



# City of Pflugerville

## Master Transportation Plan

DRAFT

April 2015

*Community focused solutions*





# Master Transportation Plan

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## Executive Summary

The City of Pflugerville developed the Master Transportation Plan to guide the development of transportation improvements in the area. This plan is part of the Pflugerville 2030 Comprehensive Plan and together will enable the City to address all facets of growth and development.

## Study Background and Purpose

According to the US Census Bureau, the population within the City of Pflugerville grew due to new residents and annexation, from 16,335 persons in Year 2000 to 46,936 in Year 2010. This represents an annual growth rate of over 4 percent per year. These population statistics include only the population located within City Limits. When areas within the City's Extra Territorial Jurisdiction (ETJ) limits are included the population nearly doubles. This growth rate was spurred by significant commercial, retail and residential developments primarily within the City. This growth rate is expected to continue as more commercial, retail and residential developments are announced. All of this has a significant impact on the City's transportation system.

The purpose of this study was twofold: to build upon the previously developed Transportation Element of the Pflugerville 2030 Comprehensive Plan (Chapter 5) to deliver a set of goals, policies and actions; and to

develop a Master Transportation Plan (MTP) for the City of Pflugerville and its ETJ, which included recommended roadway improvements needed to accommodate estimated travel demand through the year 2035. As part of the MTP, an implementation program is proposed that prioritizes the recommended plan improvements. This prioritization program only provides general guidance to when that particular need is required: short-term, mid-term and long term.

The City of Pflugerville's MTP is an integral part of the Comprehensive Plan in that it assembles the transportation planning data, assesses existing and future transportation development needs, provides policy direction, recommends prioritization of improvements and identifies potential funding sources. Projects that are identified in the plan can potentially be submitted to the Capital area Metropolitan Planning Organization (CAMPO), Williamson and Travis Counties, and/or Texas Department of Transportation (TxDOT) for programming, funding and implementation.

## Study Area

The study area for this project is the City of Pflugerville, and an area that generally extends one to two miles beyond the City Limits to include the City's ETJ.



## Study Participants

The development of the MTP was led by the City of Pflugerville. Together the planning and engineering staff formed the technical advisory committee to provide guidance and direction for the development of the overall plan and coordination between the MTP and the Comprehensive Plan.

## Public Involvement

One public meeting was held for this project on August 7, 2013. The meeting was held at the Pflugerville Public Library and more than 29 citizens were in attendance with 11 handwritten comment cards completed. The meeting was an “Open House” format and was primarily intended to show residents the existing Pflugerville transportation network, determine where transportation issues currently exist, and what transportation improvements the residents would like to see. There were a total of three stations for attendees to visit, ask questions and provide input. This meeting provided important guidance that helped shape the MTP. This document reflects the issues of importance to the community, and provides solutions that address their issues and concerns.

## Goals, Policies and Objectives

The overall goal of the MTP is to provide a transportation network that accommodates the growth of Pflugerville while effectively integrating the future land use plan. The transportation goals and policies that were originally developed as part of the

comprehensive planning effort strive to satisfy part of this overall goal.

The previously outlined goals and policies are summarized below with a more detailed discussion to follow:

- **Goal 1:** Pflugerville will have a regional transportation presence and will maintain a voice in regional transportation planning and funding opportunities.  
Policy 1.1: Cooperate with all governmental entities in the development of the roadway system.  
Policy 1.2: Evaluate the potential for developing public transportation options
- **Goal 2:** In order for Pflugerville to continue to be a vibrant community, land use and transportation must be balanced.  
Policy 2.1: Thoughtfully locate traffic generators to ensure accessibility and surrounding land use compatibility
- **Goal 3:** The design, development and maintenance of the roadway network shall take into consideration the community as a whole.  
Policy 3.1: Use the Thoroughfare Plan as a guide for future roadway development.  
Policy 3.2: Maintain access while not affecting the flow of traffic for primary and secondary roadways.
- **Goal 4:** The cost associated with the development of the transportation network shall be shared.  
Policy 4.1: Develop a funding plan for the completion of projects identified within the Comprehensive Plan.





Policy 4.2: Establish a comprehensive impact fee structure for the city.

Through the development of the MTP, a number of these policies were revised or new policies were set altogether. These primarily concern the refinement of the land use plan, roadway maintenance and roadway funding. Each of these will be discussed in greater detail as the development of the MTP is presented.

The primary objective of the MTP is to plan for a future thoroughfare system that balances supply and demand so that resources are maximized and the system functions safely and efficiently.

## Existing Transportation conditions

A technical analysis called Level-of-Service (LOS) is used by both engineers and planners alike to evaluate roadway operations and to determine their operating conditions.

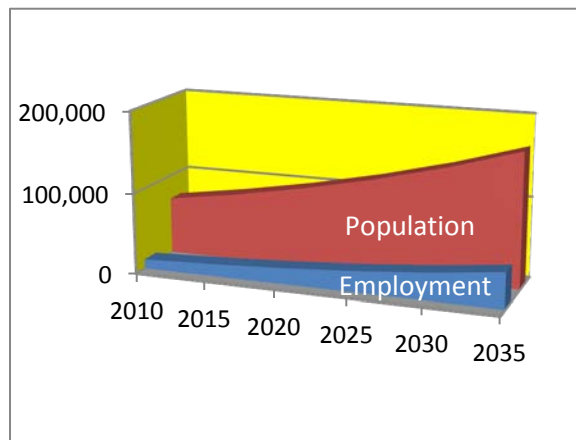
In general, during the base year, 2010, most roadways within the study area operate at acceptable LOS D or better. The exception is sections of Kelly Lane which are operating at LOS E or F at various peak times of the day. The time periods typically include the AM peak (7 am to 9 am) and PM peak (3 pm to 6 pm) periods and are the times when residents are traveling to/from work or school. In general, the roadway operates at an acceptable level outside these peak times.

The plan utilizes Level of Service D as the threshold of acceptable roadway operations as

this is the City of Pflugerville's commonly accepted goal. While a higher goal (LOS C or better) can be established, it would be more difficult and expensive given the geometric constraints. In addition as the city develops into a larger more urbanized area, maintaining a higher Level of Service will be even more of a challenge. Most of the roadways operate at LOS C or better during much of the day. It is during the peak time periods when the roadway Levels of Service diminish. As the City of Pflugerville continues its rapid growth, it is more realistic to set a LOS D as a performance measure to achieve acceptable traffic operations.

## Future Growth and Development

Between 2010 and 2035, the City of Pflugerville is expected to experience significant growth in both population and employment. As indicated in the adopted CAMPO 2035 Plan, the population of the study area (City and ETJ) is projected to increase from 70,000 persons in Year 2010 to more than 165,000 persons in Year 2035, **Figure ES-1**. This is an increase of over 3 percent per year. In addition employment within the study area is also projected to increase from 11,500 persons employed in Year 2010 to more than 44,800 employed in Year 2030 (slightly more than 5 percent per year). Given this high rate of projected growth and development, the need for transportation infrastructure improvements is becoming increasingly important.



**Figure ES – 1: Population and Employment Projections**

## Travel Demand Model Development

As part of the development of the Master Transportation Plan, a travel demand model was developed to assist in forecasting future travel demands on the transportation system. The regional travel demand model maintained by the Capital Area Metropolitan Planning Organization (CAMPO) was used as the basis for the Pflugerville Travel Demand Model. The modeling area in and surrounding the City of Pflugerville was refined to provide much greater detail within the local area. The Pflugerville model works in coordination with the CAMPO model to provide more detailed forecasted trip information on both a local and regional level.

## Functional Classification

A functional classification system is a hierarchical arrangement between roadways that facilitates the safe and efficient

operation of vehicles along different types of facilities. For the City of Pflugerville there are four major roadway classifications:

- Freeways/Tollways
- Arterials (major/minor)
- Collectors (major/minor); and,
- Residential Streets

Freeways/tollways are regional roadway facilities and are at one end of the spectrum, providing greater vehicle mobility and higher speeds, while Collector and Residential streets are at the other end, providing greater access to adjacent properties and lower speeds.

## Recommended Functional Classification

The City of Pflugerville's existing functional classification system and Thoroughfare Plan were used as the starting point in the development of the proposed Transportation Plan and Functional Classification System. The refined roadway classification system not only takes into account the roadway's area type but also the roadway context – how do the roadway and the surrounding land uses interact. The proposed Street Types incorporate revised Rights-of-Way, as well as additional corridors for Right-of-Way preservation to serve future growth and development. This proposed system was developed based upon field review, physical characteristics, traffic volumes, and input from City Staff and the community.



## Recommended Street Types and Dimensions

As opposed to a rigid classification system where a minor collector remains unchanged regardless of the surrounding land uses, the proposed street types are based primarily on the area type and the context of the surrounding land uses. This allows for flexibility for both the City of Pflugerville and land developers. Each of the proposed street sections can vary depending on the context of the area.

The recommended roadway cross sections were formulated based on traditional transportation planning methodologies, community goals and values, network continuity, provision of a balanced transportation system, land access and projected population and employment growth. Generally the rights-of-way have been altered to accommodate the following features:

- Right-of-Way Preservation;
- Sidewalks and/or Bicycle lanes;
- Parking Lanes (if desired);
- Medians; and
- Buffer Zones.

## Recommended Master Transportation Plan

The recommended Master Transportation Plan of the City of Pflugerville includes the implementation of new major and minor arterials, collectors, and local streets to guide the orderly development of the city's transportation system as shown in the adjoining figure. The MTP includes three proposed implementation programs:

- Near term
- Midterm
- Long term

The implementation plan generally includes two primary types of improvements: roadway widening and new roadway construction. The development of the near term projects: Weiss Lane, Kelly Lane, Pecan Street, and Heatherwilde, is critical for the City. These facilities will provide much needed relief for the City of Pflugerville.

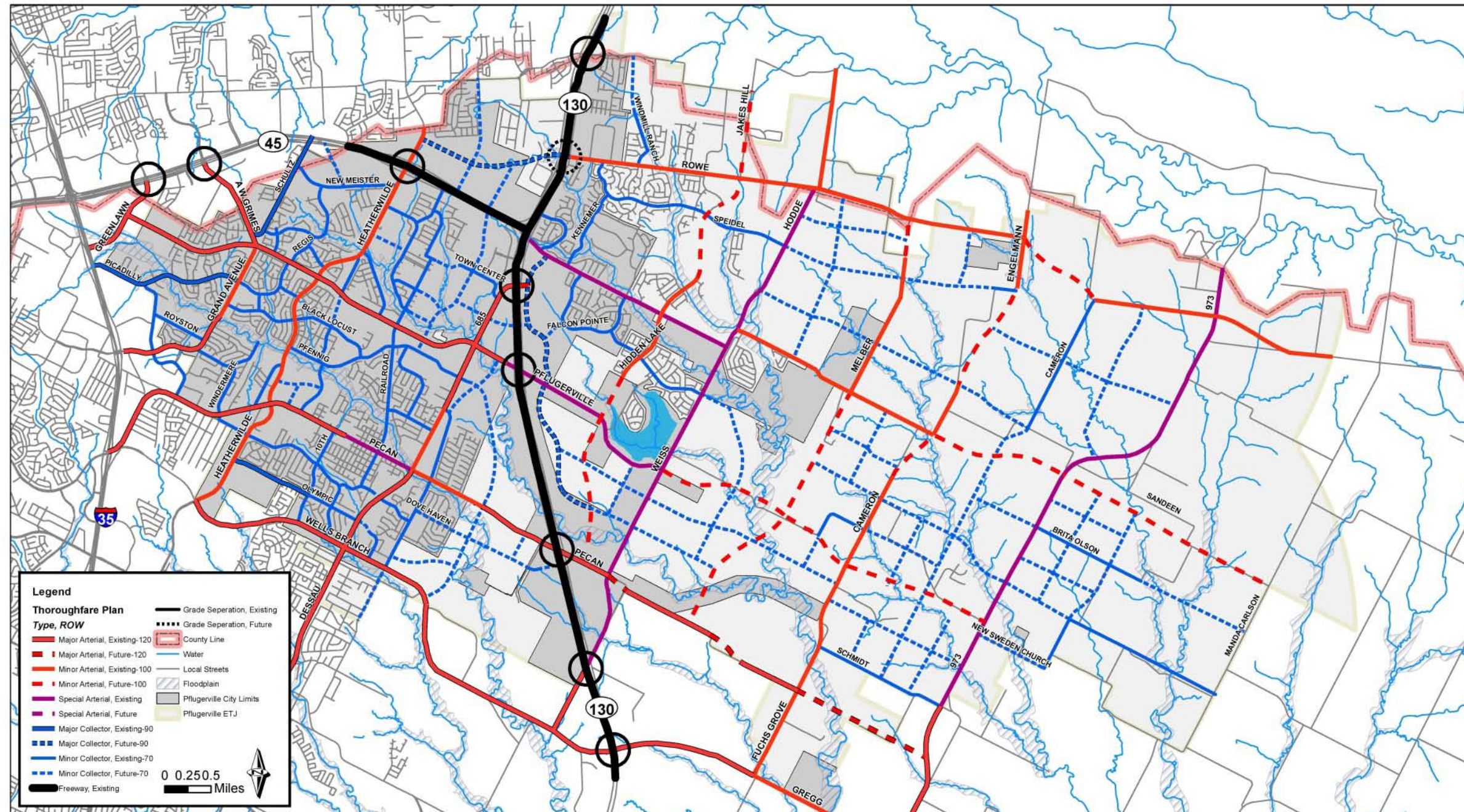
## Importance of Adopting the Transportation Plan

As growth and development occur, the Master Transportation Plan will require periodic revisions. This does not mean that the plan does not need to be officially adopted and then enforced. This MTP will be formally considered for adoption by the Pflugerville City Council and this is necessary in order to officially recognize and confirm the status of the plan as part of the policies of local and state transportation agencies.





## MASTER THOROUGHFARE PLAN



### Pflugerville Master Transportation Plan









## Table of Contents

Introduction.....	5
Comprehensive Planning Efforts .....	5
Master Transportation Plan Development.....	6
Transportation Planning Process .....	7
II:    Transportation Network .....	8
Roadways .....	8
Functional Classification.....	9
Pedestrian and Bicycle Facilities.....	12
Transit.....	13
III:    Travel Demand Modeling .....	17
Four Step Modeling Process .....	17
Demographic and Land Use Inputs.....	18
TAZ Refinement .....	18
Network Refinement .....	25
Congestion Levels and Level of Service.....	28
Supply and Demand .....	31
IV:    Master Transportation Plan Development .....	33
Functional Classification.....	33
Street Context and Development Policy .....	34
Rural .....	36
Residential .....	36
Commercial .....	36
Mixed-Use .....	37
Design Elements.....	37
Flexible Design Elements.....	39
V:    Master Transportation Plan.....	41
Functional Classifications and Typical Street Sections .....	43
Special Arterials .....	49
Pecan Street/FM 1825 .....	49



Pflugerville Parkway/Weiss Lane .....	50
Kelly Lane .....	51
VI: Prioritization Process .....	52
VII: Investment Strategies .....	54
VIII: Master Transportation Plan Implementation.....	58
Pflugerville Prioritization Process.....	58
Adoption of the Master Transportation Plan.....	59
VIII: Proposed Transportation Goals .....	60





## List of Figures

Figure 1: Access Versus Mobility Comparison .....	9
Figure 2: Current Bicycle Signage Example .....	12
Figure 3: Lake Pflugerville Bike Race Route .....	12
Figure 4: Project Connect North Corridor Locally Preferred Alternative (LPA) .....	15
Figure 5: Mogan Corridor .....	16
Figure 6: Refined TAZ Boundaries .....	20
Figure 7: 2010 Employment Density by TAZ .....	23
Figure 8: 2035 Employment Density by TAZ .....	24
Figure 9: CAMPO 2035 Base Model .....	26
Figure 10: CAMPO 2035 Model with Revised Pflugerville Network .....	27
Figure 11: 2035 Pflugerville Congestion .....	29
Figure 12: 2035 Pflugerville Model Volumes .....	32
Figure 13: Thoroughfare Plan Area Type .....	35
Figure 14: Anatomy of the Street Identifying Different Realms .....	38
Figure 15: Pflugerville Master Thoroughfare Plan .....	42
Figure 16: Local Street .....	44
Figure 17: Minor Collector .....	45
Figure 18: Major Collector .....	46
Figure 19: Minor Arterial .....	47
Figure 20: Major Arterial .....	48
Figure 21: Pecan Street/FM 1825 .....	49
Figure 22: Pflugerville Parkway & Weiss Lane .....	50
Figure 23: Kelly Lane .....	51



## List of Tables

Table 1: Pflugerville Roadway Classifications.....	10
Table 2: Local Sales Tax Summary .....	16
Table 3: City of Pflugerville Demographics – City and ETJ.....	18
Table 4: TAZ Demographic Summary .....	21
Table 5: Level of Service Definitions for Principal Roadways .....	30
Table 6: Local Street Section.....	44
Table 7: Minor Collector Street Section .....	45
Table 8: Major Collector Street Section .....	46
Table 9: Minor Arterial Street Section.....	47
Table 10: Major Arterial Street Section.....	48
Table 11: Potential Project Evaluation Criteria .....	53

## Appendix

- Appendix I: Chapter 8 of the Pflugerville 2030 Comprehensive Plan  
August 7<sup>th</sup> Public Meeting Open House Notes, Comments and Presentation
- Appendix II: Roadway Inventory  
Pflugerville Trails Master Plan
- Appendix III: Roadway Funding Memo



### Introduction

Spurred by both the completion of SH 45 and SH 130 and the influx of new residents, the City of Pflugerville has experienced tremendous growth and development since 2000. Based upon projections for future growth and development, the population is expected to increase to approximately 165,000 by 2035; over twice the current CAMPO model population of approximately 70,000, both of which include the City of Pflugerville as well as the Extra Territorial Jurisdiction (ETJ). Given this, the City must address the transportation and mobility challenges that will develop as this growth and development occur. Mobility impacts everything from duration of travel, quality of life, air quality, and land development patterns, to the treatment of residential sidewalks and neighborhood streets.

### Comprehensive Planning Efforts

In 2009, the City of Pflugerville initiated the Pflugerville 2030 Comprehensive Plan and in 2010 the plan was adopted by City Council. The plan, primarily, addressed citywide land use planning – including private development, community needs and public spaces. The plan also made an initial assessment of the relationship between future land use and transportation. As part of the comprehensive planning element, the Citizens Advisory Committee developed a vision statement:



“Pflugerville is the most desirable community in Central Texas because of its greatest assets such as first-rate parks, connected trails, exceptional schools, cohesive neighborhoods, diverse and creative employment opportunities, and vibrant shopping districts” – Citizens Advisory Committee, 2009

This statement set the framework for the development of each of the elements presented within the document: Land Use Developments, Recreation and Parkland, Transportation, Public Facilities and Infrastructure, and Economic Development. While each of the elements is addressed independently, they must be coordinated in order move the City forward into the future.

Developed as part of the Pflugerville 2030 Comprehensive Plan, each element had its own set of goals, policies, and actions. For the Transportation Element, the purpose of this was to guide the future development of Pflugerville’s transportation network. A summary of the transportation goals is presented below and for references purposes; the complete Transportation Element is included in **Appendix A**.

Goal 1:Pflugerville will have a regional transportation presence and will maintain a voice in regional transportation planning and funding opportunities.

Goal 2:In order for Pflugerville to continue to be a vibrant community, land use and transportation must be balanced.





Goal 3: The design, development and maintenance of the roadway network shall take into consideration the community as a whole.

Goal 4: The cost associated with the development of the transportation network shall be shared.

While the transportation network was addressed in the comprehensive planning effort, a thorough evaluation was not completed. The relationship between land use and the transportation network was not analyzed through the refinement of the Travel Demand Model (TDM), nor were design considerations or recommendations made. This Master Transportation Plan (MTP) will revise and ultimately replace the Transportation Element section of the comprehensive plan through the creation of a Thoroughfare Plan.

### Master Transportation Plan Development

The Master Transportation Plan is a comprehensive long-range transportation planning document that assembles and presents qualitative data analyses, assesses existing and future transportation needs, provides policy direction and lays the foundation for prioritization of improvements. It is intended to provide guidance for the development of a transportation system that serves the access and mobility needs of the residents in a safe, efficient and cost-effective manner. It also addresses the transportation network as whole and not isolated or individual projects. The City can address the community's mobility needs by developing and implementing the MTP.

The overall goal of the MTP is to provide a transportation network that accommodates the growth of Pflugerville while effectively integrating the future land use plan. As presented, the plan will require continuous monitoring and revisions in order to react to unforeseen changes in economic or market conditions that ultimately impact the growing community.

This plan embraces not only automobile travel, but bicycle and pedestrian travel as well. In addition, the plan takes into account the relationship between transportation and land use planning by complementing Pflugerville's Land Use plan through the introduction of Context Sensitive Solutions (CSS).

CSS is a philosophy or strategy that guides public agencies and private entities in all phases of project development from planning through project scoping, design and into construction and maintenance. CSS strives for outcomes that meet transportation service and safety. The implementation of CSS into this plan allows the City greater flexibility when planning for new or redesigned roadways. The addition of CSS applications within the City's design guidelines, allows for a coordinated effort among transportation engineering and land use planning.



### Transportation Planning Process

The development of the MTP was a cooperative effort between the City of Pflugerville Staff and the consultant team. Each was engaged in the development process through the entirety of the project. Integral to the process were multiple stakeholder meetings and public meetings.

The stakeholder meetings included City of Pflugerville staff that would ultimately be responsible for overseeing the implementation of the MTP. At each meeting specific topics were considered, ideas were presented, comments solicited and recommendations discussed. All of the information obtained was ultimately compiled and included within the City of Pflugerville's Master Transportation Plan.



At the heart of the planning process was the solicitation of comments from the public as well as detailed discussions with key stakeholders. It was imperative that a large cross-section of the community be involved. This included representatives from the community at large as well as representatives from the Pflugerville Independent School District (PISD), Pflugerville City Council, Planning and Zoning Commission, Pflugerville Community Development Corporation (PCDC) Board, Economic Development, Parks and Recreation, and Chamber of Commerce.

A total of two public meetings were conducted: one at the beginning of the project and the second at the end of the project. The first was held during the evening of August 7<sup>th</sup>, 2013 at the Pflugerville Public Library with more than 29 citizens in attendance and 11 handwritten comment cards completed and submitted (copies included in **Appendix A**). The meeting was an "Open House" format and was primarily intended to show residents the existing Pflugerville transportation network, determine where transportation issues currently exist, and what transportation improvements the residents would like to see. There were a total of three stations for attendees to visit, ask questions and provide input. A copy of graphics presented at each station is included in **Appendix A**.

Ultimately, through the planning process – public involvement process, travel demand model development and project development – a comprehensive Master Transportation Plan was developed. This transportation plan is a road map for the future development of Pflugerville. Those projects that are identified in the plan can be submitted to Pflugerville's City Council, the Capital Area Metropolitan Planning Organization (CAMPO), and/or TxDOT for possible funding and construction. While the inclusion within the MTP does not assure funding and/or



construction, it lays the foundation for future transportation needs and affords the City the opportunity to pursue other funding sources.

## II: Transportation Network

One of the essential components to a community's perception of quality of life pertains to mobility. This is the freedom to move about any time and the City's roadway network plays an important role in this perception. This section provides the foundation of the current roadway network and also provides a set of tools that could be considered as part of the future network. While movement by private automobile is currently the primary mode of transportation, other modes of transportation should also be considered, such as pedestrian, bicycle and transit.

### Roadways

The City of Pflugerville has a relatively tight system of roadways, where access and mobility are balanced and movement in and around the community is fairly unrestricted. As is, the system is relatively complete and for the most part built out west of SH 130. This being said, to the west of SH 130 there are a handful of arterials and collectors that have a limited capability of accommodating additional capacity through the completion of intersection improvements. A few, if necessary, could have capacity added through the construction of additional travel lanes, but the availability of these roadways is severely limited. The City has only recently begun expanding to the east of SH 130 and primarily in the area of Kelly Lane and Weiss Lane. With the exception of Kelly Lane and Weiss Lane there is available green space for roadway construction and expansion. Both Kelly Lane and Weiss Lane are essentially land locked which makes expansion difficult both economically and politically.

Currently the City has a varied roadway network comprised of freeways/tollways, arterials, collectors, local streets and alleys. There are several TxDOT facilities – SH 45, SH 130, FM 685, FM 973 and FM 1825 – over which the City has very little jurisdictional control. These facilities along with several city streets form the backbone of the transportation network. The majority of travel in, out or around the city involves these roadways but many are also constrained through right-of-way limitations. Because of this, a few roads cannot have significant capacity improvements.

The objective of the MTP is to analyze existing and future roadway conditions, identify those existing roadways needing improvements and preserve future corridors in order to create the necessary transportation framework that addresses the current and future needs for mobility of both residents and goods traveling within and through the City of Pflugerville. All this is to be completed in a manner that is safe, sufficient and economically viable.





## Functional Classification

A primary transportation objective for the City of Pflugerville is to maintain the balance between mobility (movement of traveling public) and access (individual property owner needs). The concept of functionally classifying the roads within a network provides guidance for future development and suggests that the idea of a complete system consists of a mixture of roadway types. As will be presented further in the plan, functional classification of some roadways may vary in different areas and access management guidelines and roadway characteristics differ depending on the nature of the surrounding area: mixed use, commercial, residential or rural.



**Figure 1: Access Versus Mobility Comparison**

Roadway functional class refers to the hierarchical arrangement between roadways and the interaction therein. The purpose of classifying roadways is to ensure that they provide access in a safe and efficient manner. As shown in **Figure 1** the greater the mobility the lower the accessibility – mobility is more important along arterials and accessibility is more critical along the collector and residential streets. However; access and mobility are only a few of the key elements in planning for the future transportation network – location to residential areas, schools, or commercial establishments, availability of right-of-way, corridor connectivity, etc. are each elements that must be taken into consideration.




The classification designation assists in selecting the appropriate roadway widths, design speeds, intersection features (stop controlled or traffic signal), and other design features. Land use and development should be taken into account when planning functional classifications and roadway design. As land uses change and/or transportation facilities develop, the prescribed classification can be altered but only after a complete review of the surrounding network.

As part of the analysis in the development of the MTP, an inventory of the roadway system was necessary. The consultant team completed a thorough review of the existing network and inventoried each of the items required as part of the travel demand model development. While a thorough roadway inventory is included in **Appendix II**, **Table 1** provides a brief description of each of the general classifications. The table does not address major and minor arterials/collectors separately. But, while each of the classifications (major/minor arterial and





major/minor collector) serve the same general purpose – access, mobility, and connectivity – the differences between the major and minor designations are primarily in the allowable pavement width, number of allowable travel lanes, and required right-of-way.

**Table 1: Pflugerville Roadway Classifications**

Roadway Classification	Description
Alley	<p>An alley serves primarily as a side or rear access point to a residential and/or commercial establishment and not intended to accommodate through traffic.</p> 
Local	<p>Local streets are intended to provide access to adjoining properties and by collecting the traffic from surrounding areas and distributing it to adjoining collectors or arterial streets.</p> 
Collector Streets	<p>Collector Streets are intended to balance traffic and movement between arterial streets and local streets. These streets tend to carry a high volume of traffic over shorter distances while providing for land access.</p> <p>This classification is further divided into two roadway types: major and minor collector. With the major collector requiring a larger right-of-way and allowing for more travel lanes and pavement width.</p> 



**Table 1: Pflugerville Roadway Classifications (Continued)**

Roadway Classification	Description
Arterial Streets	<p>Arterial streets provide traffic movement through and between different areas within the city. A secondary and more controllable function is to provide access to adjacent land uses. Arterials tend to serve much larger traffic volumes over greater distances.</p> <p>This classification is further divided into two roadway types: major and minor arterial. With the major arterial requiring a larger right-of-way and allowing for more travel lanes and pavement width.</p> 
Freeways/ Tollways	<p>Freeways and Tollways are access controlled roadways whose primary function is to allow for the movement of traffic through and/or around the City.</p> <p>Design characteristics of these facilities include multiple travel lanes, limited access points, high traffic volumes and high traffic speeds.</p> 



## Pedestrian and Bicycle Facilities

The City of Pflugerville does not expressly provide on-street bicycle facilities. It does however, have a trail system that is fairly extensive. Currently there are over twenty-two hike and bike trails totaling over 30 miles. The current system (**Appendix II**) primarily connects parks, open spaces and residential neighborhoods and once built out, the network will connect to more locations in Pflugerville and to the cities of Austin and Round Rock.



**Figure 3: Lake Pflugerville Bike Race Route**

are issues between automobile drivers and the bicyclists. This could be addressed through the construction of shared lanes or through the usage of roadway specific signage. **Figure 2** depicts a currently used example of on street signage alerting automobile drivers to the possible presence of bicyclists. While this sign is currently not in use in Pflugerville, similar signs can be seen throughout Central Texas.

Even though the City is expanding the hike and bike trail system, this should not be limited to the connection of parks and open spaces. Because of the growing popularity in having a variety of choices in available modes of transportation, sidewalks, as well as bicycle lanes, routes and paths

Concurrent with the development of the MTP, Pflugerville is in the process of expanding the system through the creation and adoption of the **Updated Trails Master Plan (2013)**. This new plan will further connect the established trails and more importantly, plan for future connections east of SH 130.

This connection is critical because Pflugerville has quickly become a popular location for both bicycle races and training rides. The area around Lake Pflugerville has become a regular hosting location for both organized races and training rides. **Figure 3** shows one of the race routes that are used quite frequently.

The roadways that are utilized have a limited cross section and because of this many times there



**Figure 2: Current Bicycle Signage Example**





all play an important role in the transportation network. Pflugerville's sidewalk coverage is fairly expansive, but there are areas of the city where coverage is not complete. These are primarily in the older sections of the City with limited right-of-way. Pflugerville should work toward the completion of the sidewalk network especially in the residential areas and connections to schools.

## Transit

The Pflugerville 2030 Comprehensive Plan presented a brief discussion regarding the merits of developing public transportation resources and that this "should be considered as a key part of Pflugerville's preferred land use vision decisions."

Based on data collected in 2009, over 20 percent of the respondents indicated they would use public transportation if they could. More recently, the city of Pflugerville commissioned a citizens survey. The 2012 Citizen Survey (December 2012) addressed a variety of issues, including transportation. A majority of residents (61%) said that the availability of transportation options were very important or somewhat important in their decision to live in Pflugerville (Q19); however, less than one-third (31%) said their transportation needs were being met in Pflugerville. Public transportation was among the two most important issues facing Pflugerville in the five years among 16% of those surveyed. While this may not seem significant, rapid growth and roads rated higher at 34% and 27% respectively.

Concurrent with the development of the 2030 Plan, Round Rock was developing a collaborative approach to public transportation to tie into the Capital Metro Red Line. This concept, known as the Round Rock Rail Link, was proposed to run within the SH 45 corridor and provide service to Georgetown and Pflugerville. For a multitude of reasons, this is no longer a viable approach for any of the affected jurisdictions.

Regionally, Project Connect is an effort aligning Capital Metro, CAMPO, City of Austin and Lone Star Rail to

## Project Connect

The North Corridor study had four major steps:

1. Identify transportation problems and issues within the corridor ("purpose and need")
2. Determine reasonable and feasible alternatives to address those problems
3. Analyze, evaluate and refine alternatives
4. Select a locally preferred alternative (LPA)

Capital Metro, CAMPO, the Lone Star Rail District, and the cities of Austin, Pflugerville, Round Rock, Georgetown and other partners are working together to improve long-term mobility and accessibility in the North Corridor.

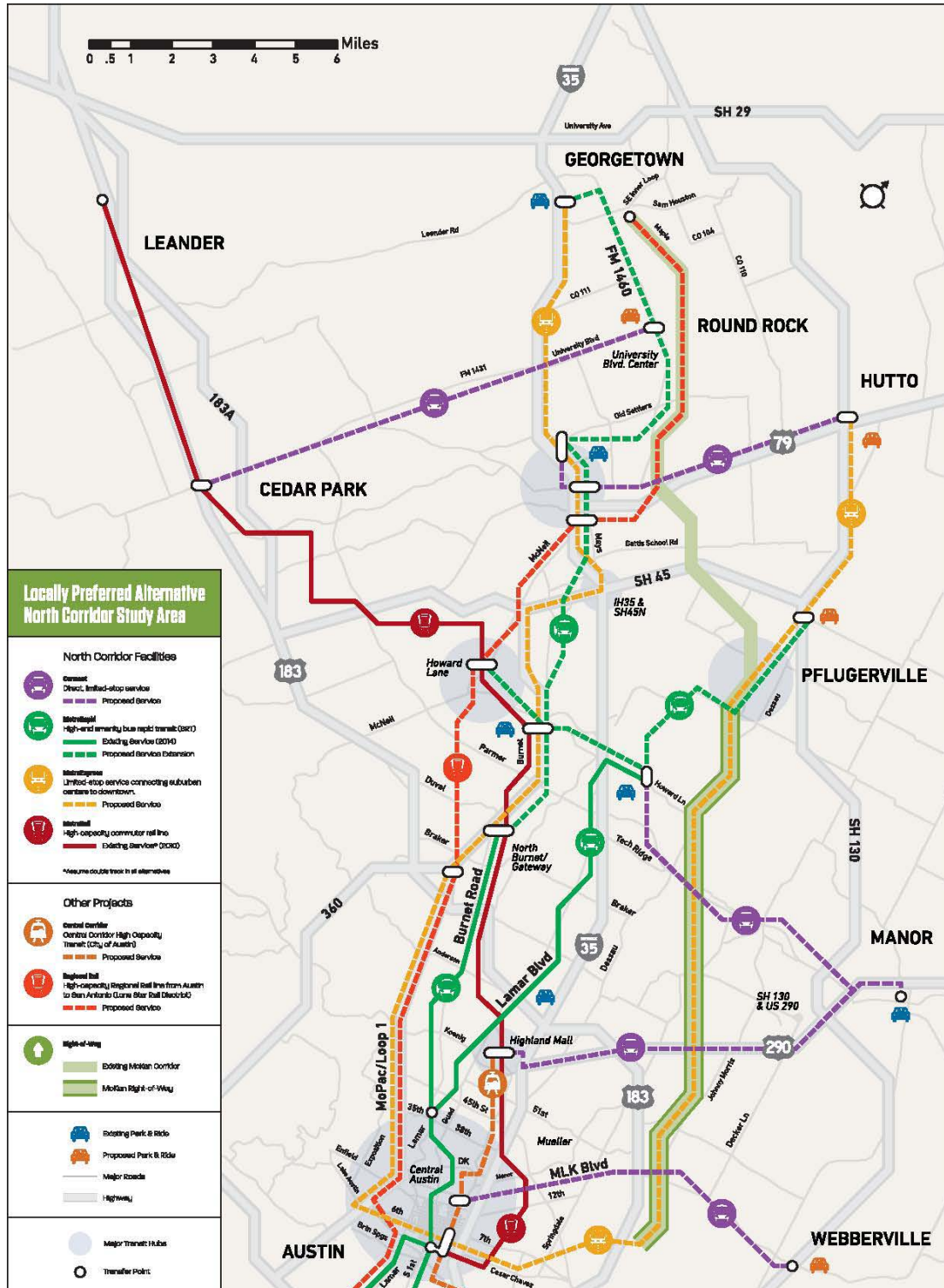
- Half the population of Williamson and Travis counties will reside in the North Corridor by 2035. Four central Austin zip codes comprise the southern end of the North Corridor. By 2035, 55% of all jobs in the five-county region will be located in the North Corridor.
- From 2005 to 2035, the region's population is forecasted to increase by 123%, with employment increasing by 135%.
- 14 of the 38 regional growth centers (areas with a dense mix of employment, housing, and retail) identified in the CAMPO 2035 plan are in the North Corridor.



develop a regional transit plan. The completion of Project Connect resulted in two efforts by Capital Metro to refine results of particular interest to Pflugerville, the Project Connect North Corridor (PCNC) concluded with the Local Preferred Alternative (LPA), as shown in **Figure 4**. The PCNC study was completed earlier this year and together, the Pflugerville City Council and a number of other jurisdictions and stakeholders resolved to support the plans and implementation efforts. While the LPA proposed linkages to the regions transit system, the MoKan right-of-way is a looming issue that needs resolution.



Figure 4: Project Connect North Corridor Locally Preferred Alternative (LPA)



Source: <http://www.projectconnect.com/north-corridor>



The Mokan Corridor, **Figure 5**, an abandoned rail corridor, has also been considered for development of transportation infrastructure. Since the rail corridor was abandoned and the rails removed, the corridor has remained largely unimproved with the exception of hike and bike trail connections. A portion of Dessau Road is also constructed within the limits of the corridor. Once a freight railroad corridor, its construction secured the viability of the Pflugerville town site which was platted in 1904. In Pflugerville, the corridor is owned by the State of Texas. In recent years, various ideas of how to best utilize the corridor have been identified, studied, vetted and opposed due largely to a lack of benefit and uncertainty of the scope. Earlier this year additional studies commenced – led by the Texas Department of Transportation – to evaluate the corridor for regional transit options. Although this study has not yet been released, the nature and width of the corridor is likely sufficient for a multitude of options. Given the range of possibilities and uncertainties, the Pflugerville City Council unanimously passed Resolution 1413-14-07-08-0212 reversing previous opposition to passenger light rail in the corridor under certain conditions.



**Figure 5: Mokan Corridor**

While Pflugerville was originally within the Capital Metro service area, Pflugerville voters opted out in January 15, 2000 due to a lack of benefit. Future direct participation in the service area is not feasible because the local sales tax rate is maxed out at 2 percent, as shown in Table 2, and local sales allocation of ½ cent is required.

**Table 2: Local Sales Tax Summary**

Jurisdiction	Local Sales Tax Rate
City of Pflugerville	.010
Pflugerville Community Development Corporation (PCDC)	.005
Travis County Emergency Services District No. 2	.005
Total	.020

However since the conclusion of the PCNC efforts, community interest in transit is growing, as is the community in general. Pflugerville is also becoming increasingly diverse resulting demand for transit and/or transit like services such as Drive a Senior which receives some funding from the City of Pflugerville on a fee for service basis.





### **III: Travel Demand Modeling**

Modifications to the Pflugerville Master Transportation Plan (MTP) were developed using a strong technical foundation of travel demand modeling that incorporated data and analysis at a regional and local level. The Capital Area Metropolitan Planning Organization (CAMPO) Travel Model was used to forecast trips that people take on a daily basis within the City of Pflugerville and throughout the Central Texas region. The model was calibrated to provide a detailed analysis specifically focused on the Pflugerville area. This tool provided a comprehensive look at Pflugerville's capacity needs and congestion levels projected in the year 2035 as part of a growing region.

Model-based analysis was completed through the following steps during the development of this MTP:

- Ensure model is up-to-date
- Analyze existing street network (capacity, LOS, etc.)
- Analyze existing TDP (provided baseline data for update)
- Generate and test transportation network alternatives
- Finalize recommended system

#### **Four Step Modeling Process**

The model is comprised of a series of mathematical models that simulate travel on the transportation system. The model divides the City into Traffic Analysis Zones (TAZs), with each zone containing specific demographic and land use data associated with that designated area, and this data is used to determine trip demand and travel patterns. The four steps used in the modeling process are identified below:

- Trip Generation – the number of trips produced and attracted to a destination or zone.
- Trip Distribution – the estimation of the number of trips between each TAZ, i.e. where the trips are going.
- Modal Split – the prediction of the number of trips made by each mode of transportation between each TAZ.
- Traffic Assignment – the amount of travel (number of trips) that is put into the transportation network through path-building and is used to determine network performance.

The model provides the City with an accurate tool to predict what the thoroughfare system will need to look like to accommodate future transportation needs. Although a primary use for the model is the development and updating of the MTP, it can also be used for other technical analysis.



## Demographic and Land Use Inputs

The first step of the travel demand modeling process involves using existing and future demographic data to determine the number of trips and trip patterns. All inputs into the model were based on existing data and also demographic projections out to the year 2035. The summary of the overall demographic patterns for both the City of Pflugerville and Extra-Territorial Jurisdiction (ETJ) are found in **Table 3**.

**Table 3: City of Pflugerville Demographics – City and ETJ**

Pflugerville Demographics	2010 Model	2035 Model
Population		
Total Population	70,321	165,198
Total Households	23,146	58,112
Employment		
Basic Employment	4,796	5,188
Retail Employment	2,707	16,365
Service Employment	1,512	20,884
Education Employment	1,530	2,390
Total Employment	11,545	44,827

The demographic data used in the trip generation step of the modeling process included the number of households, population, median income and number of employees by type of employment (basic, service and retail). Land use information was also entered into the model to incorporate future potential development patterns into the transportation demand forecasting process. Information related to future land uses and development patterns within the City of Pflugerville are based on the vision for growth projected by the Pflugerville 2030 Comprehensive Plan.

## TAZ Refinement

In coordination with the demographic and land use input, the TAZ structure was refined to reflect Pflugerville specific boundaries. The base data used in this study was provided by CAMPO. This included TAZ boundaries with 2010 base level population and employment data, as well as 2035 demographic projections. It should be noted, that the CAMPO model covers the entire Capital Area (5-County) region, which includes Pflugerville, and has been developed to provide valuable information for regional travel demand planning. For the purpose of forecasting transportation needs at the city-level, this regional model has been modified to provide the level of detail necessary to provide analysis specific to the developing areas within the City of Pflugerville and its Extra Territorial Jurisdiction (ETJ).

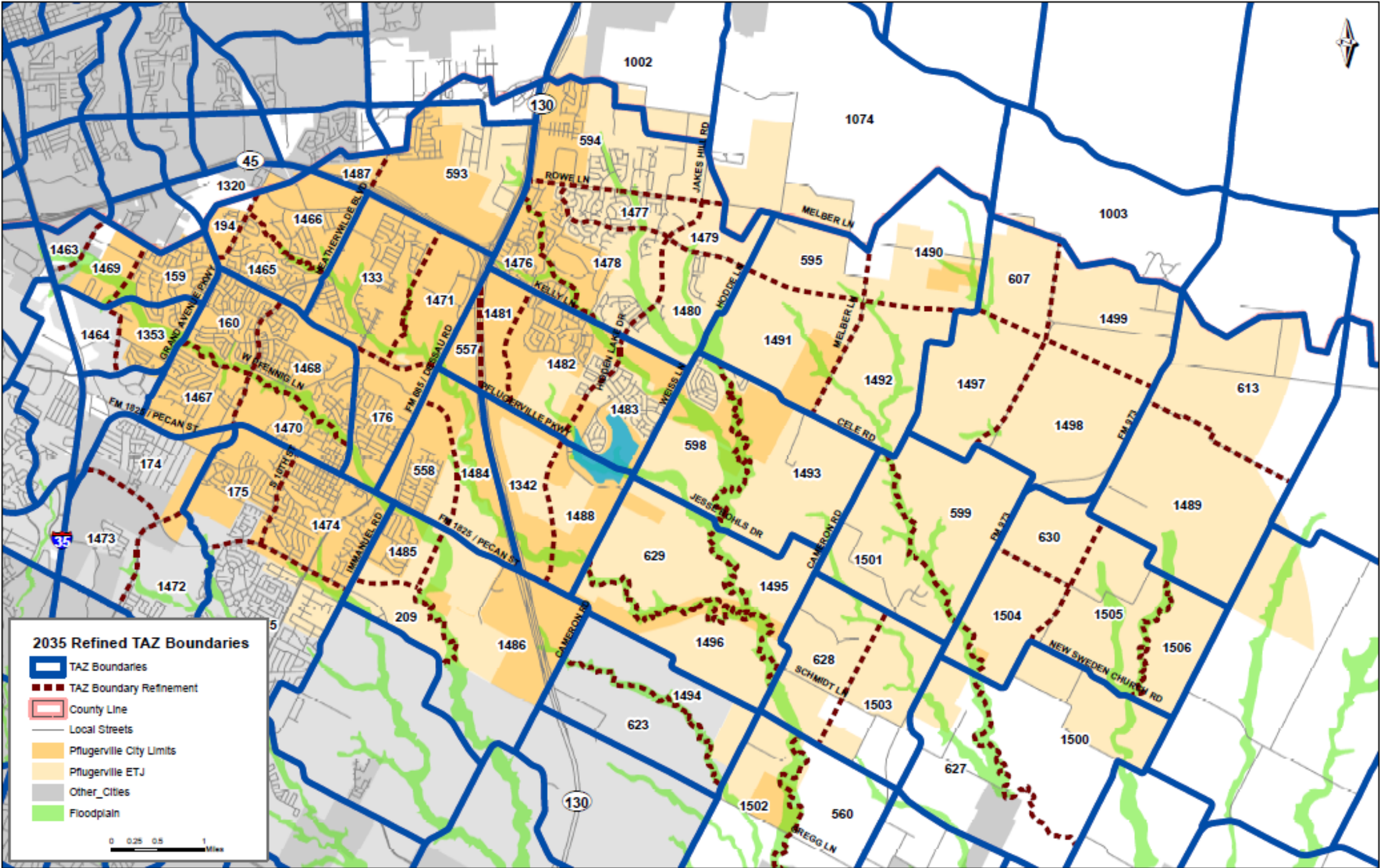


Many of the CAMPO model TAZs were subdivided into smaller boundaries to better represent demographic distribution and travel patterns across the Pflugerville thoroughfare network. The original CAMPO model includes 29 TAZs covering the Pflugerville city limits and ETJ. After refinement, the Pflugerville area is represented by 72 TAZs. This distinction is shown in **Figure 6** with the original CAMPO boundaries being shown in dark blue and the Pflugerville city-level refinement being added with the dark maroon dashed lines. These refined TAZs are divided along realistic travel sheds, typically separated by thoroughfares or floodways.

**Table 4**, on pages 19 and 20, details the 2035 population and employment within the new refined TAZ structure. After TAZ refinement, the study area reflects a 2035 population projection of 165,198.



Figure 6: Refined TAZ Boundaries





**Table 4: TAZ Demographic Summary**

TAZ	Population	Households	Total Employment	Basic Employment	Retail Employment	Service Employment	Education Employment
133	15,174	5,380	1,690	62	801	813	15
159	7,977	3,910	123	2	40	80	2
160	5,395	1,757	82	25	17	21	20
174	3,462	1,135	1,362	328	398	609	27
175	6,740	2,181	22	30	26	129	38
176	3,912	1,274	501	21	249	231	-
194	431	134	174	72	1	101	-
209	2,967	1,030	1,651	25	788	794	45
557	285	169	168	32	-	6	130
558	2,946	1,063	1,010	21	477	477	35
560	3,121	1,060	3	1	-	2	-
591	3,737	585	70	44	6	12	8
593	9,953	3,606	4,441	32	2171	2,171	68
595	1,896	637	1	-	-	-	-
598	4,061	1,186	11	2	2	7	-
599	2,548	936	32	32	-	-	-
607	63	23	16	12	4	-	-
613	51	19	1	1	-	-	-
623	19	9	26	-	-	26	-
627	80	28	27	25	1	-	-
628	99	36	1	-	-	1	-
629	347	114	132	32	32	-	100
630	615	221	-	-	-	-	-
1002	8,075	2,673	227	8	12	57	150
1003	169	65	17	14	-	3	-
1074	1,729	586	287	18	11	8	250
1320	1,284	408	1,231	407	412	412	-
1342	127	42	68	68	68	68	68
1353	1,480	435	332	236	51	44	-
1463	-	-	5,548	80	1,800	3,600	68
1464	164	48	66	47	10	9	-
1465	3,233	1,010	87	36	-	51	-
1466	1,223	180	610	252	3	355	-
1467	4,046	1,317	660	197	134	169	160
1468	2,563	834	412	123	84	106	100
1469	3,418	1,675	493	7	160	320	6
1470	1,484	483	660	197	134	169	160
1471	1,686	597	6762	248	3,202	3,251	60
1472	3,462	1,135	454	109	133	203	9
1473	1,731	567	2,724	656	796	1,218	54
1474	6,740	2,181	22	30	26	129	38
1475	5,777	1,869	179	240	210	1,030	300
1476	1,606	65	209	133	19	35	23
1477	1,814	274	139	88	12	23	15



**Table 4: TAZ Demographic Summary (continued)**

TAZ	Population	Households	Total Employment	Basic Employment	Retail Employment	Service Employment	Education Employment
1478	6,261	411	70	44	6	12	8
1479	4,121	1,372	139	88	12	23	15
1480	2,521	688	70	44	6	12	8
1481	570	223	210	41	-	7	163
1482	3,495	364	21	4	-	1	16
1483	2,712	1,063	21	4	-	1	16
1484	4,418	1,594	4,038	82	1,908	1,908	140
1485	3,709	1,287	550	8	263	265	15
1486	742	257	3,302	49	1,576	1,588	90
1487	524	189	493	3	241	241	7
1488	508	168	17	2	2	-	-
1489	51	19	1	1	-	-	-
1490	30	10	-	-	-	-	-
1491	80	27	1	-	-	-	-
1492	60	20	-	-	-	-	-
1493	661	60	1	-	-	-	-
1494	19	9	26	-	-	26	-
1495	217	71	-	-	-	-	-
1496	304	100	-	-	-	-	-
1497	63	23	-	-	-	-	-
1498	63	23	16	12	4	-	-
1499	63	23	-	-	-	-	-
1500	188	67	18	17	1	-	-
1501	1,092	401	4	4	-	-	-
1502	3,121	1,060	3	1	-	2	-
1503	66	24	1	-	-	1	-
1504	615	221	-	-	-	-	-
1505	615	221	-	-	-	-	-
1506	615	221	-	-	-	-	-
<b>TOTAL</b>	<b>165,194</b>	<b>53,153</b>	<b>41,733</b>	<b>4,397</b>	<b>16,309</b>	<b>20,827</b>	<b>2,427</b>

To further highlight the demographic changes between the 2010 and 2035 model years, the employment densities are graphically compared on the subsequent pages. These figures illustrate the distribution of the number of employees by type of employment (basic, service and retail) for both years 2010 (**Figure 7**) and 2035 (**Figure 8**). As expected, as Pflugerville continues to grow the concentration of basic job growth can be seen near northern portions of the city along SH 45, with large increases in service and retail along the SH 130 corridor.

Figure 7: 2010 Employment Density by TAZ

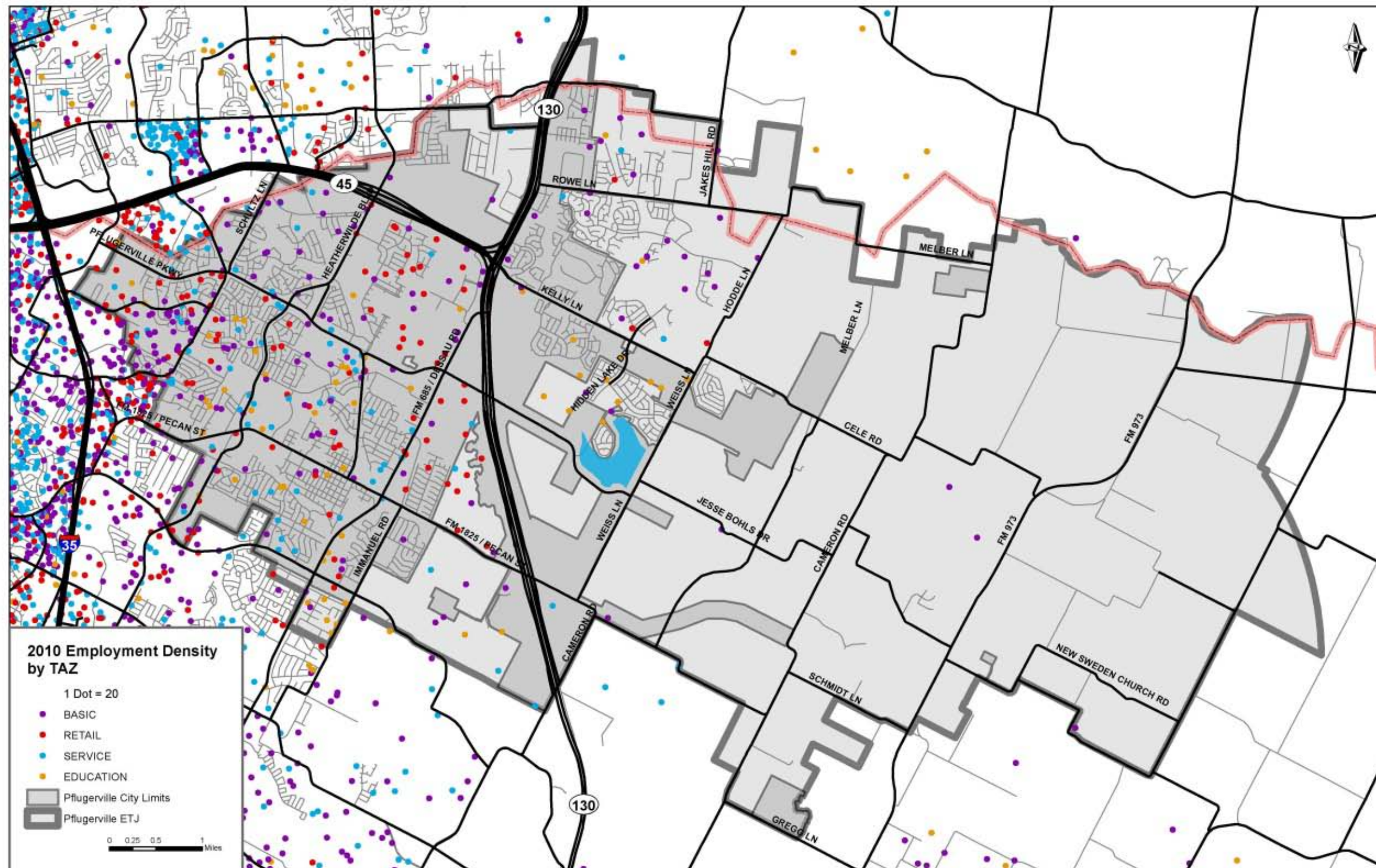
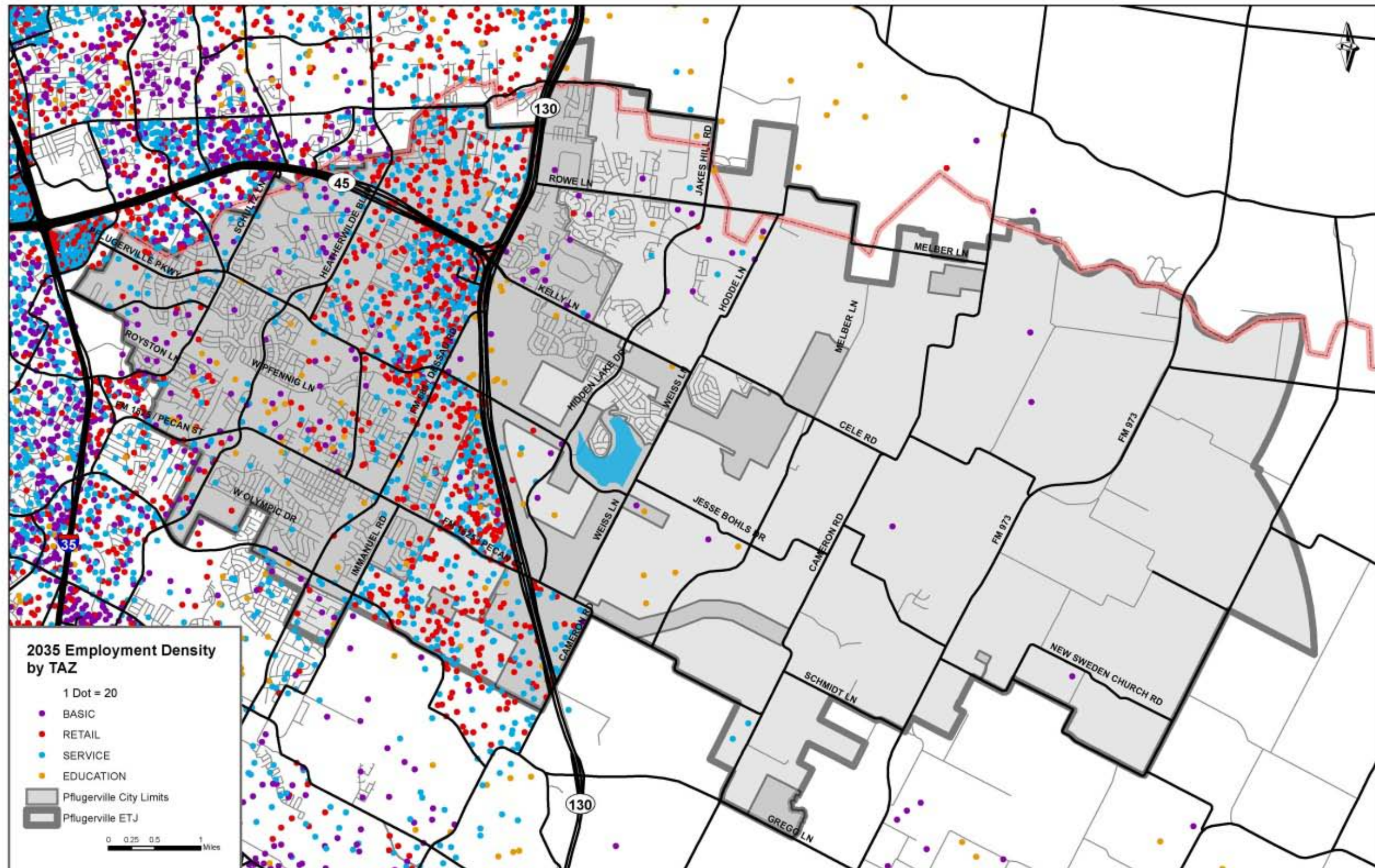




Figure 8: 2035 Employment Density by TAZ





## Network Refinement

Similar to the way the TAZs were refined, in order to study the CAMPO model at the city-level, the model roadway network had to be updated in order to reflect Pflugerville's most recent Thoroughfare Plan. This is the Thoroughfare Plan that was presented as part of the Pflugerville 2030 Comprehensive Plan but was not included in the most currently available CAMPO regional travel demand model (2035).

In order to model at this city-level, some thoroughfare alignments were altered and collectors were added. The primary reason for this was because they were not previously included in the CAMPO regional model and needed to be added for a more complete evaluation. **Figure 9** shows the 2035 CAMPO base model and

**Figure 10** shows the revised 2035 CAMPO model network that reflects the roadway changes outlined above.





Figure 9: CAMPO 2035 Base Model

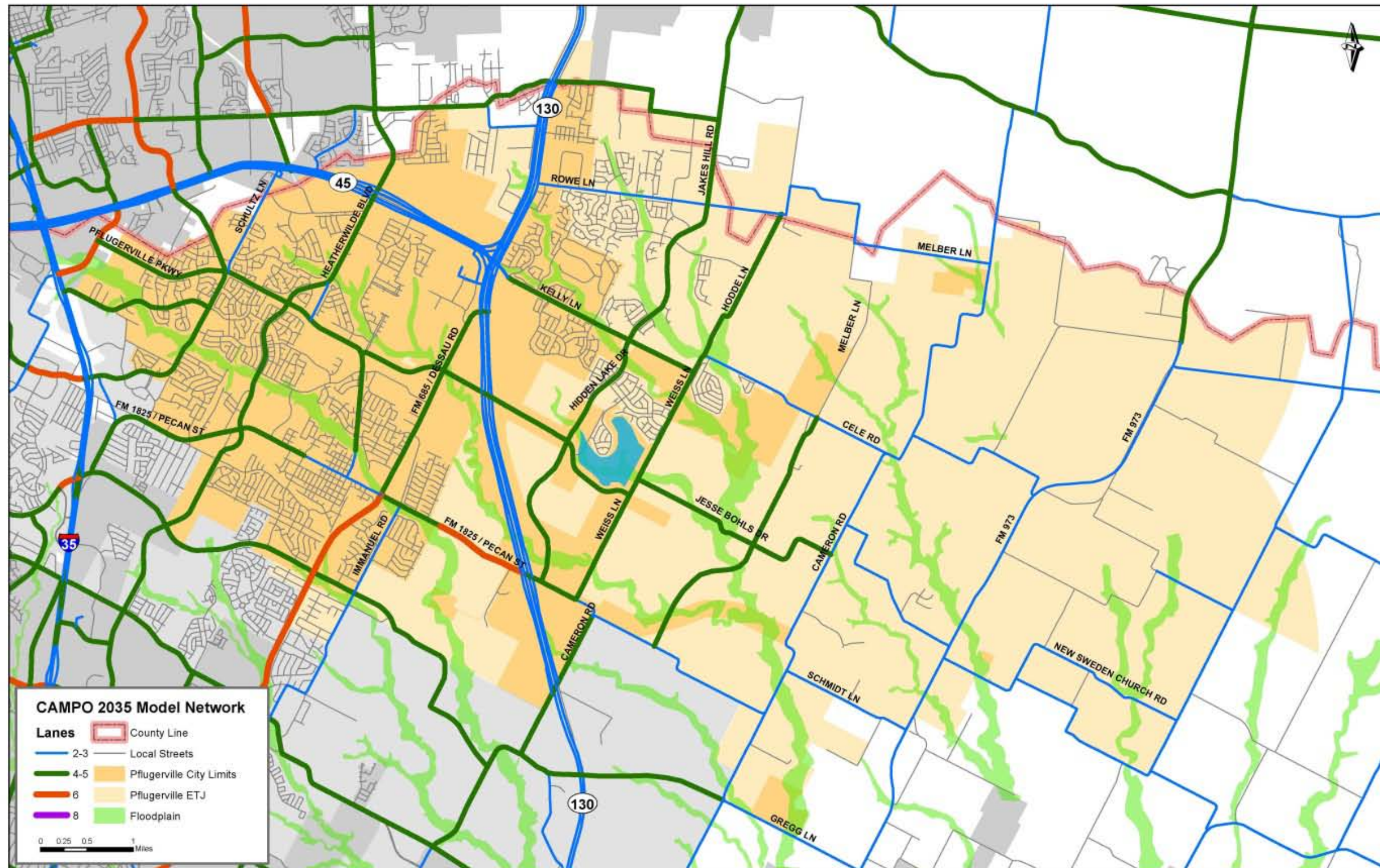
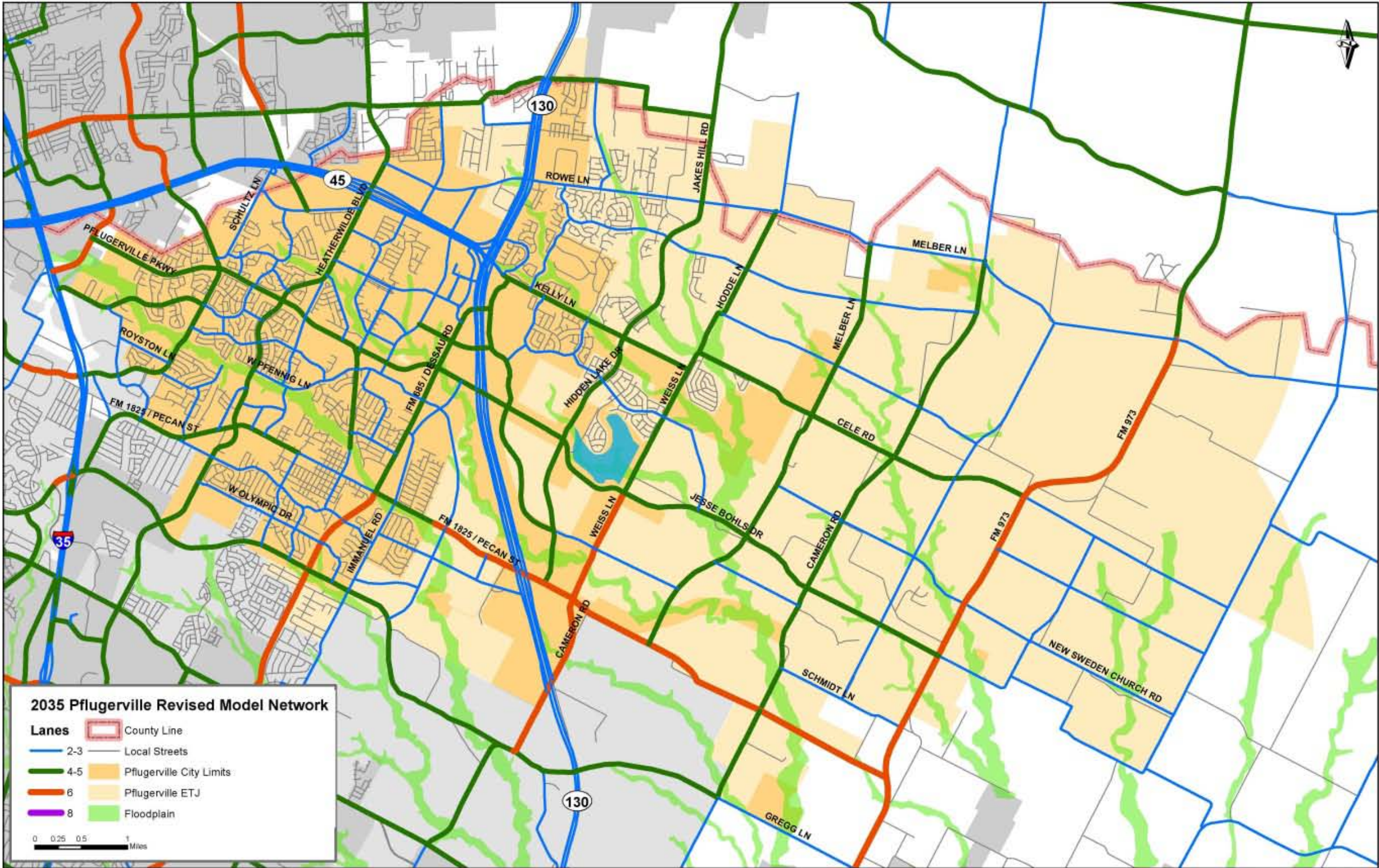






Figure 10: CAMPO 2035 Model with Revised Pflugerville Network







## Congestion Levels and Level of Service

Projected future levels of congestion were used to evaluate how well the proposed transportation network would function. Future traffic volumes are one of the primary outputs of the model that help project transportation demand. Present-day traffic volumes are used to calibrate the model to ensure it is as accurate as possible and then future traffic volumes are generated for each link (roadway segment) within the model. Capacity refers to the amount of daily traffic a particular roadway can handle. For example, a two-lane collector such as Pfennig Lane will have less traffic capacity than a four-lane arterial such as Pflugerville Parkway.

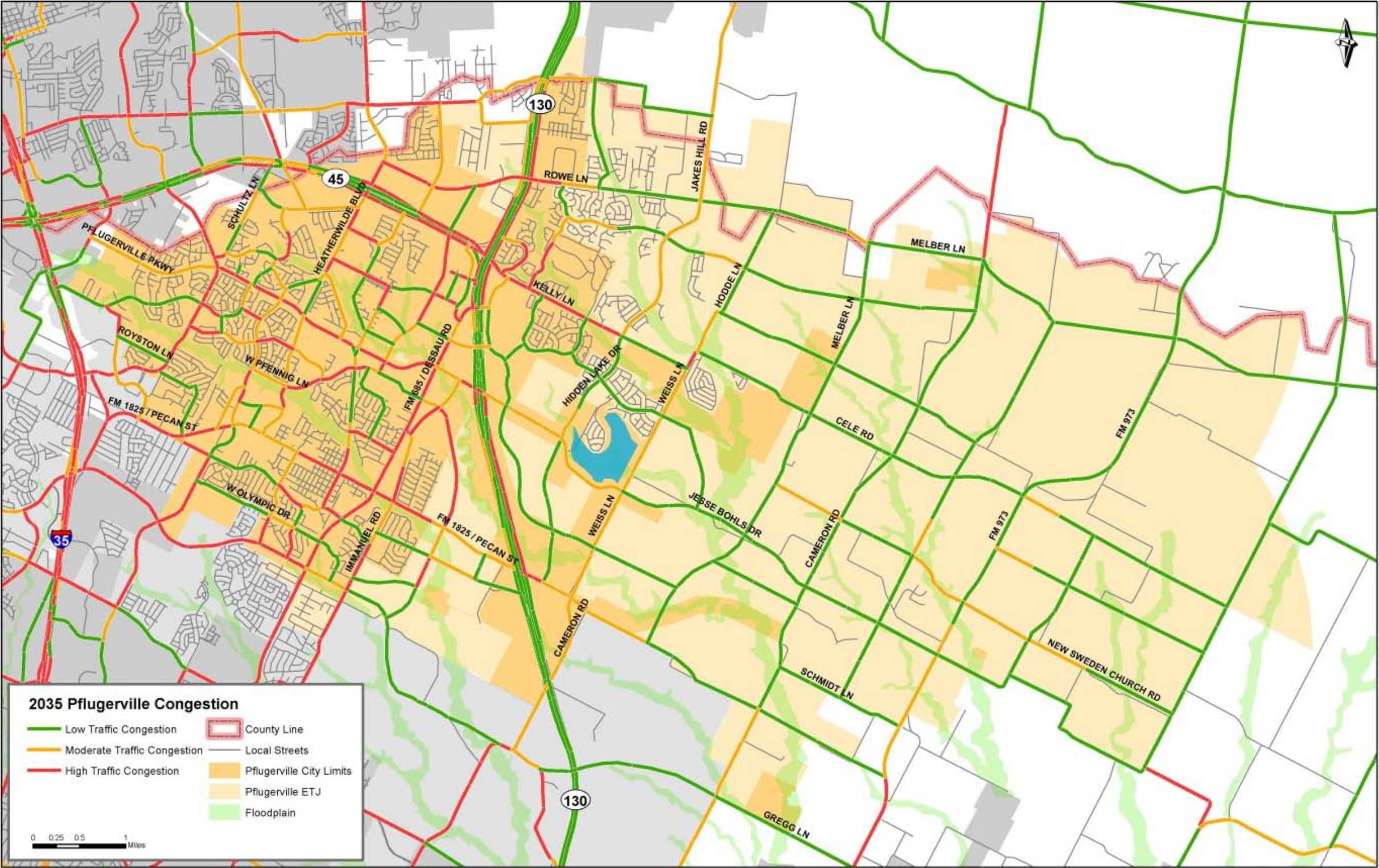
Level of service (LOS) is also a tool that is used to quantify traffic congestion along specific roadways and within the entire transportation network. LOS is determined by dividing the peak hour traffic volume by the available capacity ( $V/C$ ). There are a total of six LOS conditions and these are each based on speed and travel time, freedom to maneuver, traffic interruptions, comfort convenience, and safety. These six levels are given letters “A” through “F” and have varying descriptions. LOS A and B (Low Traffic Congestion) represent free flow conditions where drivers are driving at or above the posted speed limit and traffic volumes are significantly lower than the roadway’s capacity. LOS C or D (Moderate Traffic Congestion) is generally the lowest LOS that a city will deem acceptable. Under these conditions the volumes are significantly higher but speeds are noticeably slower. LOS E and F (High Traffic Congestion) are considered “failing” and roadway volumes are generally higher than the actual roadway capacity. **Figure 11** depicts the projected congestion levels based on the volume to capacity ratio ( $V/C$ ) for the City of Pflugerville in the year 2035 with the roadway network that is proposed at part of the MTP and the information shown in **Table 5** details the relationship between the Levels of Service and roadway capacity.

In reviewing the information presented on the map, it shows that, as anticipated, many of the City’s roadways will be operating at “Moderate” or “High” traffic congestion levels by 2035. In reviewing further this is primarily evident in the western, more established areas of the City. The primary reason for this is due to the fact that most of the roads west of SH 130 are land lock and they can have only minimal improvements, many of which do not allow for the addition of travel lanes or roadway widening. Because of this, it is imperative that the City of Pflugerville preserve the necessary rights-of-way to the east of SH 130 to allow for the continual growth and development of the City.





Figure 11: 2035 Pflugerville Congestion





**Table 5: Level of Service Definitions for Principal Roadways**

Operating Conditions	Level-of-Service (LOS)	Maximum Volumes to Capacity ratio (v/c)			Description
		Two-Lane Roadways	Multi-Lane Roadways	Freeways	
Under Capacity	A	0.10	0.35	0.35	Very low vehicle delays, traffic signal progression extremely favorable, free flow most of the time, most vehicles arrive during green phase.
	B	0.25	0.50	0.50	Good signal progression, more vehicles are stopped and experience longer delays compared to LOS A
	C	0.40	0.65	0.70	Stable flow, fair signal progression, a significant number of vehicles stop at traffic signals.
	D	0.60	0.80	0.85	Congestion noticeable, longer delays and unfavorable signal progression, many vehicles stop at traffic signals.
At Capacity	E	1.00	1.00	1.00	Upper limit of applicable delay, unstable flow, poor signal progression, traffic at/near roadway capacity, frequent cycle failures.
Over capacity	F	> 1.00	> 1.00	> 1.00	Unacceptable delay, extremely unstable flow, and congestions, traffic exceeds roadway capacity, stop-and-go conditions. This is a theoretical measure, as volume can only in theory be higher than capacity.

*Source: Highway Capacity Manual*



## Supply and Demand

Much like the principles of economics, our transportation network also relies on the principles of supply and demand. For example, if a particular municipality neglects to appropriately manage capacity (supply) in an area that is expected for increased population or employment growth (demand), the transportation network will not function well. On the other hand, municipalities with negative growth are finding reduced levels of congestion within their transportation network because less people are using the same transportation corridors that were once meant for a larger population.

A primary objective of the Pflugerville MTP is to plan for a future thoroughfare system that balances supply and demand so that resources are maximized and the system functions safely and efficiently. The results from the model provide an opportunity for the transportation network to be analyzed as a comprehensive system so that improvements can be made where necessary to ensure there is neither too much nor too little capacity to accommodate future traffic volumes. Improvements to Pflugerville's future roadway system were based on the following issues related to supply and demand:

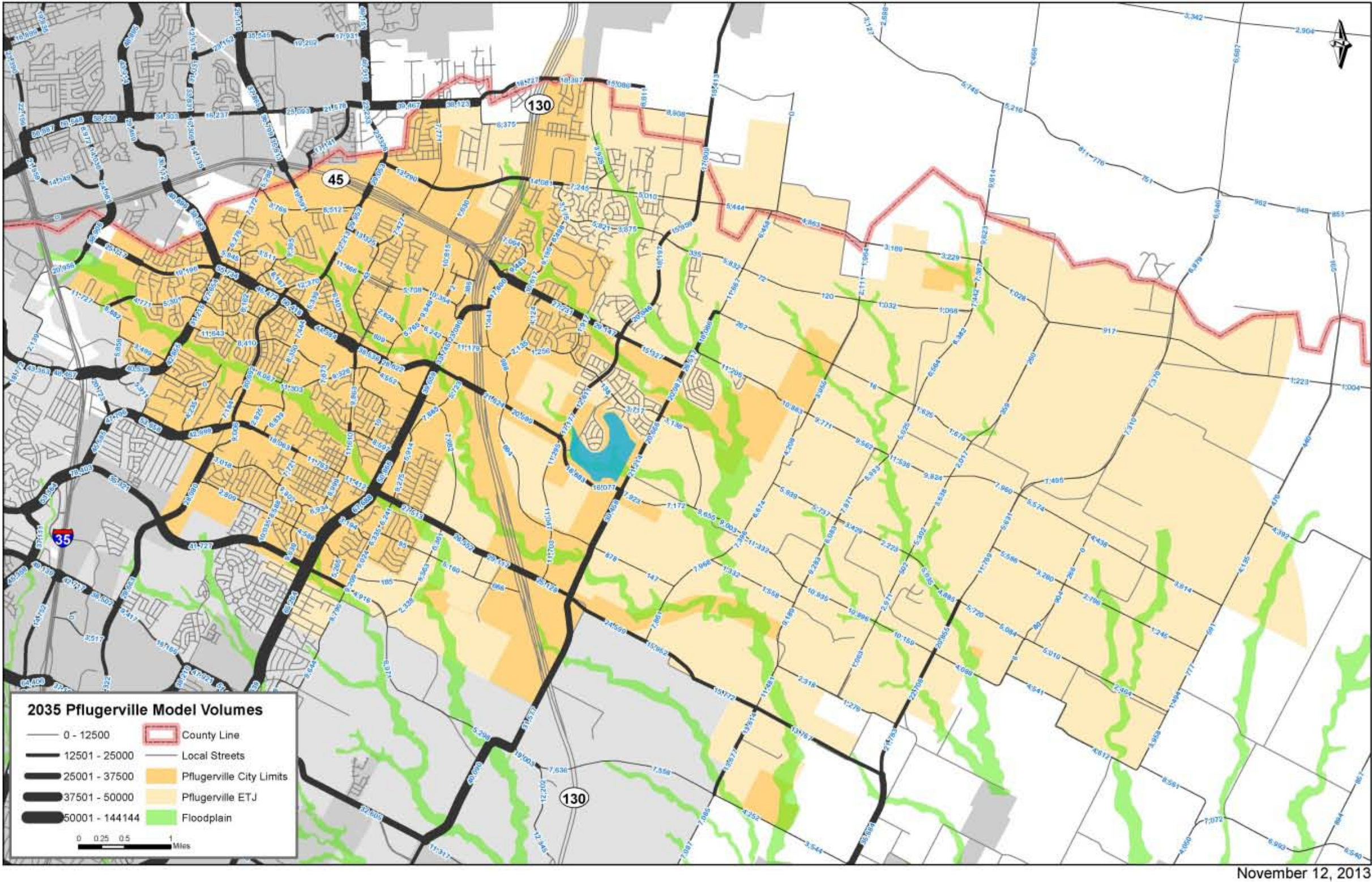
- 1) A roadway that is projected to experience traffic volumes greater than its capacity may need to have roadway improvements to allow for increased capacity.
- 2) A roadway that is planned for increased capacity improvements without the backing of increased traffic volume projections should be carefully analyzed to determine if the improvements are truly necessary.
- 3) A roadway may require increased capacity, but expansion may be limited by site-specific constraints such as right-of-way. In this instance, improvements on parallel facilities and throughout the entire network should be examined to mitigate the demand.
- 4) Increased use of alternate modes of transportation, such as transit or bicycling, could reduce vehicular demand on thoroughfare roadways over time.

**Figure 12** shows daily traffic volumes expected by 2035. The arterials west of SH 130 maintain the highest traffic volumes at greater than 50,000 vehicles per day in some areas. Arterials that carry the most local north-south traffic include Dessau Road and Heatherwilde Boulevard, while Pflugerville Parkway and Pecan Street/FM 1825 are projected to carry the most east-west traffic.





Figure 12: 2035 Pflugerville Model Volumes







## **IV: Master Transportation Plan Development**

This Chapter outlines the process that was undertaken in the development of the Master Transportation Plan with the Master Thoroughfare Plan and design considerations being presented in the next chapter. Flexible Thoroughfare Design is a relatively new concept that is being embraced by municipalities across the country. Flexible design allows for transportation planners and roadway designers to create unique characteristics specific to individual corridors. The changing dynamic that is causing this shift toward a more flexible approach to thoroughfare design is two-fold: 1) alternative modes such as transit, cycling and walking are being requested and utilized more often by citizens, necessitating a shift away from designs that focus solely on the automobile, and 2) it is now recognized that transportation decisions must not be made in a vacuum, and that other elements such as adjacent land uses, land use densities and even socioeconomic characteristics can affect the way a thoroughfare operates.

### **Functional Classification**

Pflugerville, like most cities, has used a traditional functional classification system to group roadways according to the type of service they are intended to provide. This organized system assists citizens and developers in understanding the types of roadways that are planned for the City's transportation system and what those roadways might look like. Historically, street classification systems have been rigid and uncompromising, allowing little to no flexibility in their application. Roadway design and land use planning have traditionally been mutually exclusive of one another and street design characteristics have typically been limited to the area from curb-to-curb and focused solely on the vehicle.

However, this concept of rigidity has evolved over time as the relationship between transportation and land use has become more influential in the design and operation of our streets. Designers and planners alike are beginning to take into consideration the relationship between land use and transportation. Thoroughfare design practice has begun to involve a number of different design considerations that often include the street side area (located between the building front and the curb) and that affect not only automobile users, but also pedestrians and cyclists.

While the City of Pflugerville has historically utilized this traditional functional classification system for its roadways, this updated MTP introduces a new functional classification system that utilizes the existing terminology (Major Arterial, Minor Arterial, Major Collector, Minor Collector), but includes additional flexibility for the design characteristics of the roadway. This allows for each roadway to be designed in a way that adapts to the surrounding built environment and that benefits all users. The Figures shown on pages 37 to 40 illustrate and detail this revised functional classification in greater detail; however, these will be discussed in greater detail in the Transportation Thoroughfare Plan Overview (Chapter 5).



## Street Context and Development Policy

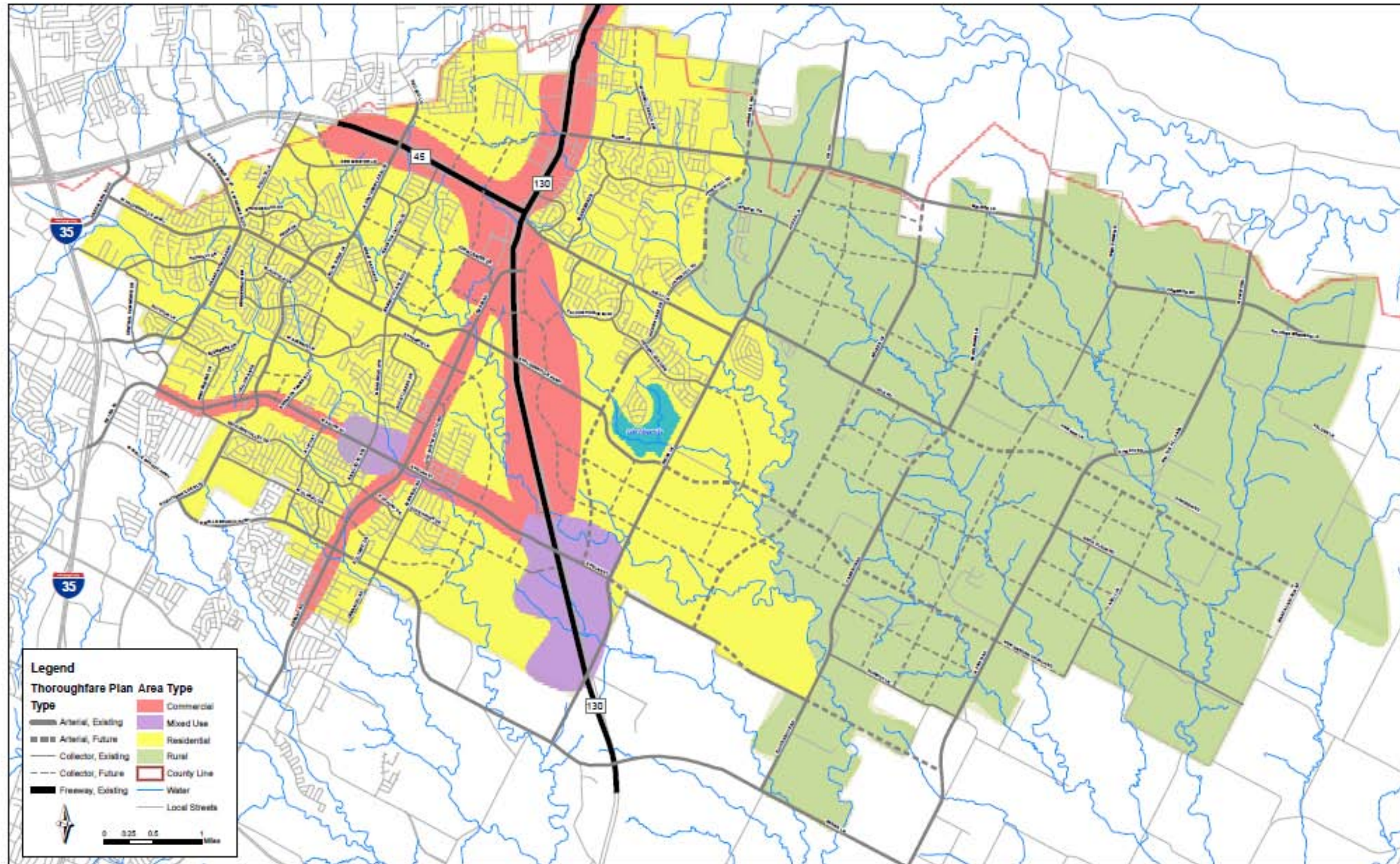
Along with the proposed more flexible functional classification and design standards, the street context, or character of the area adjacent to the roadway will play an important role in the way a street looks and functions. One type of street design will not satisfy all of the different needs within the City and therefore it is important that the design standards offer flexibility to allow for these distinctions. There is no “one size fits all” in the framework of street design.

The City of Pflugerville has been broken into four different area types: Rural, Residential, Commercial, and Mixed Use. These areas are not classified by roadway type, they are classified by the context of the area and how the roadway and the land uses interact. A graphical depiction of the location for each of these area types is shown in **Figure 13**. In order to allow for flexibility within each and to take into account the land use / transportation relationship, all of the roadway function classifications are permitted within each zone: Freeways/Tollways, Arterial, Collector and Local.





Figure 13: Thoroughfare Plan Area Type







## Rural

*Distinguishing Characteristics:* This zone is located east of SH 130 and includes those areas primarily outside the City Limits but within the City's ETJ. Therefore, the City has limited jurisdictional control. The land uses consist of agricultural properties and single-family residential homes. The area has a handful of commercial establishments but most are industrial in nature. The availability of large tracts of land in these areas presents new opportunities for development; therefore planning for future transportation opportunities is important. Open space in this context type is limited to private land. Access to open space is limited.

*Roadway Characteristics:* The roadway is primarily focused on automobile access. Lower traffic volumes and higher speeds are evident in this context type. There is a potential to devote a part of the right-of-way to bicycling and equestrian activities. Many transportation users enjoy cycling and horseback riding in the rural parts of Pflugerville.

## Residential

*Distinguishing Characteristics:* This zone is located in the heart of Pflugerville and has begun to extend east of SH 130 to Weiss Lane. The land uses are low density; primarily a mix of single-family and multi-family residential along with neighborhood schools. Neighborhood commercial activities may be included in this context type, but primarily on a small scale serving the surrounding neighborhoods. The perimeter of the zone can include industrial areas and businesses that have potential to create adverse visual, noise and other impacts to adjoining public and residential properties. Open space is typically included in the neighborhoods that have been developed, but are accessible to all in the public.

*Roadway Characteristics:* In the residential context, there is still a definite separation between transportation modes. The roadway network is dominated by vehicle traffic, with pedestrian and bicycle modes included on adjacent hike and bike paths. Speeds are more moderate and traffic volumes are higher than in the rural context. Introduction of bike lanes on collector facilities may be possible in this context type.

## Commercial

*Distinguishing Characteristics:* This zone is primarily located along corridors with intense commercial activities. These corridors include Pecan St (FM 1825) and Dessau Rd (FM 685). These are the areas that are currently experiencing or may experience in the future high commercial development activities. This is also the location of the new Pflugerville water park, which will attract even more visitors and residents to the area to both shop and play. Open space in this context type is limited to private development which may be in the form of commercial plazas. Increased walking and biking may be important based on the development types within the zone. Careful consideration should be given to accommodate those modes.



*Roadway Characteristics:* The commercial zone consists primarily of automobile traffic and limited delivery truck traffic. Access management concepts should be applied to reduce the conflict points along the corridor and improve safety. Cross access policies should be applied to promote good access for business while providing a safe environment to drive, walk and bike. High traffic volumes are evident in these zones as a result of the large local and regional attraction of the businesses along the corridor. Pedestrian activity in this zone is higher and thus the transportation network should accommodate those users.

### **Mixed-Use**

*Distinguishing Characteristics:* This zone is primarily the older historic district within the City of Pflugerville but it can also include newer more urban developments that may be developing over time. The area consists primarily of small-scale retail, office and residential mixed either vertically or horizontally. Within the zone, parking opportunities are both surface and on-street, with wider sidewalks for increased pedestrian activity. Many structures have been deemed “historic,” therefore it is desirable for this area to maintain a separate context classification for historical purposes.

*Roadway Characteristics:* This zone is focused on a mix of land uses and also a mix of modes. Slow travel speeds are evident in this context. There is a higher proportion of bicycle and walking trips because of the surrounding uses. Parking is on-street and shared among property owners.

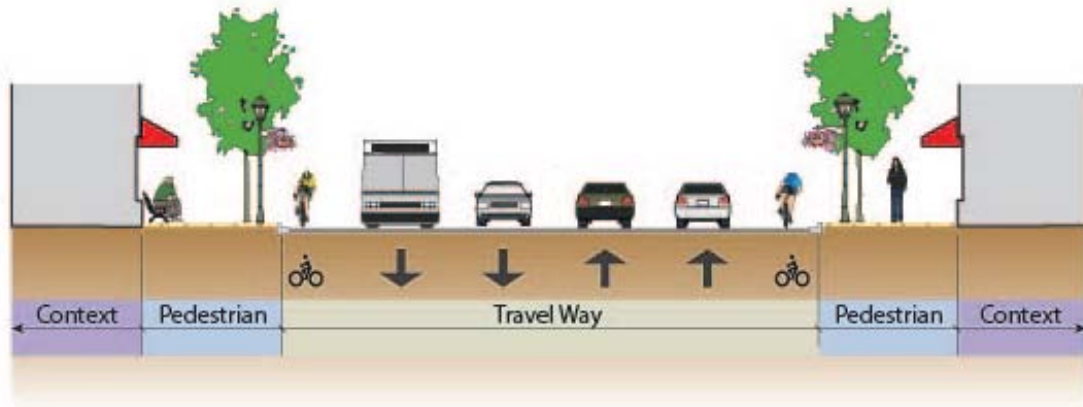
### **Design Elements**

As mentioned previously, street design has historically focused only on the area located between the curbs and has been typically centered on the private automobile. This is commonly referred to as the travel-way and historically does not take into the account the relationship between the surrounding land uses or other modes of transportation. However, emerging practice places emphasis on other aspects of the street in addition to the travel-way. For example, pedestrian and bicycle infrastructure is being implemented more frequently in neighborhoods to encourage healthy living and exercise, and in more commercial locations to spur increased economic development.

When planning future thoroughfares, it is essential to identify all aspects of the corridor in order to maximize efficiency of the roadway system and the value of the surrounding property. Three separate realms have been identified within the development of the MTP to be taken into consideration when planning for roadways. These realms are the travel-way realm, the pedestrian realm and the context realm, as shown in **Figure 14**.



**Figure 14: Anatomy of the Street Identifying Different Realms**



Each of the realms has specific guidelines on how each of the thoroughfares can be designed. The revised cross-sections are presented along with the thoroughfare plan in Chapter 5; however, the different travel realms used in the plan development are defined below. Flexibility is enabled in the design matrix to allow developers and roadway designers the ability to adapt their vision of the corridor to the surrounding built environment.

Although the realms operate to serve a single purpose, each realm maintains a unique function that ensures the safe and efficient movement of traffic.

*The Travel Way Cross-section* is most commonly referred to as the street and it represents the public right-of-way that extends from face-of-curb to face-of-curb. The City of Pflugerville traditionally allows for the transport of more general traffic including cars, trucks, transit, and bicycles. In addition, on certain roadway classifications, the City allows for medians, transit stops, parking, and temporary stops, such as loading zones. These will vary by both functional classification and area type. While the roadway classifications determine the ultimate widths of each, the following are allowed within the travel way:

- Vehicular travel lanes
- Medians
- On-Street or Shared bike lanes (if desired by City of Pflugerville)
- On-Street parking

*The Pedestrian Cross-section* is most commonly identified as the sidewalk adjacent to the street. However, this area is not limited to the sidewalk and is inclusive of the all areas between the curb and building interface. Planting buffers, furnishings, signs, shelters, bicycle parking, and other pedestrian amenities are located in this cross-section. The cross-sections do not have to be the same on each side. An amenity can be located only on one side if the City desires. This



allows for the flexible design given the specific context of the adjacent area or the Context Cross-section. Even though the cross-section allows for fewer amenities, there is much more flexibility in the locations and widths of each. Each of the following are allowed within this cross-section:

- Pedestrian Buffer
- Off-Street Bike path
- Sidewalk

*The Context Cross-section* identifies those properties (private or public) that are adjacent to the public right-of-way and may include residential homes, businesses, offices, and educational facilities, among others. The locations of these establishments are universal and range in placement from more urbanized to suburban context. These elements determine the overall character of the roadway in terms of type, scale and other modifications required of the adjacent travel way and pedestrian cross-section.

### **Flexible Design Elements**

Pflugerville has six distinctly different design elements that are included in the cross-sections outlined above. While there is overlap between some of the design elements and cross-sections, the general premise for each is presented below. Of note is that with the exception of the travel lanes and medians, all of the amenities outlined below can be on one or both sides of the street. While it is desirable to have them on both sides of the street, this is set forth by the City of Pflugerville's geometric and design requirements.

*Travel Lanes* – The Travel Lanes are the area designed for automobile usage. They are the primary component within the travel way. Other uses are allowed within the Travel Lanes – shared bike lanes or on-street parking – but when these are present the travel lanes are typically wider than normal as the lane is shared.

*Median* – Medians are typically constructed on higher street classifications and allow for full roadway width construction but not full roadway width usage. A median can be constructed to reduce the number of lanes and once warranted, the median can be removed. A median can also be placed to help with access management.

*Bike Facility* – Since the bike facilities can be on- or off-street, these are either part of the travel way or the pedestrian cross-section. The City of Pflugerville historically has not actively encouraged the use of on-street bicycle lanes, but the use of bikes is allowed. However, as the City population continues to increase and areas become more developed, the City will explore the option of allowing for on-street or shared bike lanes. The city recognizes that there are residents who do bicycle and they are currently considering provisions for making bicycling safer.





In light of existing on-street or shared bike lanes, the City has developed an extensive off-street network. They are also currently updating the Trails Master Plan to allow for an even more extensive off-street network. Through this updated plan the City is striving to provide connectivity to existing parks and recreational space along with other neighboring regional networks. The outcome will be an even larger network that will allow off-street bicycle paths thus ideally leaving the roadways for the automobile and truck traffic.

While the revised functional classifications and cross-sections allow for on-street bike facilities, this is not a requirement. As the city continues to develop and more residents move into the area, the allowance for on-street bike lanes will be made, but until this time, the design or implementation of this is left up to the discretion of the City of Pflugerville. There are three types of bicycle amenities allowed. They are mutually exclusive of one another and only one type should be used on any given section of roadway.

- On-Street Bike Lane – This is a separately striped bike lane located between the outside travel lane and the curb.
- Wide Curb Lane or Shared Lane – The wide curb or shared lane is not striped separately and it typically just additional pavement width measured from the face-of-curb.
- Off-Street Bike Path – The Off-Street bike path would take into account the City Trails Plan and any other off-street bike paths. The minimum width for an off street bike path is 8 feet.

Sidewalk – Sidewalks are only allowed in the Pedestrian Cross-Section and have varying widths depending upon the area type. The sidewalk does not have to be the traditional five-foot concrete path; it can be part of the Pflugerville Trails Plan. There are several locations where the trail runs parallel to the existing roadway and accommodates both pedestrians and bicyclists.

Pedestrian Buffer – The Pedestrian Buffer is also part of the Pedestrian Cross-Section. The buffer is designed to provide a vegetative or other natural area between the travel way and the Pedestrian area. There are established recommendations for the buffer widths, but a general rule is that the higher speed on the adjacent road the wider the buffer should be. While it is desirable to have this buffer on both sides of the street, circumstances may warrant the construction on only one side.

On-Street Parking – The availability of on-street parking varies greatly by both area type and roadway classification. The On-Street Parking element is part of the Travel Way Cross-Section and while traditionally allowed, it is not always specifically striped or signed.



## **V: Master Transportation Plan**

The Pflugerville Master Transportation Plan is a comprehensive long range planning approach to address the City's transportation needs which ultimately creates the Pflugerville Thoroughfare Plan and design considerations. The City of Pflugerville is anticipated to experience significant growth and development between 2010 and 2035 and as such, planning for the necessary roadways is imperative. By being proactive in the planning process, the City can make smart strategic mobility investments that address all of Pflugerville's transportation needs.

All of the information presented previously was used in the ultimate creation of the City of Pflugerville's Transportation Thoroughfare Plan. While many of the highlighted improvements are currently needed, there are many others that are primarily dependent on development of the surrounding property. The Transportation Thoroughfare Plan is shown in **Figure 15** and it is anticipated that by 2035, an additional 350 lane miles of roadway will be needed to address the anticipated demand.





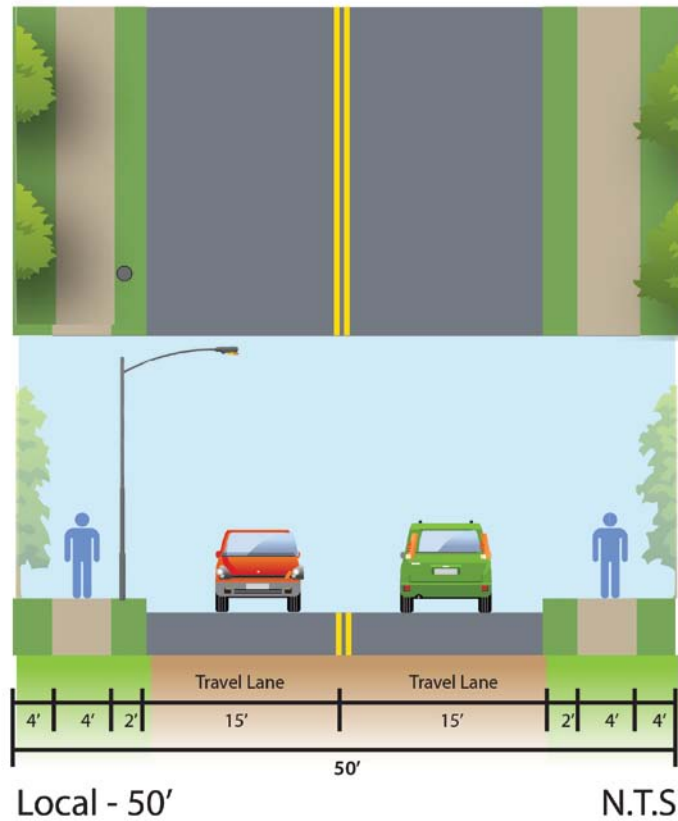
## Functional Classifications and Typical Street Sections

In order to allow for greater design flexibility, a series of typical street sections were developed along with corresponding design tables. As mentioned in Chapter IV, the area type is used to determine importance of different elements of the roadways; for each area type there is a unique set of typical street sections by functional classification. While these allow for differing lane configurations, the right-of-way remains unchanged allowing for both consistency and future roadway expansion when warranted. **Figure 16** to **Figure 20** detail each of the proposed street cross-sections.





**Figure 16: Local Street**

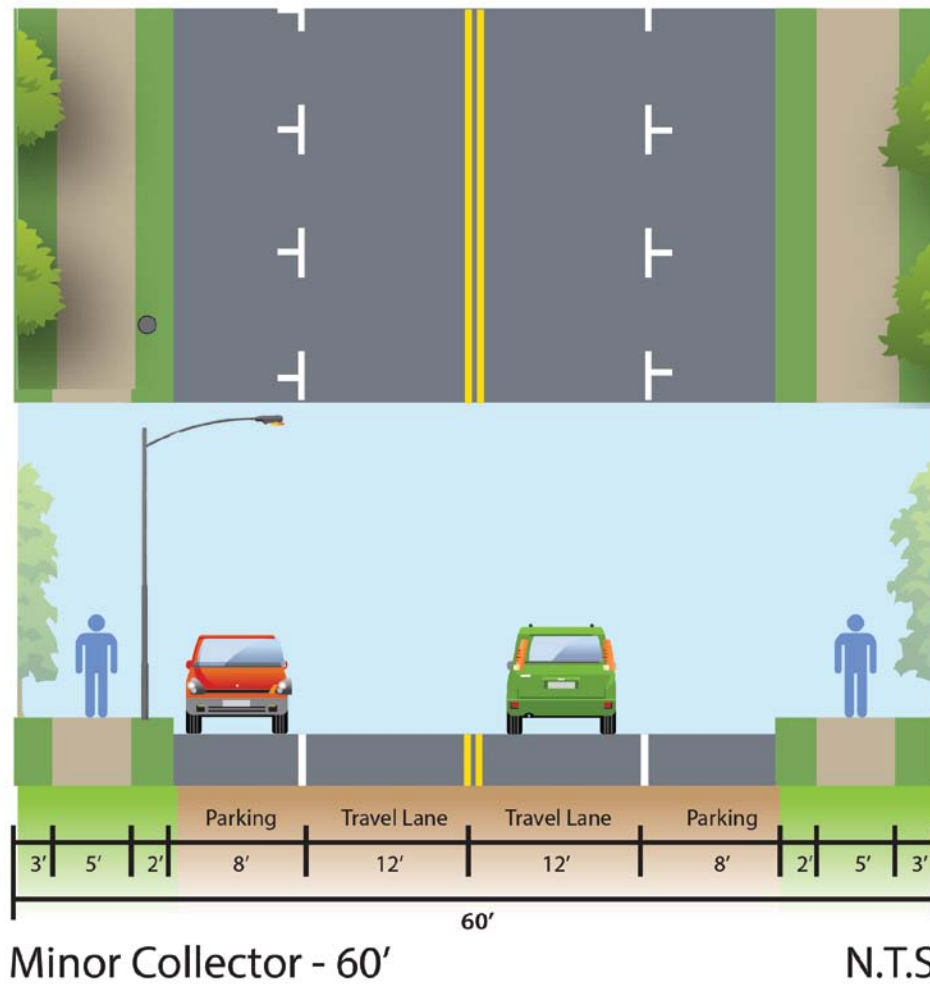


**Table 6: Local Street Section**

Local Street Section						
Pedestrian Way (allowed each side of roadway)			Travel Way (Both Sides of Street)		Median Width	ROW Width
Right-of-Way Buffer	Sidewalk	Pedestrian Buffer	On-Street Parking	Travel Lanes		
4 Feet	4 Feet	2 Feet	Allowed	15 Feet	Not Allowed	50 Feet



**Figure 17: Minor Collector**

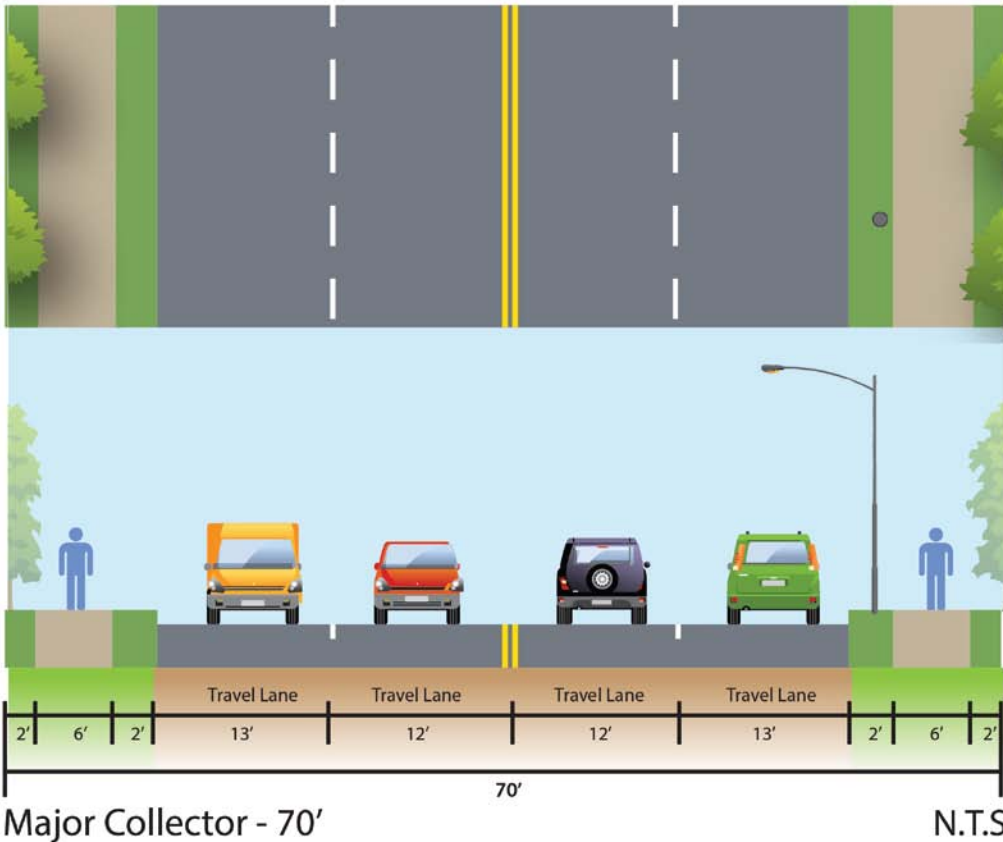


**Table 7: Minor Collector Street Section**

Minor Collector Street Section						
Pedestrian Way (allowed each side of roadway)			Travel Way (Both Sides of Street)		Median Width	ROW Width
Right-of-Way Buffer	Sidewalk	Pedestrian Buffer	On-Street Parking	Travel Lanes		
3 Feet	5 Feet	2 Feet	8 Feet	12 Feet	Not Allowed	60 Feet



**Figure 18: Major Collector**

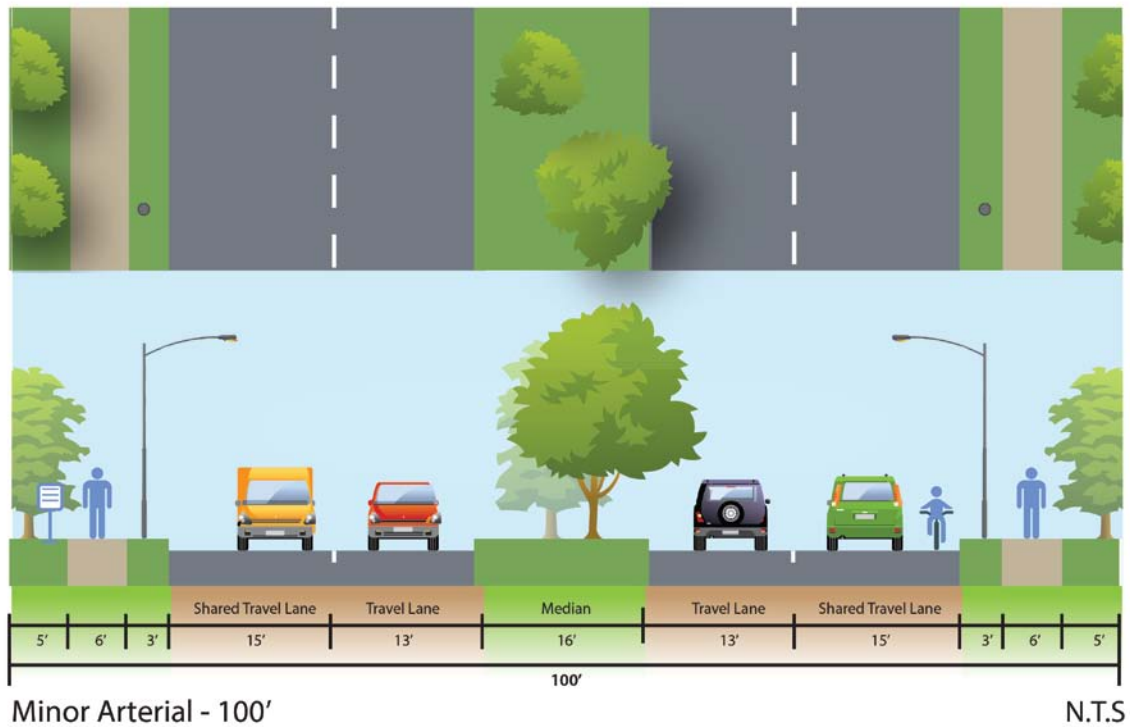


**Table 8: Major Collector Street Section**

Major Collector Street Section						
Pedestrian Way (allowed each side of roadway)			Travel Way (Both Sides of Street)		Median Width	ROW Width
Right-of-Way Buffer	Sidewalk	Pedestrian Buffer	On-Street Parking	Travel Lanes		
2 Feet	6 Feet	2 Feet	Not Allowed	13 Feet outside Lane 12 Feet inside Lane	Not Allowed	70 Feet



**Figure 19: Minor Arterial**



**Table 9: Minor Arterial Street Section**

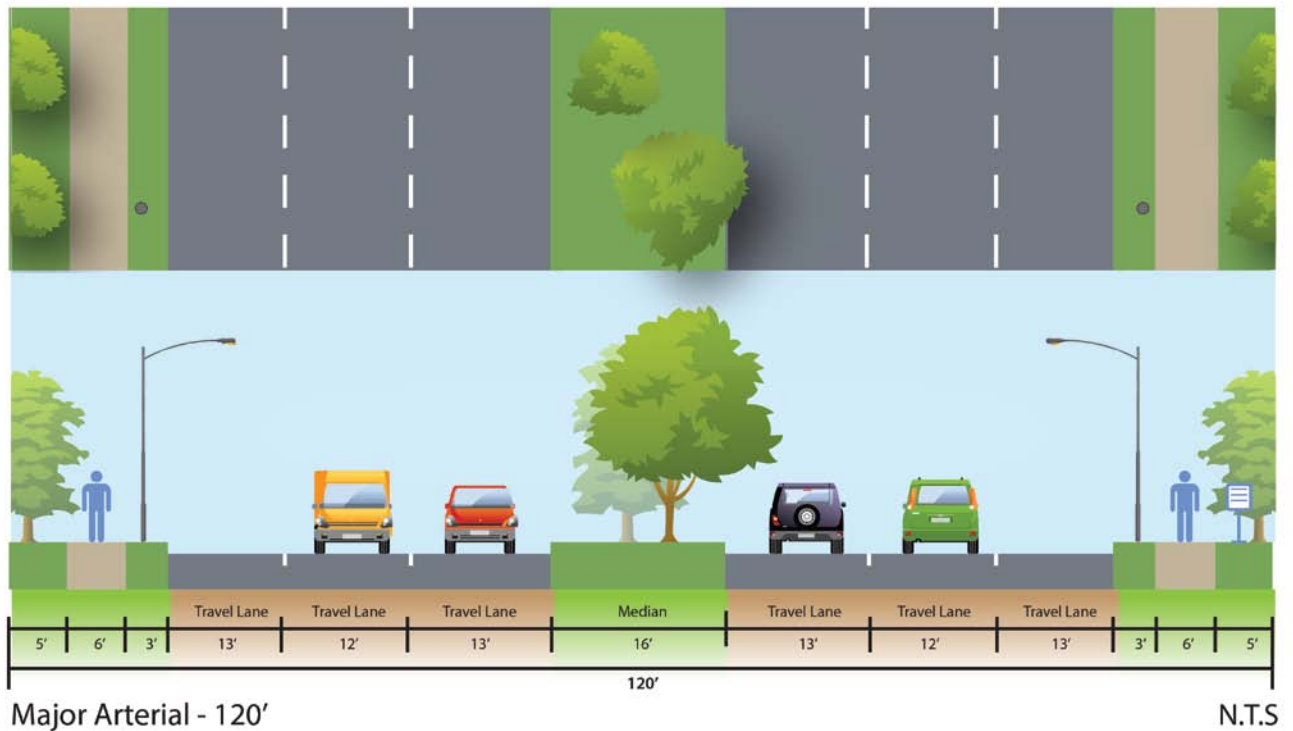
Minor Arterial Street Section						
Pedestrian Way (allowed each side of roadway)			Travel Way (Both Sides of Street)		Median Width	ROW Width
Right-of-Way Buffer	Sidewalk	Pedestrian Buffer	On-Street Parking	Travel Lanes		
5 Feet	6 Feet	3 Feet	Not Allowed	15 Feet outside Lane 13 Feet inside Lane	16 Feet	100 Feet

- Biking is allowed in the outside Shared Travel Lane





**Figure 20: Major Arterial**



**Table 10: Major Arterial Street Section**

Major Arterial Street Section						
Pedestrian Way (allowed each side of roadway)			Travel Way (Both Sides of Street)		Median Width	ROW Width
Right-of-Way Buffer	Sidewalk	Pedestrian Buffer	On-Street Parking	Travel Lanes		
5 Feet	6 Feet	3 Feet	Not Allowed	13 Feet outside lane 12 Feet middle lane 13 Feet inside lane	16 Feet	120 Feet



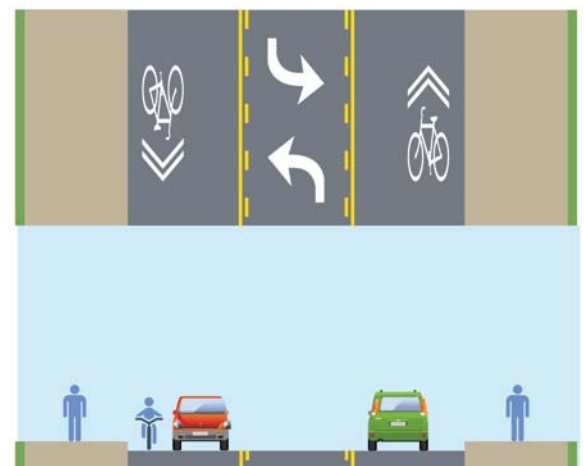
## Special Arterials

The City of Pflugerville wanted to address a number of streets that have specific cross-sectional concerns and needs. A number of the locations have expansion limitations due to right-of-way constraints and/or they have a unique character that the City wants to maintain. This provided an opportunity for the development of cross-sections that take into account not only the location but the desired character of both the roadway and the surrounding land uses.

### Pecan Street/FM 1825

Going through the heart of Pflugerville, Pecan Street/FM 1825 is a primary east-west corridor that bisects the City. From the west the street is currently lined with commercial and retail establishments. As it approaches the heart of Old Pflugerville, that roadway begins to narrow and there is an elementary school as well as Pflugerville High School along with many small local retail and commercial establishments. This is an area where many community gatherings are held and given this, the City wants to preserve the Old Town character and create a more pedestrian friendly context. To take this into account, **Figure 21** details a potential cross-section for the area. This cross-section allows for wider pedestrian amenities along with an efficient travel way.

To the west of this area, west of Dessau, the street widens back into a 4-lane corridor in order to accommodate the SH 130 intersection. East of SH 130, the roadway narrows back to a 2-lane cross-section and reverts back to the more rural context.



**Figure 21: Pecan Street/FM 1825**

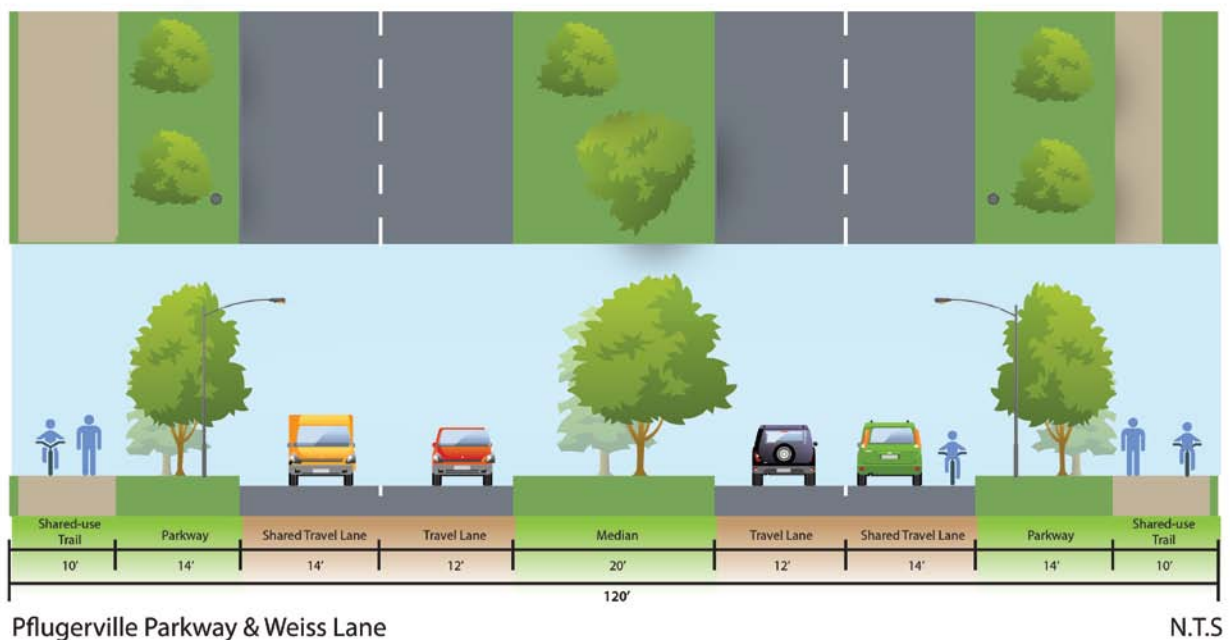
Pecan St/FM 1825  
(10th - FM 685)  
Urban Section  
60'  
N.T.S



### Pflugerville Parkway/Weiss Lane

Lake Pflugerville and Weiss Lane each have a significant role both to the residents of the City of Pflugerville (community events and recreation) as well as to the local economy (triathlon training and events). Because of this, both roads were given special consideration.

Pflugerville parkway is classified as a Major Arterial (120 right-of-way). The City would like to retain its walkable, community character especially in the area surrounding the lake. Weiss Lane has some significant right-of-way limitations and has recently seen an increased interest from the development community through the planning for large residential developments as well as potential school developments. Given both the proximity to Lake Pflugerville and the rural nature of the roadway, it also is used for many bicycle races along with race training. Because of these issues, safety is of primary concern. **Figure 22** depicts the ultimate cross-section for both Pflugerville Parkway and Weiss Lane.



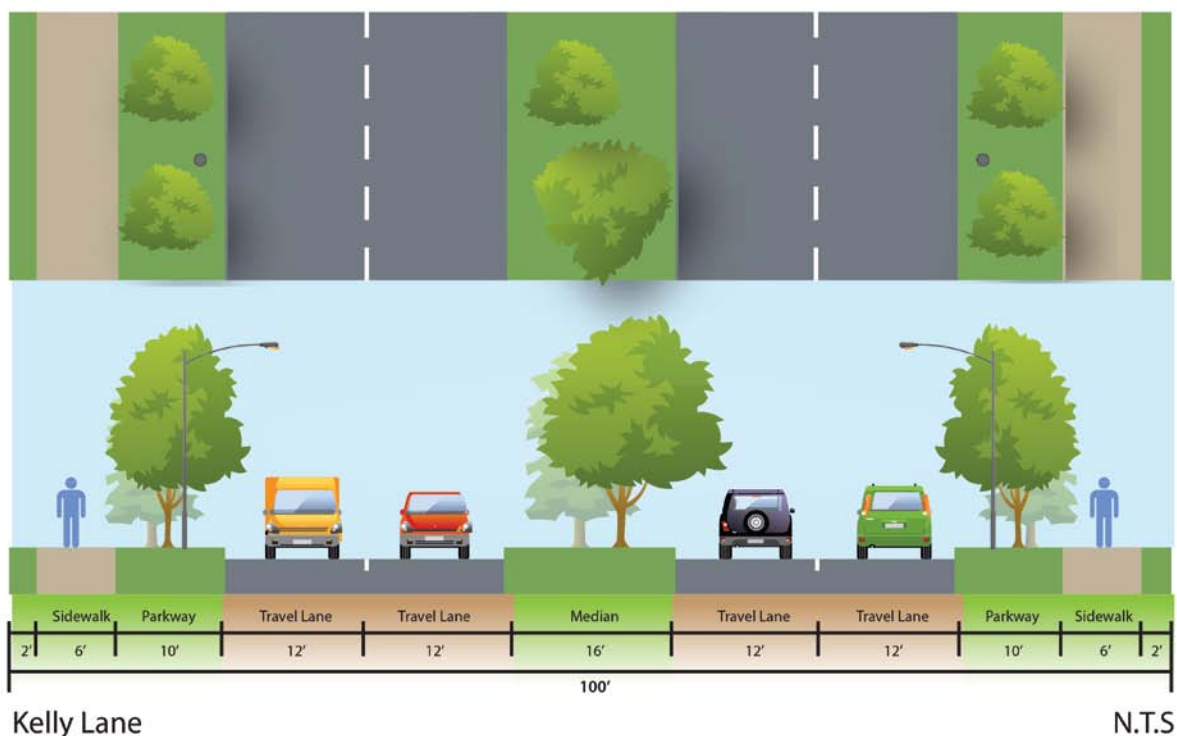
**Figure 22: Pflugerville Parkway & Weiss Lane**





### Kelly Lane

Kelly Lane is a critical concern to the City. The roadway extends east of SH 130 and is the primary access location for a significant amount of residential development along with a high school and a middle school. At the intersections with SH 130 and Weiss Lane, there is great potential for commercial and retail development. This will only add traffic to the already congested roadway. As currently constructed, the roadway has significant right-of-way limitations between SH 130 and Weiss Lane. Additional travel lanes cannot be added in this section without the acquisition of right-of-way. **Figure 23** depicts the ultimate cross-section for Kelly Lane that allows for improved travel but keeps with the residential nature of the community.



**Figure 23: Kelly Lane**



## VI: Prioritization Process

As part of the development of the MTP a Transportation Improvement Process (TIP) was proposed. This can be included as part of the Capital Improvement Plan that the City currently undertakes. However, this is explicitly for transportation related projects and is a prioritization process. The TIP process is how the city identifies transportation projects that are to be implemented traditionally on a 5-year plan; however, it is recommended that the City review and amend and prioritize projects on an annual basis. By reviewing annually the City can ensure that projects are still necessary and that appropriate funding options are considered. It also allows for immediate response should TxDOT, CAMPO or Travis County request projects for funding consideration. Communication with these agencies is critical in order to position Pflugerville to obtain Federal, State or local funding. TIP projects must continue to meet criteria such that they can be implemented within the 5-year program cycle. All projects should be consistent with state/regional/local transportation plans and conform to the state/regional/local planning requirements. Proposed projects are not inclusive of general maintenance and local street improvements; however, at a minimum, should include the following:

- Roadway classification of Collector, Arterial or Freeway,
- Intersection or safety improvements along the above roadway classifications, and/or
- New Collectors, Arterials or Freeway locations

The prioritization process allows the City to have a clear understanding of the methodology for the prioritization of transportation projects. Having a standardized process legitimizes the evaluation and puts every project on the same initial starting point. **Table 11** identifies the different evaluation criteria, their respective measures of effectiveness (MOEs) and potential scoring criteria that can be used to evaluate projects with Pflugerville. The scoring criteria should be re-evaluated each year with assigned points changing according to the community's needs. However, in this sample evaluation table, 30 points were awarded to the highest need in each category, 20 points to the second and 10 points to all others. Depending on the City's needs at the time, each of the criteria could be assigned equal or varying weight. The City has the opportunity to adjust the weighting based on changing community goals and opportunities. The resulting ranking will determine which projects provide the greatest benefit to the City based on factors such as mobility, cost-effectiveness, and air quality. It is important to note that the criteria presented are for informational purposes. The City should carefully consider the development of the desired criteria that addresses the specific needs.

A three step approach is proposed for the ultimate development of the priority projects;

Step 1: This step involves the overall evaluation of the proposed roadway network. City staff will review all “new” projects and then re-evaluate the system as a whole. The impacts of these additions will be determined and if desired, the City can include these “new” projects in the Travel Demand Model.



Step 2: This step involves the City Staff working closely with elected officials, City officials and community leaders on the refinement of the project information.

Step 3: Step 3 is the final step in the overall TIP selection process. City Staff and others will rank all of the projects using all available data. These rankings will form the basis from which the TIP funded projects are developed.

**Table 11: Potential Project Evaluation Criteria**

Evaluation Criteria	Scoring Criteria (Total Points – 310)	
	Possible	Awarded
<b>Community Need (Possible Total Points – 60)</b>		
Does the project have community support? Is it a community priority?	<b>30</b>	
Is there is clearly demonstrated existing or future need for the project?	<b>20</b>	
Are the projected project costs reasonable?	<b>10</b>	
<b>Safety Improvements (Possible Total Points – 60)</b>		
Does the project provide trail connectivity?	<b>20</b>	
Does the project improve bicycle mobility?	<b>10</b>	
Is the project a safety improvement?	<b>30</b>	
<b>Roadway or intersection Operations (Possible Total Points – 80)</b>		
Does the project significantly improve operational conditions or levels of service?	<b>30</b>	
Does the project remove an existing bottleneck?	<b>20</b>	
Is the project a result of land use changes?	<b>10</b>	
Does the project provide for connecting sections of an existing or planned street?	<b>10</b>	
Does the project preserve future continuity or right-of-way?	<b>10</b>	
<b>Regional Planning (Possible Total Points – 60)</b>		
Is the project listed in any of the regional transportation plans – CAMPO, Travis County, or TxDOT?	<b>30</b>	
Is the project consistent with the Pflugerville Master Transportation Plan?	<b>20</b>	
Is the project construction ready?	<b>10</b>	
<b>Environmental (Possible Total Points – 50)</b>		
Could air quality be improved through the construction of this project?	<b>30</b>	
Are there negative environmental impacts?	<b>20</b>	





## VII: Investment Strategies

Leveraging investments between public and private partnerships both on the local and state level is essential to meeting the growth strategy envisioned by the City of Pflugerville. Proposed investments should be weighed against the return on investment they will have for the City. This strategic investment plan serves as a guide and should be revisited and modified, as necessary. The purpose of this strategy is to set the course and describe a new financial model, one that relies upon the combining of the institutional boundaries and takes advantage of available funding options.

Historically Pflugerville has paid for roadway improvements in its annual budgeting process through traditional funding sources and/or partnering with other agencies. This typically includes a review of all the money the City generates and then determining what projects the City needs to complete. All roadway projects have to compete with other wants or needs that the City may have. This funding mechanism requires a lengthy funding process as well as the potential for a multi-year project, one that is unknown for year to year because it is dependent on that particular funding cycle and the projects competing for the same funding dollars. The City does not have a multi-faceted approach to roadway funding.

Creating a mechanism to deliver the envisioned roadway network and the development of the necessary partnerships is critical to be awarded funding and in attracting other funding sources. Pflugerville should partner with TxDOT, Travis County, and CAMPO to ensure the City is a high priority for future grant opportunities. Together with a master plan vision developed within the MTP and strategic implementation program, the City has positioned itself so that it develops in a unified and sustainable manner even when there are multiple sources of financing and many different operators (TxDOT, Travis County, City of Pflugerville).

### *Transportation Funding Options*

The following funding option(s) are the primary approaches that the City of Pflugerville should consider for funding its infrastructure network. It should be noted that these options are not mutually exclusive; in fact, it is recommended that the City consider utilizing multiple options implemented simultaneously to pursue funding infrastructure improvements identified in the Transportation Master Plan.

1. **Traditional Funding Sources:** Use of general fund, General Obligation (GO) bonds, Certificate of Obligation (CO bonds), CAMPO funds, TxDOT funds, County partnership opportunities, etc.
2. **Boundary Street Policy:** A policy whereby the City requires development to construct thoroughfare facilities identified on the Master Plan that run within or adjacent to the development.



3. **Traffic Impact Study:** The use of subdivision regulations to require new development to conduct a formal traffic impact study to identify specific impacts of the development and perform mitigation improvements.
4. **Rough Proportionality Policy:** A policy whereby the City conducts an ‘individualized determination’ to identify the impacts of a new development and requires improvements at an amount that could be up to that development’s proportionate share.
5. **Private Sector Partnerships:** The use of Tax Increment Financing (TIFs), Tax Increment Refinance Zone (TIRZs), Chapter 380 Agreements, etc. whereby revenues generated by new development (property taxes, sales taxes, etc.) are utilized to pay back a developer (or other party) for up-front infrastructure costs.
6. **Impact Fee Policy:** A policy whereby the City uses Chapter 395 of the Texas Local Government Code to require developers to pay a one-time fee at the time of building permit approval based on the proportional impact of the development that can be used to make transportation system capacity improvements.

### ***Growth-Related Transportation Funding Recommendations***

Based on the analysis conducted as part of this study combined with the outcomes from the in-depth workshop discussion with the City of Pflugerville conducted in July 2013, it is recommended that the City consider advancing all of the above options for future consideration. Below is a description of how this multi-faceted approach could be applied within the City of Pflugerville.

- The City of Pflugerville should continue to explore the use of **traditional funding sources**, particularly to construct the following improvements:
  - o Major projects that are highly unlikely to be constructed by the development community (i.e. major bridges, floodplain crossings, etc.),
  - o Transportation system gaps through undeveloped areas, and
  - o To supplement the size and scale of developer projects and/or contributions.

When the cost of the City’s long-term transportation needs exceeds available short-term funding, the City could consider developing a transportation bond election. If approved, this money would specifically support identified transportation projects consistent with the Master Transportation Plan. The City would borrow money through the issuance of debt to fund necessary improvements. Pflugerville has never had a transportation bond election and because of this, careful consideration should be given to the project needs and the debt levels being considered. While the bond debt does carry interest and other related costs, the time frame in which the proposed projects can be completed could allow for other revenue generating activity to occur and subsequently be a win-win for the City of Pflugerville and its residents.



- The City's Unified Development Code should be amended to include some form of **boundary street policy** to require thoroughfare improvements immediately adjacent and/or within to new development. This logical approach to providing transportation infrastructure is relatively simple to adopt and administer. Should the City of Pflugerville choose to include this option, a corresponding **rough proportionality policy** is required to limit any required border street construction to no more than an amount that is roughly proportionate to the impact of the development (the lack of a rough proportionality policy to support their border street policy is part of the reason why the Town of Flower Mound lost its case against Stafford Estates – **Appendix III**).
- The City's Unified Development Code should be amended to include a **traffic impact study** policy focused on intersection improvements, safety, turn lanes, and related traffic flow considerations. This relatively simple addition helps to ensure the master plan is implemented in an incremental manner as needed.
- **Private Sector Participation** options should be pursued in cases where significant up-front infrastructure costs may otherwise preclude a particular development with long-term benefits from proceeding. This option should be pursued sparingly so as to minimize the risk to the City that an unsuccessful development would impact the ability to make the necessary debt-service payments to the applicable creditor.
- A combined **roadway impact fee / rough proportionality policy** would allow for the City to do the following:
  - o Collect roadway impact fees within the City Limits (consistent with Chapter 395 of the Local Government Code) to further supplement all of the above funding options. Impact Fees may be used for a variety of purposes: to fund design projects earlier than was previously possible, to supplement other developer projects, or to be used as an economic incentive tool with an appropriately structured ordinance. Over time Impact Fees can be pooled together within a particular Service Area (a six-mile area defined within state law where impact fee funds that are collected must be spent) – so long as they are spent within ten years from the date they are collected – to cash fund a particular improvement. In addition, they can be used to pay back debt service on previously completed projects which are impact fee eligible.
  - o A supporting rough proportionality policy would limit the City's exposure to a proportionality challenge (which is especially critical if a border street policy is also implemented), allow the City to require off-site construction at an amount above the impact fee collection rate (with an appropriately structured ordinance where the maximum assessable impact fee is deemed to be the roughly





proportionate amount), and require ROW dedication and/or construction within the ETJ (which would not be possible with an impact fee policy alone).

It should be noted that there are a number of variations to each option that could be taken by the City of Pflugerville; it will require significant additional discussion prior to advancing one or more of these options.



## VIII: Master Transportation Plan Implementation

The development of a Master Transportation Plan is a critical step toward the future of Pflugerville. In order to position Pflugerville as a world class community and residential destination, steps need to be taken towards the improvement of the City's infrastructure that will both support the growth of the area, and improve the overall experience for both residents and visitors. With the clearly defined vision, the City now needs to take strategic steps to begin to implement the vision.

The Pflugerville Master Transportation Plan builds upon the framework that was developed during the 2030 Comprehensive Plan process and ultimately presented in the Pflugerville Thoroughfare Plan. Utilizing the CAMPO 2035 Travel Demand Model as the base, a Pflugerville specific model was developed. This model allowed for TAZ refinement which in turn allowed for a more focused review of the arterial and collector street network. The Master Transportation Plan incorporates planned growth and development and provides guidance on how to accommodate this on an ever expanding transportation network.

Adherence to the policies and priorities set forth in the Master Transportation Plan is key to the overall success of the Plan now and into the future. It is anticipated that by 2035, Pflugerville will need an additional 350 lane miles in order to accommodate the nearly 100,000 additional city residents. This completed network (existing and proposed) was shown previously in **Figure 5.1**. These added lane miles can be capacity improvements to existing facilities or newly constructed roadways.

The City of Pflugerville cannot possibly take on all of these projects at the same time. Therefore, a prioritization process must be developed that will allow for an annual review of the potential projects. This will allow the City to review the projects in greater detail and utilize a comprehensive approach in the evaluation of each of the proposed roadway projects. This process will enable the community and the City to recognize problems, select solutions, and prioritize their implementation in both the near and long term.

### Pflugerville Prioritization Process

As presented previously, the development of a Transportation Improvements Process (TIP) is part of any transportation plan. It is used to evaluate each of the roadways on an annual basis based upon criteria such as community needs, safety, operational analysis, regional connectivity, and environmental concerns. These measures of effectiveness are determined by the City of Pflugerville and the community and allows for smart and strategic mobility improvement that can be endorsed by all.

The purpose of the process allows the City to have a pre-set process for project selection that has a clearly defined selection methodology. **Table 6.1** depicted a sample criteria table along with their respective evaluation criteria. It is envisioned that each criterion will be assigned



weighting, these can and will change based upon the community's demographic needs. The resulting ranking list will provide valuable input into the annual project selection process. The City can further refine the list based on available funding if necessary.

### **Adoption of the Master Transportation Plan**

Once the Master Transportation Plan is completed, both it and the Thoroughfare Plan it must be adopted by the City of Pflugerville. This will allow for the implementation of the proposed roadway projects. It is also important that the plan be revisited on an annual basis. Since land planning and development is a continual process, the Thoroughfare Plan should be reviewed annually and when necessary, the travel demand model can be updated. This will ensure that the City is addressing all needed roadway improvements. Also, with the completion of new developments the City can easily determine any impacts to the surrounding roadway network and revise the Thoroughfare Plan accordingly.



## VIII: Proposed Transportation Goals

The follow outlines the goals, policies and actions as previously established in the Pflugerville 2030 Comprehensive Plan. Following each is an update with regard to the action being undertaken. If no action has been taken, then there is no update provided.

### **Goal 1: Pflugerville will have a regional transportation presence to ensure connectivity between emerging destinations and centers both within and external to Pflugerville and to maintain a voice in regional transportation planning and funding cycles.**

- Policy 1.1: Cooperate with local, county, and state governmental entities in the expansion, maintenance, and enhancement of the roadway system.
- Action 1.1.1: Continue to plan and develop a functional transportation system that is coordinated with the Preferred Land Use Vision Map.
- Action 1.1.2: Continue cooperation with CAMPO, Williamson and Travis counties and surrounding cities to ensure that thoroughfare planning efforts are coordinated.
- Policy 1.2: Evaluate the potential for developing public transportation options.
- Action 1.2.1: Encourage active participation in regional discussions concerning public transportation.
- Action 1.2.2: Continue to seek opportunities to collaborate with other entities in the region in regards to public transportation; via Project Connect North Corridor.
- Action 1.2.3: Pursue the development of a comprehensive transportation development program to integrate transit and associated funding priorities.
- Policy 1.3: Utilize the MoKan Corridor for transportation purposes consistent with Resolution #1413-14-07-08-0212.
- Action 4.3.1: Position the corridor and adjacent land uses to be supportive of transit.

### **Goal 2: Balance land use and transportation infrastructure to make living, working, shopping and playing in Pflugerville safer and more convenient for residents and visitors.**

- Policy 2.1: Thoughtfully locate traffic generators such as employment centers to ensure they are accessible and compatible with adjacent land uses.
- Action 2.1.1: As a rule, locate high trip generating uses such as employment and regional centers adjacent to arterial roadways, major collector streets, or freeway frontage roads.
- Action 2.1.2: Maintain an active Safe Routes to School program to encourage walking and bicycling to schools.





**Goal 3: The design, development, and maintenance of roads will consider the needs of current and projected populations in a consistent and coordinated manner.**

- Policy 3.1: Use the Thoroughfare Plan as a guide to determine, classify, locate, and schedule roadway development improvements.
- Action 3.1.1: Maintain a travel forecast model using software compatible with that currently used by CAMPO and TxDOT.
  - Action 3.1.2: Utilize a Street Design Manual that includes conventional standards for each roadway type shown in the Thoroughfare Plan regarding right-of-way, pavement width, parkway width, and median type/utilization; incorporates Context Sensitive Design (CSD) standards where deemed applicable; and includes “Complete Street” standards.
  - Action 3.1.3: Continuously evaluate and amend as needed the Engineering Design Manual and Unified Development Code to reflect the goals of the Comprehensive Plan.
  - Action 3.1.4: Review and evaluate the Thoroughfare Plan annually.
  - Action 3.1.5: Collaborate with TxDOT, City of Austin, and Travis County to initiate a Corridor Study for FM 1825 and FM 685.
  - Action 3.1.6: Actively encourage public participation in the thoroughfare planning and engineering design processes.
  - Action 3.1.7: Complete pavement management survey and pursue funding maintenance based on recommendations.
- Policy 3.2: Maintain access while not affecting the flow of traffic for primary and secondary roadways.
- Action 3.2.1: Employ access management techniques such as shared driveways and cross access easements to reduce the number of driveways on high-volume roadways.
  - Action 3.2.2: Consider an access management plan that satisfies TxDOT criteria for city oversight.
  - Action 3.2.3: Consider roadway development and/or modification to encourage creation of unique developments and access opportunities.



**Goal 4: The cost of developing transportation infrastructure will be shared among those that benefit from it the most – developers, the City, other government entities, and users.**

- Policy 4.1: Develop a long-range and incremental plan for budgeting and prioritization of projects identified in the comprehensive plan.
- Action 4.1.1: Pursue a transportation model for the City that can be used to evaluate existing and future roadway capacity needs.
  - Action 4.1.2: Coordinate priority transportation projects with the annual review of the multi-year Capital Improvement Program (CIP).
  - Action 4.1.3: Continue to seek funding through PCDC, TxDOT, CAMPO and other entities to collaborate with the City in accomplishing transportation-related projects.
- Policy 4.2: Explore methods for creating and funding a roadway network that will serve the Pflugerville population over the next 20 years including but not limited to, establishing a comprehensive **impact** fee structure for the City using guidelines set forth in the State of Texas Local Government Code 395, traditional funding sources and partnerships.
- Action 4.2.1: Continue with requirements for Traffic Impact Analysis. Draft and propose for adoption a rough proportionality policy.
  - Action 4.2.2: Draft and propose for adoption provisions for boundary street improvements.
  - Action 4.2.3: Consider private sector partnerships to aid in infrastructure costs.



**APPENDIX I**

**Pflugerville 2030 Comprehensive Plan – Chapter 8: Transportation**

**Meeting Summaries**



**APPENDIX II**

**Pflugerville Detailed Roadway Inventory**

**Pflugerville Trails Master Plan**





The information included in this Appendix is for information purposes only. Please refer to the City of Pflugerville's Unified Development Code (UDC) for more information pertaining to the roadway network.

### **Alleys**

Alleys are primarily a secondary roadway access location and are not commonly used in Pflugerville. They are used in the older, established, downtown area (commercial) as well as the Highland Park neighborhood (residential). They are dedicated public right-of-way but do not serve through traffic and as such, access to and from should be limited to local streets. Alleys located in a residential area are limited to 20-feet of right-of-way with a minimum pavement requirement of 15 feet and those in commercial areas are to 35-feet of right-of-way with a minimum pavement requirement of 20 feet. They are generally in place to allow for service vehicles, off-street loading or un-loading, or emergency vehicle access. Alleys are typically a roadway designation and are not generally "named". Because of this, there is no specific listing for alleys and no data collection.

### **Local Streets**

Local streets are all other streets within the City of Pflugerville that are not listed in any of the descriptions below. These streets provide access to adjoining residential land uses and distribute traffic to the surrounding roadway network. Typically the local streets have 50-foot right-of-way and a pavement width of approximately 30 feet. The character of local streets can change from neighborhood to neighborhood and the roadways are not only for vehicular movement. These facilities typically have a heavy bicycle and pedestrian component.



### **Collector Streets**

Collector streets are transitional streets in that they are intended to balance the traffic between the arterial and local roadways. Typically the arterial streets have much higher traffic volumes and the collector streets allow these volumes to be dispersed to the local streets at much lower levels. Because the lane designation can change from location to location and from route to route, the major and minor designation has been removed. This allows for flexibility in design but maintaining the desired right-of-way in the future. The current Collector streets within Pflugerville are shown below. Under the current design (2013) guidelines the right-of-way for collector streets ranges from 100 feet (Rural Collector) to 60 feet and the allowable pavement widths range from 34 feet to 48 feet. However, changes are proposed within the MTP.

#### **Collector Streets**

<b>Roadway Name</b>	<b>Cross-Section</b>
10 <sup>th</sup> Street	2 – Lane
Applewood Drive	2 – Lane
Betterman Drive	2 – Lane
Central Commerce Drive	2 – Lane
East Black Locust Drive	2 – Lane
Edgemere Drive	2 – Lane
Falcon Pointe Boulevard	2 – Lane
Hidden Lake Crossing	2 – Lane
Immanuel Road	2 – Lane
Kennemer Drive	2 – Lane
Murchison Ridge Trail	2 – Lane
New Meister Lane	2 – Lane
Olympic Drive	2 – Lane
Old Austin-Hutto Road	2 – Lane
Oxford Drive	2 – Lane
Pfenning Lane	2 – Lane
Picadilly Drive	2 – Lane
Railroad Avenue	4 – Lane
Regis Drive	2 – Lane
Rocky Creek	2 – Lane
Royston Lane	2 – Lane
Settlers Valley Drive	2 – Lane
Speidel Drive	2 – Lane
Springbrook Drive	2 – Lane
Swenson Farms Boulevard	4 – Lane
West Pfluger Street	2 – Lane
Wilke Ridge Lane	2 – Lane
Windermere Drive	2 – Lane



## Arterial Streets

Arterial streets have two primary functions: the first is to move large volumes of traffic between different parts of the city and over longer distances and the second to provide access to adjacent land uses by connecting to local and collector streets. Sharing some similarities with the Collector street system, arterials can change lane designations, but because of the distance covered with the arterials, this is much more infrequent under this roadway classification. The major and minor designations have been removed to allow for greater flexibility in design. The current Arterials within the City of Pflugerville are shown in the Table below. Under the current design (2013) guidelines the right-of-way for collector streets ranges from 90 feet (Minor Collector) to 120 feet (Major Arterial) and the allowable pavement widths range from 70 feet to 100 feet. However, changes are proposed within the MTP

### **Arterial Streets**

Roadway Name	Cross-Section
CR 138 / Gattis School	2 – Lane
FM 685	4 – Lane
FM 973	2 - Lane
FM 1825/Pecan Street	4 – Lane to 2 – Lane
Cameron Road	2 – Lane
Cele Road	2 – Lane
Dessau Road	4 – Lane
Grand Avenue Pkwy. / AW Grimes	4 – Lane
Heatherwilde Boulevard	4 – Lane
Hidden Lakes Blvd. / Jakes Hill	2 – Lane to 4 - Lane
Jesse Bohls Road	2 - Lane
Kelly Lane.	2 - Lane
Melber Lane	2 – Lane
Pflugerville Pkwy	2-Lane / 4-Lane
Rowe Lane	2 Lane
Weiss Lane. / Hodde Lane	2 – Lane
Wells Branch Parkway	4 – Lane



### **Freeways/Tollways**

Within the City of Pflugerville there are two access controlled Freeways/Tollways: SH 45 and SH 130. The primary function is to allow for the movement of traffic through and/or around the City. This classification includes interstate highways, state highways, tollways and loops. Direct property access is limited as access is not the intended purpose of these facilities. Design characteristics of these facilities include multiple travel lanes, limited access points, high traffic volumes and high traffic speeds.

### **Freeways/Tollways**

Roadway Name	Cross-Section
SH 45	6 – Lane
SH 130	6 – Lane





Pflugerville Roadway Inventory

Roadway	Limits	Existing Lanes	Classification	Ultimate Right-of-way	Ultimate Section/ Number of Lanes	Sidewalks	Trails	On Street Bicycle Lanes
10 <sup>th</sup> Street	Wells Branch Parkway to West Pecan Street	2 – Lanes	Major Collector	70 Feet	4	6 Feet	SEE TRAILS MASTER PLAN	Shared
Applewood Drive	North Railroad Avenue to FM 685	2 – Lanes	Major Collector	70 Feet	4	6 Feet		Shared
Betterman Dive	Regis Drive to Worley Drive	2 – Lanes	Major Collector	70 Feet	4	6 Feet		Shared
Central Commerce Drive/Boston Lane East Black Locust Drive	Grand Avenue Parkway to FM 1825/Pecan Street	2 – Lanes	Major Collector	70 Feet	4	6 Feet		Shared
Edgemere Drive	Grand Avenue Parkway to Pfennig Lane	2 – Lanes	Major Collector	70 Feet	4	6 Feet		Shared
Falcon Pointe Boulevard	Kelly Lane to Kelly Lane	2 – Lanes	Major Collector	70 Feet	4	6 Feet		Shared
Hidden Lake Crossing	Taylor Falls Drive to Weiss Lane	2 – Lanes	Major Collector	70 Feet	4	6 Feet		Shared
	Taylor Lanes an Falcon Pointe	2 – Lanes	Major Collector	70 Feet	4	6 Feet		Shared
Immanuel Road	Wells Branch Parkway to Pflugerville East Road	2 – Lanes	Major Collector	70 Feet	4	6 Feet		Shared
Kennemer Drive	Kelly Lane to Speidel Drive	2 – Lanes	Major Collector	70 Feet	4	6 Feet		Shared
Murchison Ridge trail	Kelly Lane to FM 685 (SH 130 NB Frontage Road)	2 – Lanes	Major Collector	70 Feet	4	6 Feet		Shared
Meister Lane	Schultz Lane to New Meister Lane	2 – Lanes	Major Collector	70 Feet	4	6 Feet		Shared
	New Meister Lane to Heatherwilde Boulevard	2 – Lanes	Major Collector	70 Feet	4	6 Feet		Shared
New Meister Lane	Schultz Lane to Meister Lane	4 - Lanes	Major Collector	70 Feet	4	6 Feet		Shared
Olympic Drive	Heatherwilde Boulevard to 10th	2 – Lanes	Minor Collector	100 Feet	4	6 Feet		Shared
	10th to East of Duke Cover	2 – Lanes	Major Collector	70 Feet	4	6 Feet		Shared
Old Austin-Hutto Road	Pflugerville East Road to FM 685	2 – Lanes	Major Collector	70 Feet	4	6 Feet		Shared
Oxford Drive	Dessau Road to Immanuel Road	2 – Lanes	Major Collector	70 Feet	4	6 Feet		Shared
Pfenning Lane	Heatherwilde Boulevard to FM 685	2 – Lanes	Major Collector	70 Feet	4	6 Feet		Shared



Pflugerville Roadway Inventory

Roadway	Limits	Existing Lanes	Classification	Ultimate Right-of-way	Ultimate Section/ Number of Lanes	Sidewalks	Trails	On Street Bicycle Lanes
Picadilly Drive	IH 35 NB Frontage Road to Central Commerce Drive	2 – Lanes	Minor Arterial	70 Feet	4	6 Feet	SEE TRAILS MASTER PLAN	Allowed
	Central Commerce to East of Grand Avenue Parkway	2 – Lanes (Divided)	Minor Arterial	70 Feet	4	6 Feet		Allowed
	East of Grand Avenue Parkway to Pflugerville Parkway	2 – Lanes	Major Collector	70 Feet	4	6 Feet		Shared
Railroad Avenue	Oxford Avenue to Bridge over Gilleland Creek Trail	2 – Lanes	Major Collector	70 Feet	4	6 Feet		Shared
	Gilleland Creek Trail Bridge to Pflugerville Parkway	4 – Lanes	Major Collector	70 Feet	4	6 Feet		Shared
Regis Drive	Pflugerville Parkway to Springridge Circle	2 – Lanes	Major Collector	70 Feet	4	6 Feet		Shared
Rocky Creek Drive	Willow Wood Drive to Pfennig Lane	2 – Lanes	Major Collector	70 Feet	4	6 Feet		Shared
Royston Lane	Central Commerce Drive to Grand Avenue Parkway	2 – Lanes	Major Collector	70 Feet	4	6 Feet		Shared
Settlers Valley Drive	Wells Branch Parkway to Broken Feather Trail	2 – Lanes	Major Collector	70 Feet	4	6 Feet		Shared
	North of Broken Feather to Heatherwilde Boulevard	4 – Lanes	Major Collector	70 Feet	4	6 Feet		Shared
Speidel Drive	Rowe Lane to Hodde Lane	2 – Lanes	Major Collector	70 Feet	4	6 Feet		Shared
Springbrook Drive	Schultz Lane to New Meister Lane	2 – Lanes	Major Collector	70 Feet	4	6 Feet		Shared
Swenson Farms Boulevard	West Pecan Street to Pfennig Lane	4 – Lanes	Major Collector	70 Feet	4	6 Feet		Shared
West Pfluger Street	12th Street to Wren Avenue	2 – Lanes	Major Collector	70 Feet	4	6 Feet		Shared
Wilke Ridge Lane	Pflugerville Parkway to Heatherwilde Boulevard	2 – Lanes	Major Collector	70 Feet	4	6 Feet		Shared
Windermere Drive	Pecan Street to Edgemere Drive	2 – Lanes	Major Collector	70 Feet	4	6 Feet		Shared
FM 685/Dessau Road	Wells Branch Parkway to SH 130 SB Frontage Road	4 – Lanes	Major Collector	120 Feet	6	6 Feet		Shared
	NB Frontage Road	2 – Lanes	Freeway	NA	NA	6 Feet		
	SB Frontage Road	3 - Lanes	Freeway	NA	NA	6 Feet		
FM 973	(aprox) Pecan Street to County Limits	2 – Lanes	Minor Arterial	100 Feet	4	6 Feet		Allowed



Pflugerville Roadway Inventory

Roadway	Limits	Existing Lanes	Classification	Ultimate Right-of-way	Ultimate Section/ Number of Lanes	Sidewalks	Trails	On Street Bicycle Lanes
FM 1825 / Pecan Street	Vision Drive to (approx) 10th Street	4 – Lanes	Major Collector	120 Feet	6	6 Feet	SEE TRAILS MASTER PLAN	Shared
	(Approx) 10th Street to FM 685	4 – Lanes	Special	60 Feet	3	6 Feet		Shared
	FM 685 to Pfenning	4 to 6 – Lanes	Major Collector	100 Feet	6	6 Feet		Shared
	Pfenning Lane to Sun Light Near Way	6 – Lanes	Major Collector	120 Feet	6	6 Feet		Shared
	Sun Light Near Way to NB SH 130 Frontage Road	4 – Lanes	Major Collector	120 Feet	6	6 Feet		Shared
	NB SH 130 Frontage Road to Cameron Road	2 – Lanes	Major Collector	120 Feet	6	6 Feet		Shared
Cameron Road	SH 130 NB Frontage Road to Pecan Street	2 – Lanes	Special	NA	NA	6 Feet		Shared
	Pecan Street to Edgemere Drive Fuchs Grove Road	2 – Lanes	Minor Arterial	100 Feet	4	6 Feet		Allowed
Cele Road	Weiss Lane to Englemann Lane	2 – Lanes	Minor Arterial	100 Feet	4	6 Feet		Allowed
Grand Avenue Parkway / AW Grimes	City Limits to Gilleland Creek Bridge	4 – Lanes	Major Arterial	120 Feet	6	6 Feet		Shared
	Gilleland Creek Bridge to Pflugerville Parkway	4 – Lanes	Minor Arterial	100 Feet	4	6 Feet		Allowed
	Pflugerville Parkway to Pecos River Trail	4 – Lanes	Major Arterial	120 Feet	6	6 Feet		Shared
	Pecos River Trail to City Limits		Major Arterial	120 Feet	6	6 Feet		Shared
Heatherwilde Boulevard	Wells Branch Parkway To Great Basin	4 – Lanes	Minor Arterial	100 Feet	4	6 Feet		Allowed
	To SH 45 Eastbound Frontage Road	2 – Lanes	Minor Arterial	100 Feet	4	6 Feet		Allowed
	SH 45 Eastbound Frontage Road to City Limits	4 – Lanes	Minor Arterial	100 Feet	4	6 Feet		Allowed



Pflugerville Roadway Inventory

Roadway	Limits	Existing Lanes	Classification	Ultimate Right-of-way	Ultimate Section/Number of Lanes	Sidewalks	Trails	On Street Bicycle Lanes
Hidden Lane Drive / Jakes Hill	Dry Brook Loop to Hidden Lake Crossing	2 – Lanes	Minor Arterial	100 Feet	4	6 Feet	SEE TRAILS MASTER PLAN	Allowed
	Hidden Lake Crossing to Kelly Lane	4 – Lanes	Minor Arterial	100 Feet	4	6 Feet		Allowed
	Kelly Lane to Crespin Hollow Lane	2 – Lanes	Minor Arterial	100 Feet	4	6 Feet		Allowed
	Crespin Hollow Lane to Grail Hollows Road	2 – Lanes	Minor Arterial	100 Feet	4	6 Feet		Allowed
Kelly Lane	SH 130 Frontage Road to Weiss Lane	2 – Lanes	Special	100 Feet	4	6 Feet		Shared
Melber Lane	(Approx) Rowe Lane to Cele Road	4 – Lanes	Minor Arterial	100 Feet	4	6 Feet		Shared
Pflugerville Parkway	Greenlawn Boulevard to FM 685	4 – Lanes	Major Arterial	120 Feet	6	6 Feet		Shared
	FM 685 to Southbound SH 130 Frontage Road	2 – Lanes	Special	NA	4	6 Feet		Shared
	Southbound SH 130 Frontage Road to Weiss Lane	2 – Lanes	Special	NA	4	6 Feet		Shared
Rowe Lane	Northbound SH 130 Frontage Road to Engelmann	2 – Lanes	Minor Arterial	100 Feet	4	6 Feet		Allowed
Weiss Lane / Hodde Lane	Rowe Lane to Pecan Street	2 – Lanes	Special	NA	NA	6 Feet		Shared
Wells Branch Parkway	Heatherwilde Boulevard to Immanuel Road	4 – Lanes	Major Arterial	120 Feet	6	6 Feet		Shared





### **APPENDIX III**

#### **City of Pflugerville Funding Memo**