New Road to New Dallas Highway** – Generate economic development by making multimodal improvements, such as bicycle lanes, sidewalks, landscaping, and other design features that will increase the appeal of this area for both pedestrians and motorists.
14. **Interchange of Loop 340 and Waco Drive/US 84 and Franklin Avenue** – Resolve congestion and operations issues, especially the eastbound weave before Franklin Avenue and Waco Drive.
15. **Interchange at 84 West and Hewitt Drive/Estates Drive** – Relieve congestion at afternoon peak and school hours by improving exit ramp configuration and access road intersections.
16. **Lake Shore Drive between Hillcrest Drive and N. Valley Mills Road** – Begin long-term planning for new bridge(s) on Lake Shore Drive, which will become necessary due to the impact of sandy soil and sinkholes on area roadways.



17. **Airport Road from FM 3051 to Lake Shore Drive** – Reduce travel speeds, particularly on steep downhill sections. The impacts on traffic must also be considered should the land in this area be developed as residential and/or office.
18. **Business 77 from US 84 to Loop 340** – Convert from minor arterial to a boulevard to improve mobility and foster economic development.
19. **Intersection of Lake Shore Drive/FM 3051 and Steinbeck Bend Drive/Lake Brazos Parkway** – Develop a concept for processing traffic through intersection in light of increased traffic volumes and surrounding development. The new Waco Water Park is located near this intersection, which will increase the amount of vehicles, pedestrians, and bicyclists entering and exiting the facility, as well as using the intersection.
20. **Area bordered by Steinbeck Bend Drive, Lake Shore Drive, and 19th Street** – Improve accessibility to the growing cluster of regional attractions & parks (Mammoth park, baseball fields, MCC, etc).
21. **Steinbeck Bend Drive from FM 1637 to Lake Shore Drive/FM 3051** – Balance the need for through traffic flow with accessibility to local destinations, particularly addressing concerns about high-speed traffic affecting residential areas.
22. **China Spring Road/from FM 3434 to Old China Road west of China Spring** – Reclassify from rural arterial designation to minor arterial in order to suit the future Village or Low Density residential development pattern of the surrounding area. Consider opportunities to convert strip commercial development into walkable, bicycle-friendly places by adding sidewalks, bicycle lanes, and local connector streets.
23. **Area of China Spring Road and North River Crossing** – Improve multimodal access to the high school, clinic and other local uses.
24. **Old China Spring Road** – Reclassify as minor arterial in order to suit the future Village or Low Density Residential development pattern.
25. **Area around Speegleville Elementary school / Speegleville Road** – Improve connectivity, safety and access for all types of travelers throughout this area.
26. **Area of Lone Star Parkway/317 and US 84** – Add new bypass (as shown in Thoroughfare Plan).
27. **US 84 west of McGregor** – Improve access from industrial park and Space X facilities.



Figure 6: CSS Project Opportunities Map – Countywide

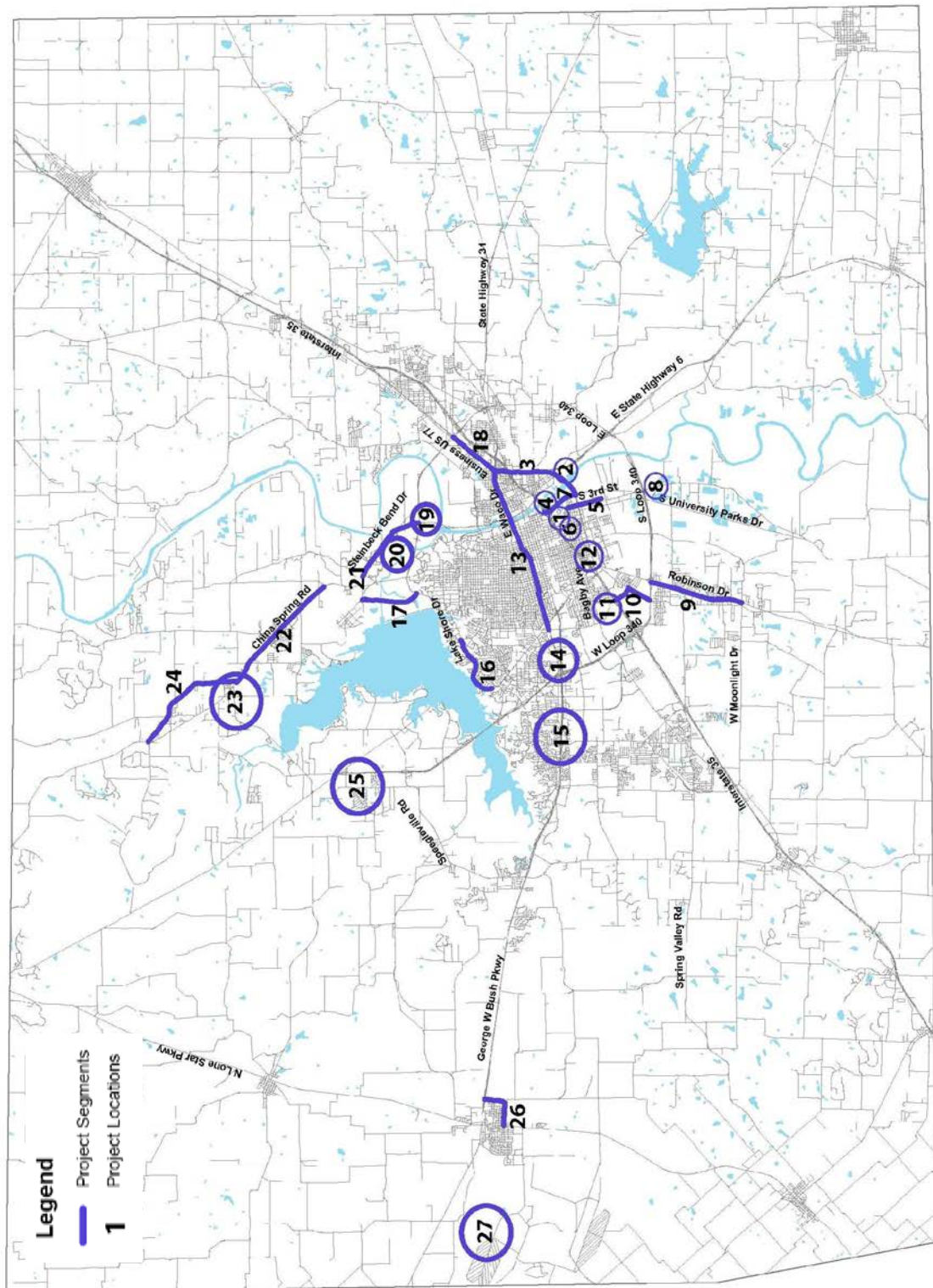


Figure 7: CSS Project Opportunities Map – Urban Area Inset

