



KYLE TRANSPORTATION MASTER PLAN 2021 UPDATE



Partners for a Better Quality of Life

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Introduction

The Kyle Transportation Master Plan (TMP) 2021 Update is intended to examine the current transportation network system and current TMP as approved and amended in order to identify opportunities for improved mobility and increased connection throughout the city. The City of Kyle has been experiencing unprecedented growth that is greater and more rapid than what was anticipated in the 2015 TMP. Because of this rapid growth and large areas of planned development, the current plan no longer meets the mobility needs of the community.

The scope of the 2021 update included:

Collect and review data

- Current Kyle Connected: Transportation Master Plan 2040
- Relevant transportation plans from area entities
- Demographic data and population projections
- Planned developments

Coordinate with City Staff and City Council

- Have two (2) workshops with City Staff
- Two (2) presentations to City Council

Analyze needed revisions and updates to TMP

- Map changes to City of Kyle's jurisdictional boundaries.
- Evaluate and propose updates to roadway design standards and classifications
- Identify new roadways and roadway upgrades
- Prepare map showing proposed changes and additions
- Review TMP Action Plan and Financing and Implementation Plan

Prepare Draft and Final Reports

Methodology

This plan updates the *Kyle Connected: Transportation Master Plan 2040* (2015 TMP), which was approved in 2015, and updated the City of Kyle 2005 Transportation Master Plan. The 2015 TMP included network improvements, a corresponding implementation plan, and a survey of feasible potential funding sources.

CP&Y collected relevant data, including the following:

- Transportation plans from surrounding jurisdictions including CAMPO;
- The existing TMP and amendments;
- Demographics; and,
- Planned developments in the city.

The team met with city staff to understand local concerns and considerations. This information was then incorporated in the analysis of the roadway network to identify gaps in connectivity and potential mobility deficiencies that needed to be addressed. Early meetings with city staff yielded the following issues for consideration in the development of the 2021 Transportation Master Plan (TMP) update:

- The number of typical sections in the TMP;
- Spacing of arterials in a relative grid pattern;
- Additional crossings of IH 35;
- Need for Right-of-Way (ROW) preservation to allow for phased development of the TMP;
- Design for connectivity across the city and reduce discontinuous roadways; and,
- Allow for future grade-separated crossing of the UPRR.

Following meetings with City Staff, CP&Y used the above considerations and an analysis of demographic trends and development patterns in the City of Kyle to identify areas of need within the transportation network. At the direction of the City, CP&Y also met with developers and property owners in specific areas that were poised for development at the time this TMP update was being developed.

Demographics

The U.S. Census Bureau showed that the population of the City of Kyle was 51,588 in January 2020. The mid-2021 estimate is 58,800 and that number is expected to increase to 60,700 by January 2022. By 2045, the population is expected to exceed 150,000 within the city, which includes residents within the current ETJ boundaries. **Table 1** compares key demographic data among Kyle, Hays County, and Texas.

Table 1: 2019 American Community Survey Demographics

Statistic	Kyle	Hays County	Texas
Population 18 and Under	36.8%	29%	32.4%
Population 65 and Over	8.6%	11.4%	12.9%
Housing Units	–	84,560	11,283,353
Average Household Size	3.02	2.81	2.85
Median Home Value	\$196,700	\$238,700	\$172,500
Individuals with a Disability	9.5%	9.3%	11.5%
Unemployment Rate	3.5%	4.6%	5.0%
Bachelor’s degree or higher	30.2%	37.20%	29.90%
Median Household Income	\$79,348	\$68,717	\$61,874
Individuals Living Below Poverty Rate	5.2%	11.2%	13.6%
Commute Time in Minutes	36.0	30.4	26.6

Source: U.S. Census Quickfacts, 2019 & American Community Survey 5-year estimates 2015 – 2019, Table B18101 “Sex by Age by Disability Status”
 Note: Data for the City of Kyle Housing Units was not included in the U.S. Census Quickfacts.

The U.S. Census 2019 American Community Survey data indicates that Kyle is an affluent area that is attracting a younger demographic including young working families compared to Hays County and the State of Texas. The portion of the population 65 and over is low in Kyle comparatively and the portion of children 18 and under is higher. While the educational attainment of Kyle residents is lower than residents in Hays County, the unemployment rate is lower, the median household income is much higher and the percentage of individuals living below the poverty level is much lower in comparison. Data also show that the average household size in Kyle is larger and the work commute time for those in Kyle is much longer when compared to the rest of the county and the state.

Planned Development

The City’s land area and developed land are also growing at an accelerated rate. The City annexed several undeveloped parcels totaling approximately 400 acres in 2019. These consisted of Dacy Lane Apartments, Casetta Ranch, Spooner Tract, and Stork Estates Tract. With the residential developments that are currently under construction, under review, or in the concept phase, the developed area of Kyle is expected to nearly double. These planned residential developments are included in **Table 2**.

Table 2: Planned Residential Developments as of March 2021

Project Name	Type of Development	Status	# of Units	Acres
Anthem	Single-Family (SF)	Under Construction	1,596	674.3
Blanco River Ranch/Six Creeks	SF w/mixed-use & commercial	Under Construction	4,221	2,166.7
Bunton Reserve	SF	Under Construction	355	97.9
Casetta Ranch	SF	Under Construction	375	97.6
Cool Springs	SF	Under Construction	388	125.2
Cromwell at Plum Creek Apts	Multifamily	Under Construction	263	8.1
Crosswinds MUD	Residential MUD w/Elementary School	Under Construction	1,750	443.5
Cypress Forest	SF	Under Construction	337	130.4
Paramount	SF w/mixed-use & Commercial	Under Construction	539	168.5
Plum Creek Phase 2	SF w/mixed-use & commercial	Under Construction	1,404	526.7
Stagecoach	SF	Under Construction	270	73.3
Sunset Hills	SF	Under Construction	210	53.2
Dacy Lane Apartments	Multifamily	Under Construction	330	30.1
Trails at Windy Hill	SF	Under Construction	1,026	250.9
Plum Creek Phase 2 Section 1	SF	Under Construction	200	67.7
Urbana Homes	SF & Duplexes	Under Construction	144	12
1880 at Plum Creek	SF & Duplexes	Under Construction	129	11.5
Sage at Plum Creek	Multifamily	Under Construction	184	15.5
Opal Ranch	SF	Approved	69	16.6
La Salle MUD	Planned mixed-use MUD	Approved	7,600	2,740.74
Schlortt Property	SF w/mixed-use & commercial	In Review	300	126
Plum Creek Uptown	Mixed Use	In Review	300	15
Kyle 57	SF & Duplexes	In Review	221	56.2
Wukasch Tract	SF w/mixed-use & commercial	In Design	250	118.1
BRI/McCoy	Master Planned Community	Concept	8,200	3,058.9
Kyle Estates East (Walton)	SF	Concept	2,500	300.2
Kyle Estates West (Walton)	SF	Concept	2,600	331.1
Marketplace R-3-3	Multifamily	Concept	300	16.1
Nance Tract	SF w/mixed-use & commercial	Concept	9,000	2,933.9
Pecan Woods	SF	Concept	2,600	768.4
Twin Creeks	SF	Concept	400	97.5

Source: City of Kyle Planning Department

Recommendations

The recommendations put forth are intended to add capacity, improve mobility, connect areas for more efficient east/west and north/south travel, serve future developments, and ensure bike/pedestrian inclusion, access, and community cohesion for neighborhoods.

The analysis found that Kyle is growing faster than projected and that development is outpacing the current and previously proposed roadway network. A large number of local and collector roadways are inadequate to meet current and future mobility needs. New and widening roadway projects are necessary and preserving ROW for future expansions is essential to meet this goal. In addition, the City lacks a sufficient number of thoroughfares to move people across the city, either in a north/south or east/west direction. There is also an insufficient number of opportunities to get across IH 35 and the Union Pacific Railroad. The existing IH 35 crossings are roadways that do not currently provide cross-city connectivity. As Kyle approaches buildout, it is vital to include corridors that transport people across the community in the transportation plan. Corridors that cross IH 35 are a large part of this connectivity. It is recommended that two IH 35 crossings be located at a realigned RM 150 and Kohlers Crossing/Bebee Road. The recommendations included below are anticipated to serve the demands that future development will impose on the roadway network.

The recommendations included in this update include the roadway classifications as described in **Table 3**.

Table 3: Roadway Classifications

Roadway Type	# of Lanes	Additional Information	Recommended ROW Width*	Color on Attached TMP Map
Local	2	Undivided	50'	Gray
Collector	2 to 3	2 lane undivided or 2 lanes with a continuous center turning lane	65' to allow for parking and/or bike lane	Green
Minor Arterial	4	Undivided or divided	100'	Red
Major Arterial	6	Divided	124'	Blue
Shared-Use Path	2	12'	Sufficient to accommodate inclusion of full shared-use path and appurtenances within ROW	Brown

*The ROW widths listed here are a recommendation; however, they are subject to engineering considerations for each individual corridor. Lanes are assumed to be 12' wide unless otherwise noted.

Recommendations (cont.)

The above classifications are used in the recommendations for the improvements to specific roadways made in the TMP update as shown in **Table 4**. Currently, the only continuous north-south corridor through the city is IH 35. This update expands upon the 2015 TMP by extending roadways to create a more complete and continuous grid, which provides more opportunities for people to travel both north/south and east/west. The recommendations have been made based on planned development and travel patterns. Gaps in the network were identified and preliminary alignments were recommended in areas to help fill in the arterial grid with approximately one-mile spacing between connected roadways.

The recommendations are designed to increase the capacity of key corridors to move people more efficiently through the community. Sidewalks and/or shared-use paths, as detailed in the Kyle Parks, Recreation & Open Space Master Plan, should be included in all roadway projects and be considered in ROW preservation to provide safe and accessible transportation facilities for all users. Sidewalks should tie into the trail network to improve connectivity. It is recommended that some roadways be realigned and/or extended to improve safety, mobility, or create a connection that does not exist currently. Additional north/south and east/west corridors traversing the City would disperse traffic among more streets and ease congestion throughout the transportation network.

Recommendations (cont.)

Table 4: Recommended Roadway Improvements/Changes

Roadway	Kyle 2015 TMP and Amendments	2021 TMP Update Recommendations
Kyle Loop	Minor Arterial	Major Arterial
Hillside Terrace	Collector	Major Arterial
Satterwhite Road	Local (2-lane)	Minor Arterial
Loop 4	Collector	Extended Minor Arterial
Dacy Lane Lane	Collector	Extended Minor Arterial
Kohlers Crossing	Local	Continuous Minor Arterial with freeway overpass (Beebe Road/High)
Marketplace Avenue	Collector	Extended Minor Arterial
Windy Hill Road	Collector	Minor Arterial
RM 150	Collector/Minor Arterial	Continuous and realign Arterial with freeway overpass
Beebe Road/High Road	Collector	Continuous and realign Minor Arterial with freeway overpass (Kohlers Crossing)
Bunton Lane /Cotton Gin Road	Collector (Bunton Lane/Grist Mill Road)	Minor Arterial
Philomena Drive	Collector (Disconnected)	Extended Collector
Lehman Road	Collector (Disconnected)	Extended Minor Arterial to Dacy Lane
Goforth Road	Collector (Disconnected)	Extended Minor Arterial
Grist Mill Road	Collector (Bunton Lane/Grist Mill Road)	Continuous Collector
Center Street/Cypress Road	Collector	Extended Minor Arterial
Old Stagecoach Road	Collector	Minor Arterial
CR 158	Collector	Minor Arterial
NLR13 (Goforth Road)	Collector	Minor Arterial
FM 110	Minor Arterial	Major Arterial connecting Kyle Loop and Yarrington Road
Yarrington Road	Minor Arterial	Minor Arterial
S Main Street	Local	Extended Collector
NF1 (Turnersville Road)	Minor Arterial	Major Arterial
2 unnamed roadways	Collector	Minor Arterials to provide service for future development southwest of the Blanco River

A visual representation of these recommendations to the roadway network can be seen in the proposed Transportation Master Plan 2021 Update map on the following page.

Recommendations (cont.)

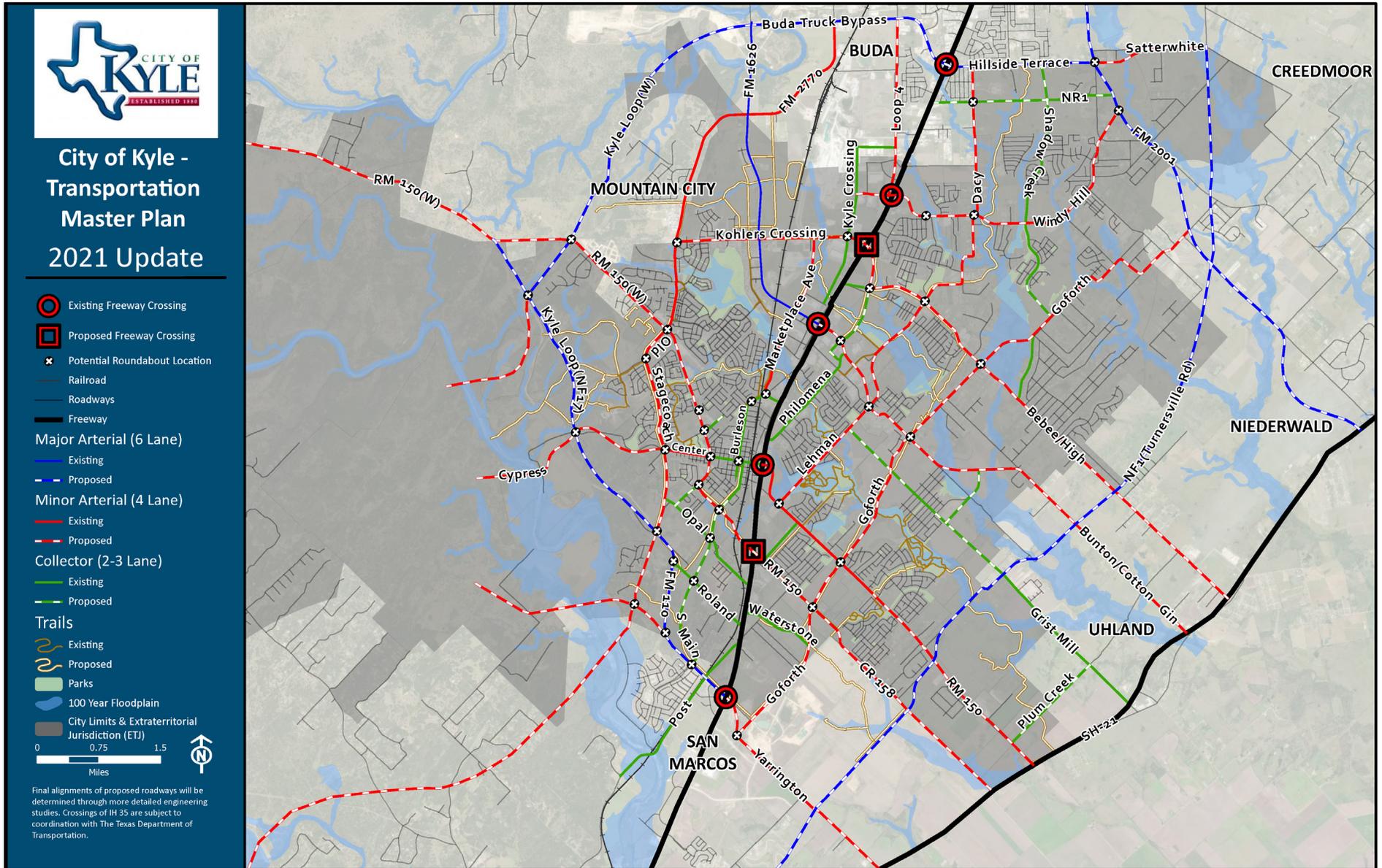


Figure: Recommended roadway improvements as adopted September 7, 2021.

Recommendations (cont.)

Several key recommendations are highlighted below:

- Expanding and realigning RM 150 to an arterial would provide access to and across IH 35 with the intention of diverting through-traffic away from the downtown area. Incorporate a grade-separated crossing of the UPRR as part of this improvement.
- Bebee Road Road/High Road, Bunton Lane/Cotton Gin Road, and RM 150 would provide continuous routes across the city to SH 21.
- Recommendations have been made to Lehman Road, Goforth Road, and Dacy Lane to provide more continuous north/south connections east of IH 35. The Lehman Road/Dacy Lane connection could provide an alternative route, functioning as a backage road for IH 35 to get people north and south in Kyle without having to use IH 35.
- IH 35 crossings at Bebee Road/High Road and Kohlers Crossing and at RM 150 would help move traffic east and west and help connect the city.
- It is recommended that all new location and reconstructed roads include right-of-way for the addition of sidewalks and/or shared-use paths.
- Update the Transportation Master Plan at no less than five-year intervals.

Kyle conducts a community survey every year asking residents to assist city leaders in developing priorities for the next year's budget. The 2020 survey included questions about expenditures, infrastructure projects, and quality of life priorities. Kyle residents value transportation and connectivity. The need for multiple modes of transportation, sidewalk repairs, and trail connectivity rated high in each of their respective questions.

In order for many of these recommended roadway improvements to sufficiently relieve congestion, improve mobility, and provide a connected community, right-of-way will need to be acquired. Infill of undeveloped land is increasing within the city limits and corridor preservation is critical to the success of these recommended network improvements. The City of Kyle currently has a total of 15 typical roadway cross-sections (typical sections) included in the 2015 TMP. This plan update recommends the simplification of typical sections and required ROW for the proposed roadway types. Each type - Local, Collector, Minor Arterial, and Major Arterial - should have only one typical section that is used throughout the city. The recommendations for each roadway classification are included in **Table 3** and the schematics for each are included in the Appendix.

Further Studies

It is recommended that further studies be taken to implement this TMP Update.

Alignment alternative studies – The new and improved roadway recommendations included in this update are not final and are all subject to further engineering and alignment alternative studies for feasibility. A buffer of 500’ in either direction surrounding the proposed alignments is recommended for these additional studies.

Roundabout Studies – The addition of roundabouts in key locations shown below would have a number of desirable benefits. Roundabouts can increase traffic capacity up to 50 percent, reduce air pollution by reducing the time vehicles spend idling while also increase fuel savings. In addition, roundabouts increase safety by reducing the number of conflict points of a traditional four-way signalized intersection from 32 to eight. These recommended roundabout locations (**Figure 5**) are subject to further engineering analysis and design.

Table 5: Recommended Potential Roundabout Locations for Further Study

Location	
Center Street/Old Stagecoach Road	Entrance to Six Creeks
Old Stagecoach Road /Veterans Drive	Silverado Drive/Veterans Drive
Gregg Road/Veterans Drive	Center Street/Veterans Drive
Burleson Street/Center Street	Burleson Street/Spring Ranch
Dacy Lane/Beebe Road	Dacy Lane/Kyle Parkway
Dacy Lane/Bunton Creek Road	Kyle Parkway/Seton Parkway
Kyle Crossing/Kohlers Crossing	Lehman/Bunton Creek Road
Windy Hill Road/Cherrywood	Windy Hill Road/Purple Martin Avenue
RM 150/CR 158 Spur	Bunton Lane/Goforth Road
RM 150/Goforth Road	CR 158/Goforth Road
Marketplace Avenue/Burleson Street	Roland Lane/Main Street
Roland Lane/FM 110	Opal Lane/Main Street
Center Street/Main Street	

High Priority Corridors and ROW Preservation – priority ratings should be applied to these recommendations. Implementation should be done in phases to ensure proper funding and an appropriate level of mobility to accommodate growth concurrently with future development. ROW preservation is a vital step in the 2021 TMP update and identifying a method for prioritizing and implementing this process is necessary. ROW preservation is the initial mechanism by which the corridors identified in the 2021 TMP update will be implemented. ROW preservation does not mean that the roadway needs to be built now, but it allows for the roadway to be designed and constructed when it becomes financially feasible and necessary to complete the network.

Further Studies (cont.)

Traffic Impact Analyses (TIA) – It is recommended that the City of Kyle adopt and implement an ordinance requiring a TIA for any new developments or redevelopments that meet a minimum threshold of trip generation. TIA's will serve several purposes, including helping to identify impacts a development may have in the immediate vicinity, which will, in turn, allow for a better understanding for the City and the public on what to expect, and also to identify mitigating steps to relieve or nullify these impacts. Also, a TIA can serve as a vehicle to require developers to pay for impacts they create to the transportation system. There are several good examples of TIA ordinances from peer cities in the Central Texas area from which the City of Kyle can craft their own ordinance. It is recommended that any ordinance utilize the Institute of Transportation Engineers Trip Generation Manual (latest edition) to predict trips from a proposed site, and any ordinance should provide for a waiver process to be approved by the City Council or their designee.

Financing and Implementation Plan – identify a method for prioritizing projects and financing opportunities. The City of Kyle has options to create transportation revenue sources and managing existing funds. The 2015 TMP identified parallel funding sources that require developers to pay for a share of improvements to the road network. These include the Transportation Impact Fee (or Traffic Impact Fee) and Transportation Fee. Additional options include creating special taxing districts, such as transportation reinvestment zones (TRZ), tax increment reinvestment zones (TIRZ), and tax increment financing (TIF). Funding mechanisms should be reevaluated regularly to ensure that they are sufficient to keep up growth.

Rough Proportionality – Chapter 212.904 of the Texas Local Government Code requires that any “exaction” required of a developer as a condition of permitting or approval by a city be deemed “roughly proportional” to the impact of the development. As the City embarks on implementing the changes and expansion of their transportation network outlined in this Plan, this issue has potential to arise. There are many methods to determine proportionality, including development of a report by a Professional Engineer retained by the City to assess and assert the proportionality of any exaction. Another method that would look at the system more globally is that of a Traffic Impact Fee (Texas Local Government Code Chapter 395). The City of Kyle’s currently enacted Adjacent Lane-mile Fee may also be a method to assess proportionality and secure developer participation in network improvements; however, further analysis may be required by appropriate legal counsel to determine if this meets the requirements and intent of 212.904.

References

Capital Area Metropolitan Planning Organization (CAMPO) 2045 Regional Transportation Plan.
May 2020.

Lockwood, Andrews, & Newman, Inc. Kyle Connected: Transportation Master Plan 2040. 2015.
Transportation Master Plan Map Update
Amendments 1-5 Oct 4_2017
Amendment 6 Siding Relocation Dec 5_2017
Amendment 7 Cypress Road Alignment March 6_2018
Amendments 8-13 Aug 20_2019
Amendment 14 Removing Kyle Pkwy to Bebee Road connector

U.S. Census Bureau.

American Community Survey, 2019 American Community Survey 5-Year Estimates, Table
B18101; using <https://data.census.gov/cedsci/>; (15 April 2021).

Quickfacts

[https://www.census.gov/quickfacts/fact/tableTX,hayscountytexas,kylecitytexas,US/
PST045219](https://www.census.gov/quickfacts/fact/tableTX,hayscountytexas,kylecitytexas,US/PST045219). (22 April 2021).

APPENDIX

TYPICAL SECTIONS

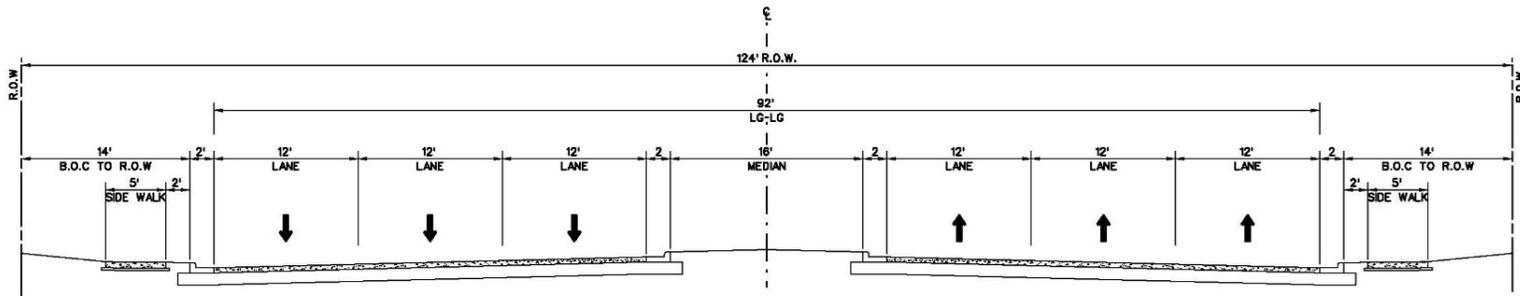


FIGURE 1-4 TYPICAL SECTION
MAJOR ARTERIAL
N.T.S

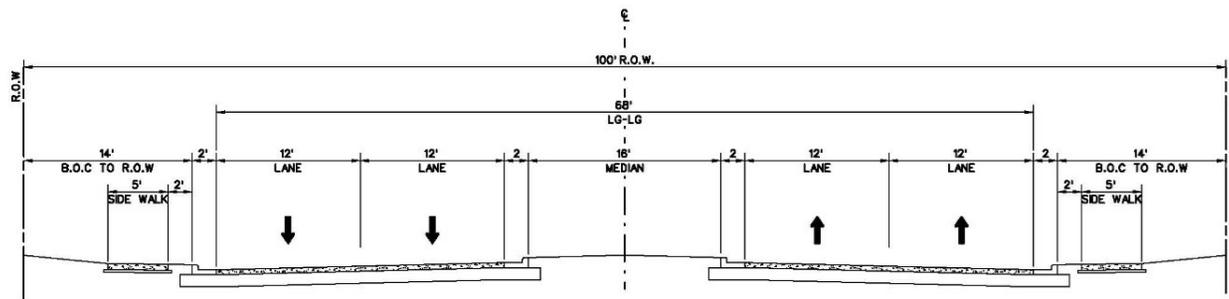


FIGURE 2-4 TYPICAL SECTION
MINOR ARTERIAL
N.T.S

DRAWING NOT-TO-SCALE

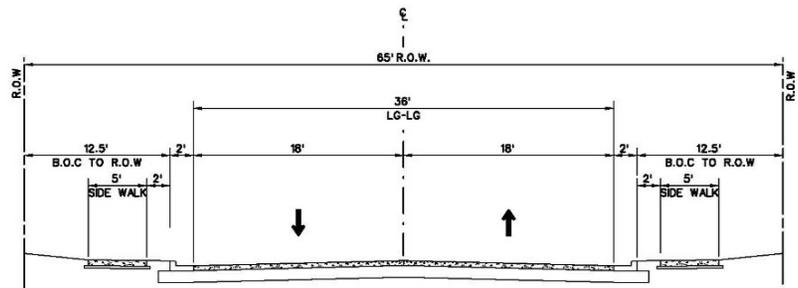


FIGURE 2-4 TYPICAL SECTION
COLLECTOR
N.T.S

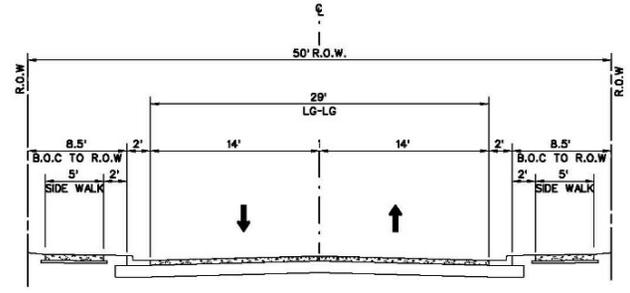


FIGURE 4-4 TYPICAL SECTION
LOCAL
N.T.S

DRAWING NOT-TO-SCALE