

A great way to think about the 2016 Master Transportation Plan is as a blueprint to guide the city's continued transportation growth and development. We are pleased with how the input from interested Kyle residents is reflected in the work of our consultants and city staff in the updated plan. This master plan, combined with our new water and wastewater master plans, will provide the tools with which to better plan the future of our city.

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## 01 <br> Purpose and Need

## Purpose and Need

## Introduction

The City of Kyle was established in 1880 as a stop along the International and Great Northern Railroad. The station was constructed that year between Austin and San Antonio and Kyle has since grown into the second-largest city in Hays County, after San Marcos located eight miles to the south. Hays County is listed to be the 9th fastest growing county in the United States based on 2010 through 2014 Census estimates for counties with a population of 10,000 or more. In 2013 the City of Kyle was estimated to have over 31,000 residents, equating to a yearly growth rate of $4 \%$ since 2010. According to CAMPO's projections, population is expected to continue to grow at the same rate of $4 \%$ for the Kyle Extra-Territorial Jurisdiction (ETJ) and 3\% for the City of Kyle through year 2045. By then approximately 243,487 residents will be located in the study area, including 170,121 ETJ residents. The existing roadway network will need to be modified and expanded to serve this future growth.

This Transportation Master Plan (TMP) examines the current transportation system and the impacts of Kyle's growth on that system. It will determine the necessary improvements to the network, and a corresponding implementation plan through study year 2045. This plan also recommends an implementation framework of immediate, mid-term and long-term mobility needs for the City and surrounding area, and identifies possible projects and corridors for expansion to a more complete thoroughfare system. The TMP also gives a survey of feasible potential funding sources for projects under Kyle's jurisdiction.

## 243,487

City of Kyle Expected Population in 2045, including 170,121 ETJ residents*

[^0]
## Purpose and Need

## Study Area Limits and Participants

The study area is the City Limits and Extra-Territorial Jurisdiction (ETJ) of the City of Kyle, including the rapidly developing areas immediately in and surrounding Kyle.

## Extra-Territorial Jurisdiction

Texas law allows municipalities certain powers outside of their city limits to regulate development in the area immediately outside their city limits. Depending on the city's population, this area may extend anywhere from one to five miles; it is known as the ExtraTerritorial Jurisdiction (ETJ). The rationale is that development in areas the city may annex is thus made more compatible with that already in the city. Furthermore, no other city may annex areas in the ETJ without permission, nor can those areas incorporate separately.

Kyle's ETJ extent is determined by the total inhabitants living in the city and the regulation is found in the Local Government Code- Chapter 42. Kyle's 31,000 residents align the city with the 25,000-49,999 range, allowing Kyle's ETJ to extend two miles past the City's boundary. The north boundary is mostly defined by the boundary with the City of Buda, roughly along Satterwhite Road, and the south limit is at San Marcos' boundary along FM 159 / Yarrington Road and the east and west limits are at Kyle's ETJ.


## Purpose and Need



## Purpose and Need

Figure 1-1 illustrates the entire City of Kyle jurisdiction; the city limits are shown in orange and the ETJ is shown in yellow. Other cities and their ETJs are shown in shades of pink and beige, and Hays County is shown in blue. Note that Kyle is more closed in than many people realize, with potential expansion restricted to the current ETJ, and a small area to the far southwest.

Study area participants providing input into developing this transportation study include Hays County, Texas Department of Transportation (TxDOT), the Cities of Buda, Mountain City, Uhland, Niederwald, and San Marcos, Hays CISD, community organizations, institutional stakeholders, and major employers. The City of Kyle hired Lockwood, Andrews \& Newnam, Inc. (LAN) to prepare the City of Kyle 2015 Transportation Master Plan and worked closely with the general public to capture local needs. LAN included GAP Strategies for public and stakeholder involvement, Prime Strategies, Inc., for financial and project prioritization recommendations, and Kimley-Horn Associates for travel demand modeling.

Lockwood, Andrews \& Newnam, Inc.

## 02 <br> Methodology

## Methodology

Tasks and criteria were strategically created and utilized to prioritize immediate, mid-term and long-term mobility needs for the City of Kyle. Previous studies affecting the study area were reviewed to capture all previously proposed projects; the status of each is documented later in the plan. Public involvement was sought after by Kyle through different means of communication: project website, traditional and social media, community survey, and public meetings. City-stakeholders, including surrounding cities and site developers, were also encouraged to share their suggestions for the future network. Existing year 2015 and future area conditions during year 2040 were analyzed to determine the locations where roadway facilities are needed to support the growing demand by year 2045.

All recommendations compiled were cross-checked with the eight goals listed on the next page and established by LAN for the City of Kyle 2005 Transportation Master Plan. The goals are being carried forward in this plan as they are still relevant, overarching principles that coincide with Kyle's objectives for all future transportation solutions.

## Methodology

| Goal 1 - | Goal $2 \quad \downarrow$ |
| :---: | :---: |
| Mobility <br> The transportation system should offer convenient travel opportunities that will allow people to travel to a variety of places according to the needs of their own lifestyle. | Transportation Performance <br> The transportation system should provide efficient quantity and quality of service with needed capacity, reasonable speed, convenience, and safety for all users. |
| Goal 5 | Goal 6 \% |
| Environmental and Natural Resource Protection <br> The transportation system should recognize the environmental resources of the region and minimize negative encroachments and disruptions on such areas. | Interagency Coordination <br> In conjunction with the transportation plan, a spirit of commitment to interagency coordination and cooperation should be established in the region. |


| Goal 3 | Goal 4: |
| :--- | :--- |
| Non-Motorized Travel <br> The transportation system <br> should enhance the quality <br> of life of the Kyle community <br> by providing a system of <br> interconnected and safe <br> bicycle paths, routes, trails, and <br> pedestrian facilities. | Economic Development <br> The transportation system <br> should support and enhance <br> economic development within <br> the region. |


| Goal 7 | Goal 8 |
| :--- | :--- |
| Financial Feasibility | Commitment to <br> The transportation plan must <br> be financially feasible. |
|  | Implementation <br> The transportation plan <br> should be supported by a <br> commitment to implement the <br> recommended improvements <br> according to an identified <br> schedule. |



Lockwood, Andrews \& Newnam, Inc.

03 | Review of |
| :--- |
| Previous Plans |

## Review of Previous Plans

This section summarizes previously proposed projects within and immediately adjacent to Kyle, TX. The most recent local and regional reports reviewed are listed below:

- City of Kyle 2005 Transportation Master Plan
- City of Kyle 2010 Comprehensive Plan
- Hays County 2013 Transportation Plan
- CAMPO 2040 Regional Transportation Plan
- City of Buda 2013 Transportation Master Plan Update
- San Marcos Transportation Master Plan*
* In progress as of March 2016


## Review of Previous Plans

City of Kyle 2005 Transportation Master Plan

The City of Kyle experienced unprecedented growth for several years, and until 2005 had no specific transportation planning document. LAN created the City's first such plan, the City of Kyle 2005 TMP, to determine necessary system improvements. The plan identified 86 priority projects within the City of Kyle, shown in
Figure 3-1, and the status of each is listed in Table 1. Of the 86,25 projects have been constructed and 61 have not been funded or finished construction. Immediate and short-term projects were geared toward improving the current network's mobility by installing traffic signals and widening roads, among other improvements. The longterm plan was to construct a thoroughfare loop around Kyle to connect and alleviate major roads like FM 150 which serves the central core of Kyle. However, it has not been constructed due to funding.

(Source: City of Kyle Transportation Master Plan, July 2005)
Figure 3-1: Kyle 2005 TMP

## Review of Previous Plans

Table 1: Kyle 2005 TMP Project Status

| No. | Project Description (Constructed) |
| :---: | :--- |
| 1 | II: Increase turning radii on IH-35 at CR 130 |
| 2 | I2: IH-35 frontage road ramp improvement at CR 122 (Bebee) |
| 3 | I4: IH-35 frontage road ramp improvement at FM 150 |
| 4 | Increase UPRR crossing sight distance (various) |
| 5 | B6: New bridge on IH-35 at FM 150 |
| 6 | NLR1: New FM 1626 4 lane road from FM 2770 to IH-35 |
| 7 | NLR2: New FM 1626-Bunton 4 lane road from IH-35 to Bunton/Goforth |
| 8 | NLR9: Construct IH-35 frontage road from US 81 to US 81 |
| 9 | NLR16: New 4 lane road from Bebee to NLR20 |
| 10 | R1: IH-35 expansion to 6 lanes from FM 2001 to LP 82 |
| 11 | R6: Improve Center St from FM 150 St to IH-35 |
| 12 | R13: Widen Kohlers Crossing to 4 lanes from FM 2770 to FM 1626 |
| 13 | R14: Widen Kohlers Crossing to 4 lanes from FM 1626 to Dry Hole |
| 14 | R21: Widen Dacy to 4 lanes from Bunton to Bebee |
| 15 | R32: Kyle Crossing at IH-35 |
| 16 | S1: Install traffic signal on IH-35 at Windy Hill |
| 17 | S10: Install traffic signal on FM 150 at IH-35 |
| 18 | S12: Install traffic signal on FM 2770 at FM 150 |
| 19 | S2: Install traffic signal on IH-35 at FM 1626 |
| 20 | S5: Install traffic signal on IH-35 at Center |
| 21 | S7: Install traffic signal on Center at Burleson |
| 22 | TxDOT(R2): Talked about making IH-35 frontage roads one-way |
| 23 | TxDOT (R3): West frontage road from Dry Hole to FM 1626 |
| 24 | Improve parking /pedestrian safety along Center St in downtown |
| 25 | TxDOT (B1-B3): replace three IH-35 bridges located at Dry Hole/Windy Hill, Bunton overpass, and Center |

## Review of Previous Plans

Table 1: Kyle 2005 TMP Project Status (Continued)

| No. | Project Description (Not Constructed) |
| :--- | :--- |
| 26 | B4: New bridge on IH-35 at Opal |
| 27 | B5: New bridge on IH-35 at Yarrington |
| 28 | I3: Eliminate intersection skew on IH-35 at CR 131 |
| 29 | I5: Goforth right turn lane at school |
| 30 | I6: Eliminate CR 158 intersection skew at CR 134 |
| 31 | NLR4: New Cotton Gin 4 lane extension to FM 1626 from IH-35 to Cotton Gin |
| 32 | NLR13: New 4 lane road from Yarrington to FM 150 |
| 33 | NLR17: New 4 lane road from LP 4 to Dry Hole |
| 34 | NLR19: New 4 lane road from IH-35 to NLR13 |
| 35 | NLR25: New 4 lane road from FM 110 to CR 158 |
| 36 | NLR6: New Burleson 4 lane road from Yarrington to Opal |
| 37 | R10: Widen Lehman to 4 lanes from Hill to Bunton |
| 38 | R11: Widen Windy Hill to 4 lanes from IH-35 to Dacy Ln |
| 39 | R15: Widen Burleson to 3 lanes from Center to IH-35 |
| 40 | R16: Widen Old 81 to 3 lanes at west IH-35 frontage road |
| 41 | R17: Widen Goforth to 4 lanes from Bunton Ck Rd to Bunton Ln |
| 42 | R18: Widen Bunton to 4 lanes from Goforth to Dairy Rd |
| 43 | R19: Widen Bebee to 4 lanes at IH-35 |
| 44 | R20: Widen High to 4 lanes (east extension of Bebee) |
| 45 | R22: Widen Old Stagecoach to 4 lanes from FM 150 to Center |
| 46 | R24a: Widen Opal to 4 lanes from Old Stagecoach to new loop |
| 47 | R25: Widen Opal to 4 lanes from IH-35 to CR 158 |
| 48 | R26: Widen Roland to 4 lanes from Old Stagecoach to IH-35 |
| 49 | R27: Widen Cypress to 4 lanes from Old Stagecoach to Blanco River |
| 50 | R28: Widen Dacy to 4 lanes from Windy Hill to Kelly Smith |

## Review of Previous Plans

Table 1: Kyle 2005 TMP Project Status (Continued)

| No. | Project Description (Not Constructed) |
| :--- | :--- |
| 51 | R30: Widen Center to 4 lanes from Old Stagecoach to FM 150 |
| 52 | R31: Widen Scott to 4 lanes from Center to Opal |
| 53 | R4: Widen FM 150 to 4 lanes from FM 3237 to FM 2770 |
| 54 | R5: Widen FM 150 to 4 lanes from FM 2770 to Center St. |
| 55 | R7: Widen FM 150 to 4 lanes from IH-35 to SH 21 |
| 56 | R9: Widen Goforth to 3-4 lanes from IH-35 to Bunton |
| 57 | S11: Install traffic signal on FM 150 at Lehman |
| 58 | S13: Install traffic signal on FM 1626 at Kohlers Cr |
| 59 | S14: Install traffic signal on Kohlerss Cr at Dry Hole |
| 60 | S3: Install traffic signal on Goforth at Bunton |
| 61 | S4: Install traffic signal on Goforth at Lehman |
| 62 | S6: Install traffic signal on Center at Old 81 |
| 63 | S8: Install traffic signal on Center at FM 150 |
| 64 | S9: Install traffic signal on Center at Old Stagecoach |
| 65 | NLR3: New Lehman 4-lane road from Lehman to Cotton Gin |
| 66 | NLR12: New Yarrington 4 lane road from Old Stagecoach to IH-35 |
| 67 | NLR14: New 4-lane road from FM 150 to Bunton (Loop) |
| 68 | NLR15: New 4-lane road from Bunton to High (Loop) |
| 69 | NLR18: New 4-lane road from CR 158 to Hill (Loop) |
| 70 | NLR20: New 4-lane road from Bebee to Windy Hill (Loop) |
| 71 | NLR22: New 4-lane road from Dry Hole to FM 1626 (Loop) |
| 72 | NLR23: New 4-lane road from FM 1626 to FM 2770 (Loop) |
| 73 | NLR26: New 4-lane road from NLR20 to Windy Hill (Loop) |
| 74 | NLR27: New 4 lane road from Stagecoach to IH-35 (Loop) |
| 75 | NLR8: New Burleson 4-lane road from FM 1626 to Kohlers Crossing |

## Review of Previous Plans

Table 1: Kyle 2005 TMP Project Status (Continued)

| No. | Project Description (Not Constructed) |
| :---: | :--- |
| 76 | NLR11: New 3-lane road from Burleson to FM 1626 |
| 77 | NLR5: New Burleson 3-lane road from Center to Allen |
| 78 | NLR7: New Burleson 4-lane road from Opal to Allen |
| 79 | NLR10: New Burleson 4-lane road from Spring Branch to FM 1626 |
| 80 | NLR21: New Opal 4-lane road from Old Stagecoach to Blanco |
| 81 | NLR24: New 4-lane road at Old Stagecoach |
| 82 | R24b: Widen Opal to 2 lanes from new loop to IH-35 |
| 83 | R29: Widen E Post to 2 lanes from NLR 19 to Opal |
| 84 | R23: Widen Old Stagecoach to 4 lanes from Center to FM 110 |
| 85 | R12: Widen Dry Hole to 4 lanes from Kohlers Crossing to IH-35 |
| 86 | R8: Widen FM 2770 to 4 lanes from FM 1626 to FM 150 |

## City of Kyle 2010 Comprehensive Plan

The City of Kyle 2010 Comprehensive Plan was created to further support Kyle's vision of a strengthened network system. The main difference between this plan and City of Kyle 2005 TMP was that the report produced in 2010 recommends a system of two loops, an inner and outer, which have not been advanced.

## Review of Previous Plans <br> Hays County 2013 <br> Transportation Plan

Hays County updated their decade-old transportation plan in March 2013 to localize roadway system improvements within one of the fastest growing counties in Texas. The study proposed 34 projects within Kyle's city boundaries and all are listed in Table 2. Only three of the total proposed projects have been constructed within the past two years. This plan carried over several projects mentioned in the City of Kyle 2005 TMP. For example, the thoroughfare loop concept continues to be supported by Hays County and is shown in Figure 3-2. Updates on existing roadways are proposed along FM 150, FM 2770, FM 1626, and other main county roads.

Figure 3-2: Hays County 2013 Projects

(Source: Hays County Transportation Plan, March 2013)

## Review of Previous Plans

Table 2: Hays County 2013 Project Status

| No. | Project Description (Constructed) |
| :---: | :--- |
| 1 | Update Kohlers Xing to MAD4 from FM 2770 to IH-35. ROW recommended is 100. |
| 2 | Update Kyle Crossing to MAD2/4 from IH-35 to Kohlers Xing. ROW recommended is 80. |
| 3 | Update Kyle Crossing to MAU2 from Kohlers Crossing to IH-35 @ Old Bridge Trail. ROW recommended is 80. |


| No. | Project Description (Not Constructed) |
| :---: | :---: |
| 4 | Update Goforth Rd to MAU2 from FM 2001 to Hillside Terrace. ROW recommended is 80. |
| 5 | New Kyle Loop (W)- MAD4 from NF 17 to Old Stagecoach Rd. ROW recommended is 150. |
| 6 | New NF17 (Kyle)- MAD4 from FM 150 to Kyle Loop. ROW recommended is 150. |
| 7 | Update Bebee/High to MAD2 from IH-35 to SH 21. ROW recommended is 100. |
| 8 | Update Bunton Creek to MAD2 from IH-35 to Kyle Pkwy. ROW recommended is 80. Reconstruction to connect to the Kyle Pkwy Extension |
| 9 | Update CR 158 to MAU2 from IH-35 to Turnersville Rd extension. ROW recommended is 80. |
| 10 | Update FM 150(E) to MAD2 from IH-35 to SH 21. ROW recommended is 100. Possible extension into Caldwell County east of SH 21. |
| 11 | Update FM 150(W) to MAD4 from FM 3237 to Kyle Loop (SW). ROW recommended is 150. Kyle Loop connection to IH-35 at Yarrington Rd. |
| 12 | Update FM 150(W) to MAD4 from Kyle Loop (SW) to FM 2770. ROW recommended is 150. |
| 13 | Update FM 150(W)/Center to MAD2 from Rebel to IH-35. ROW recommended is existing. |
| 14 | Update FM 150(W)/Rebel to MAD2 from FM 2770 to W. Center St @ Rebel Dr. ROW recommended is 100. |
| 15 | Update FM 1626 to EXPY6 from FM 2770 to IH-35. ROW recommended is 200. |
| 16 | Update FM 1626 to EXPY6 from FM 967 to FM 2770. ROW recommended is 200. |
| 17 | Update FM 2770 to MAD4 from FM 1626 to FM 150. ROW recommended is 150. |
| 18 | Update FM 2770 to MAD4 from FM 967 to FM 1626. ROW recommended is 150. |
| 19 | Update Kyle Loop (W) to MAD4 from FM 1626 @ RS Light to NF 17. ROW recommended is 100. |
| 20 | Update Kyle Loop (W) to MAD4 from Old Stagecoach Rd. to IH-35 @ FM 110/Yarrington Rd. ROW recommended is 100. |
| 21 | Update Kyle Pkwy/Bunton/Gristmill to MAD4 from IH-35 @ FM 1626 to SH 21 @ Gristmill Rd. ROW recommended is 100. |
| 22 | Update Lehman to MAU2 from Goforth to FM 150. ROW recommended is 80. |
| 23 | Update Lime Kiln Rd to MAU2 from Cypress to Hilliard. ROW recommended is 80. Connect over Blanco River to Cypress Rd. |

## Review of Previous Plans

Table 2: Hays County 2013 Project Status (Continued)

| No. | Project Description (Not Constructed) |
| ---: | :--- |
| 24 | Update NF1 (Turnersville Rd) to MAD6 from SH 45 SE to FM 110. ROW recommended is 150. |
| 25 | Update NF15 (Lime Kiln Rd, Cypress) to MAU2 at Blanco River crossing. ROW recommended is 80. |
| 26 | Update Post to MAU4 from IH-35 to Aquarena Springs. ROW recommended is 100. |
| 27 | Update Satterwhite to MAU2 from FM 2001 to Turnersville Rd extension. ROW recommended is 100. |
| 28 | Update SH 21 to MAD6 from Caldwell County line to Yarrington. ROW recommended is 200. |
| 29 | Update Shadow Creek to MAD2 from Hillside Terrace to Bebee. ROW recommended is 100. |
| 30 | Update Windy Hill to MAD2 from IH-35 to Turnersville Rd extension. ROW recommended is 100. |
| 31 | Update Yarrington to MAD4 from FM 110 to SH 21. ROW recommended is 100. Intersects Turnersville Rd. |
| 32 | New Marketplace- MAD4 from FM 967 to IH-35 @ Burleson. ROW recommended is 100. |
| 33 | Update Old Stagecoach to MAU2 from Post to FM 150. ROW recommended is 80. |
| 34 | Update Hillside Terrace to MAU2 from IH-35 to FM 2001. ROW recommended is 80. |

## Review of Previous Plans <br> CAMPO 2040 Regional Transportation Plan

In May 2015, Capital Area Metropolitan Planning Organization (CAMPO) released the adopted 2040 Regional Transportation Plan (RTP) and this included proposed corridors located in the City of Kyle. CAMPO serves as the Metropolitan Planning Organization (MPO) for Hays and five other counties in the region. Every five years CAMPO updates the RTP per federal law and it serves as the region's blueprint to design and build a constructive roadway network. This year's RTP included 43 projects in Kyle, and are listed in Table 3. Thirty Seven of the projects are expected to be funded between 2015 through 2040 while the rest do not have identifiable funds or viable sponsors. All except two proposed projects, shown in Figure 3-3, have yet to be constructed. Interstate highway (IH) 35 and FM 150 are the corridors receiving federal funds within Kyle's limits

## Review of Previous Plans


(Source: CAMPO 2040 Regional Transportation Plan, May 2015)
Figure 3-3: CAMPO 2040 Projects

## Review of Previous Plans

Table 3: CAMPO 2040 Project Status

| No. | Project Description (Funded between 2015-2040) |
| :---: | :--- |
| 1 | Capitol Metro plans to have an Express Bus on HOV/HOT ramps on IH-35 |
| 2 | TxDOT has IH-35 improvements from SH 45 to Posey Rd |
| 3 | TxDOT has IH-35 operational improvements from RM 150 to north of Blanco River; reversing ramps and adding shared use paths |
| 4 | Hays plans to update SH 21 to an MAD6 from Caldwell County to CR 159 |
| 5 | New MAD4 Kyle Loop (West) from NF 17 (Kyle) to Old Stagecoach Rd. |
| 6 | Improve Yarrington Rd to MAD4 from FM 110 to SH 21 |
| 7 | New MAD4 Kyle loop (West) from Old Stagecoach Rd to IH-35 @ Yarrington. |
| 8 | New MAD5 Kyle loop (West) from FM 1626 to NF 17 |
| 9 | Improve Dacy Ln/Goforth Rd to MAU4 from Hillside Terrace to IH-35 |
| 10 | *New MAD4 Kohlers Xing from FM 2770 to IH-35 |
| 11 | Improve Bebee/High to MAD2 from IH-35 to SH 21 |
| 12 | Improve Windy Hill to MAD2 from IH-35 to Turnersville extension |
| 13 | Improve Kyle Pkwy/Bunton/Gristmill to MAD4 from IH-35 @ FM 1626 to SH 21; connect with FM 2720 @ SH 21 |
| 14 | Improve Center St from FM 150 to IH-35 to relieve downtown |
| 15 | Widen FM 2770 to 4 lanes from FM 1626 to FM 150 |
| 16 | Widen Center St to 4 lanes from Old Stagecoach to FM 150 |
| 17 | Improve Lehman to MAU2 from Goforth to FM 150, left turn lanes and sidewalk on 1 side |
| 18 | New MAD4 Marketplace Ave from FM 967 to IH-35 @ Burleson |
| 19 | Improve Old Stagecoach to MAU2 from Post to FM 150 |
| 20 | New MAD2 Shadow Creek Blvd from Hillside Terrace to Bebee |
| 21 | MAD2 FM 150 (W) from FM 2770 to W Center @ Rebel |
| 22 | MAD2 FM 150 (W) from IH-35 to Rebel Dr |
| 23 | MAD4 FM 150 (W) from FM 3237 to Kyle Loop (SW) |
| 24 | MAD4 FM 150 (W) from Kyle Loop (SW) to FM 2770 |

## Review of Previous Plans

Table 3: CAMPO 2040 Project Status (Continued)
No. Project Description (Funded between 2015-2040)
25 Construct 3-lane at Bunton/Goforth from IH-35 to Lehman; continuous left-turn lane up to 900' W of Bardin Circle, sidewalk on 1 side
Construct 3-lane at Burleson from Miller to IH-35 frontage (new connection); divided road with TWLTL, sidewalk on 1 side at a minimum

Construct 4-Iane at Goforth from Brent to Bunton Creek; sidewalk on 1 side
Construct 3-lane at Goforth from IH-35 frontage to Brent; continuous left-turn lane and sidewalk on 1 side at a minimum
Construct 3-lane at Kyle Marketplace frontage from N Burleson (E of UPRR) to City Lights
Arterial street improvement program
Install traffic signal on Center at FM 150
Install traffic signal on Center at Old Stagecoach
Install traffic signal on Kohlers Crossing at Dry Hole
Improve parking /pedestrian safety on Center at Downtown
Eliminate intersection skew on CR 158 at CR 134; not all turns currently possible
Install traffic signal on Goforth at Bunton
Install traffic signal on Goforth at Lehman; improve sight distance in east quadrant
*Constructed Project

No. Project Description (Not Funded)
38 New bridge on IH-35 at Opal Ln; preferred south loop location
Improve CR 158 to MAU2 from IH-35 to Turnersville Rd Extension

Improve Goforth to MAU2 from FM 2001 to Hillside Terrace
Improve Hillside Terrace to MAU2 from IH-35 to FM 2001
*Improve Kyle Crossing to MAU2 from IH-35 @ Old Bridge Trail to Kohlers Crossing
Improve Lime Kiln to MAU2 from Cypress to Hilliard; connect over Blanco river to Cypress Rd
*Constructed Project

## Review of Previous Plans

## City of Buda 2013 Transportation Master Plan Update

The City of Buda is located directly north of Kyle. LAN created Buda's initial transportation plan in 2006 and the TMP Update in 2013. The 2006 plan recognized Kyle's 2005 work, and the 2013 Update makes recommendations for corridors and other concepts that will influence Kyle's current planning effort. As shown in Figure 3-4, FM 1626, FM 2770, FM 967, and other proposed roadways extend south into the City of Kyle. The report recommends acknowledging Hillside Terrace Drive as an east-west corridor since it forms the Buda-Kyle ETJ boundary. Another recommendation made was to construct connections between Buda and Kyle subdivisions, specifically Shadow Creek Subdivision to the east of IH-35. Connections specifically identified are the following:

- Shadow Creek Boulevard Extension of Green Meadows Lane,
- A link between Spanish Trails Boulevard and Dacy Lane
- A link between Dacy Lane and FM 2001 about $1 / 2$ miles south of Hillside Terrace Drive.


## Review of Previous Plans



## Review of Previous Plans

## San Marcos 2015 Transportation

## Master Plan

The City of San Marcos is in the process of updating their 2004 TMP and like the 2004 plan, San Marcos' draft network is proposing an outer loop (FM 110) that connects into Kyle's proposed loop. Figure 3-5 became available October 2015 and is reflected in Kyle's 2045 proposed network.

(Source: San Marcos Transportation Master Plan, October 2015)
Figure 3-5: San Marcos 2015 TMP


## 04 Public Participation

## Public Participation

The general public and all citizens were given the opportunity to participate in this project's planning process through different means of communication; project website, traditional and social media, community survey, and outreach and public meetings.

## Public Participation

## Public Meetings

Public meetings bring a diverse group of stakeholders together and provide participants with a chance to voice their concerns, issues, and ideas. Three "traditional" organized public meetings are planned: the initial community kick-off meeting, mid-project community meeting, and final public meeting.

The initial public meeting and stakeholder workshop was held Monday, March 9, 2015, at 7:00 pm at the Kyle Public Library. The meeting was advertised on the website, the marquee at City Park, and with various announcements and flyers distributed to organizations throughout the City. Attendance was high, with an estimated 80 members of the public, in addition to City staff and Council, County Commissioners, and other officials.

The meeting was conducted as a presentation and workshop. The first section consisted of a presentation about the transportation planning process in general, and the goals and objectives for this study in particular. This presentation was followed by a map exercise in which participants were invited to four tables laid out with identical copies of a city base map, and asked to indicate where and what transportation issues they felt needed to be addressed in the plan. Participants were provided with markers, Post-It notes, and red and green stickers to indicate their ideas. After approximately thirty minutes, the maps were collected. Table moderators gave a verbal summation of the comments and mark-ups on each map. Comment forms were also made available, for attendees to write narrative comments and return to the project team.


Kyle Public Library 3/19/2015


## Wallace Middle School 3/25/2015



Susie Fuentes Elementary 2/11/2016

## Public Participation

In addition to the public input workshop, the five engineering companies designing the projects in the road-bond package staffed informational displays about the design and timeline of those five projects; Goforth Road, Bunton Creek Road, Marketplace Avenue, North Burleson Street, and Lehman Road.

A second public meeting was held on Tuesday, August 25, 2015, at 6:00 pm at the Wallace Middle School Cafeteria. This public meeting was similarly advertised and conducted like the first public meeting; however, instead of displaying road-bond project information LAN displayed the approved typical sections shown in Appendix D. A survey was conducted during the meeting and online to capture additional feedback from the community.

The third and final public meeting was held on Thursday, February 11, 2016, at 6:30 pm at Susie Fuentes Elementary. This public meeting was advertised similarly to the previous public meetings; however additional information was made public, and the meeting was conducted in an open-house format without a formal PowerPoint presentation. Display boards included the typical sections shown during the second public meeting, an aerial map with the proposed network classifications, and a project prioritization map. A summary of outreach activities and a detailed list of project prioritizations were available for the community's reference. The meeting was attended by an estimated 25 members of the public, mostly from Kyle with a small portion from San Marcus and Austin. Comments were collected to capture final concerns from both residents and stakeholders.

## Public Participation

## A summary of major themes and commonly-expressed ideas from all public meetings is below.

- Need an alternative route to access $\mathrm{IH}-35$ and remove traffic going through downtown
- Build an underpass or overpass to allow access to both sides of IH-35 near Roland Ln and E. Post Rd
- A north-south arterial is needed on the east side of Kyle
- Need transitions between east-west roads to have a continuous route to SH 21
- Additional crossings of IH-35 would be useful-vicinity of Kohler's Crossing and Opal Lane or Roland Lane were repeatedly mentioned
- Multiple locations where short connections between roadways can help "fill-out" the grid
- More sidewalks are needed, especially on major roads like FM 150
- Need a road network laid out in advance for large parcels yet to develop (Anthem and GLO tract were cited)
- Increase safety along school zones corridors like FM 2770 and Kohlers Crossing
- Residents south of Center wish to preserve the rural lifestyle and avoid major thoroughfare changes
- Recommend bike lanes along Old Stagecoach and Bebee/High because they are highly used by cyclist, and shared lane markings (SLM) for corridors without bike lanes
- A traffic signal is highly needed along FM 1626 at Kohlers Crossing

The scanned workshop maps with major comments and responses, as well as scanned comment forms and survey results, are shown in Appendix A.

## Public Participation

## Outcomes

Projects recommended by the public were taken into consideration and incorporated into the proposed network. Listed below are the nine projects introduced by the public and currently supported by the City of Kyle; they are further discussed later in the plan.

| Project | Improvement | From | To |
| :--- | :--- | :--- | :--- |
| Bebee | New 2-lane divided road with TWLTL | IH-35 | Bebee |
| Creekside | New 2-lane road over Plum Creek | Creekside | Bunton |
| Goforth | New 2-lane road over Porter Creek | Bebee | Bunton |
| Kohlers Crossing | New bridge; grade separation over UPRR | at UPRR | - |
| Kohlers Crossing | New bridge; grade separation over IH-35 | at IH-35 | - |
| Loop 4 | New 2-lane divided road with TWLTL | FM 967 | Kyle Crossing |
| Opal | New 4-lane road | IH-35 | CR 158 |
| RM 150 | Improve sight distance | at CR 202 | - |
| SH 21 | Install traffic signal | Grist Mill | - |

## Public Participation




## 05 <br> Existing Conditions

## Existing Conditions

## Demographics

## 2010 Census

According to the 2010 Census, the City of Kyle's demographics in 2010 were roughly comparable to Hays County and the state of Texas as a whole. The proportion of children under 18 was notably higher in the Kyle than countywide, however, at 44.0 percent and 30.3 percent, respectively. Unsurprisingly, home ownership rates were higher in Kyle than for the rest of the state and county. The average household size is nearly half a resident higher in Kyle than throughout Texas, which can be attributed to a higher proportion of children and fewer senior citizens living in the city. Residents of Kyle have a lower educational attainment but higher general income than residents in Hays County as a whole.

Table 5 compares demographics between the City of Kyle, Hays County, and statewide throughout Texas. Demographic categories include a population breakdown by age, housing, educational attainment, employment and income, and work commute by mode choice Statistics were found using data from the U.S. Census Bureau's most recent survey in 2010.

## Existing Conditions

Table 5: Demographic Comparison (2010 Census)

| Statistic | City of Kyle | Hays County | State of Texas |
| :---: | :---: | :---: | :---: |
| in Population |  |  |  |
| Total Population | 28,016 | 157,127 | 25,146,104 |
| Children under 5 | 10.3\% | 6.3\% | 7.7\% |
| Children 5-17 | 33.7\% | 24.0\% | 27.3\% |
| Adults 18-64 | 51.8\% | 61.1\% | 54.7\% |
| Seniors 65+ | 4.2\% | 9.6\% | 10.3\% |
| Housing |  |  |  |
| Housing Units | 9,226 | 56,459 | 9,977,436 |
| Owner-Occupied | 80.3\% | 66.8\% | 63.3\% |
| Average Household Size | 3.28 | 2.77 | 2.82 |
| Q Education |  |  |  |
| Finished High School | 89.0\% | 89.3\% | 81.2\% |
| Finished College | 27.5\% | 36.7\% | 26.7\% |
| Employment |  |  |  |
| Unemployment Rate | 2.6\% | 3.4\% | 4.6\% |
| Median HH Income | \$75,262 | \$58,651 | \$51,900 |
| Per Capita Income | \$24,547 | \$26,873 | \$26,019 |
| Families in Poverty | 7.4\% | 17.0\% | 17.6\% |
| Median Home Value | \$147,900 | \$175,600 | \$128,900 |
| Work Commute |  |  |  |
| Travel Time to Work (min) | 32.4 | 29.3 | 25.0 |



## Existing Conditions

Table 6 compares population estimates provided by the U.S. Census Bureau. Kyle and Hays County faced a $4 \%$ growth rate from year 2010 to year 2013. The City of Kyle currently does not have a population estimate for year 2014 but it is expected to be over 33,000 residents to match Hays County's 5\% growth rate from year 2013 to year 2014. Texas has had a steady population growth of $2 \%$ since 2010, lower than Hays County.

Table 6: Population Comparison

| Statistic | City of Kyle | Hays County | State of Texas |
| :--- | :--- | :--- | :--- |
| 2010 Population | 28,016 | 157,127 | $25,146,104$ |
| 2013 Population | 31,760 | 176,483 | $26,505,637$ |
| 2014 Population | - | 185,025 | $26,956,958$ |

## CAMPO

As coordinator of transportation projects in the region, Capital Area Metropolitan Planning Organization (CAMPO) is federally mandated to provide population projections and employment projections to aid its constituent governments in planning for future growth. Current CAMPO projections extend out to year 2040, using base year 2010 data. All CAMPO models generated for this plan are located in Appendix C.

## Existing Conditions



Figure 5-1 shows the household density during base year 2010. Household density was the highest north of downtown and the lowest south of downtown.

Figure 5-1: Base Year 2010 Households
City of Kyle

## Existing Conditions



Figure 5-2 shows the employment density during base year 2010. Employment density was the highest north-east of the city and the lowest in the south-west area.

During year 2010, the City of Kyle held the highest household and employment densities in the area enclosed by FM 150, IH-35, Bunton Road, and Lehman Road.

Figure 5-2: Base Year 2010 Employment

## Existing Conditions

## Land Use

The City of Kyle and its ETJ have experienced an increase in suburban development over the past decade. IH-35 and its frontage roads bisect the City in the north-south direction. Much of the area's recent commercial development has taken place along the $\mathrm{IH}-35$ frontage roads, including a new Walmart, Home Depot, and H-E-B Plus north of downtown Kyle. Most of the schools in Kyle are new and located on large, isolated parcels due to recent growth in the area.

Many single-family subdivisions are interspersed with agricultural land surrounding the downtown area. Several blocks of small commercial establishments, City Hall, and surrounding historic homes comprise Kyle's historic downtown. The region may be a potential historic district.


## City of Kyle

## Existing Conditions

## Zoning

The City of Kyle's Planning and Zoning Commission controls how areas of land are divided for various land uses. Additional functions of the Planning and Zoning Commission include:

- Approve or disapprove plats of proposed subdivisions
- Review and make recommendations on the zoning of land
- Amend the comprehensive plan for the physical development of the city and recommend the comprehensive plan to the council for approval

Zoning is primarily used to separate land uses that are typically seen as incompatible and to prevent new development from interfering with existing uses. Examples of zoning categories include residential, commercial, industrial, special use, and subdivisions. These functional categories are commonly divided into subcategories (e.g., the commercial category may have small retail, large retail, office use, and general business subcategories). Figure $\mathbf{5 - 3}$ shows the existing use classification for each parcel within the City of Kyle.

Note the majority of commercial zoning is along the $\mathrm{IH}-35$ corridor. The northwestern part of the city, particularly around FM 1626, is zoned for multifamily development, of which little is constructed as of 2015. Agricultural zoning is scattered about the southeast part of the city, interspersed with existing single-family residential subdivisions. These agricultural zones may see pressure to be developed with more intensive uses as other areas of the city reach buildout. Finally, note that the zoning only covers the city limits, not the ETJ; particularly to the west of the city, large areas of ETJ will have to have a transportation network planned based on the assumed development pattern there, in the absence of specific zoning.

## Existing Conditions

## Zoning Categories <br> R-1: Single Family

R-1-1: Single Family Residential 1 R-1-2: Single Family Residential 2R-1-A: Single Family AttachedR-1-T: Residential TownhomeR-2: Residential Two FamilyR-3-1: Multi-Family Residential 1R-3-2: Multi-Family Residential 2R-3-3: Apartments Residential 3M-2: Manufactured Home SubdivisionM-3: Manufactured Home ParkA: AgriculturePUD: Planned Unit DevelopmentCBD-1: Central Business District 1CBD-2: Central Business District 2R/S: Retail/ServiceCC: Community CommercialC-1: CommercialC-2: Commercial - General Business
C/M: Construction/ManufacturingE: EntertainmentAl: Heavy IndustrialHS: Hospital ServicesT/U: Transportation/UtilitiesW: Warehouse

## Plum Creek Zoning

$\because:$ PC R-1: Residential 1
$\therefore$.. PC R-2: Residential 2PC R-3: Residential 3MXD: Mixed UseEMP: EmploymentLI: Light IndustrialOS: Open Space
$\square$ Development Agreement
Lot/Parcel Lines

(Source: City of Kyle, May 2014)

Figure 5-3: Existing Zoning

## Existing Conditions

## Constraints

## Natural and Political

The Blanco River creates a natural barrier to the southwest. Future development of the large land parcel across the river that is still within Kyle's ETJ will be difficult due to the river and existing subdivisions to its west. Kyle's ETJ limits are fairly constrained for a small city, although growth opportunities for it exist to the east and northeast.

The edge of the Texas Hill Country creates hilly land to the west of Kyle and restricts largescale development due to uneven topography and environmental concerns to the underlying Edwards Aquifer as shown in Figure 5-4. Several large environmental reserves belonging to the City of Austin lie to the northwest of Kyle in Mountain City. Conservation easements may apply to some areas to the west; in addition, if large parcels west of the Blanco River come into new ownership, a future plan update should consider transportation needs in that area. A large quarry divides Kyle and the City of Buda to the north and gently rolling agricultural land lies to the east and southeast of Kyle. Further to the east is a string of small cities, including Creedmoor, Uhland, and Niederwald.

## Existing Conditions



Figure 5-4:
Existing Natural
Constraints


## Existing Conditions

## Infrastructure

Environmental regulations due to the presence of the Edwards Aquifer place constraints on infrastructure expansion into the aquifer's transition and recharge zones. Developers are subject to extra costs in order to meet permit conditions in these areas.

The City's wastewater treatment facility is located southeast of Kyle on Plum Creek. Effluent from future development in areas west of Kyle will need to cross IH-35 to receive treatment with this current configuration.

The railroad track located inside Kyle's city limits is currently owned and managed by Union Pacific (UP). The track, located west of IH-35, is considered as a major constraint for all modes of transportation. The railroad prevents construction to occur along its route and many obstacles are presented when a roadway is proposed to be built at-grade. For example, UP requires two existing at-grade crossings to be closed in order for one new at-grade crossing to be built.

## Existing Conditions



City of Kyle

## Existing Conditions

## Road Network

Most city streets in the downtown area have a 60 ft right-of-way (ROW), while existing county roads have between 100 and 200 ft of ROW. The majority of streets owned and maintained by the City of Kyle are generally in good condition, as the City had a program in place from 2002 to 2010 that repaved city streets with curb and gutters. Due to lack of funds the program was discontinued, but is recommended to go back into effect as soon as funds become available. Pavement surfaces in most of Kyle's subdivisions are in excellent condition, as the majority of them are relatively new. State- and county-maintained roads, however, tend to be in markedly worse condition.

## Sidewalk Inventory

As of October 2015 a majority of the roads in the study area lacked sidewalks or contained sidewalks along both directions, as shown in Figure 5-5. Subdivisions in Kyle are relatively new and make up most of the dual sidewalks, unlike state and county roads which mainly lack sidewalks for pedestrians to use. It is recommended Kyle budget a percentage of project funds toward constructing sidewalk facilities along major roadways, as implemented by Austin in its Complete Streets Policy adopted June 2014.


## Existing Conditions



Figure 5-5:
Sidewalk
Inventory
(October 2015)

## Existing Conditions

## Traffic Congestion

CAMPO's Congestion Management Process (CMP) works with several stakeholders to collect and monitor regional traffic data. The CMP is a four-step process that reoccurs every two years, and is shown below.


## Existing Conditions

CAMPO's traffic models helped determine the level-of-service (LOS) for roadway within the study area. The effectiveness of the roadway in maintaining an acceptable standard of traffic flow, given its design capacity, is evaluated in terms of its LOS. Level-of-service ratings use an alphabetic scale, with " $A$ " as most free flowing and " $F$ " as having severe congestion. Roadways with level-of-service " $A$ " through " $C$ " are most desirable. LOS " $A$ " represents negligible amounts of traffic, such as might be found late at night. "B" and "C" are typical offpeak volumes (mid-morning or mid-afternoon). Peak, or rush hour, often finds roadways with LOS " D ," moderate congestion which is considered acceptable. Most roadways are designed to experience congestion no worse than "D." LOS "E," heavy congestion, and "F," severe congestion, are generally considered unacceptable, and are usually addressed by increasing the number of travel lanes, retiming signals, or other traffic control measures.

The travel demand modeling conducted by Kimley-Horn Associates used the following volume-to-capacity ratios to determine corridor LOS designation.


Table 7: New Residential

| Level-of-Service | V/C |
| :--- | :--- |
| A,B,C | $<.65$ |
| D | $>.65$ and $<.80$ |
| E,F | $>.80$ |



## Existing Conditions



CAMPO's model, shown
in Figure 5-6, displays
the recorded volumes throughout the Kyle network during year 2010.

Figure 5-6: Base Year 2010 Traffic Volumes

## Existing Conditions



Figure 5-7 shows
Kyle's existing roadway network during year 2010 and the LOS per roadway segment. All roadways resulted in acceptable LOS; however, Center Street and $\mathrm{IH}-35$ resulted in the most congested corridors in 2010.

Figure 5-7: Base Year 2010 Traffic Congestion

## City of Kyle



## 06 ruture condifions

## Future Conditions

## Population Projections

Population growth projections are anticipated wherever there is open land available for development throughout Kyle. Projections are not expected in the central core of the city because those neighborhoods are largely built-out. The City of Kyle will be undergoing through several residential developments in the next couple of years, totaling in 14,842 additional homes. These developments are listed in Table 8 and their current status ranges from a general concept to under construction.

A traffic study was conducted in 2014 for the proposed Sunset Hills residential development. The 180-unit subdivision is proposed to be constructed by 2016 along Bebee Road which is currently a 2-lane undivided roadway. The only subdivision access point, Sunset Hills Driveway, is proposed to have two egress lanes and one ingress lane. The traffic study determined Bebee Road by 2016 will require a left-turn deceleration lane for residents to safely turn into Sunset Hills Driveway. Several plans like City of Kyle 2005 TMP and Hays County 2013 Transportation Plan propose Bebee to be widened, so incorporating the traffic study's suggestion can easily be made if and when Bebee is redeveloped.

## Future Conditions

Table 8: New Residential Development (July 2015)

| Project Name | Status | Location | Units | Acres |
| :---: | :---: | :---: | :---: | :---: |
| Anthem | In Design | W RR 150 | 2,200 | 690.0 |
| Brookside Phase 2 | Approved | Arbor Knot Dr | 220 | 36.24 |
| Bunton Creek remaining phases | In Review | Twin Creeks Dr | 440 | 90.08 |
| Cool Springs | In Review | 1838 E RR 150 | 372 | 125.2 |
| Creekside at Bunton Creek | Concept | 500 Bunton Ln | 300 | 97.9 |
| Creekside Village | In Review | N Burleson St | 280 | 73.2 |
| Crosswinds MUD | In Review | 2000 Windy Hill Rd | 1,750 | 443.5 |
| Cypress Forest | Concept | N Old Stageoach Rd at Cypress Rd | 337 | 130.4 |
| GLO | Concept | Western Kyle ETJ north of Blanco River | 1,400 | 2,154.6 |
| Hidden Valley | Concept | 400 Bunton Ln | 1,100 | 222.9 |
| La Salle MUD | Concept | Yarrington Rd | 2,400 | 2,740.4 |
| Lehman Tract | Concept | 100 Bunton Ln | 150 | 97.6 |
| Oaks of Kyle Apts | Under Construction | 200 Goforth Rd | 204 | 10.1 |
| Pecan Woods | Concept | E RR 150 at Heidenreich Ln | 1,400 | 768.4 |
| Plum Creek Phase 2 | Concept | Bebee Rd east of Republic Dr | 1,500 | 606.5 |
| Sunset Hills | In Review | Bebee Rd at Republic Dr | 177 | 53.2 |
| The Strand Apartments | Under Construction | 150 Amberwood S | 160 | 7.6 |
| Trails at Plum Creek Apts | Under Construction | 4300 Cromwell | 248 | 12.3 |
| Vista at Plum Creek Apts Phase 2 | Under Construction | 5020 Cromwell | 180 | 7.4 |
| Villas at Creekside Phase 2 | Approved | 107 Creekside Dr | 24 | 2.85 |

## Future Conditions



Based on CAMPOS's model, the fastest population growth is projected to take place in the Kyle ETJ area west of Blanco River and Kyle's already highly populated area east of IH-35. Meanwhile, limited growth is projected to occur north and south of Kyle's downtown area. Refer to Figure 6-1 for a map of household projections in Kyle through year 2040.

Figure 6-1: Future 2040 Households

## Future Conditions



Figure 6-2: 2010-2040 Household Growth

## City of Kyle

## Future Conditions

## Employment Projections

Economic growth is one of the major goals of the Kyle TMP on behalf of the City of Kyle. Significant transportation improvement tends to follow economic development and job growth, so it is important to implement the Kyle TMP to position Kyle as a true market center that supports several job sectors. The Hays Commerce Center development may be constructed within five to ten years along Dry Hole Road. If constructed it would strengthen the economic development opportunities along $\mathrm{IH}-35$ and form a connection between Buda and Kyle.

Most of the immediate employment growth in Kyle is expected to take place in the retail and office services sectors. CAMPOS's model shows that the greatest employment growth is projected to take place north of downtown and along IH-35. Meanwhile, minimal employment growth is anticipated to take place at existing residential areas and south of downtown. Refer to Figure 6-3 for a map of employment projections in Kyle through year 2040.

## Future Conditions



Figure 6-3 shows a
map of employment
projections in Kyle
through year 2040.

Figure 6-3: Future 2040 Employment
City of Kyle

## Future Conditions



Figure 6-4 reinforces the previous observation
that the area north of downtown and along $\mathrm{IH}-35$ is projected to develop the largest amount of jobs within a 30-year range.


Figure 6-4: 2010-2040 Employment Growth

## Future Conditions

Table 9 and Table 10 summarize the study area demographics in years 2010 and 2040.
Table 9: Demographic Comparison (2010 CAMPO)

|  | Population | Households | Employment |
| :--- | :--- | :--- | :--- |
| City of Kyle | 28,692 | 9,070 | 4,466 |
| ETJ | 43,988 | 13,475 | 5,054 |
| Total | $\mathbf{7 2 , 6 8 0}$ | $\mathbf{2 2 , 5 4 5}$ | $\mathbf{9 , 5 2 0}$ |

Table 10: Demographic Comparison (2040 CAMPO)

|  | Population | Households | Employment |
| :--- | :--- | :--- | :--- |
| City of Kyle | 64,157 | 19,810 | 45,036 |
| ETJ | 140,230 | 43,374 | 50,026 |
| Total | $\mathbf{2 0 4 , 3 8 7}$ | $\mathbf{6 3 , 1 8 4}$ | $\mathbf{9 5 , 0 6 2}$ |

## Future Conditions

## Road Network

In order to accommodate future expansion, land must be acquired either via purchase or enforced dedication. Roads owned and maintained by TxDOT, in general, have adequate ROW, with the exception of FM 150 aligned through downtown. Although it is possible to fit two travel lanes into county road ROW, it is preferable to have at least 100 ft of ROW before doing so. This improves aesthetics, mobility, safety, and allows for the possible future expansion to four or six lanes. Likewise, future local roads in the City of Kyle are recommended to have a minimum ROW of 60 ft to accommodate additional features like sidewalks on both sides of the road, utility easement, and a continuous left-turn lane.

This plan does not include a pavement management system, but the City is in the process of developing a program to create a more numerical, data-driven prioritization of street repair, repaving, and reconstruction.

## Traffic Congestion

CAMPO's model, shown in Figure 6-5, displays the generated volumes throughout the Kyle network by year 2040. The network includes existing and proposed roads captured by CAMPO.

## Future Conditions



Figure 6-5 displays the generated volumes
throughout the Kyle
network by year 2040.
The network includes existing and proposed roads captured by CAMPO.

Figure 6-5: Future 2040 Traffic Volumes

## Future Conditions



The majority of the trips are expected to commute along IH-35, FM 150, and FM 1626. Figure 6-6 shows CAMPO's model for Kyle's future roadway network during year 2040. The LOS for the majority of the network is acceptable; however, segments along FM 1626, Center Street, IH35, and Old Stagecoach resulted in a LOS F which is unacceptable.

Figure 6-6: Future 2040 Level-of-Service

## Future Conditions

## Road Bond Program

Five roadway projects are scheduled to be constructed in the next couple of years and they are shown in Figure 6-7. Three of the five projects are located in the region stated earlier with the highest households and employment totals in year 2010 and one of the most residentially developed areas in year 2040. The Kyle City Council authorized the investment during their city council meeting on March 17, 2015.

In terms of future traffic projections and overall network connectivity, these five projects are considered fully-funded and anticipated to be constructed by approximately 2018. Table $\mathbf{1 1}$ lists the anticipated construction timeframe and total cost for each of the bond project.

Table 11: Bond Project Details

| Location | Estimated Start of <br> Construction | Estimated End of <br> Construction | Estimated Total <br> Cost (Million) |
| :--- | :--- | :--- | :--- |
| Goforth Road | January 2016 | October 2016 | $\$ 7.600$ |
| Bunton Creek <br> Road | September 2015 | July 2016 | $\$ 3.750$ |
| Marketplace <br> Avenue | October 2015 | October 2016 | $\$ 3.590$ |
| Lehman Road | March 2016 | July 2017 | $\$ 6.081$ |
| Burleson Street | November 2016 | June 2018 | $\$ 7.103$ |


(Source: City of Kyle, April 2015)
Figure 6-7: Road Bond Projects

## Future Conditions

## Goforth Road

The Goforth Road Traffic Operations Analysis Report was created in 2015 and it recommends the section of Goforth being redeveloped be widened to three lanes from IH-35 Northbound Frontage Road to Brent Boulevard and four lanes from Brent Boulevard to Bunton Creek Road. Other recommendations include installing a traffic signal on Bunton Creek Road and Goforth Road intersection and at Kyle Parkway and Goforth Road once it warrants.

## Bunton Creek Road

The Bunton Creek Road Traffic Signal Warrant Analysis created November 2014 recommended that Bunton Creek be widened into a threelane road from the IH-35 Frontage Road to Lehman Road.

## Marketplace Avenue

Marketplace Avenue will be constructed as a three-lane road from City Lights Drive to Burleson Street

## Lehman Road

Improvements on Lehman Road include adding dedicated left turns at cross streets from RR 150 to Goforth Road. Lehman Road Traffic Signal Warrant Study completed in October 2014 did not recommend a signal be installed at the intersection of Lehman Road and Goforth Road until volumes warrant.

## Burleson Street

Burleson Street will maintain the two-lane cross section from Miller Street to Lockhart Street and then incorporate a Two-Way Left-Turn Lane (TWLTL) up to IH-35 Frontage Road.

## Future Conditions

## Immediate Development

## IH-35

$\mathrm{IH}-35$ has been and will continue to be under construction for the next several years as it is redeveloped to serve the increasing population and traffic demand in Texas. Improvements to the overpass bridge at Yarrington Road over IH-35 include realigning and widening segments of the IH - 35 Frontage Road, replacing the bridge with a sixlane structure, and incorporating turnaround bridges on both directions. This project is estimated to be completed by early 2016.

In July, 2015 TxDOT updated the I-35 Capital Area Improvement Program (Mobility35) to include the 24-mile segment of IH-35 (SH 45E to Posey Road) in Hays County. All concepts in the report have yet to go through the National Environmental Policy Act (NEPA), Plan Specifications and Estimates (PS\&E), and construction. The main objective of the Mobility35 is to install additional freeway lanes in each direction on IH-35; known as the Future Transportation corridor (FTC).

Out of the $\$ 1.06$ billion dollars of IH-35 construction work proposed in Hays County, $\$ 243,656,000$ is located in the Kyle's city limits. Projects listed in this study will progress as funding is identified.


## Future Conditions

## All IH-35 improvements in Hays County were separated into fifteen projects;

 with four located in the City of Kyle.Project B - FTC Kyle: This project proposes to install an additional lane each direction on $\mathrm{IH}-35$ and serve as general purpose lanes or managed lanes. Facilities for pedestrian and cyclists will be upgraded throughout the corridor. Bridge structures proposed to be upgraded include Plum Creek and Bunton Branch. Total: \$202,144,000 (Unfunded)

Project E - Ramp Reversals: This project proposes to reverse the configuration of four northbound ramps between Kyle Crossing and RM 150.

## Total: \$19,943,000 (Schematic and Environmental Funded)

Project F - FM 1626 (Kyle Parkway) DDI: This project proposes to reconfigure the existing bridge into a Diverging Diamond Interchange (DDI) once traffic operations produce an undesirable LOS Total: \$10,060,000 (Unfunded)

Project G - Center Street (RM 150): This project proposes to add turnlanes on all approaches except the southbound approach. Widening along the underpass bridge is proposed to facilitate minimum pedestrian and bicycle standards Total: \$11,509,000 (Unfunded)

(Source: I-35 Capital Area Improvement Program, July 2015)
Figure 6-8: IH-35 Project Limits in City of Kyle

## Future Conditions

## Lone Star Rail

The proposed Lone Star Rail (LSTAR) route has identified a station for Kyle/Buda, currently planned for the area near Kyle Parkway (FM 1626). The overall route connects 16 proposed stations between greater Austin and San Antonio metropolitan areas by utilizing the existing Union Pacific track. Currently an Environmental Impact Statement (EIS) is being produced for the project. LSTAR is anticipated to start final design and construction in 2016 or 2017.

PROPOSED LSTAR ROUTE MAP

(Source: http://lonestarrail.com)
Figure 6-9: Proposed Lone Star Rail

## Future Conditions

## FM 150 East

Hays County is providing funds to improve FM 150 from Lehman Road to SH 21 by constructing a center turn lane and shoulders. This project is expected to start construction during year 2016.

## FM 150 West

Hays County and TxDOT plan to realign the existing FM 150 roadway from Arroyo Ranch Road to IH-35. This corridor will relieve congestion from Center Street and alleviate downtown circulation. In April 2015, the project team announced that Corridor $C$ shown in Figure 6-10 had been selected, largely due to its high level of constructability, reasonably direct route, and avoidance of existing development. FM 150's specific alignment will be under development by Hays County.

The new corridor will affect development and safety west of Kyle so Hays County plans to conduct an FM 150 West Character Plan to determine an eastwest corridor and plan for corridor preservation. The opportunity to extend FM 150 to US 290 may be considered in the plan.

(Source: http://improvefm150.com, April 2015)
Figure 6-10: FM 150 Corridor C

## Future Conditions

## FM 2001

TxDOT and Hays County are currently working on the realignment of FM 2001. The proposed alignment as of October 2015 is shown in
Figure 6-11 and located along the north-east corner of Kyle's ETJ.

## Kyle Parkway

Kyle Parkway is proposed to be extended from its current terminus east of IH-35, east to SH 21 by creating a connection to Cotton Gin. This project requires land to be acquired within the City of Kyle, Kyle's ETJ, and Uhland.


Figure 6-11: FM 2001
Realignment
(Source: Kimley-Horn Associates, October 2015)

## City of Kyle



# 07 <br> <br> Thoroughfare <br> <br> Thoroughfare Planning and Planning and Corridor Analysis 

 Corridor Analysis}

## Thoroughfare Planning and Corridor Analysis

## Functional Classification

The design of each corridor is affected by the amount of traffic it is projected to serve, as well as its role in the regional system. This concept is known as functional classification and all classifications identified in this plan are listed below.

## Freeway

Freeways are major roads with full control of access with no grade crossings for motorized travel only. The only existing freeway within Kyle is IH-35 and it moves people and goods at the regional, statewide and national level.

## Major Arterial

Major arterials, such as FM 1626 and FM 2001, are roads that are within the City's jurisdiction but maintained by TxDOT. Major arterials are designed to carry large volumes of traffic longer distances throughout the region.

## Minor Arterial

Minor arterials, along with major arterials, are the main roadways within a city's street network. They are designed to carry large volumes of traffic longer distances throughout the city. Multiple, varying land uses are connected by arterials. Cities around Kyle, such as San Marcos and Buda, are also connected to Kyle and each other by arterials such as FM 150 and SH 21.

## Thoroughfare Planning and Corridor Analysis

## Collector

Collectors are designed to carry large amounts of traffic over short distances within the city. Collectors may have typical sections similar to arterials; however, a collector provides access to development, and is not intended to carry traffic over the same distance as arterials.

## Local

Local streets exist primarily to provide access to properties immediately adjacent to the street right-of-way, such as single-family homes. These streets are typically narrower, with low speed limits, on-street parking, and numerous driveways.

## Multi-Use Path

Multi-use paths are designed pathways for pedestrian and cyclists to safely maneuver around the city along their separate route.


## Thoroughfare Planning and Corridor Analysis

## Typical Section

The established typical sections applied the Complete Streets policy when it was applicable. Typical sections are determined from its functional classification, surrounding land uses, and presence of shared facilities. Shared facilities could include a major bus route, bike lanes, or sidewalks. These shared facilities are intended to be accomplished within the context of overall roadway construction/reconstruction, wherever possible, in order to save costs and reduce construction related disruptions to the community.

Several typical sections depict parking lanes and the width required for parallel parking is dependent on the functional class of the road. According to AASHTO, seven feet is the absolute minimum for parallel parking and is unacceptable on arterials. Eight feet is the desirable width for parallel parking on most roads and the minimum to be allowed on arterials. For arterials, ten feet is the desirable width for a parking lane because it can also function as a turning lane at intersections. The AASHTO 2012 Guide for the Development of Bicycle Facilities recommends a 6-to-8-foot lane width along high bicycle use corridors to make passing or riding side-by-side possible. The minimum lane width a bike lane can have is four feet and it applies to roadways with a posted speed limit of 45 mph or less and with curb and no gutter. The right-of-way listed for each typical section is the minimum required for each configuration, but as mentioned before 100 ft ROW is recommended for future expansion. An exhibit for each typical section listed in Table $\mathbf{1 2}$ can be found in Appendix $\mathbf{D}$.

## Thoroughfare Planning and Corridor Analysis

Table 12 - Typical Section Summary

| Classifications | Typical Section | Note |
| :--- | :--- | :--- |
| Multi-Use Path | MUP | 12' bi-directional multi-use path |
| Local | L2U | Basic 2-lane section for direct lot access |
|  <br> Minor Arterial | R2U | Existing sections without sidewalks or curb/gutter. Not permitted for new <br> construction within Kyle |
| Collector | C2U | Wider section for commercial areas; bike and parking are optional |
| Collector | C2U - Bike or Parking | Wider section for residential areas; two striped outside lanes for bikes or parking |
| Collector | C3U | 2-lane section with two-way left-turn lane |
| Collector | C4U | Basic 4-lane collector section |
| Collector | C4U - Bike or Parking | Two striped outside lanes for bikes or parking |
| Collector \& Minor Arterial | C4D | Basic 4-lane arterial section |
| Collector \& Minor Arterial | C4D - Bike or Parking | Two striped outside lanes for bikes or parking |
| Collector \& Minor Arterial | C5U | 4-lane section with two-way left-turn lane |
| Minor Arterial | Basic 4-lane arterial section for high speed roads (>40 mph) |  |
| Minor Arterial | P4D - Bike | 12' lanes, with 12' multi-use path for Hike and Bike Trail Segments |
| Minor \& Major Arterial | P6D | Basic 6-lane arterial section with 12' lanes |
| Minor \& Major Arterial | P8D | Basic 8-lane arterial section with 12' lanes |

L=Local R=Rural $\quad C=$ Collector $\quad$ =Principal \#=Number of lanes U=Undivided, $\quad D=$ Divided

## Thoroughfare Planning and Corridor Analysis

Cost estimates for all typical sections were calculated in May 2015 using TxDOT's average low-bid unit prices. A bond project's cost estimate, Goforth Road, was utilized as the bases for this plan's cost estimates. All estimates shown in Table 13 take into account the entire proposed cross section and include a $20 \%$ pre-construction, $10 \%$ constructions oversight, and a 10\% contingency cost. Construction costs include roadway, traffic control, drainage, pavement marking and signs, utilities, SW3P, and a $10 \%$ mobilization cost. Detailed cost estimates, per typical section, are located in Appendix D.

Out of the 15 typical sections created only 9 were assigned to this plan's proposed network; however, all typical sections were listed and cost estimates calculated for the City's future use

Table 13 - Typical Section Cost Estimate

| Typical Section | ROW | Cost Estimate (per Mile) |  |
| :--- | :--- | :--- | :--- |
|  |  | w/o ROW Cost | w/ ROW Cost |
| MUP | $24^{\prime}$ | $\$ 900,000$ | $\$ 3,400,000$ |
| L2U | $60^{\prime}$ | $\$ 5,500,000$ | $\$ 11,800,000$ |
| R2U | $60^{\prime}$ | $\$ 3,600,000$ | $\$ 7,400,000$ |
| C2U | $60^{\prime}$ | $\$ 6,100,000$ | $\$ 12,400,000$ |
| C2U - Bike or Parking | $60^{\prime}$ | $\$ 6,200,000$ | $\$ 12,500,000$ |
| C3U | $60^{\prime}$ | $\$ 6,300,000$ | $\$ 12,600,000$ |
| C4U | $70^{\prime}$ | $\$ 6,700,000$ | $\$ 14,100,000$ |
| C4U - Bike or Parking | $80^{\prime}$ | $\$ 7,700,000$ | $\$ 16,100,000$ |
| C4D | $80^{\prime}$ | $\$ 7,400,000$ | $\$ 15,800,000$ |
| C4D - Bike or Parking | $90^{\prime}$ | $\$ 8,500,000$ | $\$ 18,000,000$ |
| C5U | $80^{\prime}$ | $\$ 7,600,000$ | $\$ 16,000,000$ |
| P4D | $105^{\prime}$ | $\$ 8,700,000$ | $\$ 19,800,000$ |
| P4D - Bike | $110^{\prime}$ | $\$ 9,000,000$ | $\$ 20,600,000$ |
| P6D | $130^{\prime}$ | $\$ 10,300,000$ | $\$ 24,000,000$ |
| P8D | $150^{\prime}$ | $\$ 11,800,000$ | $\$ 27,600,000$ |

## Thoroughfare Planning and Corridor Analysis

## Proposed Network

Communication with City staff and the public throughout the project selection process was a key factor to providing the City of Kyle a network plan that would be able to support future business and residential growth. Several steps were taken to finalize the project list.

1. Locate projects in previous studies not yet constructed (Section 3)
2. Collect input from the public and stakeholders (Section 4)
3. Analyze future projections and determine needs (Section 6)

Roadway classifications for the proposed 2045 Kyle network is shown in Figure 7-1. The City of Kyle will have two main corridors connecting the city, Kyle Loop on the west and Turnersville Road on the east. Kyle Loop will serve as a connection to Buda's Truck Bypass and San Marco's
FM 110.


Figure 7-1: Future 2045 Road Classification

## Thoroughfare Planning and Corridor Analysis

After a roadway classification was assigned to each project in the proposed network, typical sections were appointed and cost estimates were calculated. Typical sections were matched to general crosssection descriptions in previous plans or to tie into existing surrounding roads. Project cost estimates were derived from the typical section cost estimates per mile, but were adjusted slightly to match each project's description. For example, an existing road would require additional traffic control compared to a new road that only requires barriers along both project limits. Also, certain projects require additional ROW while some do not, as shown in Figure 7-2. Existing ROW lengths were measured using Hays Central Appraisal District Map while the proposed ROW lengths were determined by the typical sections.


Figure 7-2: Future 2045 Right-of-Way Required

## Thoroughfare Planning and Corridor Analysis

Other types of projects that did not fit a specific typical section were given a general cost estimate; $\$ 100,000$ total cost for a minor improvement, $\$ 300,000$ total cost for a traffic signal, and $\$ 500,000$ construction cost for a two-lane roundabout. Bridge cost estimates were individually calculated and they included structure, retaining wall, and aesthetic costs if needed. An additional $\$ 1$ million were added to roadway projects that crossed a body of water and an additional \$2 million were added if a roadway crossed the UPRR track. Grade separation is recommended at railroad tracks to avoid delay and accidents. The estimated cost to design and build all 96 proposed projects is $\$ 2,037,240,000$ while $\$ 580,040,000$ falls under the ownership of the City of Kyle, as shown in Table 14. A detailed list of all projects and cost estimates is located in Appendix G.

Table 14 - Cost Estimate Total by Owner

| Owner | Total Cost |
| :--- | :--- |
| Kyle | $\$ 580,040,000$ |
| Hays-ETJ | $\$ 486,300,000$ |
| Hays-non-ETJ | $\$ 398,120,000$ |
| TxDOT | $\$ 572,780,000$ |
| TOTAL | $\mathbf{2 2 , 0 3 7 , 2 4 0 , 0 0 0}$ |



## Thoroughfare Planning and Corridor Analysis

## Corridor-Specific Descriptions

All proposed projects, shown in Figure 7-3 and described below, are conceptual and drawn for connectivity. When engineering plans are developed for roadway construction, minor shifts of alignment and minor changes in right-of-way widths may be necessary to avoid existing properties, natural constraints, or infrastructure constraints. Corridor descriptions may have been modified from the original reference to better fit this plan's proposed network.


Figure 7-3: Future 2045 Proposed Projects

## Thoroughfare Planning and Corridor Analysis

## Arterial Streets

CAMPO proposes an improvement program that funds various roadway maintenance projects like repaving and reconstruction, Total: \$23,700,000

## Bebee

The public proposes a new 2-lane divided road with TWLTL to create a connection between two east-west corridors Kohlers Crossing and Bebee, Total: \$7,340,000

## Bebee/High

CAMPO proposes widening to a 2-lane divided road with TWLTL and bike lanes over Porter Creek to better serve future development like Sunset Hills and existing cyclists, Total: \$49,420,000

## Bunton/Goforth

CAMPO proposes widening to a 2-lane divided road with TWLTL up to 900' W of Brandi Circle as part of the bond program, Total: \$3,800,000

## Bunton/ Grist Mill

CAMPO proposes a new 2-lane divided road over Plum Creek with a connection to FM 2720 at SH 21. This project requires land to be acquired within the City of Kyle, Kyle's ETJ, and Uhland, Total: \$72,640,000

## Burleson

CAMPO proposes widening to a 2-lane divided road with TWLTL, with a sidewalk on 1 side at a minimum, as part of the bond program, Total: \$7,100,000

## City of Kyle

## Burleson

Kyle proposes widening to a
2-lane road as part of the bond program, Total: \$1,400,000

## Burleson (Cromwell)

Kyle proposes a new 4-lane divided road (NLR10) over Plum Creek to serve existing Plum Creek and future Creekside Village neighborhoods, Total: \$19,640,000

## Center

CAMPO proposes installing a traffic signal at FM 150 to ensure a desirable LOS. If Scott is realigned to connect at this T-intersection it will add additional trips, Total: \$300,000

## Center

CAMPO proposes widening parking and improve pedestrian safety around downtown to improve walkability at the heart of Kyle, Total: \$1,900,000

## Center

CAMPO proposes installing a traffic signal at Old Stagecoach to ensure a desirable LOS, Total: \$300,000

## Center

Kyle proposes installing a traffic signal (S6) at Old 81 to ensure a desirable LOS, Total: \$300,000

## Center

CAMPO proposes widening to a 4-lane road as it connects downtown to future development on the west, Total: \$4,520,000

## Centex

Kyle proposes a new 2-lane road over Onion Creek and in Kyle's ETJ to connect northern roads,

Total: \$17,220,000

## Thoroughfare Planning and Corridor Analysis

## Centex

Kyle proposes a new 2-lane road over UPRR and located outside of Kyle's ETJ to connect northern roads, Total: \$30,820,000

## CR 158

CAMPO proposes to eliminate the intersection skew at CR 134 because not all turns are currently possible, Total: \$100,000

## CR 158

CAMPO proposes widening to a 4-lane road to serve new trips generated by La Salle MUD, Total: \$19,180,000

## CR 158

Kyle proposes a new 4-lane road to serve new trips generated by La Salle MUD and to provide an additional east-west connection from $\mathrm{IH}-35$ to SH 21, Total:
\$21,080,000

## Creekside

The public proposes a new
2-lane road over Plum Creek to connect Creekside to Bunton and serve future residents at Lehman Tract and Hidden Valley, Total: \$16,500,000

## Cypress

Kyle proposes widening to a 4-lane road (R27) to serve future Cypress Forest and GLO residents along the southern border, Total: \$29,000,000

## Dacy

CAMPO proposes widening to a 4-lane road over Richmond Branch to match the recently updated section to the south, Total: \$43,380,000

## E Post

Kyle proposes widening to a 2-lane road (R29), Total:
\$5,660,000

## FM 150

Kyle proposes a new 2-lane roundabout at Kyle Loop to create a continuous flow of traffic without having to install a traffic signal, Total: \$1,000,000

## FM 150 (W)

CAMPO proposes widening to a 2-lane divided road with TWLTL to improve Kyle's downtown, Total: \$11,200,000

## FM 150 (W)

CAMPO proposes widening to a 2-lane divided road with TWLTL to reinforce a main collector, Total: \$4,200,000

## FM 150 (W)

CAMPO proposes widening to a 4-lane divided road with TWLTL to support future development on the west, Total: \$45,100,000

## FM 150 (W)

CAMPO proposes widening to a 4-lane divided road with TWLTL
to support future development on the west, Total: $\$ 13,160,000$

## FM 1626

Hays County proposes widening to a 6-lane divided road over UPRR to serve future residents on the east side of Plum Creek Phase 2 and trip from and to Buda, Total: \$35,700,000

## FM 1626

Kyle proposes installing a much needed traffic signal (S13) at Kohlers Cr to ensure a desirable LOS and create a safer intersection, Total: \$300,000

## FM 1626

Hays County proposes widening to a 6-lane divided road to match the southern segment, Total: \$12,600,000

## Thoroughfare Planning and Corridor Analysis

## FM 2770

CAMPO proposes widening to a 4-lane road with optional bike or parking lanes over Plum Creek to serve future residents on the west side of Plum Creek Phase
2, Total: \$26,600,000

## FM 2770

Hays County proposes widening to a 4-lane divided road to tie into the southern segment, Total: \$14,420,000

## Goforth

Kyle proposes widening to a 4-lane road over Richmond Bunton Branch to serve additional trips in the area, Total: \$11,240,000

## Goforth

The public proposes a new
2-lane road over Porter Creek to create an additional north-south
connection between Bebee and Bunton, Total: \$16,980,000

## Goforth

CAMPO proposes widening to a 2-lane divided road with TWLTL to tie into Shadow Creek which will serve future Crosswind MUD residents, Total: \$11,100,000

## Goforth

Kyle proposes a new 4-lane divided road to connect Bunton Creek with Kyle Parkway and relieve IH-35 frontage roads, Total: \$3,440,000

## Goforth

CAMPO proposes widening to a 4-lane; sidewalk on one side as part of the bond program, Total: \$7,600,000 (Cost includes next two projects)

## Goforth

CAMPO proposes widening to a
2-lane divided road with TWLTL
over Plum Creek as part of the bond program.

## Goforth

Kyle proposes installing a rightturn lane at the school (15) as part of the bond program.

## Goforth

CAMPO proposes installing a traffic signal at Bunton as part of the bond program, Total:
\$300,000

## Goforth

CAMPO proposes installing a traffic signal at Lehman and improving the sight distance in the east quadrant as part of the bond program, Total: \$300,000

## Grist Mill

Kyle proposes installing a traffic signal at Turnersville Extension to ensure a desirable LOS, Total: \$300,000

## Hillside Terrace

CAMPO proposes widening to a 2-lane road with optional bike or parking lanes over Andrews Branch to support any future development, Total: \$13,020,000

## IH-35

CAMPO proposes improvements like the addition of shared use paths and auxiliary lanes along IH-35 (TxDOT Projects B, F, G), Total: \$223,710,000

## Thoroughfare Planning and Corridor Analysis

## IH-35

CAMPO proposes Express Bus on HOV/HOT ramps on IH-35 to serve the increasing population/ ridership near the Austin area,
Total: \$36,000,000

## IH-35

CAMPO proposes operational improvements; reversing ramps and bridge modifications (TxDOT Project E), Total: \$19,950,000

## IH-35

Kyle proposes to eliminate the intersection skew at CR 131 (I3) to improve the safety of local drivers, Total: \$100,000

## Kelly Smith

Kyle proposes a new 2-lane road with optional bike or parking lanes over Andrews Branch because it was identified as a missing connection in Shadow

Creek's neighborhood, Total:
\$5,940,000

Kohlers Crossing
CAMPO proposes installing a traffic signal at Kyle Crossing to ensure a desirable LOS, Total:
\$300,000

## Kohlers Crossing

The public proposes a new bridge; grade separation over UPRR to decrease delay and improve safety, Total: \$3,680,000

## Kohlers Crossing

The public proposes a new bridge; grade separation over IH-35 and create a continuous east-west corridor with Bebee, Total: \$1,840,000

## Kyle Crossing

Kyle proposes a new 2-lane road over UPRR and Bunton

Branch to serve future residents in Plum Creek Phase 2, Total: \$29,700,000

## Kyle Crossing

CAMPO proposes widening to a 2-lane road over Bunton Branch to match the new section to the west, Total: \$15,540,000

## Kyle Loop (NF17)

Hays County proposes a new
4-lane divided road, also known as the FM150 west realignment, along the southern portion of Kyle. The alignment of the corridor will be studied by Hays County. This corridor is intended to relieve FM150(W) and serve new development west of IH-35 like GLO, Total: \$67,200,000

## Kyle Loop (West)

CAMPO proposes a new
4-lane divided road to form a
connection over Old Stagecoach,
Total: \$7,740,000

## Kyle Loop (West)

CAMPO proposes a new
4-lane divided road to connect Kyle Loop to IH-35, Total:
\$30,140,000

## Kyle Loop (West)

CAMPO proposes a new 4-lane divided road with TWLTL, over Onion Creek and along the northern portion of Kyle, to serve new development like Anthem. At FM 1626, Kyle Loop will link to Buda's Truck Bypass, Total: \$74,040,000

## Kyle Loop (West)

Kyle proposes a new 4-lane divided road with TWLTL to extend the northern section to the new road $N$ Lime Kiln, Total: \$15,960,000

## Thoroughfare Planning and Corridor Analysis

## Kyle Loop (West)

Kyle proposes installing a traffic signal at FM 1626 to ensure a desirable LOS, Total: \$300,000

## Kyle Loop (West)

Kyle proposes a new 2-lane roundabout at Roland to ensure a desirable LOS at a skewed intersection, Total: \$1,200,000

## Kyle Marketplace

CAMPO proposes a new 2-lane divided road with TWLTL over Plum Creek Frontage as part of the bond program, Total: \$3,600,000

## Kyle Pkwy

Kyle proposes a new 2-lane road over Bunton Branch to create an additional east-west connection from IH-35 to SH 21, Total: \$17,240,000

## Lehman

CAMPO proposes widening to a 2-lane road over Plum Creek with left turn lanes and sidewalk on 1 side as part of the bond program, Total: \$6,100,000

## Lime Kiln

CAMPO proposes widening to MAU2 with a connection over Blanco River to Cypress Rd. This provides an additional connection to San Marcos, Total: \$24,220,000

## Loop 4

The public proposes a new 2-lane divided road with TWLTL for a more direct route to Kyle Crossing and to serve future employees at Hays Commerce Park, Total: \$7,580,000

## Marketplace Ave

CAMPO proposes a new 4-lane divided road to give Marketplace
an additional access point, Total: \$10,980,000

## Moonlite Meadows

Kyle proposes a new 2-lane road because it was identified as a missing connection north of Bebee, Total: \$6,920,000

## N Lime Kiln

Kyle proposes a new 2-lane road to serve the west side of the new development GLO. A connection over Blanco River was not possible due to a conservation easement, Total: \$35,760,000

## NF1 (Turnersville Rd)

Hays County proposes a
new 6-lane divided road
over five creeks to serve as a continuous north-south arterial, located east of IH-35, Total: \$276,980,000

## NLR13

Kyle proposes a new 4-lane road to serve the west side of the new development La Salle MUD, Total: \$32,640,000

## NLR24

Kyle proposes a new 4-lane road to serve the central portion of the new development GLO,
Total: \$27,760,000

## NLR25

Kyle proposes a new 4-lane road over Clear Fork Plum Creek to serve the central portion of the new development La Salle MUD, Total: \$24,320,000

## NR1

Kyle proposes a new 2-lane road with optional bike or parking lanes over Andrews Branch because it was identified as a missing connection, Total: \$20,240,000

## Thoroughfare Planning and Corridor Analysis

## NR2

Kyle proposes a new 2-lane divided road with TWLTL to connect Marketplace to Kyle Crossing, Total: \$6,420,000

## Old 81

Kyle proposes widening to a 2-lane divided road (R16) with optional bike or parking lanes, Total: \$6,300,000

## Old Stagecoach

CAMPO proposes widening to a 2-lane road with optional bike or parking lanes to serve the east portion of the new development GLO and existing cyclists, Total:
\$34,020,000

## Opal

CAMPO proposes a new bridge, grade separation over IH-35 to create an additional east-west connection over IH-35, Total: \$1,260,000

## Opal

Kyle proposes widening to a 4-lane road (R24) over UPRR to serve future development, Total: \$16,780,000

## Opal

The public proposes a new 4-lane road to connect the new bridge with CR 158, Total: \$6,480,000

## Opal

Kyle proposes a new 4-lane road (NLR21) to serve
future development, Total:
\$21,620,000

## Plum Creek

Kyle proposes a new 2-lane road because it was identified as a missing connection, Total: \$12,340,000

## Post

Hays County proposes widening to a 4-lane road over Blanco River to support traffic from Old Stagecoach, Total: \$16,800,000

## RM 150

Hays County proposes widening to a 2-lane divided road with TWLTL to support additional trips generated by new development north and south of the corridor, Total: \$24,080,000

## RM 150

The public proposes improving the sight distance at CR 202
to improve driver safety, Total:
\$100,000

## Roland

Kyle proposes widening to a 4-lane road (R26) to support future development, Total:
\$13,180,000

## S Main

Kyle proposes a new 2-lane road (NLR6) to create an additional north-south corridor connecting downtown to Kyle Loop, Total:
\$26,180,000

## Satterwhite

Hays County proposes widening to a 2-lane road over Brushy
Creek to support trips generated from Turnersville, Total:
\$9,380,000

## Satterwhite

Kyle proposes a new 2-lane road over Brushy Creek to create a smooth transition to Hillside

Terrace, Total: \$9,140,000

## Scott

Kyle proposes widening to a
4-lane road (R31) and realigning
1,100 feet to connect with FM
150, Total: \$6,260,000

## Thoroughfare Planning and Corridor Analysis

## SH 21

CAMPO proposes widening to a 6-lane divided road over four creeks due to the growing population south of Austin, Total: \$104,260,000

## SH 21

The public proposes installing a traffic signal at Grist Mill to ensure a desirable LOS, Total: \$300,000

## Shadow Creek

CAMPO proposes a new 2-lane divided road with TWLTL because it was identified as a missing connection in Shadow Creek's neighborhood, Total: \$10,960,000

## Shadow Creek

Kyle proposes a new 4-lane road to tie into the existing section and aligned to reflect
the proposed Crosswinds MUD plans, Total: \$16,780,000

## Sunrise

Kyle proposes a new 2-lane road over Richmond Branch because it was identified as a missing connection, Total: \$8,800,000

## Windy Hill

CAMPO proposes widening
to a 2-lane divided road with TWLTL and over two creeks to serve future trips generated north of Crosswinds MUD, Total:
\$25,200,000

## Yarrington

CAMPO proposes widening to a 4-lane divided road that connects Kyle Loop with
Turnersville. The connection to $\mathrm{IH}-35$ is proposed to have a smooth curve than the existing 90 degree alignment, Total:
\$29,060,000



## 08 Project Áction Plan

## Project Action Plan

After the proposed projects for the City of Kyle were finalized, evaluation criterions were determined to strategically rank all 96 projects, while keeping the plan's goals in mind. Eight criterions, totaling 100 points, were selected to capture the most crucial projects for the City of Kyle. Specific descriptions for each criterion are listed in Table 16.

Table 15 - Project Evaluation Matrix


| Evaluation Criteria |  |  |  |  |  |  |  | $n$ 0 0 0 0 0 0 0 0 0 0 0 0 0 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | H-M-L | Y/N | L-M-H | N/Y | Y/N | H-M-L | N/Y | Y/N |
| Possible Points (100) | 20 | 20 | 15 | 15 | 10 | 10 | 5 | 5 |
| High | 20 |  | 5 |  |  | 10 |  |  |
| Medium | 10 |  | 10 |  |  | 5 |  |  |
| Low | 5 |  | 15 |  |  | 0 |  |  |
| Yes |  | 20 |  | 5 | 10 |  | 0 | 5 |
| No |  | 10 |  | 15 | 5 |  | 5 | 0 |

## Project Action Plan

Table 16 - Project Criteria Descriptions

| Criteria | Level | Description |
| :---: | :---: | :---: |
| Congestion Mitigation | High | Level-of-Service improves from CAMPO's 2040 model, on or adjacent to road |
|  | Medium | Level-of-Service maintains the same as CAMPO's 2040 model, on or adjacent to road |
|  | Low | Level-of-Service worsens in CAMPO's 2040 model, on or adjacent to road |
| Additional Connectivity | Y | Provides additional travel opportunities that will allow people to travel to a variety of places in a variety of paths like bicycle paths, routes, and trails. (15-new connection, 20-new connection and multi-modal) |
|  | N | Does not provide additional travel opportunities that will allow people to travel to a variety of places in a variety of paths like bicycle paths, routes, and trails. (5- existing connection, 10-existing connection and multi-modal) |
| Relative Cost / Feasibility | Low | Less than \$15M and/or easily fundable |
|  | Medium | Between \$15M-\$30M and/or moderate funding challenges |
|  | High | More than \$30M and/or heavy funding challenges |
| ROW Required | N | No ROW (\$0) is expected to be required |
|  | Y | ROW (more than \$0) is expected to be required |
| Supports <br> Economic <br> Development | Y | Supports and located adjacent to new development or undeveloped area |
|  | N | Does not support or located adjacent to new development or undeveloped area |
| Supported by Community | High | Much needed project that is highly supported by the community. (Includes projects recommended by public, bond projects) |
|  | Medium | Neither highly supported nor highly against |
|  | Low | Project that is likely to not receive funding and not highly supported by the community |
| Environmental / Construction Issues | N | No environmental or construction issues are expected, based on site location (crossing body of water or railroad) or past studies |
|  | Y | Some environmental or construction issues are expected, based on site location (crossing body of water or railroad) or past studies |
| Drainage Benefits | Y | Drainage is currently or expected to be an issue in this area, based on site location (in floodplain and existing road) or past studies |
|  | N | Drainage is not currently or expected to be an issue in this area, based on site location (in floodplain and existing road) or past studies |

## Project Action Plan



Congestion mitigation compared CAMPO's future LOS model in Section 6 with the proposed network LOS model, shown in Figure 8-1. Volume distribution for the proposed network is shown in

Appendix C. Proposed corridors connected to IH-35 provide vehicles additional routes which alleviate congestion along $\mathrm{IH}-35$.

Figure 8-1: 2040 Level-of-Service for Proposed Network

## Project Action Plan



Figure 8-2: 2016-2045 Project Prioritization

All proposed projects are visually prioritized in

Figure 8-2 by color, red being the highest priority and green being the lowest priority. This scale includes all projects, regardless of whether their ultimate responsibility lies with for the City of Kyle or another entity. The full listing of projects in

Appendix F identifies projects by primarilyresponsible entity.

## Project Action Plan

The top 20 ranked projects for the study area are listed in Table 17, including the top 10 projects under Kyle's ownership.

Table 17 - Ranked Projects (Top 20)

| Rank | Owner | Project | From | To | Total Cost |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | Kyle | Bebee | IH-35 | Bebee | \$7,340,000 |
| 2 | TxDOT | IH-35 | Kyle Crossing | RM 150 | \$19,950,000 |
| 3 | Kyle | Goforth | Bunton Creek | Kyle Pkwy | \$3,440,000 |
| 4 | Kyle | Goforth | Brent Blvd | Bunton Creek | \$7,600,000 |
| 5 | TxDOT | Opal | at IH-35 | - | \$1,260,000 |
| 6 | Kyle | Opal | IH-35 | CR 158 | \$6,480,000 |
| 7 | Hays-non-ETJ | CR 158 (Opal-East) | IH-35 | Turnersville Extension | \$19,180,000 |
| 8 | Kyle | Kyle Crossing | IH-35 @ Old Bridge Trail | FM 967 | \$15,540,000 |
| 9 | Kyle | Post | IH-35 | Blanco River Ranch | \$16,800,000 |
| 10 | TxDOT | FM 1626 | at Kohlers Cr | - | \$300,000 |
| 11 | TxDOT | FM 1626 | Kyle Loop | FM 2770 | \$12,600,000 |
| 12 | TxDOT | IH-35 | at CR 131 | - | \$100,000 |
| 13 | Kyle | Kohlers Crossing | at Kyle Crossing | - | \$300,000 |
| 14 | Kyle | Loop 4 | FM 967 | Kyle Crossing | \$7,580,000 |
| 15 | Hays-non-ETJ | Satterwhite | FM 2001 | Turnersville Extension | \$9,380,000 |
| 16 | Hays-non-ETJ | Centex | FM 1626 | IH-35 | \$30,820,000 |
| 17 | Kyle | Old Stagecoach | Post | FM 150 | \$34,020,000 |
| 18 | TxDOT | FM 2770 | FM 1626 | FM 150 | \$26,600,000 |
| 19 | Hays-non-ETJ | Kyle Loop (West) | NF17 | N Lime Kiln | \$15,960,000 |
| 20 | Kyle | Burleson | South | Lockhart | \$1,400,000 |

## Project Action Plan

Ranked projects were then further sorted by City of Kyle Council Districts to assist each individual district analyze the list of projects. All detailed tables can be found in Appendix F. The Kyle City Council is composed of six Council Members, three elected at large and one from each of the three districts shown in Figure 8-3, and a Mayor elected at large.

City of Kyle

Figure 8-3: City of Kyle Council Districts



# 09 Implementation 

## Financing And Implementation

The implementation of the Kyle Transportation Master Plan requires both a comprehensive set of funding and financing options and a sustained commitment by the City of investment in the phased development of roadway projects. Critical to that process is recognizing and implementing funding solutions that match projects and identifying strategies to leverage City funds with other funding sources (e.g., Hays County, TxDOT, CAMPO, the private sector).

## Sustainable City Funding Sources

Under the Local Government Code, the City of Kyle has a number of options available to create new transportation revenue sources, as well as manage existing general revenue funds for specific transportation purposes. The following is a brief discussion of these options and possible uses to implement the City's Transportation Master Plan.

## Transportation Impact Fee

The City of Kyle still has a significant amount of residential and non-residential land to be developed as the City grows over the next 20 years. An impact fee ordinance, coupled with a Capital Improvement Plan, could generate significant funds to expand existing roads, develop new corridors, and make significant safety and operational improvements. These improvements, funded through an impact fee ordinance, could reduce the City's obligation to fund these improvements in the future.

## Transportation Fee

A number of Texas cities have adopted a transportation fee to raise funds for street maintenance and reconstruction. The fee is normally assessed and collected based on water taps/meters. The fee can be adjusted by the City Council over time. Using the transportation fee for street maintenance could free up general revenue funds for new construction.

## Financing And Implementation

## Land Development Code/Zoning Ordinance

As the City of Kyle continues to grow and develop both within the City limits and the ETJ, the City Council should consider amendments to the Land Development Code related to right of way dedication and right of way preservation. The Land Development Code could also develop a Boundary Street policy requiring developer participation in improvements to adjacent roadways, as well as sidewalks and bike/ trail facilities. A strong Land Development Code could help offset future City cost in the developing parts of the City.

The city has expressed interest in modifying the existing road fee, currently based on the perimeter of a property which fronts roads to be improved. Issues have been raised relative to large subdivisions with small frontages (essentially 'flag lots') having relatively low fees compared to smaller parcels with less traffic impact but larger fees due to larger frontages. As of 2015, the Planning Department is exploring changing the fee basis to some combination of parcel size, number of residential units, and/or amount of commercial space. Although the city has little additional bonding capacity at present, as existing bonds are paid off, there is the potential to issue additional bonds speculatively, rather than for existing projects. Although politically riskier, this allows the flexibility to pay off older, higher-interest debt, as well as commit funding to design and/or construction in future years without identifying projects in advance
of the election, or holding new elections. The 2015 road bonds for Harris County were structured this way.

In addition to new ordinances and fee proposals, the City Council should consider establishing a policy related to the annual budget and use of General Fund dollars for transportation purposes. A number of cities, as well as counties, set aside a percentage or specific amount ( $\$ 0.01$ to $\$ 0.03$ ) of the General Fund budget—by policy—every year. These funds, again by policy, can be used for project development costs (environmental, design, etc.) and/or right-of-way acquisition and corridor preservation. Having an annual dedicated funding source would allow the City to get ahead of the roadway development process and have projects "shovel ready" when a source of construction funds becomes available, whether federal, state or local. These dedicated funds could also be used for transportation projects related to economic development opportunities.

Also in the realm of policy, right-of-way preservation, through purchase or enforced dedication, is critical to the implementation of corridors identified on the plan, particularly those on new locations. Many cities around the state compel dedication of planned and mapped new thoroughfares as a condition of plat approval.

## Financing And Implementation

## Project Implementation Recommendations

While it may be desirable to address projects on an individual basis, it is generally a better approach to address a broader corridor solution. By expanding the limits and scope of a project, there are more opportunities to forge financial partnerships and open doors to other funding sources. As such, using the table of priority projects, we have grouped together several individual projects into three larger projects with a broader scale. Cost estimates represent total project costs.

Table 18 - Project Implementation

| No. | Project / Proposed Improvement(s) |  | Cost |
| :---: | :---: | :---: | :---: |
| 1. | Bebee Road - New and widen to 2-lane divided with center turn lane |  |  |
|  | Priority 1 | IH-35 to Bebee Road | \$7.5 million |
|  | Priority 41 | $\mathrm{IH}-35$ to SH 21 | \$49.5 million |
|  |  | Total | \$57.0 million |
| 2. | CR 158/Opal Lane - New and widen to 4-lane divided corridor |  |  |
|  | Priority 5 | IH-35/Opal Lane- new overpass | \$1.5 million |
|  | Priority 6 | IH-35 to CR 158 | \$6.5 million |
|  | Priority 7 | IH-35 to Turnersville Ext. | \$19.0 million |
|  | Priority 89 | IH-35 to Old Stagecoach- Expanded Road with UPRR overpass | \$17.0 million |
|  |  | Total | \$44.0 million |
| 3. | Goforth Road - New and widen to 4-lane divided corridor |  |  |
|  | Priority 3 | Bunton Creek to Kyle Parkway | \$3.5 million |
|  | Priority 4 | Brent Blvd. to Bunton Creek | \$7.5 million |
|  |  | Total | \$11.0 million |

## Financing And Implementation

## Bebee Road

Bebee Road is an important east-west corridor between IH-35 and SH 21. While the first segment (Priority \#1 - IH-35 to Bebee Road) needs to be done as soon as possible, the City has the chance to leverage their \$7.5 million participation in the first segment with the County to address the entire corridor of improvements (\$57.0 million). The City should enter into discussions with Hays County to identify roles and responsibilities and funding commitments to initiate the project. Initial planning could identify a more detailed phased implementation/construction schedule, as well as funding commitments.

There are not many opportunities for a TRZ in this area and even fewer options to pursue CAMPO or other state/federal funding sources. This will be a long-term project requiring initial funding commitments and then after the preliminary implementation plan and financing plan are in place, firm financial commitments from the City and County to complete the project.

## CR 158/Opal Lane

The City should enter into a partnership with both TxDOT and Hays County. The City and County should create a corridor Transportation Reinvestment Zone (TRZ) to cover development costs for CR 158 and Opal Lane. During the development, it would be determined how to phase, both by segment and cross-section, the road construction. The City/County TRA opens opportunities to pursue a State Infrastructure Bank loan through TxDOT, sell local bonds through a local government corporation or seek a private sector infrastructure fund to design/ build/finance the project, all with repayment from the City/County TRZ.

Having the roadway project secured, TxDOT's role would be to design and fund the new IH-35/ Opal Lane interchange with 100\% TxDOT dollars. The Opal Lane interchange/bridge has been identified by TxDOT as part of their IH-35 Hays County Operational Analysis and the overall three-county IH-35 corridor improvement program. The City's plans/proposal to complete part or all of Opal Lane/CR 158 could help accelerate TxDOT's plans for both the bridge and proposed ramp improvements.

## Goforth Road

The combined cost of the proposed Goforth Road projects (Priority \#3 and \#4) is \$11.0 million. These segments of Goforth road, Brent Blvd. to Kyle Parkway, provide a critical 2-way north-south route for traffic east of IH-35. As such, this project could address a number of the criteria for a CAMPO-funded STP-MM project, specifically, as a backage road, reliever to IH-35 and alternative modes of transportation with the proposed sidewalks.

The City should pursue a CAMPO application for this project. However, the City should be prepared to provide a minimum $20 \%$ local match and higher to $50 \%$ to score well. The City could fund $100 \%$ of the development costs, including environmental and engineering, and participate in a minimum of $20 \%$ in the balance of the project (right-of-way and construction).

$\int \begin{aligned} & \text { Policy } \\ & \text { Recommendations }\end{aligned}$

## Policy Recommendations

## Complete Streets Policy

A Complete Streets (CS) policy within Kyle is recommended in the Mobility Plan. Complete Streets infrastructure and policy are defined by the National Complete Streets Coalition:


#### Abstract

"Complete Streets are streets for everyone. They are designed and operated to enable safe access for all users. Pedestrians, bicyclists, motorists and transit riders of all ages and abilities must be able to safely move along and across a complete street. Creating complete streets means transportation agencies must change their approach to community roads. By adopting a Complete Streets policy, communities direct their transportation planners and engineers to routinely design and operate the entire right of way to enable safe access for all users, regardless of age, ability, or mode of transportation." (source: http://www.completestreets.org/complete-streets-fundamentals/)


CS policies are intended to impact all types of projects - maintenance, rehabilitation, new construction, major expansion, and new development. CS policies are also "context-sensitive," which reviews the role a road will serve within a community in relationship to the surrounding land uses and activity types, and that the road is designed to serve that role. Austin adopted a Complete Streets Policy in June 2014. The core intent of the policy is to "design, operate and maintain the community's streets and right-of-way so as to promote safe, comfortable and convenient access and travel for people of all ages and abilities." The City of Kyle is recommended to follow this same principal and apply the Complete Streets Policy on all applicable projects.

## Policy Recommendations

## Subdivision Ordinance

Another recommendation for the City of Kyle is to add a clause to its existing subdivision ordinance requiring subdivisions to comply with the Transportation Master Plan. This would aid subdivisions when planning access points to future corridors.

## Grants Committee

The City should consider establishing an internal grants committee. The committee could include representatives from the Mayor's Office, Public Works, CIP, Finance, and Planning. There are a number of existing programs through CAMPO and TxDOT, and the possibility of additional programs depending on House Bill 20 and the current proposed federal surface transportation reauthorization bill (Surface Transportation Reauthorization and Reform Act of 201- STRR).

Each program has specific goals and objectives and criteria to rank and score project requests. To do better in competing for regional and state funding, the City needs a comprehensive approach to selecting projects (that would meet funding criteria) and then competing with an application that addresses the point criteria and maximizes the City's financial contribution.

## APPENDICES

# Community Engagement and Communications Plan 

## Public Involvement and Outreach

## March 9, 2015 Public Meeting

Kyle Connected kicked off the Kyle Transportation Master Plan with a public workshop on March 9, 2015 at Kyle Public Library. The planning and engineering team had a brief PowerPoint presentation about the plan followed by a mapping exercise with citizens where they addressed problem areas and transportation goals for their community.

## Outreach:

- Ad in the Hays Free Press and HaysFreePress.com
- Ad in Community Impact
- Press release issued to all regional media
- Facebook and Twitter ads
- Use of electronic message sign on Kyle city square
- Outreach to neighborhood groups
- Email alert to stakeholder list


## Attendees:

- 56 attendees, not including city staff and elected officials


## August 25, 2015 Public Meeting

Kyle Connected held an "update meeting" on August 25, 2015 at Wallace Middle School. The planning and engineering team showed a PowerPoint presentation about the plan so far, displayed exhibit boards about potential road improvements, and received public input via a mapping exercise and community survey.

Outreach:

- Ad in the Hays Free Press and HaysFreePress.com
- Ad in Community Impact and CommunityImpact.com
- Press release issued to all regional media
- Facebook and Twitter ads
- Use of electronic message sign on Kyle city square
- Outreach to neighborhood groups
- Email alert to stakeholder list

Attendees:

- 37 attendees, not including city staff and elected officials


## February 11, 2016 Public Meeting

Kyle Connected held a final community meeting on February 11, 2016 at Fuentes Elementary School. The planning and engineering team displayed exhibits about the plan and various roadway improvements. They also received public input from comment forms at the meeting.

Outreach:

- Ad in the Hays Free Press and HaysFreePress.com
- Ad in Community Impact
- Press release issued to all regional media
- Facebook and Twitter ads
- Outreach to neighborhood groups
- Email alert to stakeholder list

Attendees:

- 27 attendees, not including city staff and elected officials


## Community Survey

The LAN / Gap Strategies team had a survey available online and at the August 25 public meeting. Paper copies were available upon request.

## Web and Social Media Outreach

Throughout the project, the LAN / Gap Strategies team, kept a project-specific website updated. Information about the plan, upcoming meetings, and virtual open houses for past meetings were available online.

Additionally, a Facebook page and Twitter account were kept up to date for the project. The accounts alerted citizens about the project, upcoming meetings, and transportation-related news stories and studies from around the region.

## QUESTION 1

Where do you live?
(150)


## QUESTION 3




## QUESTION 5

## Other than recreation, have you used any of the following methods to make at least one trip in the last 30 days?




## QUESTION 7





## QUESTION 10

## Would you like to see rail as a transit option in Kyle?



- Yes
- No

Depends on the circumstances and the price

## In Kyle, it is harder to move:



North-South
East-West
Don't know / Does not apply to me

QUESTION 12
Agree or disagree? Preservation of trees, and roads designed to reflect the City's "character" and heritage are important to me.


## Question 13: Tell us: what is your major transportation concern...

The fact that your engineer put a road (Oak Grove) on the Halifax Ranch, owned by Kyle's only philanthropist, while building roads with public taxpayer for every developer in town. Doesn't sound fair to me. Keep the roads away from our Blanco River and other streams and off protected and environmentally sensitive lands. Developers need to pay for their own roads and infrastructure. We can no longer afford to do it for them.

Lack of north-south options for commuters other than I-35.

Why place a collector road through Historic Core area of Kyle? Would you place a collector road through Plum Creek?

Turning Scott Street into a collector road and connecting 150 to Scott street bringing all the Center Street traffic down into our quiet neighborhood. Would you send this type of traffic through Plum Creek? This neighborhood is why I moved to Kyle area 28 years ago.

Connecting Opal Lane to the new $\mathrm{IH}-35$ bridge. In past City road maps the community and City of Kyle Council members have placed that collector road farther south to Roland Lane because of the better road connection on the east side of IH-35. Though nowhere in the meetings could past City maps be found showing past city decisions. And, when Opal lane residents provided feedback to Kyleconnected.com during the first meeting, none of their concerns where addressed from the review of the second open meeting. How will the residents of Opal Lane and Scott Street be allowed to voice our concerns? Do we need to include our County Commissioner in future meetings?

The city of Kyle needs to have para-transit services for the disabled and Seniors and also fixed route buses for anyone not a senior or disable. As a disabled person I plead for this as an urgency. Roads need to be repaired for safety of the passengers and driver.

Expansion of back/rural roads that should be left alone. Focus on widening feeder roads and bridges across l-35.

Stoplight programming that changes with real-time conditions. Short stoplight times when the traffic is heavy doesn't make sense. Perhaps better communication with TxDOT.

Need a better way to get from area south of Kyle to the HEB/Kyle Parkway/Seton complex.

Must alleviate heavy congestion on Center Street.

Maintain and improve pavement on existing streets.

Loss of a small town feeling. Not interested in having my rural homestead converted into an urban setting

Lack of connectivity and walkability.

Road classifications not suited for current/future development.

Lack of sidewalks.

Not enough transportation alternatives, both in modes of transit and in routes.

Pedestrian safety, particularly on E FM 150 and in vicinity of schools and parks.

Connection of Bebee road to Kyle Crossing and addition of turning lane on Bebee.

Getting in and out of Austin - would like a rail... or at least a CapMetro Park \& Ride. I also do not want traffic cutting through my neighborhood, where I recently purchased a home.

Hodge-podge planning. Lack of connectivity. Lack of sidewalks. Lack of WIDE sidewalks. AASHTO non-compliance in design of 'amenities' (bike-lanes and roundabouts).

With as many people who commute in to Austin, it would be nice to see some rail options to Austin.

I would like to see more bike lanes and sidewalks to connect neighborhoods to schools (these could be off the roadways as hike/bike trails as well). Connecting neighborhoods to each other would be nice as well.

Poor roads in the East Triangle - Lehman/Goforth/Bunton

I'm concerned that Bunton is not being fixed all the way to Lehman High, also congestion around the school is terrible. Need a light in the area as soon as possible.

No ability to get to other major cities such as Austin and San Antonio. Affordability of public transportation

Poor road conditions and storm drainage. A major concern is the lack of a traffic signal at FM-1626/ Kohler Crossing.

Question 14: Tell us: are there any special problems with areas you want to note, or transportation efforts that work particularly well right now?

Fix the roads we currently have before you build any new ones. We can not afford Lone Star Rail - which was supposed to be finished by 2012 anyway. It was not. It's a failure.

Having transportation only 2 days a week is just not feasible for any city or town.

Widening of Hwy 150 near Hometown Kyle, great! Widening of road that the library is on, great!

There is a lack of handicapped parking spaces with 'landing zones' alongside in the downtown area.

Need traffic signal lights at the intersection of 2770 and 1626.
E. FM 150 is not suited for the current and future development. There are several single-family residences with no connectivity, pedestrian safety on FM 150 is degraded due to lack of sidewalks, bike lanes, and the speed limit is too high. Children cannot walk to school or friend's homes without driving. Access to public facilities such as parks are only safely accessible by vehicle.

Sunrise Drive and Sunrise Circle road expansions. This would be a bad idea as Sunrise Drive expansion would go right over the flood zone. If construction in this area, continues more run off will increase the flooding of homes in this area. It's currently a horse community that appreciates its dead-end setting.

Bebee/High should be turned into 3-lane road w/turning lane in the middle, and need to have sidewalks on both sides and bike lanes on both sides- kids walking/groups of adults on professional road bikes ride through on weekends. Do not connect roads in Sunrise Acres neighborhood- these are all dead end roads currently and will be extremely disruptive to the neighborhood. The widening of Bebee/High is about all our neighborhood can handle.

Bunton Road improvement needs more lanes. Unhappy that Bunton, Goforth and Lehman still not stated

No sidewalks on 150 East. Overall lack of sidewalks around the city on city roads also. CARTS service only runs twice per week.

Roundabouts are of great concern regarding school transportation.

## Comments from Kyle Connected- Meeting 3 Feuntes Elementary

Feb. 11, 2016

1. I have lived in Kyle for 20 years. Todd Webster, Mayor ran for office on the promise of being opposed to any for of Truck Stop at Yarrington and I-35. I understand he has now gone back on his word and is trying to push the Truck Stop development even though the coming committee voted against it. I would like Todd to keep his word. No Truck Stop!
2. Concern on Heidenreich alignment @FM 50, current layout shows Roadway going between our hard corner which causes huge concern, since we are working w/ Kyle + Hays County on the Development and Commercial component. Also to extension of Grist Mill as it heads up to Goforth goes through our Kyle Estate MP and the alignment isn't what we discussed early on.
3. Glad Opal Ln is in long range planning! Please keep it as such!

## Stakeholder Comments

## August 25, 2015 Public Meeting - Comment \& Response

Anthem development is a concern because it is in Mountain City
Numerous corridors and development cut in and out of Kyle's jurisdiction, therefore coordination with neighboring cities is required to ensure a cohesive regional network. Anthem is an excellent example.

Do not connect Sunrise Drive because it is located in a floodplain and goes through property
The City prefers connecting local roads like Sunrise and Moonlite Meadows to major corridors to encourage development. The City should consider including traffic-calming installations when the connections are made. Exact road alignments will be determined in the future when funding and need is determined.

Don't connect Moonlite Meadows Path because it is located in a floodplain and goes through property Same response as above.

Connect Kohlers Crossing to Kyle Loop (W)
This connection was considered during the initial phase of the plan and it was removed because of the location of Barton Jr High School.

Do not propose the southwest Kyle Loop section
This section of the Kyle Loop follows the County's approved corridor for FM 150's relocation.

Smooth and extend CR 158 from Scott Street to SH 21
LaSalle MUD, in the jurisdiction of the City of San Marcos, should be encouraged to provide east-west connectivity to supplement the larger roadways of FM 150 and Yarrington Road.

Connect Goforth Road from Bebee Road to Bunton Lane
This was determined to be a feasible connection; therefore it was added to the proposed projects.

Residents south of Center Street want to preserve the rural lifestyle and do not want to realign Scott Street or build a bridge at Opal Lane
The improvements can be contingent on development happening in the area, but the projects should remain on the plan (if at a low priority) so that when development does occur, the network will support it.

Suggest using shared lane markings (SLM) instead of bike lanes
Shared lane markings is an optional treatment on existing corridors where widening is not feasible, therefore it is suggested in the plan.

Bike lanes under poor condition exist on Spring Branch Drive and Dacy Lane
It is not recommended to construct $1 / 2$ asphalt bike lanes, this creates an uneven surface for riders.

Connect Apricot Lane to IH-35
This is not feasible due to the railroad crossing and Plum Creek.

Check connection alignment of E Opal Lane to Roland Lane in 2005 Kyle TMP
The 2005 TMP was checked and this connection was not part of the proposed network.

Realign W Kyle Loop to avoid six homes east of Anthem development
The alignment was shifted to avoid the homes. Exact road alignments will be determined in the future and tasks like avoiding residential homes and acquiring additional ROW will be part of the process.

A traffic signal at Grist Mill Road \& SH 21 may be needed
This was determined to be a feasible assumption; therefore it was added to the proposed projects even though it is not in Kyle's jurisdiction.

Remove east Bunton Lane section because it is no longer needed
Existing roads bypassed by realigned corridors should still be shown on the map, but as local in terms of classification.

Bebee/High should be classified as C3U w/ bike lanes because cyclists use this road
This was determined to be a feasible request; therefore bike lanes are proposed along Bebee/High.
Remove both dog legs at Opal Lane
This and other proposed routes were adjusted to create a smoother transition.
Remove N Lime Kiln
This is not feasible because this area is expected to have development, so new collectors are needed to distribute traffic and provide access.

Rebuild the existing Centex Road section
This was determined to be a feasible request; therefore the existing section of Centex Road is proposed to be rebuilt.

Do not include a roundabout at Kyle Loop and Old Stagecoach Road
A roundabout is recommended because it is a skewed intersection; depending on the final alignment of the FM 150 bypass, a traditional signalized intersection might be the best option.

Install a signal instead of a roundabout at FM 150 \& Kyle Loop
A roundabout is recommended because it is a skewed intersection.

Check Hays County Plan B for Dacy Lane's alignment by Chapa Middle School
Corridors shown are conceptual and drawn for connectivity; when engineering plans are developed for roadway construction, minor shifts of alignment and minor changes in right-of-way widths may be necessary to avoid existing properties or infrastructure.

There is a concern about the oak trees along Opal Lane, by Scott Street
Same response as above.
Instead of connecting Opal Lane to CR 158, continue CR 158 west to Cypress Road
This is not easily feasible due to the existing roadways.
FM 1626 \& Kohlers Crossing signal is highly supported
The project prioritization reflects this observation.

## Remove Kyle Crossing

This is not feasible because the area expected to have substantial development, so new collectors are needed to distribute traffic and provide access.

Remove NR2, north of Kyle Crossing
Same response as above.

A roundabout at FM 1626 \& Dorman Street is suggested
A roundabout may not be the best solution for a T intersection close to the railroad.

Remove Burleson (Cromwell)
This is not feasible because the area expected to have substantial development, so new collectors are needed to distribute traffic and provide access.

A roundabout at Burleson Street \& Kyle Marketplace Frontage Road is suggested
A roundabout may not be the best solution for a T intersection next to the railroad.

It is suggested showing FM 110
This is a good idea so FM 110 was added to the maps.

Kyle Master Transportation Plan - 2045 Road Classification



Kyle Master Transportation Plan-2045 Road Classification


Kyle Master Transportation Plan - 2045 Road Classification


B-7


## Kyle Master Transportation Plan - 2045 Road Classification



Kyle Master Transportation Plan - 2045 Proposed Projects


B-10


B-11




B-14


## Travel Demand Modeling Memorandum

## Kyle Transportation Plan Travel Model Memorandum

## Introduction

This memorandum, developed by Kimley-Horn and Associates, Inc., describes the model changes instituted for the proposed Transportation Master Plan for the City of Kyle. Several proposed roadway projects were suggested as part of the recommendations for the City's Transportation Plan. The purpose of this memo is to provide the City with documentation on the methodology used in analyzing the outcomes of the recommendations on the transportation system.

Hays County and the City of Kyle are part of the Capital Area Metropolitan Planning Organization (CAMPO), based in Austin.CAMPO maintains a travel demand model for the purposes of preparing their long range transportation plan. The model is useful in analyzing impacts to the regional transportation network. The model can provide reasonable estimates on the number of lanes required on a given roadway or the need for a new roadway and is best suited to providing comparison between different land use and roadway alternatives. With the use of the travel demand model, planners and engineers are able to estimate current and future traffic demands. To aid in the development of the Transportation Plan, the CAMPO travel demand model was used to analyze the future plan.

## CAMPO Planning Model

The CAMPO travel demand model is composed of a series of mathematical models that simulate travel on the transportation network. The CAMPO model incorporates the traditional four-step modeling process with the primary steps as follows:


- Trip Generation -the number of trips produced and attracted to a destination or zone
- Trip Distribution -the estimation of the number or origins and destinations made between zones
- Mode Choice - how the trips will be divided across modes of travel (car, transit, nonmotorized travel)
- Traffic Assignment - which path the trip will take between the origin and destination


## Traffic Analysis Zones

Traffic analysis zones (TAZ) are one of two major inputs to a travel demand model, the other being the roadway network. TAZ's are geographic areas dividing the region into smaller areas of similar land uses or activities. The areas formed by the boundaries they create represent the origins and destinations of travel activity within the TAZ. Each zone's socioeconomic data is aggregated to a single point known as a centroid. The data is loaded from the centroid to the transportation network by centroid connectors. Centroid connectors represent the local roads or major driveways that connect each TAZ to the major road network surrounding it, but do not necessarily depict specific facilities. TAZ's serve as the input for all socioeconomic data to the model, therefore it's crucial the demographics are as accurate as possible to achieve the best results.

## Demographic Data

The demographics for Kyle were reviewed and modified, based on information received from the City about new subdivisions and other planned projects. A significant amount of development is anticipated for the area, including a combination of residential, retail, and office developments. The proposed development was compared with the forecasted demographics in the CAMPO travel demand model. Based on the planned development projects, demographic updates were made to evaluate the full impact on the roadway network.

| Demographic Comparison (2010 CAMPO) |  |  |  |
| :--- | :---: | :---: | :---: |
|  | Population | Households | Employment |
| City of Kyle | 28,692 | 9,070 | 4,466 |
| ETJ | 43,988 | 13,475 | 5,054 |
| Total | $\mathbf{7 2 , 6 8 0}$ | $\mathbf{2 2 , 5 4 5}$ | $\mathbf{9 , 5 2 0}$ |


| Demographic Comparison (2040 CAMPO) |  |  |  |
| :--- | :---: | :---: | :---: |
|  | Population | Households | Employment |
| City of Kyle | 64,157 | 19,810 | 45,036 |
| ETJ | 140,230 | 43,374 | 50,026 |
| Total | $\mathbf{2 0 4 , 3 8 7}$ | $\mathbf{6 3 , 1 8 4}$ | $\mathbf{9 5 , 0 6 2}$ |

## Modeling Process for Kyle

The following details the steps taken to use the CAMPO model for the Kyle Transportation Plan.
Data Collection

- Obtained the City of Kyle city limits and ETJ boundary file.
- Obtained demographics for the City of Kyle.

Network and Data Development

- Cleaned model linework making geographic edits as appropriate within the boundary of the study area.
- Updated demographic data
- A base model run was completed to obtain existing volumes.
- The 2040 network was updated to incorporate Kyle's working Transportation Master Plan and comments made by City of Kyle staff.
- A future model run incorporating the Transportation Master Plan recommendations was completed to obtain future roadway volumes.


| 2010 Volumes - <br> $-05,001-40,000$  <br> $-10,000$ $40,001-60,000$ | Streets <br> Streams <br> Lakes | Kyle City Limits <br> Kyle ETJ |  | 2010 CAMPO Model <br> Volumes |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| -60,001-71,393 |  | Other Cities | 11/6/2015 | $\begin{aligned} & 00.250 .5 \\ & \vdash+1 \\ & \mapsto \end{aligned} 1 \text { Miles }$ |  | Q Kimley)>Horn |




| $\begin{array}{ll}2040 \text { Volumes } & \text { 25,001-40,000 } \\ -0-10,000 & 40,001-60,000\end{array}$ | Streets <br> Streams <br> Lakes | Kyle City Limits Kyle ETJ |  | 2040 CAMPO Model <br> Volumes |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Other Cities | 7/7/2015 | $\begin{array}{ll} 0 & 0.250 .5 \\ \vdash \end{array}$ | NORTH | Q Kimley)> Horn |





| $\mathbf{2 0 4 0}$ LOS | $\square$ | Streets | Kyle City Limits |
| :--- | :--- | :--- | :--- |
| $=\mathrm{A} / \mathrm{B} / \mathrm{C}$ | $\square$ | Streams | Kyle ETJ |
| D | $\square$ | $\square$ | Lakes |
| E/F |  |  | Other Cities |

## 2040 CAMPO Model Level of Service

$\begin{array}{ll}0 \quad 0.250 .5 \\ 1 & 1 \\ 1 & 1\end{array}$ 1 Miles

NORTH
Q Kimley»Horn







| 2010-2040 Employment Change | 501-1,000 | 3,001-4,000 | 2040 Model |  | CAMPO Model 2010-2040 Employment Growth |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 0-250 |  |  |  |  |  |  |  |
| 251-500 | 2,001-3,000 | 5,001-13,428 | Streams | 7/7/2015 | $\begin{array}{lll} 00.250 .5 \\ \longmapsto 1,1,1 \end{array}$ | NORTH | Kimley)>> Horn |

[^1]
## Complete Streets Typical Sections

| City of Kyle Transportation Master Plan - 2015 Update |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Proposed Typical Sections |  |  |  |  |  |
| Classifications | Typical Section | ROW | Description | Cost Estimate (per Mile)* |  |
|  |  |  |  | w/o ROW Cost | w/ ROW Cost |
| Multi-Use Path | MUP | $24^{\prime}$ | 12' bi-directional multi-use path | \$900,000 | \$3,400,000 |
| Local | L2U | $60^{\prime}$ | Basic 2-lane section for direct lot access | \$5,500,000 | \$11,800,000 |
| Local/ Collector / Major \& Minor Arterial | R2U | 60' | Existing sections without sidewalks or curb/gutter. Not permitted for new construction within Kyle | \$3,600,000 | \$7,400,000 |
| Collector | C2U | 60' | Wider section for commercial areas; bike and parking are optional | \$6,100,000 | \$12,400,000 |
| Collector | C2U - Bike or Parking | $60^{\prime}$ | Wider section for residential areas; two striped outside lanes for bikes or parking | \$6,200,000 | \$12,500,000 |
| Collector | C3U | $60^{\prime}$ | 3-lane section with two-way left-turn lane | \$6,300,000 | \$12,600,000 |
| Collector | C4U | 70' | Basic 4-lane collector section | \$6,700,000 | \$14,100,000 |
| Collector | C4U - Bike or Parking | 80' | Two striped outside lanes for bikes or parking | \$7,700,000 | \$16,100,000 |
| Collector \& Minor Arterial | C4D | 80' | Basic 4-lane arterial section | \$7,400,000 | \$15,800,000 |
| Collector \& Minor Arterial | C4D - Bike or Parking | 90' | Two striped outside lanes for bikes or parking | \$8,500,000 | \$18,000,000 |
| Collector \& Minor Arterial | C5U | 80' | 5-lane section with two-way left-turn lane | \$7,600,000 | \$16,000,000 |
| Minor Arterial | P4D | 105' | Basic 4-lane arterial section for high speed roads ( $>40 \mathrm{mph}$ ) | \$8,700,000 | \$19,800,000 |
| Minor Arterial | P4D - Bike | 110' | 12' lanes, with 12' multi-use path for Hike and Bike Trail Segments | \$9,000,000 | \$20,600,000 |
| Minor \& Major Arterial | P6D | 130' | Basic 6-lane arterial section with 12' lanes | \$10,300,000 | \$24,000,000 |
| Minor \& Major Arterial | P8D | 150' | Basic 8-lane arterial section with 12' lanes | \$11,800,000 | \$27,600,000 |

*Cost estimates include 10\% Construction Oversight, 10\% Contingency, and 20\% Pre-Construction costs

| MUP (Cost/Mile) |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Item No, Descrip Code | Description | Unit | Est | Avg Unit Cost | COST |
| 1006002 | PREPARING ROW | STA | 24.0 | \$2,500.00 | \$60,000.00 |
| 1106001 | EXCAVATION (ROADWAY) | CY | 3,520.0 | \$10.00 | \$35,200.00 |
| 1326003 | EMBANKMENT (FINAL) (ORD CONT) (TY B) | CY | 528.0 | \$10.00 | \$5,280.00 |
| 1606003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 3,520.0 | \$1.50 | \$5,280.00 |
| 1626002 | BLOCK SODDING | SY | 352.0 | \$3.00 | \$1,056.00 |
| 1686001 | VEGETATIVE WATERING | MG | 250.0 | \$12.00 | \$3,000.00 |
| 1922020 | PLANT MATERIAL (1 GAL) (TREE) | EA | 176.0 | \$8.00 | \$1,408.00 |
| 2602001 | LIME (HYDRATED LIME(DRY)) | TON | 126.7 | \$148.72 | \$18,842.82 |
| 2602006 | LIME TRT (EXST MATL) (6") | SY | 7,040.0 | \$1.68 | \$11,827.20 |
| 2762224 | CEM TRT (PLNT MX) (CL N) (TY E) (GR 4) (6") | SY | 7,040.0 | \$8.30 | \$58,432.00 |
| 3416008 | D-GR HMA TY-B PG 64-22 (7.5 IN) | TON | 2,904.0 | \$65.00 | \$188,760.00 |
| 3416047 | D-GR HMA TY-D SAC-A PG 76-22 (3 IN) | TON | 1,161.6 | \$123.00 | \$142,876.80 |
| 5006001 | MOBILIZATION | LS | 1.0 | - | \$61,308.28 |
| PAVEMENT MARKINGS AND SIGNS |  | MI | 1.0 | \$10,000.00 | \$10,000.00 |
| UTILITIES |  | MI | 1.0 | \$50,000.00 | \$50,000.00 |
| 11222037 | TEMPORARY SEDIMENT CONTROL FENCE INSTL | LF | 10,560.0 | \$2.00 | \$21,120.00 |
|  |  |  |  | TOTAL | \$674,392.00 |
| Pre-Construction |  |  |  | 20\% | \$134,878.40 |
| Construction Oversight |  |  |  | 10\% | \$67,439.20 |
| Contingency |  |  |  | 10\% | \$67,439.20 |
|  |  |  |  | TOTAL | \$900,000 |
|  |  |  |  | ROW TOTAL | \$2,500,000 |



| L2U (Cost/Mile) |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Item No, Descrip Code | Description | Unit | Est | Avg Unit Cost | COST |
| 1006002 | PREPARING ROW | STA | 60.0 | \$2,500.00 | \$150,000.00 |
| 1106001 | EXCAVATION (ROADWAY) | CY | 7,626.7 | \$10.00 | \$76,266.67 |
| 1326003 | EMBANKMENT (FINAL) (ORD CONT) (TY B) | CY | 1,144.0 | \$10.00 | \$11,440.00 |
| 1606003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 7,626.7 | \$1.50 | \$11,440.00 |
| 1626002 | BLOCK SODDING | SY | 762.7 | \$3.00 | \$2,288.00 |
| 1686001 | VEGETATIVE WATERING | MG | 250.0 | \$12.00 | \$3,000.00 |
| 1922020 | PLANT MATERIAL (1 GAL) (TREE) | EA | 176.0 | \$8.00 | \$1,408.00 |
| 2602001 | LIME (HYDRATED LIME(DRY)) | TON | 274.6 | \$148.72 | \$40,838.51 |
| 2602006 | LIME TRT (EXST MATL) (6") | SY | 15,253.3 | \$1.68 | \$25,625.60 |
| 2762224 | CEM TRT (PLNT MX) (CL N) (TY E) (GR 4) (6") | SY | 15,253.3 | \$8.30 | \$126,602.67 |
| 3416008 | D-GR HMA TY-B PG 64-22 (7.5 IN) | TON | 6,292.0 | \$65.00 | \$408,980.00 |
| 3416047 | D-GR HMA TY-D SAC-A PG 76-22 (3 IN) | TON | 2,516.8 | \$123.00 | \$309,566.40 |
| 5006001 | MOBILIZATION | LS | 1.0 | - | \$358,832.78 |
| 5022125 | BARRICADES, SIGNS AND TRAFFIC HANDLING | EA | 2.0 | \$1,500.00 | \$3,000.00 |
| 5296005 | CONC CURB (MONO) (TY II) | LF | 10,560.0 | \$6.00 | \$63,360.00 |
| 5306004 | DRIVEWAYS (CONC) | SY | 288.0 | \$64.00 | \$18,432.00 |
| 5316003 | CONC SIDEWALKS (6") | SY | 7,040.0 | \$52.00 | \$366,080.00 |
|  | DRAINAGE | MI | 1.0 | \$1,500,000.00 | \$1,500,000.00 |
| PAV | MENT MARKINGS AND SIGNS | MI | 1.0 | \$40,000.00 | \$40,000.00 |
|  | UTILITIES | MI | 1.0 | \$400,000.00 | \$400,000.00 |
|  | SW3P | MI | 1.0 | \$30,000.00 | \$30,000.00 |
|  |  |  |  | TOTAL | \$3,947,161.00 |
|  | Pre-Construction |  |  | 20\% | \$789,432.20 |
|  | onstruction Oversight |  |  | 10\% | \$394,716.10 |
|  | Contingency |  |  | 10\% | \$394,716.10 |
|  |  |  |  | TOTAL | \$5,500,000 |
|  |  |  |  | ROW TOTAL | \$6,300,000 |



L21

| R2U (Cost/Mile) |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Item No, Descrip Code | Description | Unit | Est | Avg Unit Cost | COST |
| 1006002 | PREPARING ROW | STA | 60.0 | \$2,500.00 | \$150,000.00 |
| 1056005 | REMOVING STAB BASE AND ASPH PAV (2") | SY | 14,080.0 | \$10.00 | \$140,800.00 |
| 1106001 | EXCAVATION (ROADWAY) | CY | 7,040.0 | \$10.00 | \$70,400.00 |
| 1326003 | EMBANKMENT (FINAL) (ORD CONT) (TY B) | CY | 1,056.0 | \$10.00 | \$10,560.00 |
| 1606003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 7,040.0 | \$1.50 | \$10,560.00 |
| 1626002 | BLOCK SODDING | SY | 704.0 | \$3.00 | \$2,112.00 |
| 1686001 | VEGETATIVE WATERING | MG | 250.0 | \$12.00 | \$3,000.00 |
| 1922020 | PLANT MATERIAL (1 GAL) (TREE) | EA | 176.0 | \$8.00 | \$1,408.00 |
| 2602001 | LIME (HYDRATED LIME(DRY)) | TON | 253.4 | \$148.72 | \$37,685.65 |
| 2602006 | LIME TRT (EXST MATL) (6") | SY | 14,080.0 | \$1.68 | \$23,654.40 |
| 2762224 | CEM TRT (PLNT MX) (CL N) (TY E) (GR 4) (6") | SY | 14,080.0 | \$8.30 | \$116,864.00 |
| 3416008 | D-GR HMA TY-B PG 64-22 (7.5 IN) | TON | 5,808.0 | \$65.00 | \$377,520.00 |
| 3416047 | D-GR HMA TY-D SAC-A PG 76-22 (3 IN) | TON | 2,323.2 | \$123.00 | \$285,753.60 |
| 5006001 | MOBILIZATION | LS | 1.0 | - | \$233,210.96 |
| 5296005 | CONC CURB (MONO) (TY II) | LF | 10,560.0 | \$6.00 | \$63,360.00 |
| 5306004 | DRIVEWAYS (CONC) | SY | 288.0 | \$64.00 | \$18,432.00 |
|  | DRAINAGE | MI | 1.0 | \$500,000.00 | \$500,000.00 |
|  | TRAFFIC CONTROL | MI | 1.0 | \$50,000.00 | \$50,000.00 |
| PAV | ENT MARKINGS AND SIGNS | MI | 1.0 | \$40,000.00 | \$40,000.00 |
|  | UTILITIES | MI | 1.0 | \$400,000.00 | \$400,000.00 |
|  | SW3P | MI | 1.0 | \$30,000.00 | \$30,000.00 |
|  |  |  |  | TOTAL | \$2,565,321.00 |
|  | Pre-Construction |  |  | 20\% | \$513,064.20 |
|  | nstruction Oversight |  |  | 10\% | \$256,532.10 |
|  | Contingency |  |  | 10\% | \$256,532.10 |
|  |  |  |  | TOTAL | \$3,600,000 |
|  |  |  |  | ROW TOTAL | \$3,800,000 |



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| C2U (Cost/Mile) |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Item No, Descrip Code | Description | Unit | Est | Avg Unit Cost | COST |
| 1006002 | PREPARING ROW | STA | 60.0 | \$2,500.00 | \$150,000.00 |
| 1106001 | EXCAVATION (ROADWAY) | CY | 10,560.0 | \$10.00 | \$105,600.00 |
| 1326003 | EMBANKMENT (FINAL) (ORD CONT) (TY B) | CY | 1,584.0 | \$10.00 | \$15,840.00 |
| 1606003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 10,560.0 | \$1.50 | \$15,840.00 |
| 1626002 | BLOCK SODDING | SY | 1,056.0 | \$3.00 | \$3,168.00 |
| 1686001 | VEGETATIVE WATERING | MG | 250.0 | \$12.00 | \$3,000.00 |
| 1922020 | PLANT MATERIAL (1 GAL) (TREE) | EA | 176.0 | \$8.00 | \$1,408.00 |
| 2602001 | LIME (HYDRATED LIME(DRY)) | TON | 380.2 | \$148.72 | \$56,543.34 |
| 2602006 | LIME TRT (EXST MATL) (6") | SY | 21,120.0 | \$1.68 | \$35,481.60 |
| 2762224 | CEM TRT (PLNT MX) (CL N) (TY E) (GR 4) (6") | SY | 21,120.0 | \$8.30 | \$175,296.00 |
| 3416008 | D-GR HMA TY-B PG 64-22 (7.5 IN) | TON | 8,712.0 | \$65.00 | \$566,280.00 |
| 3416047 | D-GR HMA TY-D SAC-A PG 76-22 (3 IN) | TON | 3,484.8 | \$123.00 | \$428,630.40 |
| 5006001 | MOBILIZATION | LS | 1.0 | - | \$397,795.93 |
| 5022125 | BARRICADES, SIGNS AND TRAFFIC HANDLING | EA | 2.0 | \$1,500.00 | \$3,000.00 |
| 5296005 | CONC CURB (MONO) (TY II) | LF | 10,560.0 | \$6.00 | \$63,360.00 |
| 5306004 | DRIVEWAYS (CONC) | SY | 288.0 | \$64.00 | \$18,432.00 |
| 5316003 | CONC SIDEWALKS (6") | SY | 7,040.0 | \$52.00 | \$366,080.00 |
|  | DRAINAGE | MI | 1.0 | \$1,500,000.00 | \$1,500,000.00 |
| PAV | IENT MARKINGS AND SIGNS | MI | 1.0 | \$40,000.00 | \$40,000.00 |
|  | UTILITIES | MI | 1.0 | \$400,000.00 | \$400,000.00 |
|  | SW3P | MI | 1.0 | \$30,000.00 | \$30,000.00 |
|  |  |  |  | TOTAL | \$4,375,756.00 |
|  | Pre-Construction |  |  | 20\% | \$875,151.20 |
|  | onstruction Oversight |  |  | 10\% | \$437,575.60 |
|  | Contingency |  |  | 10\% | \$437,575.60 |
|  |  |  |  | TOTAL | \$6,100,000 |
|  |  |  |  | ROW TOTAL | \$6,300,000 |



| C2U (B/P) (Cost/Mile) |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Item No, Descrip Code | Description | Unit | Est | Avg Unit Cost | COST |
| 1006002 | PREPARING ROW | STA | 60.0 | \$2,500.00 | \$150,000.00 |
| 1106001 | EXCAVATION (ROADWAY) | CY | 10,560.0 | \$10.00 | \$105,600.00 |
| 1326003 | EMBANKMENT (FINAL) (ORD CONT) (TY B) | CY | 1,584.0 | \$10.00 | \$15,840.00 |
| 1606003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 10,560.0 | \$1.50 | \$15,840.00 |
| 1626002 | BLOCK SODDING | SY | 1,056.0 | \$3.00 | \$3,168.00 |
| 1686001 | VEGETATIVE WATERING | MG | 250.0 | \$12.00 | \$3,000.00 |
| 1922020 | PLANT MATERIAL (1 GAL) (TREE) | EA | 176.0 | \$8.00 | \$1,408.00 |
| 2602001 | LIME (HYDRATED LIME(DRY)) | TON | 380.2 | \$148.72 | \$56,543.34 |
| 2602006 | LIME TRT (EXST MATL) (6") | SY | 21,120.0 | \$1.68 | \$35,481.60 |
| 2762224 | CEM TRT (PLNT MX) (CL N) (TY E) (GR 4) (6") | SY | 21,120.0 | \$8.30 | \$175,296.00 |
| 3416008 | D-GR HMA TY-B PG 64-22 (7.5 IN) | TON | 8,712.0 | \$65.00 | \$566,280.00 |
| 3416047 | D-GR HMA TY-D SAC-A PG 76-22 (3 IN) | TON | 3,484.8 | \$123.00 | \$428,630.40 |
| 5006001 | MOBILIZATION | LS | 1.0 | - | \$399,795.93 |
| 5022125 | BARRICADES, SIGNS AND TRAFFIC HANDLING | EA | 2.0 | \$1,500.00 | \$3,000.00 |
| 5296005 | CONC CURB (MONO) (TY II) | LF | 10,560.0 | \$6.00 | \$63,360.00 |
| 5306004 | DRIVEWAYS (CONC) | SY | 288.0 | \$64.00 | \$18,432.00 |
| 5316003 | CONC SIDEWALKS (6") | SY | 7,040.0 | \$52.00 | \$366,080.00 |
|  | DRAINAGE | MI | 1.0 | \$1,500,000.00 | \$1,500,000.00 |
| PAV | ENT MARKINGS AND SIGNS | MI | 1.0 | \$60,000.00 | \$60,000.00 |
|  | UTILITIES | MI | 1.0 | \$400,000.00 | \$400,000.00 |
|  | SW3P | MI | 1.0 | \$30,000.00 | \$30,000.00 |
|  |  |  |  | TOTAL | \$4,397,756.00 |
|  | Pre-Construction |  |  | 20\% | \$879,551.20 |
|  | onstruction Oversight |  |  | 10\% | \$439,775.60 |
|  | Contingency |  |  | 10\% | \$439,775.60 |
|  |  |  |  | TOTAL | \$6,200,000 |
|  |  |  |  | ROW TOTAL | \$6,300,000 |


coll ( $8 / 21$

| C3U (Cost/Mile) |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Item No, Descrip Code | Description | Unit | Est | Avg Unit Cost | COST |
| 1006002 | PREPARING ROW | STA | 60.0 | \$2,500.00 | \$150,000.00 |
| 1106001 | EXCAVATION (ROADWAY) | CY | 11,146.7 | \$10.00 | \$111,466.67 |
| 1326003 | EMBANKMENT (FINAL) (ORD CONT) (TY B) | CY | 1,672.0 | \$10.00 | \$16,720.00 |
| 1606003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 11,146.7 | \$1.50 | \$16,720.00 |
| 1626002 | BLOCK SODDING | SY | 1,114.7 | \$3.00 | \$3,344.00 |
| 1686001 | VEGETATIVE WATERING | MG | 250.0 | \$12.00 | \$3,000.00 |
| 1922020 | PLANT MATERIAL (1 GAL) (TREE) | EA | 176.0 | \$8.00 | \$1,408.00 |
| 2602001 | LIME (HYDRATED LIME(DRY)) | TON | 401.3 | \$148.72 | \$59,681.34 |
| 2602006 | LIME TRT (EXST MATL) (6") | SY | 22,293.3 | \$1.68 | \$37,452.80 |
| 2762224 | CEM TRT (PLNT MX) (CL N) (TY E) (GR 4) (6") | SY | 22,293.3 | \$8.30 | \$185,034.67 |
| 3416008 | D-GR HMA TY-B PG 64-22 (7.5 IN) | TON | 9,196.0 | \$65.00 | \$597,740.00 |
| 3416047 | D-GR HMA TY-D SAC-A PG 76-22 (3 IN) | TON | 3,678.4 | \$123.00 | \$452,443.20 |
| 5006001 | MOBILIZATION | LS | 1.0 | - | \$408,588.27 |
| 5022125 | BARRICADES, SIGNS AND TRAFFIC HANDLING | EA | 2.0 | \$1,500.00 | \$3,000.00 |
| 5296005 | CONC CURB (MONO) (TY II) | LF | 10,560.0 | \$6.00 | \$63,360.00 |
| 5306004 | DRIVEWAYS (CONC) | SY | 288.0 | \$64.00 | \$18,432.00 |
| 5316003 | CONC SIDEWALKS (6") | SY | 7,040.0 | \$52.00 | \$366,080.00 |
|  | DRAINAGE | MI | 1.0 | \$1,500,000.00 | \$1,500,000.00 |
| PAV | IENT MARKINGS AND SIGNS | MI | 1.0 | \$70,000.00 | \$70,000.00 |
|  | UTILITIES | MI | 1.0 | \$400,000.00 | \$400,000.00 |
|  | SW3P | MI | 1.0 | \$30,000.00 | \$30,000.00 |
|  |  |  |  | TOTAL | \$4,494,471.00 |
|  | Pre-Construction |  |  | 20\% | \$898,894.20 |
|  | onstruction Oversight |  |  | 10\% | \$449,447.10 |
|  | Contingency |  |  | 10\% | \$449,447.10 |
|  |  |  |  | TOTAL | \$6,300,000 |
|  |  |  |  | ROW TOTAL | \$6,300,000 |



| C4U (Cost/Mile) |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Item No, Descrip Code | Description | Unit | Est | Avg Unit Cost | COST |
| 1006002 | PREPARING ROW | STA | 70.0 | \$2,500.00 | \$175,000.00 |
| 1106001 | EXCAVATION (ROADWAY) | CY | 12,906.7 | \$10.00 | \$129,066.67 |
| 1326003 | EMBANKMENT (FINAL) (ORD CONT) (TY B) | CY | 1,936.0 | \$10.00 | \$19,360.00 |
| 1606003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 12,906.7 | \$1.50 | \$19,360.00 |
| 1626002 | BLOCK SODDING | SY | 1,290.7 | \$3.00 | \$3,872.00 |
| 1686001 | VEGETATIVE WATERING | MG | 250.0 | \$12.00 | \$3,000.00 |
| 1922020 | PLANT MATERIAL (1 GAL) (TREE) | EA | 176.0 | \$8.00 | \$1,408.00 |
| 2602001 | LIME (HYDRATED LIME(DRY)) | TON | 464.6 | \$148.72 | \$69,095.31 |
| 2602006 | LIME TRT (EXST MATL) (6") | SY | 25,813.3 | \$1.68 | \$43,366.40 |
| 2762224 | CEM TRT (PLNT MX) (CL N) (TY E) (GR 4) (6") | SY | 25,813.3 | \$8.30 | \$214,250.67 |
| 3416008 | D-GR HMA TY-B PG 64-22 (7.5 IN) | TON | 10,648.0 | \$65.00 | \$692,120.00 |
| 3416047 | D-GR HMA TY-D SAC-A PG 76-22 (3 IN) | TON | 4,259.2 | \$123.00 | \$523,881.60 |
| 5006001 | MOBILIZATION | LS | 1.0 | - | \$433,465.26 |
| 5022125 | BARRICADES, SIGNS AND TRAFFIC HANDLING | EA | 2.0 | \$1,500.00 | \$3,000.00 |
| 5296005 | CONC CURB (MONO) (TY II) | LF | 10,560.0 | \$6.00 | \$63,360.00 |
| 5306004 | DRIVEWAYS (CONC) | SY | 288.0 | \$64.00 | \$18,432.00 |
| 5316003 | CONC SIDEWALKS (6") | SY | 7,040.0 | \$52.00 | \$366,080.00 |
|  | DRAINAGE | MI | 1.0 | \$1,500,000.00 | \$1,500,000.00 |
| PAV | MENT MARKINGS AND SIGNS | MI | 1.0 | \$60,000.00 | \$60,000.00 |
|  | UTILITIES | MI | 1.0 | \$400,000.00 | \$400,000.00 |
|  | SW3P | MI | 1.0 | \$30,000.00 | \$30,000.00 |
|  |  |  |  | TOTAL | \$4,768,118.00 |
|  | Pre-Construction |  |  | 20\% | \$953,623.60 |
|  | onstruction Oversight |  |  | 10\% | \$476,811.80 |
|  | Contingency |  |  | 10\% | \$476,811.80 |
|  |  |  |  | TOTAL | \$6,700,000 |
|  |  |  |  | ROW TOTAL | \$7,400,000 |


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| C4U (B/P) (Cost/Mile) |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Item No, Descrip Code | Description | Unit | Est | Avg Unit Cost | COST |
| 1006002 | PREPARING ROW | STA | 80.0 | \$2,500.00 | \$200,000.00 |
| 1106001 | EXCAVATION (ROADWAY) | CY | 17,600.0 | \$10.00 | \$176,000.00 |
| 1326003 | EMBANKMENT (FINAL) (ORD CONT) (TY B) | CY | 2,640.0 | \$10.00 | \$26,400.00 |
| 1606003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 17,600.0 | \$1.50 | \$26,400.00 |
| 1626002 | BLOCK SODDING | SY | 1,760.0 | \$3.00 | \$5,280.00 |
| 1686001 | VEGETATIVE WATERING | MG | 250.0 | \$12.00 | \$3,000.00 |
| 1922020 | PLANT MATERIAL (1 GAL) (TREE) | EA | 176.0 | \$8.00 | \$1,408.00 |
| 2602001 | LIME (HYDRATED LIME(DRY)) | TON | 633.6 | \$148.72 | \$94,228.99 |
| 2602006 | LIME TRT (EXST MATL) (6") | SY | 35,200.0 | \$1.68 | \$59,136.00 |
| 2762224 | CEM TRT (PLNT MX) (CL N) (TY E) (GR 4) (6") | SY | 35,200.0 | \$8.30 | \$292,160.00 |
| 3416008 | D-GR HMA TY-B PG 64-22 (7.5 IN) | TON | 14,520.0 | \$65.00 | \$943,800.00 |
| 3416047 | D-GR HMA TY-D SAC-A PG 76-22 (3 IN) | TON | 5,808.0 | \$123.00 | \$714,384.00 |
| 5006001 | MOBILIZATION | LS | 1.0 | - | \$500,306.90 |
| 5022125 | BARRICADES, SIGNS AND TRAFFIC HANDLING | EA | 2.0 | \$1,500.00 | \$3,000.00 |
| 5296005 | CONC CURB (MONO) (TY II) | LF | 10,560.0 | \$6.00 | \$63,360.00 |
| 5306004 | DRIVEWAYS (CONC) | SY | 288.0 | \$64.00 | \$18,432.00 |
| 5316003 | CONC SIDEWALKS (6") | SY | 7,040.0 | \$52.00 | \$366,080.00 |
|  | DRAINAGE | MI | 1.0 | \$1,500,000.00 | \$1,500,000.00 |
| PAV | IENT MARKINGS AND SIGNS | MI | 1.0 | \$80,000.00 | \$80,000.00 |
|  | UTILITIES | MI | 1.0 | \$400,000.00 | \$400,000.00 |
|  | SW3P | MI | 1.0 | \$30,000.00 | \$30,000.00 |
|  |  |  |  | TOTAL | \$5,503,376.00 |
|  | Pre-Construction |  |  | 20\% | \$1,100,675.20 |
|  | onstruction Oversight |  |  | 10\% | \$550,337.60 |
|  | Contingency |  |  | 10\% | \$550,337.60 |
|  |  |  |  | TOTAL | \$7,700,000 |
|  |  |  |  | ROW TOTAL | \$8,400,000 |


C.11 (B/P)

| C4D (Cost/Mile) |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Item No, Descrip Code | Description | Unit | Est | Avg Unit Cost | COST |
| 1006002 | PREPARING ROW | STA | 80.0 | \$2,500.00 | \$200,000.00 |
| 1106001 | EXCAVATION (ROADWAY) | CY | 16,426.7 | \$10.00 | \$164,266.67 |
| 1326003 | EMBANKMENT (FINAL) (ORD CONT) (TY B) | CY | 2,464.0 | \$10.00 | \$24,640.00 |
| 1606003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 16,426.7 | \$1.50 | \$24,640.00 |
| 1626002 | BLOCK SODDING | SY | 1,642.7 | \$3.00 | \$4,928.00 |
| 1686001 | VEGETATIVE WATERING | MG | 250.0 | \$12.00 | \$3,000.00 |
| 1922020 | PLANT MATERIAL (1 GAL) (TREE) | EA | 176.0 | \$8.00 | \$1,408.00 |
| 2602001 | LIME (HYDRATED LIME(DRY)) | TON | 591.4 | \$148.72 | \$87,953.01 |
| 2602006 | LIME TRT (EXST MATL) (6") | SY | 32,853.3 | \$1.68 | \$55,193.60 |
| 2762224 | CEM TRT (PLNT MX) (CL N) (TY E) (GR 4) (6") | SY | 32,853.3 | \$8.30 | \$272,682.67 |
| 3416008 | D-GR HMA TY-B PG 64-22 (7.5 IN) | TON | 13,552.0 | \$65.00 | \$880,880.00 |
| 3416047 | D-GR HMA TY-D SAC-A PG 76-22 (3 IN) | TON | 5,420.8 | \$123.00 | \$666,758.40 |
| 5006001 | MOBILIZATION | LS | 1.0 | - | \$482,722.23 |
| 5022125 | BARRICADES, SIGNS AND TRAFFIC HANDLING | EA | 2.0 | \$1,500.00 | \$3,000.00 |
| 5296005 | CONC CURB (MONO) (TY II) | LF | 10,560.0 | \$6.00 | \$63,360.00 |
| 5306004 | DRIVEWAYS (CONC) | SY | 288.0 | \$64.00 | \$18,432.00 |
| 5316003 | CONC SIDEWALKS (6") | SY | 7,040.0 | \$52.00 | \$366,080.00 |
|  | DRAINAGE | MI | 1.0 | \$1,500,000.00 | \$1,500,000.00 |
| PAV | MENT MARKINGS AND SIGNS | MI | 1.0 | \$60,000.00 | \$60,000.00 |
|  | UTILITIES | MI | 1.0 | \$400,000.00 | \$400,000.00 |
|  | SW3P | MI | 1.0 | \$30,000.00 | \$30,000.00 |
|  |  |  |  | TOTAL | \$5,309,945.00 |
|  | Pre-Construction |  |  | 20\% | \$1,061,989.00 |
|  | onstruction Oversight |  |  | 10\% | \$530,994.50 |
|  | Contingency |  |  | 10\% | \$530,994.50 |
|  |  |  |  | TOTAL | \$7,400,000 |
|  |  |  |  | ROW TOTAL | \$8,400,000 |



| C4D (B/P) (Cost/Mile) |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Item No, Descrip Code | Description | Unit | Est | Avg Unit Cost | COST |
| 1006002 | PREPARING ROW | STA | 90.0 | \$2,500.00 | \$225,000.00 |
| 1106001 | EXCAVATION (ROADWAY) | CY | 21,120.0 | \$10.00 | \$211,200.00 |
| 1326003 | EMBANKMENT (FINAL) (ORD CONT) (TY B) | CY | 3,168.0 | \$10.00 | \$31,680.00 |
| 1606003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 21,120.0 | \$1.50 | \$31,680.00 |
| 1626002 | BLOCK SODDING | SY | 2,112.0 | \$3.00 | \$6,336.00 |
| 1686001 | VEGETATIVE WATERING | MG | 250.0 | \$12.00 | \$3,000.00 |
| 1922020 | PLANT MATERIAL (1 GAL) (TREE) | EA | 176.0 | \$8.00 | \$1,408.00 |
| 2602001 | LIME (HYDRATED LIME(DRY)) | TON | 760.3 | \$148.72 | \$113,071.82 |
| 2602006 | LIME TRT (EXST MATL) (6") | SY | 42,240.0 | \$1.68 | \$70,963.20 |
| 2762224 | CEM TRT (PLNT MX) (CL N) (TY E) (GR 4) (6") | SY | 42,240.0 | \$8.30 | \$350,592.00 |
| 3416008 | D-GR HMA TY-B PG 64-22 (7.5 IN) | TON | 17,424.0 | \$65.00 | \$1,132,560.00 |
| 3416047 | D-GR HMA TY-D SAC-A PG 76-22 (3 IN) | TON | 6,969.6 | \$123.00 | \$857,260.80 |
| 5006001 | MOBILIZATION | LS | 1.0 | - | \$549,562.38 |
| 5022125 | BARRICADES, SIGNS AND TRAFFIC HANDLING | EA | 2.0 | \$1,500.00 | \$3,000.00 |
| 5296005 | CONC CURB (MONO) (TY II) | LF | 10,560.0 | \$6.00 | \$63,360.00 |
| 5306004 | DRIVEWAYS (CONC) | SY | 288.0 | \$64.00 | \$18,432.00 |
| 5316003 | CONC SIDEWALKS (6") | SY | 7,040.0 | \$52.00 | \$366,080.00 |
|  | DRAINAGE | MI | 1.0 | \$1,500,000.00 | \$1,500,000.00 |
| PAV | ENT MARKINGS AND SIGNS | MI | 1.0 | \$80,000.00 | \$80,000.00 |
|  | UTILITIES | MI | 1.0 | \$400,000.00 | \$400,000.00 |
|  | SW3P | MI | 1.0 | \$30,000.00 | \$30,000.00 |
|  |  |  |  | TOTAL | \$6,045,187.00 |
|  | Pre-Construction |  |  | 20\% | \$1,209,037.40 |
|  | onstruction Oversight |  |  | 10\% | \$604,518.70 |
|  | Contingency |  |  | 10\% | \$604,518.70 |
|  |  |  |  | TOTAL | \$8,500,000 |
|  |  |  |  | ROW TOTAL | \$9,500,000 |



C4D (B/P)

| C5U (Cost/Mile) |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Item No, Descrip Code | Description | Unit | Est | Avg Unit Cost | COST |
| 1006002 | PREPARING ROW | STA | 80.0 | \$2,500.00 | \$200,000.00 |
| 1106001 | EXCAVATION (ROADWAY) | CY | 17,013.3 | \$10.00 | \$170,133.33 |
| 1326003 | EMBANKMENT (FINAL) (ORD CONT) (TY B) | CY | 2,552.0 | \$10.00 | \$25,520.00 |
| 1606003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 17,013.3 | \$1.50 | \$25,520.00 |
| 1626002 | BLOCK SODDING | SY | 1,701.3 | \$3.00 | \$5,104.00 |
| 1686001 | VEGETATIVE WATERING | MG | 250.0 | \$12.00 | \$3,000.00 |
| 1922020 | PLANT MATERIAL (1 GAL) (TREE) | EA | 176.0 | \$8.00 | \$1,408.00 |
| 2602001 | LIME (HYDRATED LIME(DRY)) | TON | 612.5 | \$148.72 | \$91,091.00 |
| 2602006 | LIME TRT (EXST MATL) (6") | SY | 34,026.7 | \$1.68 | \$57,164.80 |
| 2762224 | CEM TRT (PLNT MX) (CL N) (TY E) (GR 4) (6") | SY | 34,026.7 | \$8.30 | \$282,421.33 |
| 3416008 | D-GR HMA TY-B PG 64-22 (7.5 IN) | TON | 14,036.0 | \$65.00 | \$912,340.00 |
| 3416047 | D-GR HMA TY-D SAC-A PG 76-22 (3 IN) | TON | 5,614.4 | \$123.00 | \$690,571.20 |
| 5006001 | MOBILIZATION | LS | 1.0 | - | \$493,514.57 |
| 5022125 | BARRICADES, SIGNS AND TRAFFIC HANDLING | EA | 2.0 | \$1,500.00 | \$3,000.00 |
| 5296005 | CONC CURB (MONO) (TY II) | LF | 10,560.0 | \$6.00 | \$63,360.00 |
| 5306004 | DRIVEWAYS (CONC) | SY | 288.0 | \$64.00 | \$18,432.00 |
| 5316003 | CONC SIDEWALKS (6") | SY | 7,040.0 | \$52.00 | \$366,080.00 |
|  | DRAINAGE | MI | 1.0 | \$1,500,000.00 | \$1,500,000.00 |
| PAV | MENT MARKINGS AND SIGNS | MI | 1.0 | \$90,000.00 | \$90,000.00 |
|  | UTILITIES | MI | 1.0 | \$400,000.00 | \$400,000.00 |
|  | SW3P | MI | 1.0 | \$30,000.00 | \$30,000.00 |
|  |  |  |  | TOTAL | \$5,428,661.00 |
|  | Pre-Construction |  |  | 20\% | \$1,085,732.20 |
|  | onstruction Oversight |  |  | 10\% | \$542,866.10 |
|  | Contingency |  |  | 10\% | \$542,866.10 |
|  |  |  |  | TOTAL | \$7,600,000 |
|  |  |  |  | ROW TOTAL | \$8,400,000 |


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| P4D (Cost/Mile) |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Item No, Descrip Code | Description | Unit | Est | Avg Unit Cost | COST |
| 1006002 | PREPARING ROW | STA | 105.0 | \$2,500.00 | \$262,500.00 |
| 1106001 | EXCAVATION (ROADWAY) | CY | 22,293.3 | \$10.00 | \$222,933.33 |
| 1326003 | EMBANKMENT (FINAL) (ORD CONT) (TY B) | CY | 3,344.0 | \$10.00 | \$33,440.00 |
| 1606003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 22,293.3 | \$1.50 | \$33,440.00 |
| 1626002 | BLOCK SODDING | SY | 2,229.3 | \$3.00 | \$6,688.00 |
| 1686001 | VEGETATIVE WATERING | MG | 250.0 | \$12.00 | \$3,000.00 |
| 1922020 | PLANT MATERIAL (1 GAL) (TREE) | EA | 176.0 | \$8.00 | \$1,408.00 |
| 2602001 | LIME (HYDRATED LIME(DRY)) | TON | 802.6 | \$148.72 | \$119,362.67 |
| 2602006 | LIME TRT (EXST MATL) (6") | SY | 44,586.7 | \$1.68 | \$74,905.60 |
| 2762224 | CEM TRT (PLNT MX) (CL N) (TY E) (GR 4) (6") | SY | 44,586.7 | \$8.30 | \$370,069.33 |
| 3416008 | D-GR HMA TY-B PG 64-22 (7.5 IN) | TON | 18,392.0 | \$65.00 | \$1,195,480.00 |
| 3416047 | D-GR HMA TY-D SAC-A PG 76-22 (3 IN) | TON | 7,356.8 | \$123.00 | \$904,886.40 |
| 5006001 | MOBILIZATION | LS | 1.0 | - | \$567,198.53 |
| 5022125 | BARRICADES, SIGNS AND TRAFFIC HANDLING | EA | 4.0 | \$1,500.00 | \$6,000.00 |
| 5296005 | CONC CURB (MONO) (TY II) | LF | 10,560.0 | \$6.00 | \$63,360.00 |
| 5306004 | DRIVEWAYS (CONC) | SY | 288.0 | \$64.00 | \$18,432.00 |
| 5316003 | CONC SIDEWALKS (6") | SY | 7,040.0 | \$52.00 | \$366,080.00 |
|  | DRAINAGE | MI | 1.0 | \$1,500,000.00 | \$1,500,000.00 |
| PAV | MENT MARKINGS AND SIGNS | MI | 1.0 | \$60,000.00 | \$60,000.00 |
|  | UTILITIES | MI | 1.0 | \$400,000.00 | \$400,000.00 |
|  | SW3P | MI | 1.0 | \$30,000.00 | \$30,000.00 |
|  |  |  |  | TOTAL | \$6,239,184.00 |
|  | Pre-Construction |  |  | 20\% | \$1,247,836.80 |
|  | onstruction Oversight |  |  | 10\% | \$623,918.40 |
|  | Contingency |  |  | 10\% | \$623,918.40 |
|  |  |  |  | TOTAL | \$8,700,000 |
|  |  |  |  | ROW TOTAL | \$11,100,000 |



| P4D (B) (Cost/Mile) |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Item No, Descrip Code | Description | Unit | Est | Avg Unit Cost | COST |
| 1006002 | PREPARING ROW | STA | 110.0 | \$2,500.00 | \$275,000.00 |
| 1106001 | EXCAVATION (ROADWAY) | CY | 22,293.3 | \$10.00 | \$222,933.33 |
| 1326003 | EMBANKMENT (FINAL) (ORD CONT) (TY B) | CY | 3,344.0 | \$10.00 | \$33,440.00 |
| 1606003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 22,293.3 | \$1.50 | \$33,440.00 |
| 1626002 | BLOCK SODDING | SY | 2,229.3 | \$3.00 | \$6,688.00 |
| 1686001 | VEGETATIVE WATERING | MG | 250.0 | \$12.00 | \$3,000.00 |
| 1922020 | PLANT MATERIAL (1 GAL) (TREE) | EA | 176.0 | \$8.00 | \$1,408.00 |
| 2602001 | LIME (HYDRATED LIME(DRY)) | TON | 802.6 | \$148.72 | \$119,362.67 |
| 2602006 | LIME TRT (EXST MATL) (6") | SY | 44,586.7 | \$1.68 | \$74,905.60 |
| 2762224 | CEM TRT (PLNT MX) (CL N) (TY E) (GR 4) (6") | SY | 44,586.7 | \$8.30 | \$370,069.33 |
| 3416008 | D-GR HMA TY-B PG 64-22 (7.5 IN) | TON | 18,392.0 | \$65.00 | \$1,195,480.00 |
| 3416047 | D-GR HMA TY-D SAC-A PG 76-22 (3 IN) | TON | 7,356.8 | \$123.00 | \$904,886.40 |
| 5006001 | MOBILIZATION | LS | 1.0 | - | \$586,752.53 |
| 5022125 | BARRICADES, SIGNS AND TRAFFIC HANDLING | EA | 4.0 | \$1,500.00 | \$6,000.00 |
| 5296005 | CONC CURB (MONO) (TY II) | LF | 10,560.0 | \$6.00 | \$63,360.00 |
| 5306004 | DRIVEWAYS (CONC) | SY | 288.0 | \$64.00 | \$18,432.00 |
| 5316003 | CONC SIDEWALKS (6") | SY | 10,560.0 | \$52.00 | \$549,120.00 |
|  | DRAINAGE | MI | 1.0 | \$1,500,000.00 | \$1,500,000.00 |
| PAV | IENT MARKINGS AND SIGNS | MI | 1.0 | \$60,000.00 | \$60,000.00 |
|  | UTILITIES | MI | 1.0 | \$400,000.00 | \$400,000.00 |
|  | SW3P | MI | 1.0 | \$30,000.00 | \$30,000.00 |
|  |  |  |  | TOTAL | \$6,454,278.00 |
|  | Pre-Construction |  |  | 20\% | \$1,290,855.60 |
|  | onstruction Oversight |  |  | 10\% | \$645,427.80 |
|  | Contingency |  |  | 10\% | \$645,427.80 |
|  |  |  |  | TOTAL | \$9,000,000 |
|  |  |  |  | ROW TOTAL | \$11,600,000 |



R4. (8)

| P6D (Cost/Mile) |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Item No, Descrip Code | Description | Unit | Est | Avg Unit Cost | COST |
| 1006002 | PREPARING ROW | STA | 130.0 | \$2,500.00 | \$325,000.00 |
| 1106001 | EXCAVATION (ROADWAY) | CY | 29,333.3 | \$10.00 | \$293,333.33 |
| 1326003 | EMBANKMENT (FINAL) (ORD CONT) (TY B) | CY | 4,400.0 | \$10.00 | \$44,000.00 |
| 1606003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 29,333.3 | \$1.50 | \$44,000.00 |
| 1626002 | BLOCK SODDING | SY | 2,933.3 | \$3.00 | \$8,800.00 |
| 1686001 | VEGETATIVE WATERING | MG | 250.0 | \$12.00 | \$3,000.00 |
| 1922020 | PLANT MATERIAL (1 GAL) (TREE) | EA | 176.0 | \$8.00 | \$1,408.00 |
| 2602001 | LIME (HYDRATED LIME(DRY)) | TON | 1,056.0 | \$148.72 | \$157,048.32 |
| 2602006 | LIME TRT (EXST MATL) (6") | SY | 58,666.7 | \$1.68 | \$98,560.00 |
| 2762224 | CEM TRT (PLNT MX) (CL N) (TY E) (GR 4) (6") | SY | 58,666.7 | \$8.30 | \$486,933.33 |
| 3416008 | D-GR HMA TY-B PG 64-22 (7.5 IN) | TON | 24,200.0 | \$65.00 | \$1,573,000.00 |
| 3416047 | D-GR HMA TY-D SAC-A PG 76-22 (3 IN) | TON | 9,680.0 | \$123.00 | \$1,190,640.00 |
| 5006001 | MOBILIZATION | LS | 1.0 | - | \$668,959.50 |
| 5022125 | BARRICADES, SIGNS AND TRAFFIC HANDLING | EA | 4.0 | \$1,500.00 | \$6,000.00 |
| 5296005 | CONC CURB (MONO) (TY II) | LF | 10,560.0 | \$6.00 | \$63,360.00 |
| 5306004 | DRIVEWAYS (CONC) | SY | 288.0 | \$64.00 | \$18,432.00 |
| 5316003 | CONC SIDEWALKS (6") | SY | 7,040.0 | \$52.00 | \$366,080.00 |
|  | DRAINAGE | MI | 1.0 | \$1,500,000.00 | \$1,500,000.00 |
| PAV | ENT MARKINGS AND SIGNS | MI | 1.0 | \$80,000.00 | \$80,000.00 |
|  | UTILITIES | MI | 1.0 | \$400,000.00 | \$400,000.00 |
|  | SW3P | MI | 1.0 | \$30,000.00 | \$30,000.00 |
|  |  |  |  | TOTAL | \$7,358,555.00 |
|  | Pre-Construction |  |  | 20\% | \$1,471,711.00 |
|  | onstruction Oversight |  |  | 10\% | \$735,855.50 |
|  | Contingency |  |  | 10\% | \$735,855.50 |
|  |  |  |  | TOTAL | \$10,300,000 |
|  |  |  |  | ROW TOTAL | \$13,700,000 |



Pen

| P8D (Cost/Mile) |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Item No, Descrip Code | Description | Unit | Est | Avg Unit Cost | COST |
| 1006002 | PREPARING ROW | STA | 150.0 | \$2,500.00 | \$375,000.00 |
| 1106001 | EXCAVATION (ROADWAY) | CY | 36,373.3 | \$10.00 | \$363,733.33 |
| 1326003 | EMBANKMENT (FINAL) (ORD CONT) (TY B) | CY | 5,456.0 | \$10.00 | \$54,560.00 |
| 1606003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 36,373.3 | \$1.50 | \$54,560.00 |
| 1626002 | BLOCK SODDING | SY | 3,637.3 | \$3.00 | \$10,912.00 |
| 1686001 | VEGETATIVE WATERING | MG | 250.0 | \$12.00 | \$3,000.00 |
| 1922020 | PLANT MATERIAL (1 GAL) (TREE) | EA | 176.0 | \$8.00 | \$1,408.00 |
| 2602001 | LIME (HYDRATED LIME(DRY)) | TON | 1,309.4 | \$148.72 | \$194,733.97 |
| 2602006 | LIME TRT (EXST MATL) (6") | SY | 72,746.7 | \$1.68 | \$122,214.40 |
| 2762224 | CEM TRT (PLNT MX) (CL N) (TY E) (GR 4) (6") | SY | 72,746.7 | \$8.30 | \$603,797.33 |
| 3416008 | D-GR HMA TY-B PG 64-22 (7.5 IN) | TON | 30,008.0 | \$65.00 | \$1,950,520.00 |
| 3416047 | D-GR HMA TY-D SAC-A PG 76-22 (3 IN) | TON | 12,003.2 | \$123.00 | \$1,476,393.60 |
| 5006001 | MOBILIZATION | LS | 1.0 | - | \$769,470.46 |
| 5022125 | BARRICADES, SIGNS AND TRAFFIC HANDLING | EA | 4.0 | \$1,500.00 | \$6,000.00 |
| 5296005 | CONC CURB (MONO) (TY II) | LF | 10,560.0 | \$6.00 | \$63,360.00 |
| 5306004 | DRIVEWAYS (CONC) | SY | 288.0 | \$64.00 | \$18,432.00 |
| 5316003 | CONC SIDEWALKS (6") | SY | 7,040.0 | \$52.00 | \$366,080.00 |
|  | DRAINAGE | MI | 1.0 | \$1,500,000.00 | \$1,500,000.00 |
| PAV | ENT MARKINGS AND SIGNS | MI | 1.0 | \$100,000.00 | \$100,000.00 |
|  | UTILITIES | MI | 1.0 | \$400,000.00 | \$400,000.00 |
|  | SW3P | MI | 1.0 | \$30,000.00 | \$30,000.00 |
|  |  |  |  | TOTAL | \$8,464,176.00 |
|  | Pre-Construction |  |  | 20\% | \$1,692,835.20 |
|  | onstruction Oversight |  |  | 10\% | \$846,417.60 |
|  | Contingency |  |  | 10\% | \$846,417.60 |
|  |  |  |  | TOTAL | \$11,800,000 |
|  |  |  |  | ROW TOTAL | \$15,800,000 |



P8D

Transportation Plan Map

## Kyle Transportation Master Plan - 2045 Road Classification



E-1

## Kyle Transportation Master Plan - 2045 Right-of-Way



## Kyle Transportation Master Plan - 2045 Proposed Projects



Kyle Transportation Master Plan - 2016-2045 Prioritization


## Major Roadway Planning Guide



| No. | Project | Owner | District | Pr. Cassifitation | Ex. Cassification | Improvement | $\frac{\text { Kyle Connected }}{\text { Lenght (Miss }}$ | - Transportation | Plan 2040 | Source | Pr. Row (F) | Ex. Row (FF) | Pr.tanes | Ex. Lanes | Pr. Bike lanes | Ex. Bike lanes | Pr. Bike failities | Ex. Bike failities | Pr.Sidewalks | Sidewalks |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Shadow Crae |  |  | ${ }^{\text {cu }}$ |  | Ine enved rosad wh Twill |  |  | alarer |  |  |  |  |  |  |  | $\bigcirc$ | $\bigcirc$ |  |  |
| 93 <br> 94 | Snato creek |  | ${ }_{\text {E }}^{\text {E }}$ | ${ }_{\text {cau }}^{120}$ | . | Nev 4lane coad | ${ }_{10}^{119}$ | $\frac{\text { windy }}{\text { mill }}$ | fiome | ${ }_{\text {cke }}^{\substack{\text { krve } 2015 \\ \text { Kive } 2015}}$ | 70 60 | $\bigcirc$ | ${ }_{2}$ | $\stackrel{0}{0}$ | $\bigcirc$ | $\bigcirc$ | ! | ! | ${ }_{2}^{2}$ | $\bigcirc$ |
| ${ }_{95}$ | Sumbetill |  | ${ }^{6}$ | ${ }^{\text {civ }}$ | R2U |  | ${ }_{3,36}$ | ${ }^{\text {He3s }}$ | Tumessile Exesion | Campo 2090 | 60 | ${ }_{90}$ | ${ }^{3}$ | 2 | 0 | 0 | 0 | 0 | 2 |  |
| $\stackrel{\text { ¢ }}{\substack{\text { Total } \\ \hline}}$ | Varingon | krve | 2 | ${ }^{\text {P40 }}$ | R2U | Widen toa 4 Alne e ivided | ${ }_{\substack{2888 \\ 14.42}}^{2}$ | f. 110 |  | CaMPP 2040 | ¢, | ${ }_{2,90}^{2,90}$ | ${ }_{270}$ | 90 | 4 | 0 | ${ }^{7}$ | 。 | 154 | $\stackrel{\square}{5}$ |

[^2]

| City of Kyle 2015 Transportation Master Plan Project Prioritiza |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Rank | Project | Improvement | from | то | w cost | Total cost | owner | Develoer Contib. | cover | city cost | cost | cost | District |  | ${ }_{\text {a }}^{\text {ajorional }}$ |  | ${ }_{\text {Reeuired }}^{\text {Row }}$ | Suporst teomemic |  | Envirommenal)/ Constrution ssues | $\underbrace{\text { a }}_{\substack{\text { Oranage } \\ \text { Benefits }}}$ | (iot |
| 89 | opal |  | Ons sazeco | ${ }_{\text {H/35 }}$ | ${ }_{\text {S3,20,000 }}^{5 \text { S50000 }}$ | $\frac{\text { S16,780,000 }}{\text { S120000 }}$ | Haysti] | $\bigcirc$ | ¢0 | ${ }_{50}^{50}$ | S16,7880,000 | 50 | 2 | ${ }^{20}$ | 5 | ${ }_{\text {c }}^{10} 10$ | 5 | ${ }_{5}^{5}$ | $\bigcirc$ | ${ }_{5}^{0}$ | $\stackrel{0}{0}$ | - ${ }_{45}^{45}$ |
| ${ }^{90}$ | (s) |  | Ampor | Satembite | S4, | S9, |  | $\stackrel{1}{1}$ | Sp, | 50 | 50 | ${ }_{50}$ | E | ${ }_{10}$ | 5 | ${ }_{15}^{15}$ | 5 | 5 | 5 | $\bigcirc$ | 0 | ${ }_{45}^{45}$ |
| ${ }^{92}$ |  |  | Center | Opal | Sill | ${ }_{\substack{\text { S6, 26,0,000 } \\ 54380,000}}$ |  | $\bigcirc$ | 50 <br> 50 | S6,260,000 |  | 50 50 | ${ }^{2}$ | 10 <br> 10 | 5 | ${ }^{15}$ | 5 | 5 | 5 | 5 | $\stackrel{0}{5}$ |  |
|  | f0 150 ( M ) | Widen 0 o a 4 line divided road with WW WI | Ens337 | kriel coop (sw) | S5,20,000 | S45,100,000 | Tर00T | 0 | 50 | S0 | 50 | S45,100,000 | E | 5 | 5 | $\stackrel{5}{5}$ | 5 | ${ }^{10}$ | 5 | 5 | $\bigcirc$ | ${ }_{40}^{40}$ |
|  | $\frac{\text { Roland }}{\text { kxje cosising }}$ |  | loll |  | ¢ |  |  | 1 | S50 | S13,188,000 | so <br> 50 | $\stackrel{50}{50}$ | $\stackrel{2}{4.6}$ | 5 | 5 | ${ }^{15}$ | 5 | ${ }^{5}$ | $\bigcirc$ | ${ }^{5}$ | $\bigcirc$ |  |
| * Bond Project = fully funded ] = Subsidiary to [1] |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Yellow Highlights are the highest-ranked projects in the City's responsibility <br> (Does not include ETJ/County or TxDOT, although those are scored and ranked. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |




| City of Kyle 2015 Transportation Master Plan Project Prioritization (District 4) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Rank | Project | rovement | from | то | Row cost | Total cost | Owner | Developer Contrib. | ${ }_{\text {develo }}^{\text {Dever }}$ | city cost | County cost | Oit cost | District |  | ${ }_{\substack{\text { Additiona } \\ \text { conectivir }}}^{\text {a }}$ | ${ }_{\text {coser }}^{\text {costibity }}$ | ${ }_{\text {Reoutred }}^{\text {Rew }}$ | Suppors EEconemic | ${ }_{\substack{\text { Suporte bv } \\ \text { community }}}^{\text {a }}$ |  |  | ${ }_{\substack{\text { Totar } \\ \text { sore }}}^{\text {a }}$ |
| 1 <br> 1 | R1626 |  |  |  | ¢0 | Sspo, |  | 0 | ¢ |  | 50 | ${ }_{\text {S30,000 }}^{50}$ | ${ }_{4}^{4}$ | 10 | ${ }^{\text {¢ }}$ | ¢15 <br> 15 | ${ }^{15}$ | ${ }^{\frac{10}{5}}$ | $\frac{10}{5}$ | 5 <br> 5 | $\bigcirc$ |  |
|  | Ois |  | Post | *M 150 |  | $\xrightarrow{\text { S44,020,000 }}$ |  |  |  | $\xrightarrow{534020,0000}$ |  |  | ${ }_{2}^{2,4}$ | ${ }_{5}$ | ${ }_{10}$ | 5 | ${ }_{15}$ | 10 |  |  |  | 70 <br> 65 |
| ${ }_{4}$ |  |  | \&M1626 | sm 150 | 50 | S26,60,0,00 | troor | 0 | ${ }_{50}$ | 50 | ${ }_{50}$ | S26,600,000 | 4 | ${ }^{10}$ | ${ }_{10}$ | ${ }^{10}$ | ${ }^{15}$ | ${ }_{10}^{10}$ | 5 | $\bigcirc$ | 5 | ${ }^{65}$ |
|  | Bureson* | widen to 0 2-Imane road |  | Lockhar | 50 |  | ${ }_{\text {kve }}^{\text {kje }}$ | 0 | ${ }_{50}$ | St,00,000 | ${ }_{50}^{50}$ | ${ }_{50} 5$ |  | ${ }^{10}$ |  |  |  |  |  |  |  |  |
| ${ }_{7}{ }_{7}$ | Coner | Husen patifig peastans stev | atemita |  | ¢ ${ }_{50}^{50}$ |  | $\frac{\substack{\text { kre } \\ \text { kje }}}{\text { kne }}$ | $\bigcirc$ | ¢ |  | 50 50 50 | ¢ | 2.4. <br> 2.4 <br> 2.4 | 年10 | ¢ <br> 10 | - $\frac{15}{15}$ | - | $\frac{5}{5}$ | ${ }^{\frac{10}{5}}$ | $\frac{5}{5}$ | $\bigcirc$ |  |
| ${ }^{8}$ |  |  | atele | en 270 | so 50 50 |  | ${ }_{\text {Krye }}^{\text {Krome }}$ | \% | ¢ | ${ }_{\text {s30,000 }}$ | ¢0 | ${ }_{50}^{513}$ | 2.4 | ${ }^{10}$ | 5 | ${ }^{15}$ | ${ }^{15}$ | ${ }_{10}^{10}$ | 5 | 5 | $\bigcirc$ |  |
| ${ }^{10}$ | Ateristseets |  | em 270 | WCenter Peobe | so <br> $\substack{50 \\ 50}$ |  |  | $\stackrel{0}{\circ}$ |  | ${ }_{\substack{\text { S23,70, } \\ 5000}}^{\substack{\text { Sa }}}$ | ( |  | $\stackrel{4.4}{2.6}$ | 10 <br> 10 <br> 10 | 5 5 5 |  | 15 <br> 15 <br> 15 | 10 <br>  <br> 5 | ${ }^{10}$ | $\stackrel{5}{5}$ | ${ }_{5}^{5}$ | - ${ }^{60}$ 60 |
|  | Koheres Cosising |  | Atupr | W Centere Reber | S60,000 |  | ${ }_{\text {cole }}^{\substack{\text { kover }}}$ | 1 | \%3, ${ }_{\text {3, }}$ |  | 50 50 50 | ${ }_{50}$ | ${ }_{4,6}$ | ${ }_{10}^{10}$ | ${ }_{15}$ | ${ }_{15}^{15}$ | ${ }_{5}^{15}$ | 5 | ${ }_{10}$ | 5 | $\bigcirc$ |  |
| ${ }^{13}$ | ${ }^{\text {Butreson* }}$ |  | Lochar |  | Stateon | ${ }_{\substack{\text { S7, } 10.0000}}^{\text {S452000 }}$ | ${ }_{\text {krye }}^{\text {kre }}$ | $\bigcirc$ | ( 50 |  | s0 50 50 | ${ }_{\substack{50 \\ 50}}$ | ${ }^{4.6}$ | 5 <br> 10 | 5 | 15 <br> 15 <br> 15 | ${ }_{5}^{5}$ | 10 10 10 | ${ }_{5}^{10}$ | 5 | $\bigcirc$ | ¢ |
| ${ }^{15}$ | ${ }^{\text {fo } 1500(\mathrm{~m}}$ |  | ${ }^{1435}$ | Rebal ${ }^{\text {a }}$ | 50 | S4,20,000 | Troor |  | s0 | 50 | S0 |  | 2.46 | 5 |  |  | ${ }^{15}$ | 5 |  |  | 0 |  |
| ${ }^{17}$ | Burleos (cromvel) |  | Spanimbrach | com | S9,700,000 | S19,60,0,000 | ${ }_{\text {krye }}$ | 1 | S00,000 |  | s0 <br> 50 <br> 0 | ${ }_{50}$ | ${ }_{4,6}$ | 10 | ${ }_{15}$ | ${ }_{10}$ | 5 | ${ }_{10}$ | ${ }_{0}^{10}$ | 0 | - |  |
|  | krje Cossing |  |  | krve cossing | \$13,00,000 | 2,00 | k.je |  | 29,00,000 | so |  |  | 4.6 | 5 | 5 |  | 5 | 10 |  |  |  |  |

[^3]| City of Kyle 2015 Transportation Master Plan Project Prioritiation（District 6 ） |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Rank | Proie | Improvement | From | To | ${ }^{\text {row cost }}$ | Total cost | Owner | Developer Contribe | ${ }_{\text {dever }}^{\text {Devitoer }}$ | city cost | County cost | Tx00ot cost | District |  |  | $\underbrace{\substack{\text { Cestility }}}_{\text {ceast }}$ | Reoutred | Sppers Econemic | Suporea bv |  |  | Totar |
|  | abee | Newe |  | ${ }_{\text {gabee }}^{\text {Rel }}$ | ${ }_{\text {S3，70．000 }}^{\text {So }}$ |  | $\frac{\text { krye }}{\substack{\text { kroor }}}$ | $\stackrel{1}{0}$ | ${ }_{\substack{\text { S7，340，000 } \\ 50}}^{\text {So }}$ | ¢ | ¢0 | ${ }_{\text {S19，50，000 }}^{\text {So }}$ | ${ }_{6}^{6}$ |  |  |  |  |  |  |  |  |  |
| ${ }^{3}$ | Gotort | Neen 4 tine dxweed road | Sumton creek | krye ehur | S1．900，000 | S3，40，000 | krve | 1 | S2，000，000 | 50 | 50 | ${ }_{50}$ | ${ }^{6}$ | ${ }_{20}^{20}$ | ${ }^{15}$ | ${ }^{15}$ | $\stackrel{5}{5}$ | 5 | ${ }_{10}^{10}$ | 5 | ！ | ${ }^{75}$ |
| 5 | 隹 |  | lits | tor | so | ${ }_{\text {S }}{ }_{\text {S }}$ |  | ！ | 50 | ${ }_{\text {Sta }}$ | ${ }_{50}$ | ${ }_{50}$ | ${ }^{6}$ | $\stackrel{20}{10}$ 10 | ${ }_{15}^{5}$ | ${ }_{10}$ | ${ }^{15}$ | ${ }_{10}$ | ${ }_{10}^{10}$ | ${ }^{5}$ |  |  |
|  |  | 13．tilimate intesectionstew |  | kyle crosit | S3，${ }_{\text {So }}$ |  |  | $\stackrel{0}{1}$ | ¢ ${ }_{\text {S7，} 50.000}$ | $\frac{50}{50}$ | so <br> 50 <br> 50 |  | ${ }^{6} 6$ | （10 | ${ }_{\text {¢ }}^{10}$ | ${ }^{\frac{15}{15}}$ | ${ }^{\frac{15}{5}}$ | ${ }_{5}^{5}$ |  | 5 | 0 |  |
|  | Center |  |  |  |  | ${ }_{\text {Sli，} 90,000}$ | krle | 0 | ${ }_{50}$ | S1．90， 0 ，00 | ${ }_{50}$ | ${ }_{\text {so }}^{50}$ | 2.4 .6 | ${ }^{10}$ |  |  | ${ }^{15}$ |  | ${ }^{10}$ |  |  |  |
| 10 | Sotort ${ }^{\text {e }}$ |  | atemman |  | ${ }_{\text {so }}$ | ¢00， | ${ }_{\text {kreme }}^{\substack{\text { krle }}}$ | $\bigcirc$ | ${ }_{50}^{50}$ |  | （ $\begin{gathered}50 \\ 50 \\ 50\end{gathered}$ | ${ }_{50}$ | $6^{6}$ | ${ }^{10}$ | 5 | ${ }^{15}$ | ${ }^{15}$ | 5 | 10 10 | 5 | 0 | ${ }^{65}$ |
|  |  |  | ${ }^{\text {ata }}$ | bent |  |  |  |  |  |  |  |  |  |  |  |  |  | $\begin{array}{r}\text { 5 } \\ \hline 10 \\ \hline\end{array}$ |  |  |  |  |
| ${ }^{13}$ | Mareeprobe Ave | Neen 4 Amene diveded road | Kotheses cososing |  | S5，800，000 | Sto，90，000 | kive | 1 | S10，88， 000 | 50 | ${ }_{50}$ | ${ }_{50}$ | 6 | ${ }^{10}$ | ${ }^{15}$ | ${ }^{15}$ | 5 | ${ }^{10}$ | s | 5 | 0 |  |
|  |  | Afewe |  | s＋21 | ${ }_{50}^{50}$ |  | $\frac{\text { krye }}{\substack{\text { kyle }}}$ | $\bigcirc$ | ${ }_{50}^{50}$ |  | so 50 50 | ${ }_{50}^{50}$ | ${ }^{2.6}$ | ${ }_{10}^{10}$ | 10 <br> 10 <br> 10 | ${ }_{5}^{15}$ | ${ }_{\text {L }}^{15}$ | ${ }_{10}$ | 5 | ${ }_{5}^{5}$ | $\stackrel{5}{5}$ |  |
|  |  |  | beets．Lleht | Varingon | ${ }_{\text {S4，350，00 }}^{5}$ | ${ }^{\text {S223，3，0，000 }}$ | rxoor | $\bigcirc$ | so 50 50 | ${ }^{\text {so }}$ | ${ }_{50}^{50}$ | S22，${ }^{\text {270，000 }}$ | ${ }^{2.6}$ | ${ }_{20}^{20}$ | ${ }_{5}^{10}$ | 5 | ${ }_{5}^{5}$ | 5 | ${ }_{10}^{10}$ | $\bigcirc$ |  | ${ }^{60}$ |
| $\underline{18}$ | Center | Sf：husat traficis siml | atold 81 |  | ${ }_{50}^{50}$ | $\xrightarrow{535,700000}$ | kye | 0 | ${ }_{50}$ | Siso，00 | 50 | ${ }_{50}$ |  |  | 5 | ${ }_{15}^{15}$ | ${ }_{15}^{15}$ | 5 | 5 | 5 | $\bigcirc$ |  |
|  |  |  | $\frac{\text { Oactin }}{\substack{\text { arupr }}}$ | Mashh |  |  | $\underbrace{\substack{\text { krye } \\ \text { krle }}}_{\text {krye }}$ |  | ${ }_{\substack{\text { S5，9，0，000 } \\ 53,800000}}$ | 50 50 50 | s0 50 50 | 50 <br> 50 <br> 50 | ${ }^{\text {4，6 }}$ | 10 | 20 <br> 15 <br> 15 | 15 <br> ${ }_{15}^{15}$ |  | ${ }_{5}^{5}$ |  | $\bigcirc$ | $\bigcirc$ | ${ }^{6}$ |
| ${ }_{2} 2$ | NR2 | New 2 Line diduded road wh Twich | kree cososing | Marempace | S3，200，000 | S6，42，000 | kyle | 1 | S6，42，0000 | 50 | 50 | ${ }_{50}$ | 6 | ${ }^{10}$ | 15 |  | 5 | 10 | 0 |  |  |  |
|  |  |  | Oacy | Coton Gin | s．0．00000 |  |  |  | S17．200．000 | ${ }_{50}^{50}$ | so <br> so <br> 50 | ${ }_{5} 50$ | $6^{6}$ | ${ }_{10}^{10}$ | ${ }^{15}$ | ${ }_{5}^{10}$ |  | ${ }_{5}^{10}$ | ${ }_{10}^{10}$ | \％ |  |  |
| ${ }_{25}^{24}$ |  |  | ${ }^{1+35}$ | Tunesswle Exesersion | ${ }_{50}$ | ${ }^{\text {S52，00，000 }}$ |  | 0 | ${ }_{50}$ | S55，20，000 | 50 <br> 50 | ${ }_{50} 5$ | ${ }^{2.6}$ | ${ }_{5}^{10}$ | 5 | ${ }_{10}$ | ${ }^{15}$ | ${ }_{10}$ | $\frac{10}{5}$ | 5 | 5 |  |
| 25 26 | Suntol／Gotort． |  | ${ }^{14355}$ | cerman |  | S3800，000 | krve | 。 | ${ }_{50}$ | S．8．80，000 | ${ }_{50}^{50}$ | ${ }_{50}$ | ${ }^{6}$ | ${ }_{5}^{10}$ |  | ${ }_{15}^{15}$ |  | 5 | ${ }_{10}$ |  |  |  |
| 26 $\stackrel{27}{28}$ 28 | fin 50 | Widen 02 2 2 Ine | ${ }^{1+3}$ | Rebelor | so | S4， | troor | 0 | ${ }_{50}$ | so | ${ }_{50}$ | Sta20，000 | ${ }^{2.6}$ | 5 | 5 |  | ${ }^{15}$ | 5 | ${ }_{5}^{5}$ | ${ }_{5}^{5}$ |  |  |
|  | Soroter Cosising |  | $\xrightarrow{\text { atstool }}$ athes5 |  |  | S1．84，000 |  | $\bigcirc$ |  | ${ }_{50}$ | ${ }^{50}$ |  | ${ }^{6}$ | ${ }_{\text {c }}^{10} 10$ | 5 | ${ }^{\text {15 }}$ | $\stackrel{5}{5}$ | ${ }_{5}^{5}$ |  |  |  |  |
| ${ }^{31}$ | Uutor／ist Mill |  | Lemman | SH21 | S37．500．000 | 52，60，000 |  |  | S72600．000 | 50 <br> 50 <br> 50 | 50 <br> 50 <br> 50 |  | ${ }^{2.6}$ | 10 |  |  |  | ${ }^{10}$ | 5 | 0 | 5 |  |
| 32 | Burisoon（Cromvel） |  | Spring Branh | commell | S9，700，000 | ${ }^{\text {S31，50，0，000 }}$ | Hex | 1 | S19，600，000 |  | 50 <br> 50 <br> 50 | ${ }_{5}^{50}$ | ${ }_{4,6}^{4.6}$ | ${ }^{10}$ | ${ }_{15}^{15}$ | ${ }^{10}$ | ${ }^{\frac{15}{5}}$ | ${ }_{10}^{10}$ | 10 | $\bigcirc$ | $\bigcirc$ | ${ }_{\text {co }}^{5}$ |
|  | Letman． |  |  | EM 150 | Ss50，000 | S6，100，000 | k，kle | 0 |  | S6，100，000 | 50 | ${ }_{50}$ | ${ }_{2,6}$ | 5 |  |  |  |  |  |  |  |  |
|  | kxve cososing | New 2 Linee | fum 2770 | $\frac{\text { bibee }}{\text { kive cossing }}$ |  | 隹 |  | $\stackrel{1}{1}$ | S29，00，000 | ¢50 | ${ }_{\text {Sa }}^{50} 5$ | ${ }_{50}^{50}$ | ${ }_{4,6}$ | ${ }_{5}$ | 5 | ${ }_{10}$ | ${ }_{5}^{5}$ | 1 | ${ }_{5}^{5}$ |  | ${ }_{5}^{5}$ | ${ }_{45}^{45}$ | －Band fopient fult tunded

## Cost Estimation Memorandum



| Typical Section Cost Estimate |  |  |  |
| :---: | :---: | :---: | :---: |
| Typical Section | ROW | Cost Estimate (per Mile) |  |
|  |  |  | w/o ROW Cost |
| MUP | $24^{\prime}$ | $\$ 900,000$ | w/ ROW Cost |
| L2U | $60^{\prime}$ | $\$ 5,500,000$ | $\$ 3,400,000$ |
| R2U | $60^{\prime}$ | $\$ 3,600,000$ | $\$ 11,800,000$ |
| C2U | $60^{\prime}$ | $\$ 6,100,000$ | $\$ 7,400,000$ |
| C2U - Bike or Parking | $60^{\prime}$ | $\$ 6,200,000$ | $\$ 12,400,000$ |
| C3U | $60^{\prime}$ | $\$ 6,300,000$ | $\$ 12,500,000$ |
| C4U | $70^{\prime}$ | $\$ 6,700,000$ | $\$ 12,600,000$ |
| C4U - Bike or Parking | $80^{\prime}$ | $\$ 7,700,000$ | $\$ 14,100,000$ |
| C4D | $80^{\prime}$ | $\$ 7,400,000$ | $\$ 16,100,000$ |
| C4D - Bike or Parking | $90^{\prime}$ | $\$ 8,500,000$ | $\$ 15,800,000$ |
| C5U | $80^{\prime}$ | $\$ 7,600,000$ | $\$ 18,000,000$ |
| P4D | $105^{\prime}$ | $\$ 8,700,000$ | $\$ 16,000,000$ |
| P4D - Bike | $110^{\prime}$ | $\$ 9,000,000$ | $\$ 19,800,000$ |
| P6D | $130^{\prime}$ | $\$ 10,300,000$ | $\$ 20,600,000$ |
| P8D | $150^{\prime}$ | $\$ 11,800,000$ | $\$ 24,000,000$ |
|  |  |  | $\$ 27,600,000$ |

Other types of projects that did not fit a specific typical section were given a general cost estimate; $\$ 100,000$ total cost for a minor improvement, $\$ 300,000$ total cost for a traffic signal, and $\$ 500,000$ construction cost for a 2-lane roundabout. Bridge cost estimates were individually calculated and they included structure, retaining wall, and aesthetic costs if needed. An additional $\$ 1$ million were added to roadway projects that crossed a body of water and an additional $\$ 2$ million were added if a roadway crossed the UPRR track. The estimated cost to design and build all 96 proposed projects is $\$ 2,037,240,000$ while $\$ 580,040,000$ falls under the ownership of the City of Kyle.

| Cost Estimate Total by Owner |  |
| :---: | :---: |
| Owner | Total Cost |
| Kyle | $\$ 580,040,000$ |
| Hays-ETJ | $\$ 486,300,000$ |
| Hays-non-ETJ | $\$ 398,120,000$ |
| TxDOT | $\$ 572,780,000$ |
| TOTAL | $\$ \mathbf{2 , 0 3 7 , 2 4 0 , 0 0 0}$ |

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| Kyle Connected - Transportation Master Plan 2040 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | Project | Owner | District | Improvement | Length (Miles) | From | To | Construction Cost | Pre-Construction Cost | Oversight Cost | Contingency Cost | ${ }_{\text {Row Cost }}$ | Total Cost |
| 74 | NR2 | Kyle | 6 | New 2 -lane divided road with TWLTL | 0.51 | kyle Crossing | Market | \$2,30,000 | 5460,000 | \$230,000 | \$230,000 | \$3,200,000 | 56,42,000 |
| 75 | Old 81 | Kyle | 2.6 | R16: Widen to a 2 --lane divided road with optional bike or parking lanes | 0.98 | at W $11-35$ frontage road |  | \$4,50,000 | \$900,000 | 5450,000 | 5450,000 | 50 | \$6,30,000 |
| 76 | Old stagecoach | kyle | 2,4 | Widen toa 2 -lane road with optional bike or parking lanes | 5.24 | Post | EM 150 | \$24,300,000 | 54,880,000 | \$2,43,000 | \$2,430,000 | 50 | \$44,020,000 |
| 77 | Opal | kyle | 2 | New 4 -I/ane bridge; grade separation over IH-35 | 0.04 | ${ }^{\text {at } 1+3}$-35 |  | S900,000 | S180,000 | \$90,000 | 590,000 | 50 | ${ }_{\text {S } 51,26,0000}$ |
| 78 | Opal | Kyle | 2 | R24: Widen to a 4-Iane road over UPRR | 1.52 | Old Stagecoach | ${ }^{1+-35}$ | 59,70,000 | 51,94,000 | 5970,000 | 5970,000 | 53,200,000 | 516,78,000 |
| 79 | Opal | kyle | 2 | New 4-lane road | 0.46 | ${ }^{1 H-35}$ | CR158 | 52,20,000 | \$440,000 | \$220,000 | \$220,000 | \$3,400,000 | \$6,480,000 |
| 80 | Opal | Hays-ETJ | E | NLR21: New 4-1ane road | 1.54 | Old Stagecoach | cypress | \$7,30,000 | \$1,46,000 | \$730,000 | 5730,000 | \$11,40,000 | \$21,62,000 |
| 81 | Plum Creek | Hav=non-ETJ | 2 | New 2 -lane road | 1.04 | Grist Mill | CR 202 | \$4,10,000 | 5820,000 | 5410,000 | 5410,000 | \$6,600,000 | \$12,340,000 |
| 82 | Post | Kyle | 2 | Widen to a 4 -lane road over Blanco river | 2.18 | \|1-35 | Blanco River Ranch | \$12,000,000 | \$2,00,000 | \$1,20,000 | \$1,200,000 | 50 | \$16,800,000 |
| 83 | RM 150 | T×00T | 2 | Widen to a 2--ane divided road with TWITL | 3.61 | Creekside | SH21 | \$17,200,000 | 53,40,000 | \$1,72,000 | \$1,72,000 | 50 | \$24,88,000 |
| 84 | RM 150 | Tx00\% | 2 | Improve sight distance |  | at CR 202 |  | 570,000 | S14,000 | \$7,000 | 57,000 | 50 | S100,000 |
| 85 | Roland | kyle | 2 | R22: Widen to 4 -lane road | 1.53 | Old Stagecoach | ${ }^{1+-35}$ | 57,70,000 | \$1,540,000 | S770,000 | \$770,000 | S2,400,000 | \$13,180,000 |
| 86 | 5 Main | Kyle | E | NLR6: New 2-lane road | 2.22 | Yarrington | W 3rd | 58,70,000 | \$1,74,000 | 587,000 | 587,000 | \$14,000,000 | \$26,180,000 |
| 87 | satterwhite | Hays-non-ETT | E | Widen to a 2-lane road over Brushy Creek | 1.38 | FM 2001 | Turnessille Extension | 56,70,000 | \$1,30,000 | 5670,000 | 567,000 | 50 | \$9,38,000 |
| 88 | satterwhite | Hays-non-ETJ | E | New 2-1ane road over Brushy Creek | 0.65 | FM 2001 | Satterwhite | \$3,60,000 | \$720,000 | \$360,000 | \$360,00 | \$4,100,000 | \$9,140,000 |
| 89 | scott | Kyle | 2 | R31: Widen to a 4-lane road, realign with FM 150 (1,100 ft) | 0.77 | Center | Opal | \$3,90,000 | 5780,000 | 5390,000 | 5390,000 | 5800,000 | 56,260,000 |
| 90 | SH21 | Tx00T | 2 | Widen toa 6 -lane divided road over four creeks | 6.88 | North of Old Spanish Trail | Yarrington | \$58,900,000 | \$11,780,000 | 55,890,000 | 55,80,000 | \$21,80,000 | \$104,26,000 |
| 91 | SH21 | Tx00T | x | Instal traficic signal |  | Gist Mill |  | \$210,000 | 542,000 | \$21,000 | \$21,000 |  | 5300,000 |
| 92 | Shadow Creek | Hays-ETJ | E | New 2 -lane divided road with TWITL | 0.87 | Hillisid Terrace | Quarter | \$3,00,000 | 5780,000 | 5390,000 | 5390,000 | 55,500,000 | \$10,96,000 |
| 93 | Shadow Creek | Hays-ETJ | E | New 4 -ane road | 1.19 | Windy Hill | Goforth | 55,70,000 | \$1,140,000 | 5570,000 | 5570,000 | 58,800,000 | 516,78,000 |
| 94 | Sunise | Hays-ETJ | E | New 2-Iane road over R Richmond Branch | 0.62 | Dacy Ln | Sunise | \$3,50,000 | 5700,000 | S350,000 | 5350,000 | \$3,900,000 | \$8,800,000 |
| 95 | Windy Hill | Kyle | 6 | Widen toa 2 -lane divided road with Twitc over two creeks | 3.36 | ${ }^{1+35}$ | Turnersvill Extension | \$18,000,000 | 53,60,000 | \$1,800,000 | \$1,800,000 |  | \$25,200,000 |
| 96 | Varrington | kyle | 2 | Widen to a 4 -lane divided road | 2.88 | FM 110 | SH 21 | \$16,400,000 | 53,28,000 | \$1,64,000 | \$1,64,000 | 56,100,000 | \$29,060,000 |
| Total | . |  |  | $\square$ | 144.82 | - |  | \$1,02,9,74,000 | \$204,470,000 | \$102,235,000 | \$102,235,000 | \$600,810,000 | \$2,037,24,000 |

$\mathrm{E}=\mathrm{ETJ}$
$\mathrm{X}=$ Outsic

# Funding Sources, Implementation, and Potential Policy Change 

## FUNDING SOURCES, IMPLEMENTATION, AND POTENTIAL POLICY CHANGES

The implementation of the Kyle Transportation Master Plan requires both a comprehensive set of funding and financing options and a sustained commitment by the City of investment in the phased development of roadway projects.

## Sustainable City Funding Sources

Under the Local Government Code, the City of Kyle has a number of options available to create new transportation revenue sources, as well as manage existing general revenue funds for specific transportation purposes. The following are options and possible uses to implement the City's Transportation Master Plan.

- Transportation Impact Fee
- Transportation Fee
- Land Development Code/Zoning Ordinance

The city has expressed interest in modifying the existing road fee, currently based on the perimeter of a property which fronts roads to be improved. As of 2015, the Planning Department is exploring changing the fee basis to some combination of parcel size, number of residential units, and/or amount of commercial space.

Although the city has little additional bonding capacity at present, as existing bonds are paid off, there is the potential to issue additional bonds speculatively, rather than for existing projects. The 2015 road bonds for Harris County were structured this way.

In addition to new ordinances and fee proposals, the City Council should consider establishing a policy related to the annual budget and use of General Fund dollars for transportation purposes. These funds, again by policy, can be used for project development costs (environmental, design, etc.) and/or right of way acquisition and corridor preservation.

Also in the realm of policy, right-of-way preservation, through purchase or enforced dedication, is critical to the implementation of corridors identified on the plan, particularly those on new locations.

## Project Implementation Recommendations

While it may be desirable to address projects on an individual basis, it is generally a better approach to address a broader corridor solution. By expanding the limits and scope of a project, there are more opportunities to forge financial partnerships and open doors to other funding sources. As such, using the table of priority projects, we have grouped together several individual projects into three larger projects with a broader scale. Cost estimates represent total project costs.

| No. | Project / Proposed Improvement(s) |  | Cost |
| :---: | :---: | :---: | :---: |
| 1. | Bebee Road - New and widen to 2-lane divided with center turn lane |  |  |
|  | - Priority 1 | IH-35 to Bebee Road | \$7.5 million |
|  | - Priority 41 | IH-35 to SH 21 | \$49.5 million |
|  |  | Total | \$57.0 million |
| 2. | CR 158/Opal Lane - New and widen to 4-lane divided corridor |  |  |
|  | - Priority 5 | IH-35/Opal Lane - new overpass | \$1.5 million |
|  | - Priority 6 | IH-35 to CR 158 | \$6.5 million |
|  | - Priority 7 | IH-35 to Turnersville Ext. | \$19.0 million |
|  | - Priority 89 | IH-35 to Old Stagecoach - Expanded Road with UPRR overpass | \$17.0 million |
|  |  | Total | \$44.0 million |
| 3. | Goforth Road - New and widen to 4-lane divided corridor |  |  |
|  | - Priority 3 | Bunton Creek to Kyle Parkway | \$3.5 million |
|  | - Priority 4 | Brent Blvd. to Bunton Creek | \$7.5 million |
|  |  | Total | \$11.0 million |

## Potential Policy Changes

A Complete Streets (CS) policy within Kyle is recommended in the Mobility Plan. CS policies are intended to impact all types of projects - maintenance, rehabilitation, new construction, major expansion, and new development.

Another recommendation for the City of Kyle is to add a clause to its existing subdivision ordinance requiring subdivisions to comply with the Transportation Master Plan. This would aid subdivisions when planning access points to future corridors.

The City should consider establishing an internal grants committee. The committee could include representatives from the Mayor's Office, Public Works, CIP, Finance, and Planning. There are a number of existing programs through CAMPO and TxDOT, and the possibility of additional programs depending on House Bill 20 and the current proposed federal surface transportation reauthorization bill (Surface Transportation Reauthorization and Reform Act of 201 - STRR).

## Meeting Minutes

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\& Newnam, Inc.
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Date: November 17, 2014

| Project No.: | $140-10956-000$ |
| :--- | :--- |
| Project: | Transportation Master Plan (TMP) |
| Client: | City of Kyle |
| Conference <br> Date: | November 10, 2014 |
| Conference <br> Location: | City of Kyle - Public Works Building |
| Attendees: | Manuel de la Rosa - City of Kyle <br> Leon Barba - City of Kyle <br> Susan Fraser - LAN <br> David Manuel - LAN <br> Eddy Etheredge - LAN <br> Rob Rae - Kimley-Horn <br> Michael Weaver - Prime Strategies <br> Kara Buffington - Gap Strategies |

Conference Purpose: $\quad$ Project Kickoff Meeting

## Discussion:

The following summarizes our understanding of the subject matter covered in this conference. If this differs from your understanding, please notify us in writing within five days.

This meeting was held to review the project schedule and scope of work, discuss the initial stakeholder and public input activities, and discuss any general project-related concerns.

Susan Fraser and David Manuel led the discussion through the tasks and work elements, following the approved scope.

## GENERAL NOTES

- Complete Streets recommendations will include how streets connect to Citywide trail system (administered by Parks Department)
- Need to ensure at end of project that CAMPO incorporates the TMP.
- CAMPO 2040 will be out before TMP is finished-need to communicate to CAMPO that an update (Kyle TMP) is coming.
- Leon Barba is also the City's CAMPO representative.
- Policy issues to discuss in plan narrative:
- Connections between TMP and development code, especially pertaining to right-of-way dedication requirements and process
- Potential for impact fees
- How TMP will be amended in the future


## STAKEHOLDER / PUBLIC INVOLVEMENT

- Surveys will be conducted with SurveyMonkey. Previous surveys have been conducted by the City's Department of Economic Development, so we may reuse some previous questions to provide continuity.
- Public input at a "Special Event" will be determined later; may be at a festival or civic event, or at a major shopping center.

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## ACTION ITEMS

City of Kyle:

1. Locate and convey to LAN the following materials:
a. Recent traffic counts
b. Currently proposed developments / subdivision plats
c. Contact information for $1^{\text {st }}$ Southwest (City's financial advisor)
2. Review and approve text of press release.
3. Confirm specifics of website hosting.
4. Confirm stakeholder list and designate primary and secondary stakeholders.

LAN:

1. Gather base map information and data from existing plans.
2. Set up mapping standards.

## Gap Strategies:

1. Notify stakeholders of project kickoff and overall plans

| Distribution | Prepared By |
| :--- | :--- |
|  | Signature: |
|  | Print Name: David Manuel |

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\& Newnam, Inc.
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Date: May $\mathbf{1 s t}^{\text {st }} 2015$

| Project No.: | 140-10956-000 | Routing |  |
| :--- | :--- | :--- | :--- | :--- |
| Project: | Transportation Master Plan (TMP) |  |  |
| Client: | City of Kyle |  |  |
| Conference <br> Date: | April 27 |  |  |

## Conference Purpose: Project Meeting

Discussion:
The following summarizes our understanding of the subject matter covered in this conference. If this differs from your understanding, please notify us in writing within five days.

This meeting was held to review the project schedule, discuss upcoming activities, and discuss any general project-related concerns.

Susan Fraser and David Manuel led the discussion through the agenda.

## GENERAL NOTES

- Kimley-Horn to coordinate work on CAMPO model with City, to ensure matching up known development.
- City is concerned about population projections; they expect to reach 50,000 people by 2020 (Report updated to show 2014 estimates of approximately 35,000 as a base in addition to 2010 Census figure of 28,000)
- Existing and future multi-use trails
- Need better graphics to show connectivity
- Does CAMPO have a Master Trails Plan that covers the Kyle area?
- Include trails in future funding possibilities
- Need to update plan progress at a City Council meeting/workshop in July.
- Should have a strategy discussion about how to preserve corridor rights-of-way-corridor preservation ordinance, other development code process? Involve Mike Weaver and Lori Bible (?) as part of the financing and implementation task


## SPECIFIC NETWORK ISSUES

- How do FM 150, Yarrington, or other east/west corridors connect to SH 130?
- Cypress Road would continue to extend westward as a Blanco River crossing
- Crosswinds development has an alignment developed for a major thoroughfare (the "east loop"). They propose swales and ribbon curbs in lieu

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(continued)
of curb-and-gutter.

- Make sure to include local street connections that can be made; one of the public meeting maps showed several.
- Include bike lanes (existing and proposed) as part of network development


## UTILITY CAPACITY ISSUES

- Numerous areas' development creates concerns for water and wastewater capacity. Road pattern should recognize potential zoning / development restrictions.
- Anthem Development
- Land opened by FM 150 realignment west of city
- Any newly-accessible land west of the Blanco River


## ROAD FEES

- City has previously charged roadway impact fee based on parcels' frontage on existing roads ("Perimeter Fee") and would like to change to an impact fee based on acreage and density.
- New Braunfels developed a similar program in 2006 with updates in 2014.
- Roadway CIP and Cost Calculation:
- Currently there is no roadway CIP.
- Plan is to take overall network plan and cost estimates from this project to develop an overall build-out cost (a roadway CIP)
- Roadway CIP total cost would be divided by allowed new density to determine a fee per unit (?)
- As the draft network will be completed in May, this draft cost element can be done in June.


## ACTION ITEMS

## City of Kyle:

1. Compile info on road bond progress for May meeting

LAN:

1. Find information on New Braunfels's road impact fees
2. Finalize draft corridor network

## Prime Strategies:

1. Recent road bonds have a 20-year payoff. Include in report this and other bond payoff information from City's financial advisor.

| Distribution | Prepared By |
| :--- | :--- |
|  | Signature: |
|  | Print Name: David Manuel |

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Date: June $\mathbf{1 2}^{\text {th }} 2015$
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WACO, TX
Discussion:
The following summarizes our understanding of the subject matter covered in this conference. If this differs from your understanding, please notify us in writing within five days.

This meeting was held to receive comments on the typical sections created and to discuss the agenda for the City Council briefing.

Susan Fraser led the discussion through the agenda.

## TYPICAL SECTIONS

- The total number of typical sections (15) was discussed, but it was decided to leave it as is to allow flexibility during planning.
- It was noted roads in Kyle are constructed using asphalt and not concrete.
- Items like utilities and engineering costs are typically not listed in the total but it was agreed to leave it as is and remove items per project.
- The title "Engineering Costs" needs to be better defined. Depending on what this item entails the percent may go up to 20\%
- Cost estimates need to be as accurate as possible for typical sections up to collectors because they are utilized the most.
- L2U and R2U should have a 60' ROW to allow more space for utilities.


## CITY COUNCIL BRIEFING

- It was agreed to allocate 35 minutes for LAN and the subs to present during the briefing and 10-15 minutes for Q\&A. Out of the 35 minutes, 15 will be used to discuss the financial implementation strategies.


## Proposed Agenda:

- Schedule update
- Review of typical sections
- Review of draft network

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(continued)

- Request for prioritization and ranking considerations
- Corridor preservation
- Missed connections
- Road Bond CIP Estimates
- Financial implementation strategies
- Other feedback/input


## ACTION ITEMS

## LAN:

1. Update typical sections
2. Update cost estimates
3. Email all updates to the City of Kyle by June $16^{\text {th }} \mathrm{COB}$

| Distribution | Prepared By |
| :--- | :--- |
|  | Signature: |
|  |  |

(9) tifiwomathanctaws
$\bar{A}$ LEO A DALY COMPANY


[^0]:    *CAMPO's Projections

[^1]:    C-15

[^2]:    
    

[^3]:    

