

FM 150 WEST ALIGNMENT STUDY CORRIDOR EVALUATION REPORT

PREPARED FOR:

HAYS COUNTY

AND

TEXAS DEPARTMENT OF TRANSPORTATION



APRIL 2015

CORRIDOR EVALUATION REPORT

FM 150 WEST ALIGNMENT STUDY FROM
ARROYO RANCH ROAD TO I-35
CSJ NUMBERS: 0016-17-013; 0805-04-028; 0805-
04-027

Prepared For:

Hays County
And
Texas Department of Transportation

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1.0 INTRODUCTION

1.1 PROJECT BACKGROUND

Hays County, in partnership with the Texas Department of Transportation (TxDOT), began a route analysis project for FM 150 through the City of Kyle, in order to determine the most effective route for the roadway. To reduce congestion and improve safety, K Friese & Associates, Inc. developed and analyzed various corridor alternatives for the proposed roadway, with a goal of selecting one to be used as the basis for an alignment analysis. The corridors were generally analyzed based on a number of factors including construction costs, existing and future travel patterns and demands, public input, selected natural and human environment constraints, among others. It should be noted that this document provides overview level information at an early corridor evaluation phase of this project and does not constitute the result of any detailed roadway alternative evaluation. Specific review of a build alternative or alternatives would take place in the next phase of this project in preparation of the environmental document and supporting technical studies once a preferred corridor is identified. At that time, much more rigorous evaluation of potential impacts to the human and natural environment of an actual build alternative or alternatives and a “no-build” alternative would be conducted.

1.1.1 Hays County and Regional Transportation Plans

In January 2013, Hays County adopted the Hays County Transportation Plan (HCTP), which was later amended in June of the same year, authorizing the long range plan for the County's transportation system. The plan, seen in **Appendix A**, shows a proposed four-lane roadway around the west of Kyle, called the Kyle Loop. The southern portion of the proposed loop connects to Yarrington Road, providing a connection to I-35 and the proposed FM 110 on the east side of I-35, which includes a grade-separated crossing of The Union Pacific Railroad (UPRR). The County and TxDOT are currently designing FM 110 from east of I-35 to SH 123. The proposed loop connects to the existing FM 150 north of Arroyo Ranch, near Michaelis Ranch. The northern portion of the proposed loop proceeds to the north of FM 2770 and Mountain City, connecting to the existing four-lane Robert S. Light Blvd. The County and TxDOT are currently developing an extension of RSL from FM 967 to FM 1623, also including a grade-separated crossing of UPRR. This provides a northern connection to I-35 between Kyle and Buda.

The FM 150 corridor is also included in the Capital Area Metropolitan Transportation Planning Organization (CAMPO) 2035 Regional Transportation Plan (2035 Plan), the currently adopted regional transportation plan. This project is included in the Illustrative List and is proposed as a widening of the roadway from a 2-lane minor to a 4-lane major divided arterial from the Kyle Loop (SW) to FM 2770. Improvements for the roadway are also included in preferred scenario in the proposed CAMPO 2040 Plan, which is expected to be approved in the spring of 2015. In the 2040 Plan, the same improvements are proposed with an estimated cost of \$3.1 million.

1.1.2 Regional Context & Future Development

As Hays County continues to grow (139% growth from 1990 – 2010) (Hays County 2013), the congestion along the existing FM 150 increases dramatically. The proposed Kyle Loop roadway would alleviate the congestion along the roadway and through downtown Kyle, improving safety and reducing travel time. Based on data received from the 2035 CAMPO traffic model, the existing roadway is at or above capacity through Kyle and is delayed throughout the day by the at-grade crossing with the UPRR. There have been 70 documented crashes between 2012 and 2014 on this section of FM 150, and based on a very broad examination of the corridor, it is anticipated that the crashes could be caused by the congestion and the mix of through-traffic and local traffic, among other factors. The proposed four-lane FM 150 would support growth and development in the County by allowing future development without the concern of further traffic congestion. The proposed roadway would include a separate lane and/or path for pedestrian and bicycle mobility, in order to reduce the risk of vehicle-pedestrian/bicycle accidents.

1.1.3 Evaluation Methodology

With regard to the engineering based evaluation methodology it is important to note that inasmuch as this milestone in the project involved an evaluation of corridor and not specific alignments, that a relative comparison methodology was used as opposed to a comparison based on engineering estimates.

Construction costs were evaluated at a very broad level of estimation comparing the corridors to one another. Factors that were included in the cost evaluations include: roadway length, the potential need for bridge structures and other significant roadway features, and potential ROW acquisition.

Direct and indirect property impacts were evaluated by examining the number and type of properties within each corridor and how an improved existing FM 150 or a new alignment might impact their respective surroundings. Consideration was also given the size and number of properties that would potentially be affected. For direct property impacts, the ability to purchase ROW from adjacent properties was the main factor that was evaluated. For indirect property impacts, the impacts of factors such as noise, visual, and traffic were evaluated.

The ability to accommodate travel patterns/demands were evaluated by reviewing the CAMPO 2035 traffic model and estimating how the improvements within each corridor would impact existing and future traffic. For the future travel patterns/demand, the County and CAMPO transportation plans were also considered to evaluate how the corridors fit the improvements in the long-range plans.

The Union Pacific Railroad (UPRR) crossings were examined within each corridor to determine the level of improvements, if any, were required to eliminate at-grade crossings, which cause delays.

Bicycle and pedestrian mobility/accommodations were evaluated by the ability and safety to include bike paths, sidewalks, and/or shared use paths in the corridor.

Constructability of roadways within each corridor was estimated by the ability to temporarily re-route traffic and maintain access to individual properties during construction.

Natural environment resources evaluated, at this preliminary level, include: groundwater resources (Edwards Aquifer contributing, recharge, and transition zones and water wells); surface water resources (rivers, streams and floodplains); and, Golden-cheeked Warbler (*Setophaga chrysoparia*) (GCWA) habitat. A full biological analysis (including all listed species) was not conducted at this preliminary stage but would be necessary during the environmental document preparation stage. The GCWA habitat was used as it is a known constraint in the study area. Collectively, these resources were evaluated using a desktop approach involving accepted sources including Texas Commission on Environmental Quality (TCEQ) Edwards Aquifer mapping data; U.S. Geological Survey (USGS) National Hydrography Dataset (NHD); FEMA Flood Insurance Rate Map (FIRM); Texas Water Development Board (TWDB) and TCEQ water well datasets; and mapped GCWA habitat by Morrison et al. (2010).

Human environment resources were investigated using Google Maps, Google Earth, limited ground truthing and GIS mapping. Cultural resources were evaluated using the Texas Archeological Resources Laboratory (TARL) Sites Atlas, as well as, the Texas Historical Commission (THC) Historical Sites Atlas. Under Section 106 of the National Historic Preservation Act (NHPA), a historic resource is listed or *eligible* for listing in the National Register of Historic Places (NRHP). This report only looked at listed NRHP; thus, a survey would need to be conducted during the next phase of the project for a preferred alignment to identify unknown prehistoric sites as well as eligible NRHP. Parklands and funding sources were identified using the Hays County and City of Kyle staff (personal communication with Jeff Hauff and Kerry Urbanowicz, 2014).

Socioeconomic and demographic sources used for Environmental Justice (EJ) and Limited English Proficiency (LEP) Analyses included 2013 data from the U.S. Census Bureau's American Community Survey Five Year Estimates at the block group and census tract levels. Census tracts and block groups are geographical areas designated by the US Census Bureau for the purposes of sampling, collection, weighting and tabulation of data. Executive Order 12898 "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations" requires federal agencies to "make achieving environmental justice part of their mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies and activities on minority and low-income populations" (59 Federal Register [FR] 7629-7633, February 16, 1994). Both the Federal Highway Administration (FHWA) Order 6640.23A and the US Department of Transportation (USDOT) Order 5610.2(a) characterize disproportionately high and adverse effects on minority or low-income populations as an adverse effect that is predominantly borne by a minority and/or low-income population, or would be suffered by the minority and/or low-income population, and is appreciably more severe or greater in magnitude than the adverse effect that would be suffered by the non-minority and/or non low-income population (USDOT 2012). In compliance with EO 12898 and Order 6640.23A, data on minority and low-income

populations should be assessed at the project-level in order to conclude whether the proposed alignments would subject populations to a disproportionate impact relative to the entirety of the potentially affected environment. Therefore, these factors are analyzed at the Census block group (BG) level.

Executive Order 13166, *Improving Access to Services for Persons with Limited English Proficiency*, supports Title IV of the Civil Rights Act of 1964 in requiring agencies to examine the services they provide, identify any need for services to those with LEP, and develop and implement a system to provide those services so that LEP persons can have meaningful access to them. LEP is defined as having “limited ability to read, write, speak or understand English (67 FR 41459). As Census data is self-reported, an individual’s level of English proficiency is reflective of their own perceptions regarding their ability to speak and understand English. In order to identify LEP populations potentially affected by each corridor alternative, demographic information was gathered at the census tract (CT) level.

Public involvement and input from Hays County citizens included several opportunities for the public to get involved including: one-on-one meetings with property owners, two public open houses (with over 100 attendees at the first and over 130 at the second open house), emailed project updates, and the evaluation of general comments and questions. An online survey was available at the second open house, on September 23, 2014, to collect direct input on the four different corridor alternatives. Information in this report is based on the results from the 117 surveys and comments collected at that time.

These resources are discussed by corridor and summarized in both text and in **Table 1** in **Section 4.0 Results and Conclusions**.

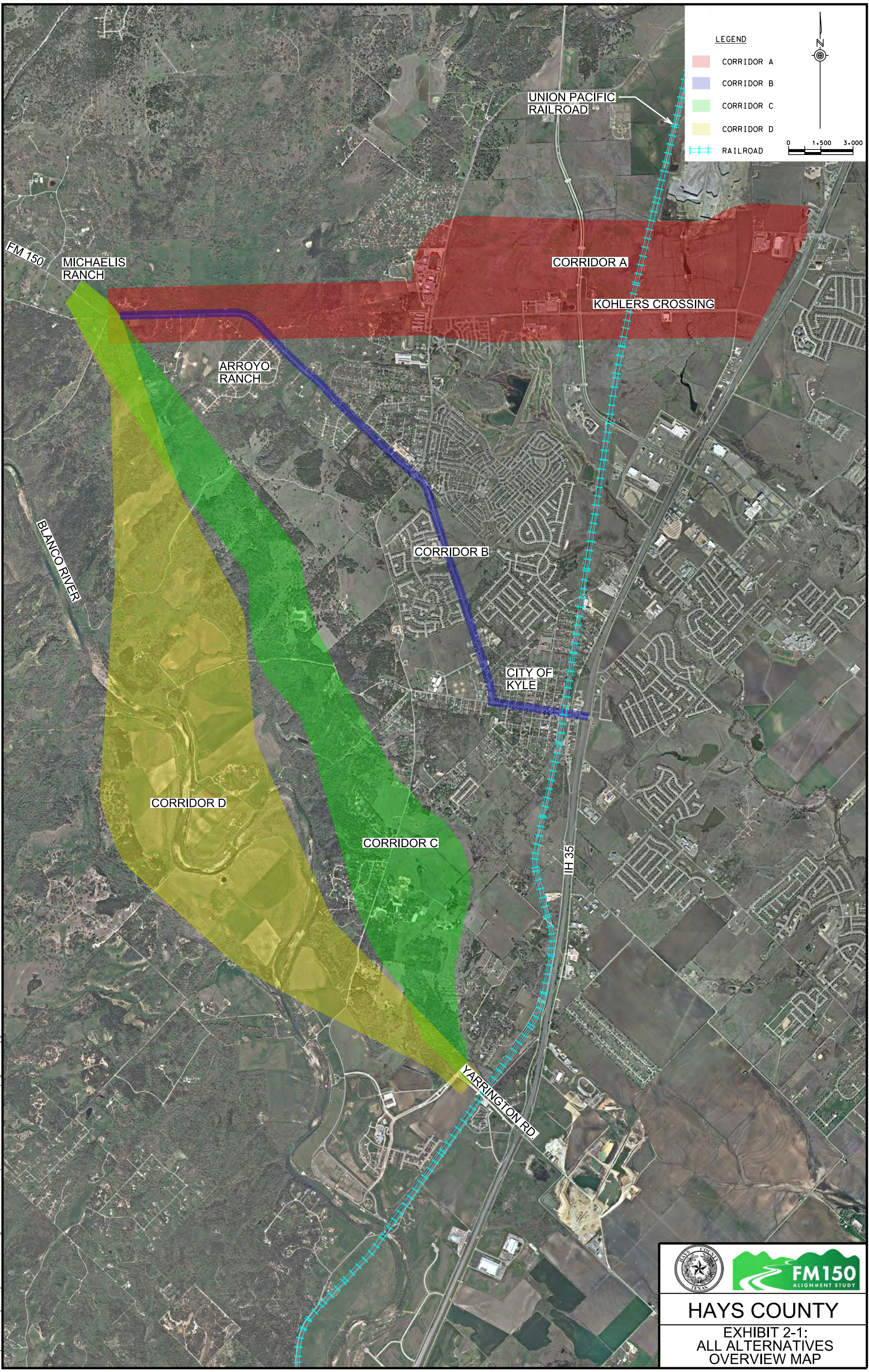
2.0 CORRIDOR AND NO BUILD OPTIONS

Four corridors were analyzed for the FM 150 West Alignment Study. As seen in **Exhibit 2-1** below, the corridors were named A through D, with Corridor A being the northern most corridor and Corridor D being the furthest south. A “no-build” alternative was also analyzed for this corridor study.

2.1 CORRIDOR A

2.1.1 Corridor Overview

Corridor A, shown in **Exhibit 2-2** below, connects the existing FM 150 near Arroyo Ranch to I-35 north of the City of Kyle. A few preliminary alignment options within the corridor were evaluated at a high level and include a direct connection to Kohler’s Crossing or a new roadway to the north via FM 2770 and connecting to Kyle Crossing. This corridor provides the shortest connection between FM 150 and I-35, but also involves challenges for obtaining right of way (ROW), as there are two schools, Barton Middle School and Hays High School, within the corridor. It should be noted that no alignment options were examined in detail and preliminary alignments were provided to demonstrate a range of potential future options.




LEGEND

- CORRIDOR A
- CORRIDOR B
- CORRIDOR C
- CORRIDOR D
- RAILROAD

0 1,500 3,000

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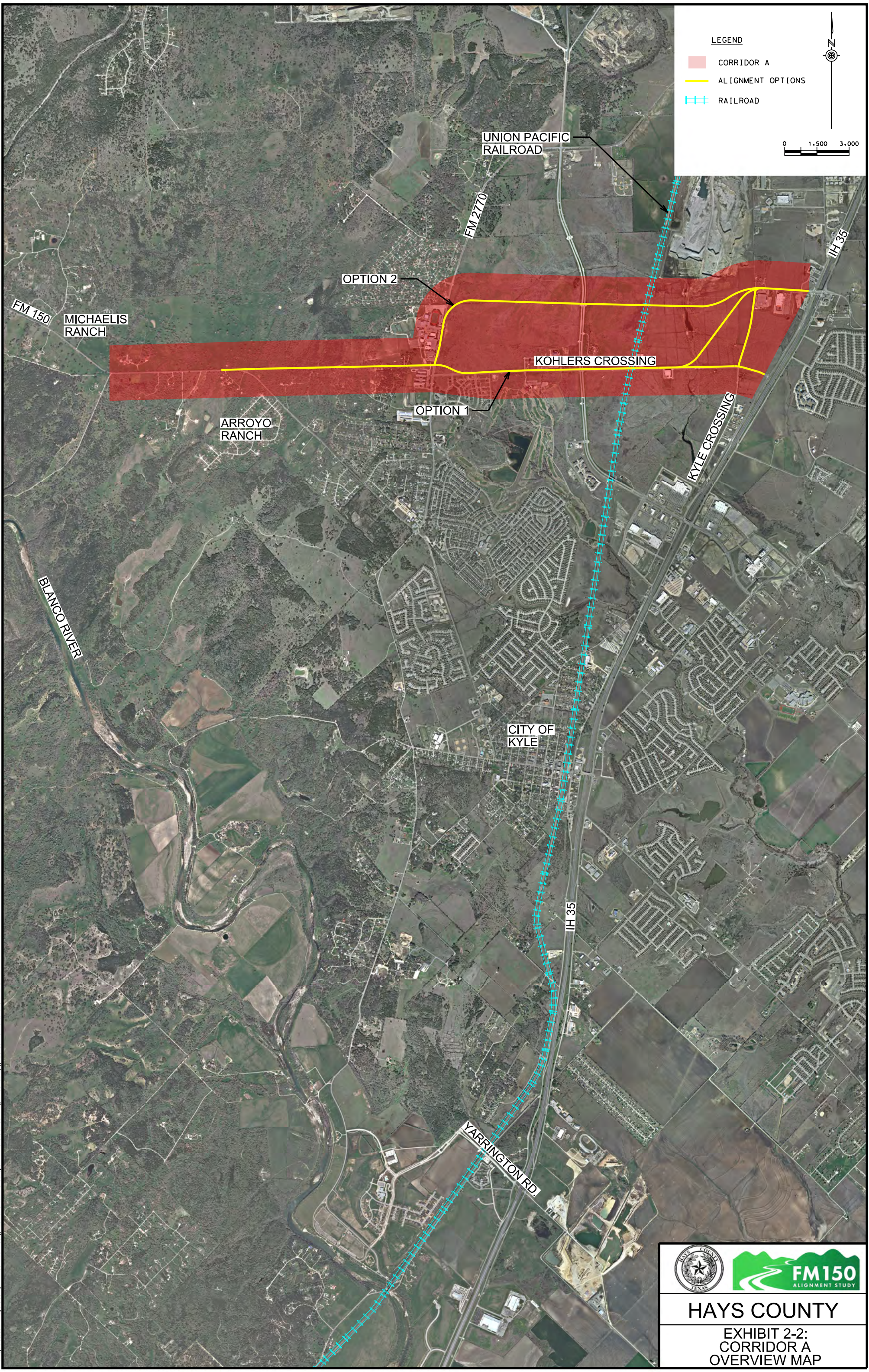
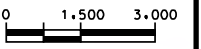



HAYS COUNTY
EXHIBIT 2-1:
ALL ALTERNATIVES
OVERVIEW MAP

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LEGEND

- CORRIDOR A
- ALIGNMENT OPTIONS
- RAILROAD



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HAYS COUNTY

**EXHIBIT 2-2:
CORRIDOR A
OVERVIEW MAP**

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2.1.2 Construction Costs

Based on preliminary analysis, Corridor A appears to have the lowest construction costs relative to the other “build” corridors, but would still be costly and more expensive than the “no-build” alternative. While this corridor provides the shortest connection between FM 150 and I-35, there are other challenging constraints that could potentially increase costs, which were not incorporated in the preliminary cost analysis. The first is that the intersection at FM 2770 and Kohler’s Crossing would need to be redesigned to allow for a roadway between the two schools at that intersection, taking into account the increased vehicular traffic volume, bicyclists, and pedestrians from the schools. Second, an overpass at Kohler’s Crossing and I-35 may be needed as well as a grade separation at the railroad crossing. While the selection of a northern alignment within this corridor would allow the use of an existing overpass of I-35 and eliminate associated costs, the other constraints noted would still exist and would increase construction costs.

2.1.3 Direct Property Constraints (ROW Acquisition)

ROW acquisition for Corridor A is roughly equivalent with Corridors C & D; however, the connection between the two schools would present challenges. Currently, there is a private driveway between the schools, as well as a walkway that connects the school parking lots. Replacing the driveway with a four-lane roadway would require significantly more ROW, and would eliminate the walkway. Also, additional ROW would be required at the intersection of FM 2770 and Kohler’s crossing, in order to reduce congestion. If Kohler’s Crossing was used to make the connection to I-35, the amount of additional ROW would be minimal. However, if a new roadway were constructed to the north to connect at Kyle Crossing, a significant amount of ROW would be required.

2.1.4 Adjacent Property Constraints

The potential constraints related to adjacent properties for Corridor A are very similar to Corridors C and D. The biggest issues within the corridor would be the increase of traffic volume and noise near the two schools and a small neighborhood, Plum Creek, which are south of Kohler’s Crossing. There are very few residential properties within the corridor, as described in **Section 2.1.9.1**, thus the potential conflicts are minimal. It should be noted that The Hays Consolidated Independent School District (ISD) does not support any alignment between the schools (see letter in **Appendix B**).

2.1.5 Accommodates Existing Travel Patterns/Demands

As previously stated, Corridor A would provide the shortest connection from the existing FM 150 to I-35. Currently, as shown in **Appendix G**, the existing travel patterns show that approximately half of the traffic passing through downtown Kyle will eventually travel north to Austin; therefore, an alignment through Corridor A would best accommodate this travel pattern.

2.1.6 Accommodates Future Travel Patterns/Demands

As shown in **Appendix A**, the HCTP shows a roadway around the City of Kyle called the Kyle Loop. Depending on the proposed alignments within Corridor A, it could complete the northern

segment of the Kyle Loop or support the southwest portion of the loop to relieve traffic through downtown Kyle. An alignment on the southwest segment would complement the proposed northeast portion of the loop.

2.1.7 Improves Union Pacific Railroad Crossing

The UPRR crossing within Corridor A is currently at-grade with Kohler's Crossing, and would require significant improvements to create a grade-separated intersection. If a northern alignment within the corridor was selected, a grade-separated intersection with the UPRR would be more feasible and would provide more options than Kohler's Crossing.

2.1.8 Natural Environment Constraints

2.1.8.1 Groundwater Resources

Corridor A lies over portions of the recharge, contributing, and transition zones of the Edwards Aquifer (TCEQ 2014) (see **Appendix C**). Therefore, the Edwards Aquifer Rules would apply to any future alignment alternatives evaluated within this corridor. The Edwards Aquifer Rules require an Edwards Aquifer Protection Plan (EAPP), which outlines the best management practices that will be implemented and maintained, both during and after construction activities, to prevent storm water pollutants from reaching the Edwards Aquifer; this includes erosion controls.

Additionally, there are 17 recorded water wells within this corridor. Alignments and construction activities would need to consider water wells, as shown in **Appendix D**, to avoid potential contamination of groundwater.

2.1.8.2 Surface Water Resources

Future alignment alternatives within Corridor A could potentially cross Bunton Branch Creek one to two times and Plum Creek once (USGS 2014). Future alignment alternatives could also potentially cross six floodplains associated with Bunton Branch Creek and one unnamed tributary to Bunton Branch Creek, Plum Creek, and two unnamed tributaries to Onion Creek (FEMA 2014) (see **Appendix D**). There are approximately 64 total floodplain acres within this corridor. Future alignment projects within this corridor would require further analysis to ensure compliance with local, Federal and State laws, such as Sections 404, 401, and 402 of the Clean Water Act.

2.1.8.3 Golden-cheeked Warbler Habitat

Corridor A contains approximately 171 acres of potential GCWA habitat at its western end (Morrison et al. 2010). It would be likely that any alternative alignment in the corridor would affect GCWA habitat. A habitat assessment and USFWS coordination would likely be necessary (see **Appendix D**). The Hays County Regional Habitat Conservation Plan (HCRHCP) (2010) could potentially be utilized if habitat were affected and requires mitigation at a ratio of 1:1 for every acre impacted.

2.1.9 Human Environment Constraints

2.1.9.1 *Community Resources, Businesses and Neighborhoods*

Corridor A includes four major public facilities Austin Community College, Barton Middle School, Hays Performing Arts Center, and Jack C. Hays High School; approximately 16 businesses (primarily at I-35 and the Kohlers Crossing/FM 1626 intersection); and Fellowship Church. There are no documented cemeteries within this corridor. Neighborhoods within Corridor A include Arroyo Ranch, Century Acres, Plum Creek, Mountain City, and the northeast end of Crystal Meadow Drive (Hays County 2015).

Corridor A is primarily undeveloped north of Kohlers Crossing, with more development along Jack C. Hays Trails and along I-35; thus, a new roadway could facilitate development and growth within the corridor in this area. Improvement options could include potential widening of Kohler's Crossing, construction on new location alignment or a combination thereof. Either approach would require land acquisition from private land owners and likely the Hays Consolidated ISD. As previously noted, the Hays Consolidated ISD opposes this option.

Widening or new location construction within this corridor would likely have the greatest potential to impact public facilities (certainly schools) of the corridors evaluated and also potentially affect local businesses at I-35 and the Kohlers Crossing/FM 1626 intersection. Increased capacity and connections to I-35 and areas west of Kyle would potentially facilitate already rapid commercial and residential development along the roadway, bringing new businesses and housing to the area. Constructing a new alignment within Corridor A would decrease traffic congestion through downtown Kyle, helping downtown businesses and keeping downtown Kyle intact.

2.1.9.2 *Environmental Justice*

Corridor A intersects 5 block groups (BGs) containing minority resident which range from 27.7 to 94.4 percent. BGs 10902.3 and 10910.3 have the highest minority rates, containing 62.3 and 94.4 percent minority residents, respectively. Both of these BGs are intersected only by Corridor A. Percentages of residents who fall below the poverty line in BGs intersecting Corridor A range from 0.9 to 18.5 percent. Only two of the five BGs fall above the average poverty rate for Hays County (9.2 percent), although none exceed 50 percent. An overview of all BGs intersecting the Corridor alternatives can be seen in **Appendix F**. For regulatory issues regarding EJ see **Section 1.1.3**.

2.1.9.3 *Limited English Proficiency*

Corridor A intersects four census tracts containing the following percentages of Limited English Proficient (LEP) residents: 10902 with 3.9 percent, 10905 with 8.2 percent, 10909 with 3.0 percent and 10910 with 7.1 percent. CT 10905, which is intersected by all four of the corridor alternatives, has the highest overall percentage of LEP residents' relative to all other Census Tracts considered in this analysis for the four corridors.

2.1.9.4 Cultural Resources

There are approximately 1,854 acres within Corridor A, of which 96 percent has not been previously surveyed. Of the area surveyed, approximately 84 percent is considered low probability for having prehistoric archeological sites (Barnes 1995, USDA 2015, USGS 2007).

One archeological site, Site 41HY479, is recorded within Corridor A. Another, Site 41HY382, is recorded immediately adjacent (THC 2015).

According to the Texas Historical Commission (THC) Historic Sites Atlas, Corridor A intersects the Michaelis Ranch Historic District a homestead associated with early agricultural practices located just north of FM 150, bordering the roadway for approximately 0.3 miles (THC 2014). This District is also intersected by Corridors B, C, and D. There are no other listed National Register Historic Places (NRHP) properties within Corridor A.

2.1.9.5 Parklands and Historic Sites

In addition to the above mentioned listed resources, there is potential for encountering previously unidentified historic resources in this, and any, corridor. A historic resources survey of any future preferred alignment would be required in the next phase of the project.

There are no publicly owned parklands, waterfowl refuges, or wildlife refuges within the corridor. However, there is a historic site, Michaelis Ranch, which is a Section 4(f) property as defined in 23 CFR 774 and Section 4(f) of the U.S. Department of Transportation Act. Therefore, any future alignments within the corridor would be prohibited from altering land use at this site unless (1) there is no feasible or prudent avoidance alternative to the use of land; and the action includes all possible planning to minimize harm to the property resulting in such use; or (2) TxDOT determines that the use of the property will have a *de minimis* impact. There are no known lands within the corridor that were acquired with Land and Water Conservation Act funds that would be subject to Section 6(f) of the Land and Water Conservation Act.

2.1.10 Bicycle and Pedestrian Mobility

For any alignment within Corridor A, bicycle and pedestrian mobility and safety would be taken into account in the design of the roadway. Bicycle lanes and/or a shared use path would be considered during the design phase. If the roadway were to bisect the two schools, pedestrian mobility around the intersection would be a major factor in design to maintain mobility and safety between and around the schools.

2.1.11 Constructability

The construction of FM 150 within Corridor A would impact existing traffic at the intersection of FM 2770 and Kohler's Crossing, and create temporary access issues to the schools. However, access would be maintained throughout the duration of construction. If an overpass to I-35 was required for Kohler's Crossing, access to I-35 would be significantly impacted. Any alignments to the north of Kohler's Crossing would have no impact on existing traffic during construction, as the roadway would be a new alignment and would connect to an existing overpass at I-35.

2.1.12 Public Input

The majority of responses from a survey taken at, or after, the September 23, 2014 public meeting show that Corridor A is preferred over the other corridors, with the corridor garnering the most “first favorite” selections. When asked if Corridor A was a suitable alternative via survey: 49% strongly agreed, 15% agreed, 6% were neutral, 8% disagreed, and 22% strongly disagreed. When ranked against the other corridors, 61% ranked it their first, 15% as second, 8% as third, and 17% as their least favorite for further evaluation. Comments on the advantages of the route include support for the shorter connection to I-35 and the lower cost. Comments on disadvantages include safety issues of two schools in the corridor. A public meeting summary and analysis can be seen at www.improvefm150.com.




2.2 CORRIDOR B

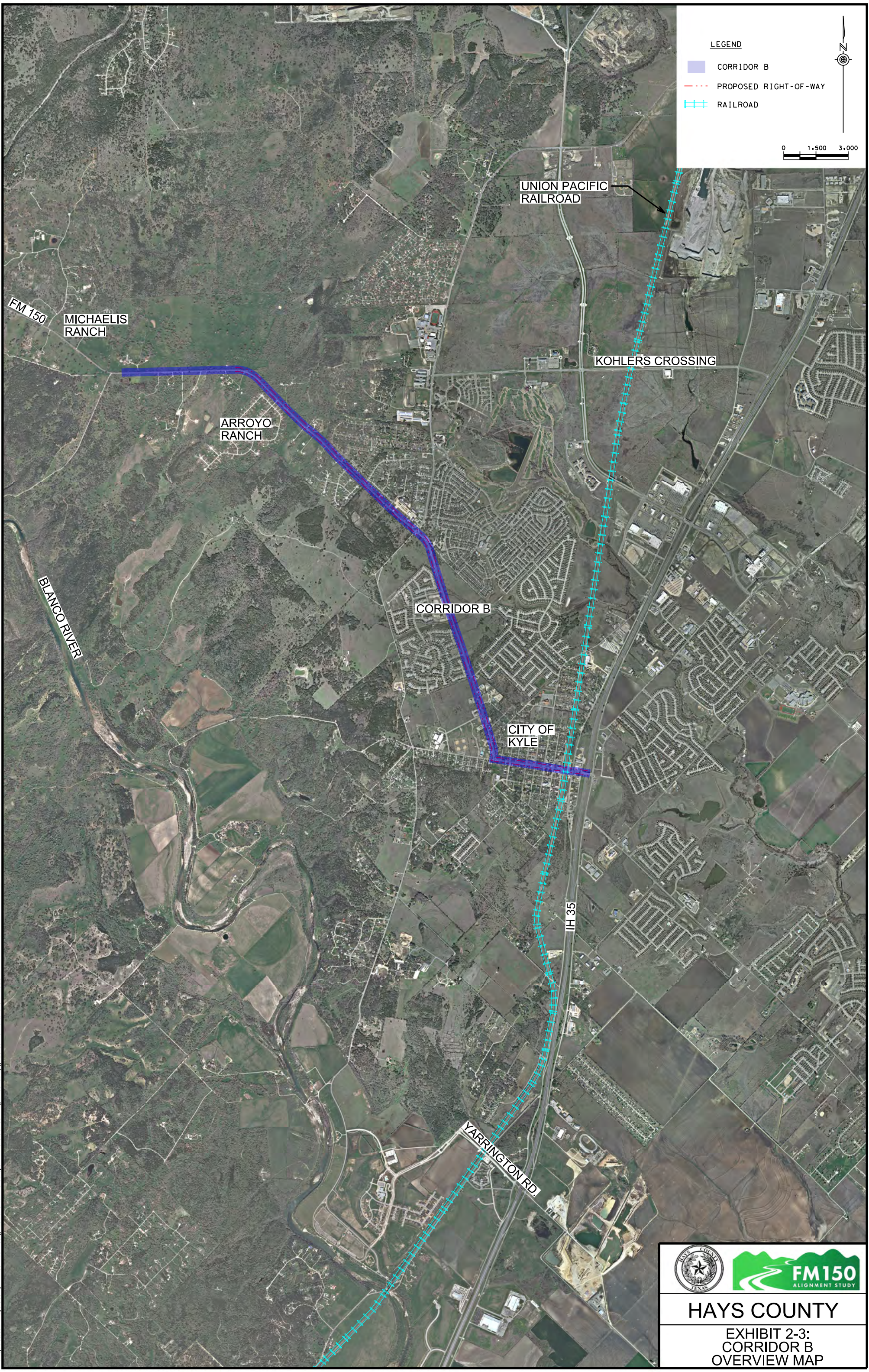
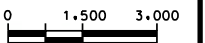
2.2.1 Corridor Overview

Corridor B, shown in **Exhibit 2-3**, is the existing FM 150 corridor through downtown Kyle. As detailed in the exhibit, the preliminary corridor option is to expand the existing alignment. Again, it should be noted that this alignment option was not examined in detail. The option to widen FM 150 through downtown Kyle may be one of the most expensive options due to right of way constraints and conflict with existing structures.



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LEGEND

-  CORRIDOR B
-  PROPOSED RIGHT-OF-WAY
-  RAILROAD



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HAYS COUNTY
EXHIBIT 2-3:
CORRIDOR B
OVERVIEW MAP

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2.2.2 Construction Costs

The option of expanding the existing alignment to meet the demands of projected traffic volumes would likely require costly improvements. Corridor B would be more expensive than Corridor A and Corridor C, and less expensive than Corridor D. The existing at-grade UPRR crossing would require improvements; potentially an expensive grade separated intersection. There are multiple options for improving the remaining intersections along the corridor, such as where FM 150 turns from West Center Street to Rebel Drive and at the intersection of Rebel Drive and Old Stagecoach Road.

2.2.3 Direct Property Constraints (ROW Acquisition)

FM 150 currently lies adjacent to multiple businesses downtown and various subdivisions and private residences through the City of Kyle, and would require new ROW (see **Section 2.2.9.1** and **2.2.9.2** below). Expanding the existing alignment along Corridor B would require extensive coordination with all of the individual property owners. Expanding the existing FM 150 alignment would also affect or potentially eliminate existing on-street parking along Center Street downtown and might require eliminating or narrowing existing sidewalks in some areas.

2.2.4 Adjacent Property Constraints

Expanding the existing alignment will have adverse impacts, as property would need to be purchased along the roadway from private and commercial residents and traffic volumes and noise would continue to increase.

2.2.5 Accommodates Existing Travel Patterns/Demands

Corridor B improvements would accommodate the existing travel patterns. Expanding the existing alignment could accommodate the existing demands depending on the extent of improvements chosen.

2.2.6 Accommodates Future Travel Patterns/Demands

The HCTP, shown in **Appendix A**, indicates a plan to add lanes to the existing FM 150 alignment. Expanding the existing alignment could potentially accommodate future travel patterns and demands.

2.2.7 Improves Union Pacific Railroad Crossing

Improving the existing FM 150 alignment would require some form of improvement to the existing at-grade UPRR crossing at Center Street; however, the extent of these improvements have yet to be determined. A new grade-separated intersection would likely result in the need to re-configure other adjacent small streets crossing Center Street and would significantly change the character of downtown Kyle.

2.2.8 Natural Environment Constraints

2.2.8.1 Groundwater Resources

Corridor B lies over portions of the recharge, contributing, and transition zones of the Edwards Aquifer (TCEQ 2014) (see **Appendix C**). Therefore, the Edwards Aquifer Rules would apply for improvements to the existing alignment. The Edwards Aquifer Rules require an EAPP, which outlines the best management practices that will be implemented and maintained, both during and after construction activities, to prevent storm water pollutants from reaching the Edwards Aquifer.

Additionally, Corridor B has 19 recorded water wells, which is the greatest number of the four corridors. Alignments and construction activities would need to consider water wells, as shown in **Appendix D**, to avoid potential contamination of groundwater.

2.2.8.2 Surface Water Resources

Future alignment improvements within Corridor B would not cross any rivers or streams, but could potentially cross two floodplains associated with unnamed tributaries to Plum Creek (FEMA 2014); similar concerns to Corridor A exist (see **Appendix D**). There are approximately 4.4 acres of floodplain within this corridor. Future alignment projects within this corridor would require further analysis to ensure compliance with local, Federal and State law, such as Sections 404, 401, and 402 of the Clean Water Act.

2.2.8.3 Golden-cheeked Warbler Habitat

Given its downtown location, Corridor B contains the least amount, approximately 4 acres, of potential GCWA habitat outside existing ROW on the west end (Morrison et al. 2010) (see **Appendix D**). The HCRHCP (2010) requires mitigation at a ratio of 1:1 for every acre impacted; however, it is likely that impacts could be avoided in this corridor.

2.2.9 Human Environment Impacts

2.2.9.1 Community Resources, Businesses and Neighborhoods

Corridor B includes three major public facilities, Gregg-Clarke Park, Mary Kyle Hartson Park, and a U.S. Post Office; approximately 34 businesses; and First Baptist Church. There are no documented cemeteries within this corridor. Neighborhoods within Corridor B include Arroyo Ranch, Quail Meadows Village at Meadow Woods, Dove Hollow Estates, Hometown, Kyle Silverado, Young Woods Addition, and West Center Street from Rebel Drive to I-35 (Hays County 2015).

Any potential improvement option within corridor B would involve widening along the existing FM 150 alignment. Improvement options involving widening within corridor B would impact businesses and public facilities and potentially have negative long term socioeconomic impacts to downtown Kyle. On-street parking would likely be sacrificed for additional travel lanes, sidewalks would need to be removed or narrowed in places, and there would be related reductions in bicycle and pedestrian safety along Center Street; all of which could have the effect of discouraging retail consumers from visiting downtown Kyle.

2.2.9.2 *Environmental Justice*

Corridor B intersects 6 block groups, two of which have minority population percentages which exceed 50 percent—10910.3 at 63.3 percent and 10905.3 at 73.3 percent. The remaining four BGs have minority resident percentages ranging from 16.4 to 43.1 percent. Regarding residents below the poverty level, the only high poverty rates in BGs intersected by Corridor B is concentrated in BG 10905.3 where 43.9 percent of the residents fall below the poverty line. An overview of all BGs intersecting the Corridor alternatives can be seen in **Appendix F**. For regulatory issues regarding EJ see **Section 1.1.3**.

2.2.9.3 *Limited English Proficiency*

Corridor B intersects four census tracts: 10902 with 3.9 percent, 10905 with 8.2 percent, 10909 with 3.0 percent and 10910 with 7.1 percent of LEP residents (which are the same CTs which intersect Corridor A). CT 10905, which is intersected by all four of the corridor alternatives, has the highest overall percentage of LEP residents. Secondly, CT 10910 (which intersects corridor alternatives A and B) also has a comparatively higher percentage of LEP residents.

2.2.9.4 *Cultural Resources*

There are approximately 175 acres within Corridor B, of which 94 percent has not been previously surveyed. Of the acres surveyed, approximately 100 percent is considered low probability for having prehistoric archeological sites, making this the lowest probability corridor (Barnes 1995, USDA 2015, USGS 2007). There are no previously recorded archeological sites documented within or immediately adjacent to Corridor B (THC 2015).

In addition to intersecting the Michaelis Ranch Historic District at its far northwest terminus, three historical sites are within or immediately adjacent to the southern terminus of Corridor B. These are the Katherine Anne Porter House, Kyle City Hall, and the Cora Jackman Donalson House (THC 2015). It is also likely that a number of buildings along Center Street would be considered Historic in age and present constraints to widening options.

2.2.9.5 *Parklands and Historic Sites*

In addition to the above mentioned listed resources, there is potential for encountering previously unidentified historic resources in this, and any, corridor. A historic resources survey of any future preferred alignment would be required in the next phase of the project.

There are no publicly owned waterfowl refuges or wildlife refuges within this corridor. However, there are historic sites as mentioned above in **Section 2.2.9.4**. Thus, the proposed corridor has Section 4(f) properties as defined in 23 CFR 774 and Section 4(f) of the U.S. Department of Transportation Act. Therefore, any future alignments within the corridor would be prohibited from altering land use at these sites unless (1) there is no feasible or prudent avoidance alternative to the use of land; and the action includes all possible planning to minimize harm to the property resulting in such use; or (2) TxDOT determines that the use of the property will have a *de minimis* impact. Additionally, there is a publicly owned park, Gregg-Clarke Park,

which was acquired with Land and Water Conservation Act funds and therefore a Section 6(f) resource as defined by CFR Title 36, Chapter 1, Part 59. Any future alignments that would impact a Section 6(f) resource require coordination with the Department of Interior and typically include mitigation.

2.2.10 Bicycle and Pedestrian Mobility

There are currently no bicycle lanes or facilities along the existing FM 150 corridor. Expanding the existing alignment allows for the addition of bicycle lanes along Rebel Drive; however, there is limited space available through Center Street and bicycle lanes through downtown Kyle would likely not be an option.

2.2.11 Constructability

Improving FM 150 along the existing alignment would cause a significant impact to traffic through downtown Kyle. Depending on the improvements selected within the corridor, traffic will likely be detoured around the existing UPRR crossing while improvements are made to the intersection. The Center Street portion of FM 150 is very narrow and two-way traffic could prove to be difficult while construction activities are underway.

2.2.12 Public Input

Based on public input, corridor B is the second preferred among the four corridors. When asked if Corridor B was a suitable alternative via survey: 18% strongly agreed, 8% agreed, 14% were neutral, 16% disagreed, and 43% strongly disagreed. When ranked against the other corridors, 18% ranked it their first, 34% as second, 18% as third, and 29% as their least favorite for further evaluation. The majority of comments focused on disadvantages of the corridor and include that it does not solve the problems and will existing congestion would remain and that downtown Kyle may lose some of its defining characteristics. A public meeting summary and analysis can be seen at www.improvefm150.com.

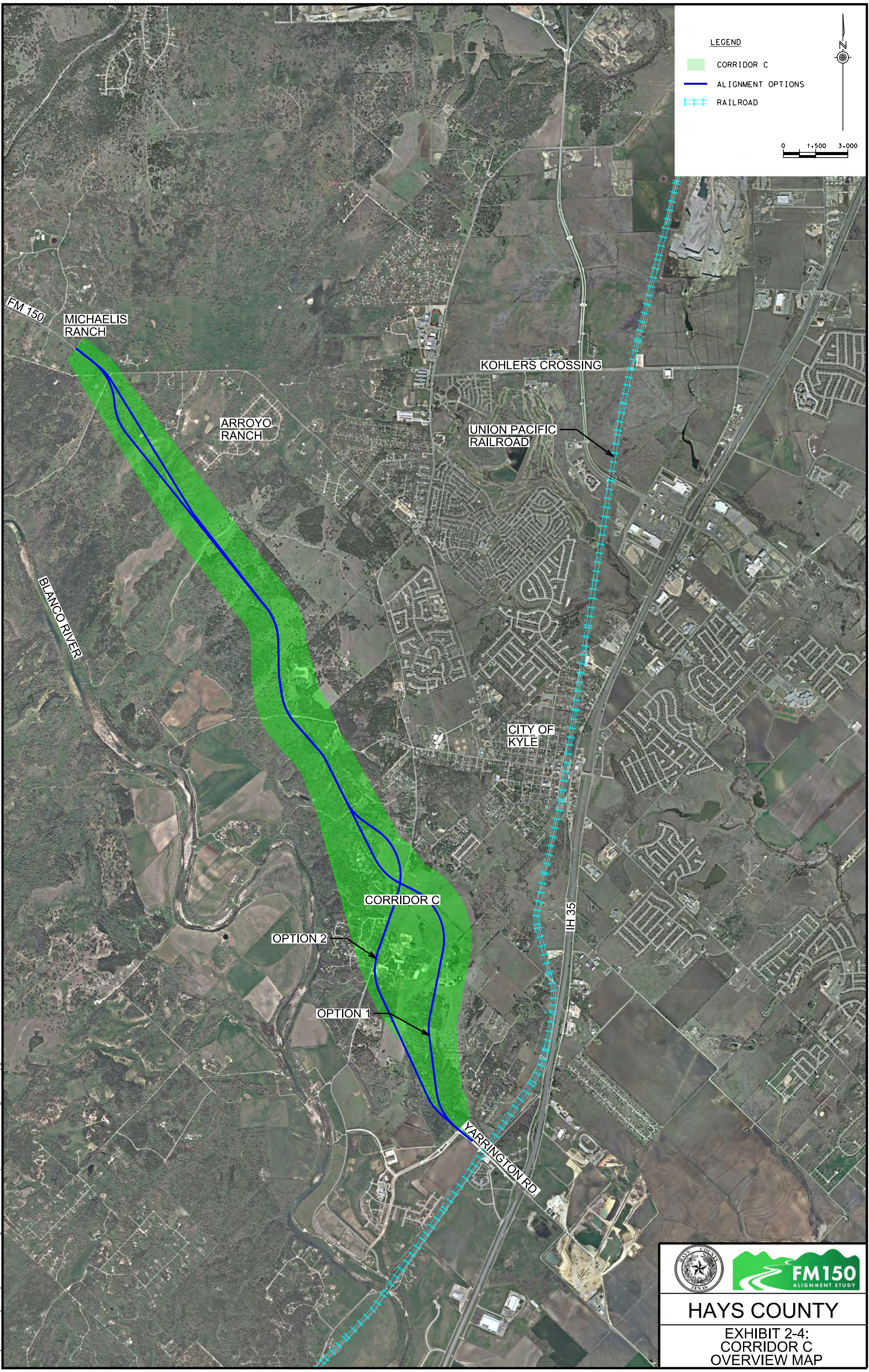
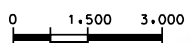
2.3 CORRIDOR C

2.3.1 Corridor Overview



Corridor C, shown in **Exhibit 2-4**, would connect existing FM 150 from near Michaelis Ranch to I-35 via a connection to Yarrington Road, south of Kyle. All of the preliminary alignment options would begin in the same location and connect to Yarrington Road; however, the alignments between the two points would potentially differ. This corridor has a longer connection to I-35 than Corridors A and B, and could potentially require the most ROW. However, there would be fewer displacements required due to the area being primarily undeveloped which would provide more potential alignment options. Again, it should be noted that no alignment options were examined in detail and preliminary alignments were provided to demonstrate a range of potential future options.

LEGEND

- CORRIDOR C
- ALIGNMENT OPTIONS
- RAILROAD



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HAYS COUNTY
EXHIBIT 2-4:
CORRIDOR C
OVERVIEW MAP

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2.3.2 Construction Costs

Based on preliminary cost evaluations, Corridor C would be slightly more expensive than Corridor A, but less expensive than Corridors B and D. Although it is one of the longest options of the four corridors, Corridor C would not require a grade separated railroad crossing or an I-35 overpass. Corridor C would require fewer impacts/changes to existing roadways within the corridor, depending on the selected alignment. Additionally, the intersection of Yarrington Road and I-35 includes an existing overpass, so no additional cost would be incurred to construct this connection. However, mitigation requirements for possible impacts to potential GCWA habitat could increase costs, depending on the alignment, due to the large amount of acreage within this corridor.

2.3.3 Direct Property Constraints (ROW Acquisition)

Any alignment within Corridor C would require almost entirely new ROW, as the corridor does not utilize existing roadways. The most difficult area to obtain ROW would be in the southeast portion of the corridor which has the most existing development. An alignment option along Old Stagecoach Road would require additional ROW to be purchased in order to widen the existing roadway to four lanes. The connection at Yarrington Road meets the proposed roadways geometry, so no additional ROW would be required in this area.

2.3.4 Adjacent Property Constraints

The potential impact scenario to properties adjacent to Corridor C is similar to that presented by Corridors A and D, but significantly lower than Corridor B. As most of the corridor traverses undeveloped properties, only the southeast portion of the corridor would impact residential properties. There is flexibility for steps to be taken in the design process to reduce the amount of sound and noise pollution affecting existing residential neighborhoods from the proposed roadway. The area would experience an increase in traffic, but the roadway would provide a direct and less congested route to I-35.

2.3.5 Accommodates Existing Travel Patterns/Demands

Corridor C provides an alternate route for commuters traveling from western Hays county to I-35 rather than requiring all through traffic to travel through downtown. Although this is a longer route than existing FM 150, overall travel times would likely be reduced due to a higher capacity roadway and the existing FM 150 alignment would remain to serve local traffic. Additionally, providing through traffic an alternate route would result in reduced congestion through downtown, improving the level of service of the existing roadway for local traffic. As shown in **Appendix G**, approximately 30% of the existing traffic passing through downtown is traveling towards eastern Hays County, and approximately 20% is traveling south of Kyle. Constructing a new alignment within Corridor C would provide more options to commuters and help accommodate existing travel demands.

2.3.6 Accommodates Future Travel Patterns/Demands

As mentioned previously, the HCTP in **Appendix A** shows an alignment to the southwest of Kyle that is part of the Kyle Loop. An alignment through Corridor C best fits the southwest portion of the loop. The alignment to Yarrington Road would also provide a connection to the future San Marcos Loop road FM 110 on the east side of I-35, which is currently under design.

2.3.7 Improves Union Pacific Railroad Crossing

Using the existing connection to I-35 via Yarrington Road, an existing grade-separated intersection with the UPRR would remain in place; therefore, no improvements would need to be made.

2.3.8 Natural Environment Constraints

2.3.8.1 Groundwater Resources

Corridor C lies over portions of the recharge, contributing, and transition zones (TCEQ 2014) (see **Appendix C**). Therefore, the Edwards Aquifer Rules would apply to future alignment alternatives evaluated within this corridor; this is true for every Corridor. The Edwards Aquifer Rules require an EAPP, which outlines the best management practices that will be implemented and maintained, both during and after construction activities, to prevent storm water pollutants from reaching the Edwards Aquifer.

Additionally, Corridor C has 9 recorded water wells. Alignments and construction activities would need to consider water wells, as shown in **Appendix D**, to avoid potential contamination of groundwater.

2.3.8.2 Surface Water Resources

Future alignment alternatives within Corridor C would not cross any rivers or streams, but could potentially cross three to five floodplains associated with unnamed tributaries to the Blanco River (FEMA 2014) (see **Appendix D**). There is approximately 55.3 acres of floodplain within this corridor. Future alignment projects within this corridor would require further analysis to ensure compliance with local, federal and state law, such as Sections 404, 401, and 402 of the Clean Water Act.

2.3.8.3 Golden-cheeked Warbler Habitat

Corridor C contains approximately 328.6 acres of potential GCWA habitat (Morrison et al. 2010) and, along with D, would have the greatest potential effect on habitat (see **Appendix D**). A habitat assessment, surveys and, depending upon the nature of impact, USFWS consultation would likely be necessary. Additionally, surveys and potential mitigation requirements could result in increased costs for Corridor C, depending on alignment selection.

2.3.9 Human Environment Constraints

2.3.9.1 Community Resources, Businesses and Neighborhoods

Corridor C includes two businesses, Eikon Church, and Skyview Cemetery. There are no major public facilities within this corridor. Neighborhoods within Corridor C include Oak Mesa, Wildcat Hollow, Blanco River Crossing, and the north end of Roland Lane (Hays County 2015).

Since Corridor C largely traverses undeveloped land, a new roadway could potentially stimulate new commercial and residential development west of Kyle. In the southeast portion of the corridor with existing residential properties, land would need to be acquired for the proposed ROW, which would affect existing land uses in the area.

As previously mentioned, the corridor is largely undeveloped and a new roadway would have little-to-no impact on existing businesses in the area. Socioeconomic change would potentially come from future commercial and residential development along the roadway, bringing new businesses and housing to the area. Constructing a new alignment within Corridor C would decrease traffic congestion through downtown Kyle, helping downtown businesses and keeping downtown Kyle intact.

2.3.9.2 Environmental Justice

Corridor C intersects 5 block groups. Only one of the 5 BGs intersecting Corridor C has a minority population percentage exceeding 50 percent—BG 10905. 3, at 73.3 percent. The other BGs range from 15.9 to 43.7 percent, respectively. Two of the BGs intersecting Corridor C (10702.1 and 10905.3) have poverty rates which are substantially higher than the poverty rates in other BGs, containing 49.1 and 43.9 percent, respectively. BG 10905.3 is a small fraction (less than an acre) of the overall corridor area (approximately 1646.5 acres). An overview of all BGs intersecting the Corridor alternatives can be seen in **Appendix F**. For regulatory issues regarding EJ see **Section 1.1.3**.

2.3.9.3 Limited English Proficiency

Corridor C intersects three census tracts containing the following percentages of LEP residents: 10902 with 3.9 percent, 10905 with 8.2 percent, and 10702 with 1 percent. CT 10905, which is intersected by all four of the corridor alternatives, has the highest overall percentage of LEP residents. Secondarily, CT 10702 (which intersects both corridor alternatives C and D) has the lowest percentage of LEP residents.

2.3.9.4 Cultural Resources

Less than one percent of the total area of Corridor C (1,647 acres) has been previously surveyed. Of the remaining area (1,646 acres), approximately 99 percent is considered low probability of containing prehistoric archeological sites (Barnes 1995, USDA 2015, USGS 2007). One archeological site, Site 41HY204, is recorded as being partially within Corridor C (THC 2015).

In addition to intersecting the Michaelis Ranch Historic District at its very northern terminus, a single historic period cemetery is documented as being within Corridor C (THC 2015). This facility, the Skyview Cemetery is associated with African Americans settlers, and contains over 50 graves including some that are unmarked.

2.3.9.5 Parklands and Historic Sites

In addition to the above mentioned listed resources, there is potential for encountering previously unidentified historic resources in this, and any, corridor. A historic resources survey of any future preferred alignment would be required in the next phase of the project.

There are no publicly owned parklands, waterfowl refuges, or wildlife refuges within this corridor. However, there are historic sites as mentioned above in **Section 2.3.9.4**. Thus, the proposed corridor has Section 4(f) properties as defined in 23 CFR 774 and Section 4(f) of the U.S. Department of Transportation Act. Therefore, any future alignments within the corridor would be prohibited from altering land use at these sites unless (1) there is no feasible or prudent avoidance alternative to the use of land; and the action includes all possible planning to minimize harm to the property resulting in such use; or (2) TxDOT determines that the use of the property will have a *de minimis* impact. There are no known lands within the corridor that were acquired with Land and Water Conservation Act funds that would be subject to Section 6(f) of the Land and Water Conservation Act.

2.3.10 Bicycle and Pedestrian Mobility

Similar to the other corridors, bicycle and pedestrian mobility through Corridor C would be one of the design considerations for a proposed roadway. Bicycle lanes and/or a shared use path would be evaluated to maintain access and safety for bicyclists and pedestrians.

2.3.11 Constructability

The constructability of Corridor C is more feasible than Corridors A, B, and D as there are very few existing roadways within the corridor and a major bridge over the Blanco River would not be required. The traffic access along Old Stagecoach Road would be maintained throughout construction and residents would see minimal impacts to their commutes. No impacts to existing roadways would be anticipated during construction of the northwest portion of the proposed roadway.

2.3.12 Public Input

Based on public input, Corridor C is the third preferred among the four corridors. When asked if Corridor C was a suitable alternative via survey: 18% strongly agreed, 19% agreed, 6% were neutral, 9% disagreed, and 48% strongly disagreed. When ranked against the other corridors, 17% ranked it their first, 34% as second, 24% as third, and 24% as their least favorite for further evaluation. Comments on the advantages of the route include the connection at I-35 and Yarrington, and that it gets traffic out of downtown Kyle. Comments on disadvantages include impacts to the environment and personal property, a higher cost, and questions on if it solves

travel demands in the county. A public meeting summary and analysis can be seen at www.improvefm150.com.

2.4 CORRIDOR D

2.4.1 Corridor Overview


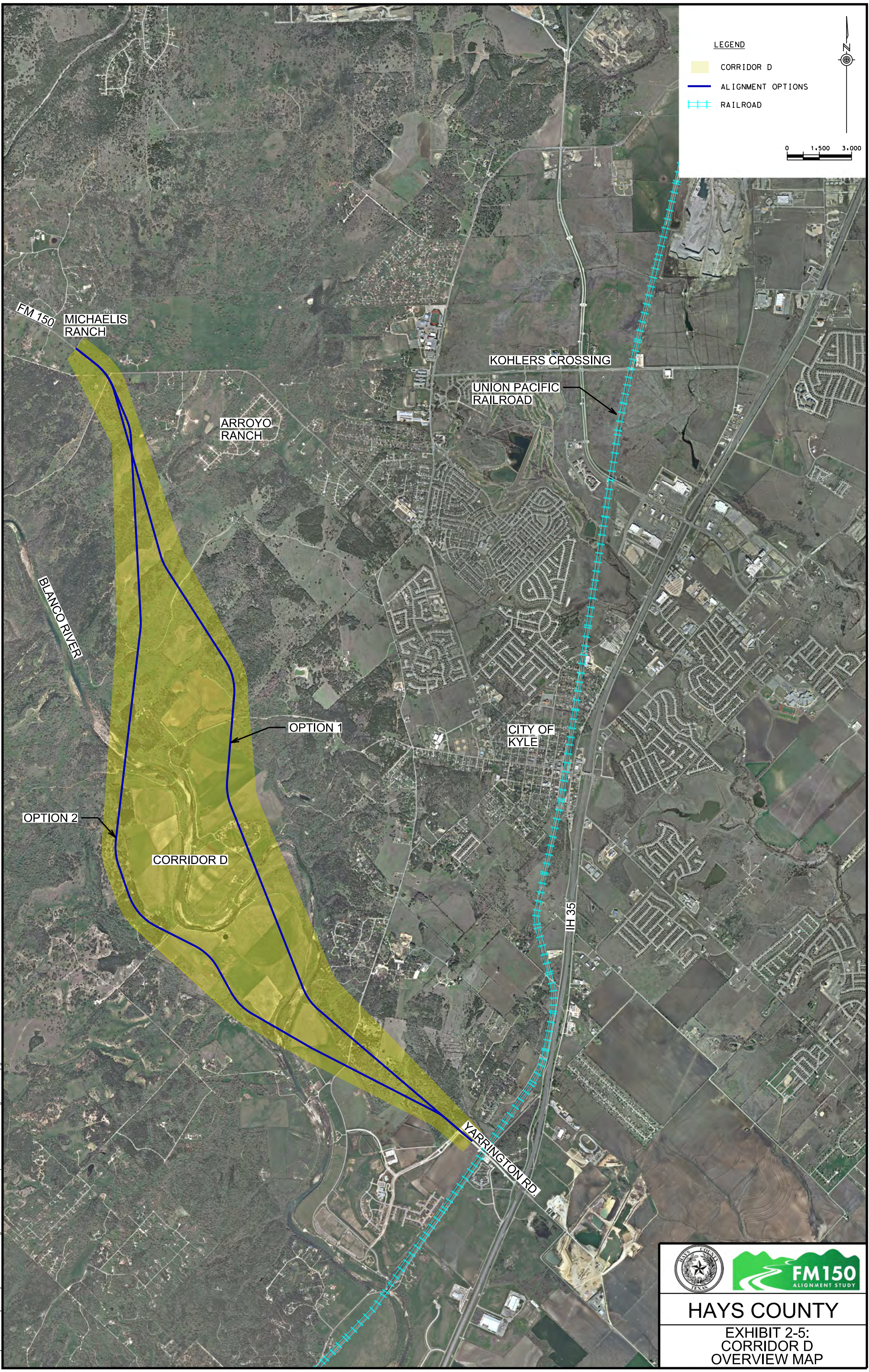
Corridor D, shown in **Exhibit 2-5**, would connect existing FM 150 near Michaelis Ranch to I-35 via a connection to Yarrington Road, south of Kyle. While this corridor is similar to Corridor C in terms of origin and terminus, it follows a wider route to the west of Kyle. As seen in the exhibit, all of the preliminary alignment options include two crossings of the Blanco River. Again, it should be noted that no alignment options were examined in detail and preliminary alignments were provided to demonstrate a range of potential future options.

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LEGEND

- CORRIDOR D
- ALIGNMENT OPTIONS
- RAILROAD

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HAYS COUNTY

**EXHIBIT 2-5:
CORRIDOR D
OVERVIEW MAP**

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2.4.2 Construction Costs

Based on preliminary cost evaluations, Corridor D will likely be the most expensive option of the four evaluated corridors. This corridor is the longest and would require two substantial bridges crossing the Blanco River. The intersection of Yarrington Road and I-35 includes an existing overpass, so no additional cost would be incurred to construct this connection. Additionally, as discussed below, Corridor D has the largest amount of potential GCWA habitat of the corridors which could increase costs due to mitigation requirements.

2.4.3 Direct Property Constraints (ROW Acquisition)

All of the potential alignments within Corridor D would require entirely new ROW, as the corridor does not consist of any existing roadway expansion options. Land acquisition within Corridor D would potentially be easier than the other three corridors as much of the alignment would be located within floodplains that are undesirable for residential development. However, there are serious implications and requirements for development within floodplain areas, such as compliance with Executive Order 11988 and 23 CFR 650 Subpart A to name a few. The connection at Yarrington Road meets the proposed roadway geometry, so no additional ROW would be required for this portion of the corridor.

2.4.4 Adjacent Property Constraints

The potential constraints posed by properties adjacent to Corridor D are similar to Corridor C. Almost the entire corridor traverses undeveloped properties, and only the southeast portion of the corridor would run adjacent to existing residential properties. There is flexibility for steps to be taken in the design process to reduce the amount of sound and noise pollution affecting existing residential neighborhoods from the proposed roadway. The surrounding undeveloped areas will likely increase in value as the city continues to grow, and the new highway will provide a direct connection to western Hays County and I-35.

2.4.5 Accommodates Existing Travel Patterns/Demands

Similar to Corridor C, Corridor D provides an alternate route for commuters traveling from western Hays County to I-35 that does not require passing through downtown Kyle. Although this is a longer route than the existing FM 150, overall travel times along the higher capacity roadway would likely be less than the existing route, and the existing FM 150 alignment will remain and continue to serve local traffic. Additionally, providing through traffic an alternate route would likely reduce congestion through downtown, improving the level of service of the existing roadway for local traffic. As shown in **Appendix G**, approximately 30% of the existing traffic passing through downtown is traveling towards eastern Hays County, and approximately 20% is traveling south of Kyle. Constructing a new alignment within Corridor D will provide more options for commuters and help accommodate existing travel demands.

2.4.6 Accommodates Future Travel Patterns/Demands

As mentioned previously, the HCTP in **Appendix A** shows an alignment to the southwest of Kyle that is part of the Kyle Loop. An alignment through Corridor D is very similar to the

southwest portion of the loop and would provide reliability for the county for many years. The alignment at Yarrington Road would also provide a connection to the future San Marcos Loop road FM 110, which is currently under design.

2.4.7 Improves Union Pacific Railroad Crossing

Corridor D will utilize the existing connection to I-35 via Yarrington Road. The existing grade-separated intersection with the UPRR would remain in place and satisfies the design parameters desired; therefore, no improvements would need to be made.

2.4.8 Natural Environment Constraints

2.4.8.1 Groundwater Resources

Corridor D lies over portions of the recharge, contributing, and transition zones (TCEQ 2014) (see **Appendix C**). Therefore, the Edwards Aquifer Rules would apply to any future alignment alternative evaluated within this corridor; this is true for each corridor option. As stated previously, the Edwards Aquifer Rules require an EAPP, which outlines the best management practices that will be implemented and maintained, both during and after construction activities, to prevent storm water pollutants from reaching the Edwards Aquifer.

Additionally, Corridor D has 8 recorded water wells, which is the least number of the four corridors. Alignments and construction activities would need to consider water wells, as shown in **Appendix D**, to avoid potential contamination of groundwater.

2.4.8.2 Surface Water Resources

Future alignment alternatives within Corridor D could potentially cross the Blanco River one to three times and nine floodplains associated with the Blanco River and its tributaries (FEMA 2014, USGS 2014) (see **Appendix D**). Corridor D contains the largest amount of floodplain (approximately 934 acres) of all the corridors. Future alignment projects within this corridor would require further analysis to ensure compliance with local, federal and state law, such as Sections 404, 401, and 402 of the Clean Water Act.

2.4.8.3 Golden-cheeked Warbler Habitat

Corridor D contains the most potential GCWA habitat with approximately 642.4 acres (Morrison et al. 2010) and, along with C, would affect more habitat and potential require more mitigation than Corridors A or B (see **Appendix D**). A habitat assessment, surveys and, depending upon the nature of impact, USFWS consultation would likely be necessary. Additionally, surveys and potential mitigation requirements could result in increased costs for Corridor C, depending on alignment selection.

2.4.9 Human Environment Constraints

2.4.9.1 Community Resources, Businesses and Neighborhoods

Due to the fact that the corridor mostly crosses undeveloped land, a new roadway would help spur new commercial and residential development to the west of Kyle. What currently exists as pasture and farms adjacent to the Blanco River will likely remain as such, while the northern portion of the corridor beyond the Blanco River's floodplains will likely foster more significant changes to the future land use.

Corridor D contains the historic Kyle Cemetery which is registered with the Texas Historical Commission. There are no businesses, churches, or major public facilities within this corridor. Neighborhoods within Corridor D include the Blanco River Crossing and Cypress Fairway Village (Hays County 2015).

As previously mentioned, the corridor is largely undeveloped and a new roadway would have little-to-no impact on existing businesses in the area. The socioeconomic changes would come from commercial and residential development along the roadway, bringing new businesses and housing to the area, especially in the large undeveloped tracts of land to the west of Kyle. Constructing a new alignment within Corridor D would decrease traffic congestion through downtown Kyle, helping downtown businesses and preserving the character of downtown Kyle.

2.4.9.2 Environmental Justice

Corridor D intersects 4 block groups. None of the BGs intersected by Corridor D exceed 50 percent. Regarding poverty rates, only one BG contained a substantial number of residents below the poverty line—BG 10702.1 at 49.1 percent. An overview of all BGs intersecting the Corridor alternatives can be seen in **Appendix F**. For regulatory issues regarding EJ see **Section 1.1.3**.

2.4.9.3 Limited English Proficiency

Corridor D intersects three Census Tracts which are all the same as those which intersect Corridor C. The following LEP resident percentages apply to these 3 CTs: 10902 with 3.9 percent, 10905 with 8.2 percent, and 10702 with 1.0 percent.

2.4.9.4 Cultural Resources

Less than one percent of the total area of Corridor D (2,602 acres) has been previously surveyed. Of the remaining area (2,600 acres), approximately 44 percent is considered low probability; meaning Corridor D has the greatest probability (of 56 percent) to contain prehistoric archeological sites (Barnes 1995, USDA 2015, USGS 2007). Four archeological sites are recorded as being located within Corridor D: Sites 41HY32, 41HY33, 41HY136, and 41HY204. Another site, Site 41HY205, is located immediately adjacent (THC 2015).

Like Corridors A, B, and C, Corridor D intersects the Michaelis Ranch Historic District at its northern terminus. This corridor also intersects the historic Kyle Cemetery which contains

burials dating to the mid-19th century and contains over 500 graves, including several pioneers that played an important role in the early development of the area. Additionally, Corridor D contains the Kyle Claiborne Log House, a NRHP-listed structure (THC 2015).

2.4.9.5 Parklands and Historic Sites

In addition to the above mentioned listed resources, there is potential for encountering previously unidentified historic resources in this, and any, corridor. A historic resources survey of any future preferred alignment would be required in the next phase of the project.

There are no publicly owned parklands, waterfowl refuges, or wildlife refuges within this corridor. However, there are historic sites as mentioned above in **Section 2.4.9.4**. Thus, the proposed corridor has Section 4(f) properties as defined in 23 CFR 774 and Section 4(f) of the U.S. Department of Transportation Act. Therefore, any future alignments within the corridor would be prohibited from altering land use at this site unless (1) there is no feasible or prudent avoidance alternative to the use of land; and the action includes all possible planning to minimize harm to the property resulting in such use; or (2) TxDOT determines that the use of the property will have a *de minimis* impact.

There are also no known lands within the corridor that were acquired with Land and Water Conservation Act funds that would be subject to Section 6(f) of the Land and Water Conservation Act.

2.4.10 Bicycle and Pedestrian Mobility

Similar to the other corridors, bicycle and pedestrian mobility through Corridor D will be a design consideration for a proposed roadway. Bicycle lanes and/or a shared use path would be evaluated to maintain access and safety for bicyclists and pedestrians.

2.4.11 Constructability

The constructability of Corridor D is more feasible than Corridors A and B, as there are very few proposed intersections within the corridor. However, the construction of two separate river crossings could prove to be difficult as some channel bank grading and other mitigation efforts may be required to reduce impacts to the existing floodplain. The traffic access along Old Stagecoach Road would be maintained throughout construction, and residents would see minimal change to their commutes. No traffic impacts would be anticipated during construction of the northwest portion of the proposed roadway.

2.4.12 Public Input

Based on responses from a survey taken at the public meeting, Corridor D ranks as the least preferred option. When asked if Corridor D was a suitable alternative via survey: 12% strongly agreed, 20% agreed, 11% were neutral, 18% disagreed, and 39% strongly disagreed. When ranked against the other corridors, 13% ranked it their first, 23% as second, 44% as third, and 20% as their least favorite for further evaluation. Comments on the advantages of the route include fewer impacts to homes and that it gets traffic out of downtown Kyle. Comments on disadvantages include the environmental impacts and cost of crossing the Blanco twice and

general environmental impacts. A public meeting summary and analysis can be seen at www.improvefm150.com.

2.5 NO BUILD OPTION

2.5.1 Construction Costs

The option of maintaining the existing roadway's current conditions, or the "no-build" option, clearly has the lowest possible cost. However, the "no-build" option does not address the existing and future problems with congestion through downtown Kyle.

2.5.2 Direct Property Constraints (ROW Acquisition)

The "no-build" option does not require the acquisition of any new ROW and maintains the existing roadway and ROW.

2.5.3 Adjacent Property Constraints

Indirect property constraints associated with selecting the "no-build" alternative mainly impact residents and businesses in downtown Kyle. By choosing to maintain the existing roadway and not providing an alternate route between western Hays county and I-35, one would assume that congestion along FM 150 will only get worse. Travel times would increase and the roadway's level of service would decrease, which in turn has the potential to negatively affect property values and the overall quality of life for residents of the city.

2.5.4 Accommodates Existing Travel Patterns/Demands

The "no-build" option does not accommodate existing demands as there are currently extensive delays along Center Street through downtown Kyle.

2.5.5 Accommodates Future Travel Patterns/Demands

Choosing the "no-build" option will not accommodate future travel demands and will result in increased delays and congestion.

2.5.6 Improves Union Pacific Railroad Crossing

There would be no improvements to the UPRR crossing with the "no-build" option, and frequent stops and delays would continue to increase.

2.5.7 Natural Environment Constraints

There would be no impacts or constraints to the natural environment under the "no-build" alternative.

2.5.8 Human Environment Impacts

There would be no impacts or constraints regarding parklands, Historic, or archeological sites under the "no-build" alternative. However, the "no-build" option would likely result in greater congestion in downtown Kyle than exists today and, in turn, negatively impact downtown

businesses as motorists (potential customers) are less likely to choose to sit in traffic and would potentially avoid the area. In addition, residents, school buses, first responders and other community resources would be impacted by the increased travel time, which could result in health and safety issues for the community.

2.5.9 Bicycle and Pedestrian Mobility

The “no-build” alternative would likely result in increased traffic volumes and negative impacts to the safety of cyclists and pedestrians along the corridor.

2.5.10 Constructability

No construction would occur under the “no-build” alternative.

2.5.11 Public Input

Based on public input, there is a strong consensus that an alternative route to the existing FM 150 is needed due to congestion and increased growth projections.

3.0 SUMMARY AND CONCLUSION

3.1 SUMMARY

A brief summary by resource area for the four corridors under consideration follows.

Construction Cost

Corridor A would potentially have the lowest construction cost of the four corridors, as it provides the shortest route to I-35 and could use the existing four-lane Kohler’s Crossing. Even though Corridor B is shorter than Corridor C, it is expected to have higher costs due to the constraints of downtown Kyle on potential expansion projects and the need for improvements to the UPRR at-grade crossing. While Corridor C would largely be a new roadway, the corridor has a relatively low amount of constraints that increase costs compared to the other corridors. Corridor D is anticipated to have the highest costs of the four corridors, with the need for numerous and substantial bridge structures to cross over the Blanco River.

Property Constraints

Corridors A, C, and D have relatively few property constraints, with the main difference for Corridor A being the two schools at the intersection of FM 2770 and Kohler’s Crossing. Corridor B is significantly constrained throughout the majority of the corridor by both private and commercial properties. The most constrained portion of the corridor is through downtown Kyle, which is lined with businesses and historical properties.

Travel Patterns/Demands

Corridor B best accommodates the existing travel patterns/demands for FM 150, as a significant portion of the volume is using the existing roadway to travel to I-35. The other three corridors all provide an alternative route from western Hays County to I-35, and all three would reduce the traffic congestion through downtown Kyle.

All of the corridors accommodate the future travel patterns/demands in the county and are all included in the County and CAMPO transportation plans. Corridor A would provide the northwest segment of the Kyle Loop, while Corridors C and D would provide the southwestern portion of the loop. Corridor B is included in the plans as an expansion from a two-lane minor roadway to a four-lane major arterial.

UPRR Improvements

Corridors C and D would not require any improvements to the UPRR crossing, as Yarrington Road already provides an overpass. Corridors A and B would both require significant improvements to mitigate the current at-grade crossings within each corridor, which would cause delays to the FM 150 traffic.

Groundwater and Surface Water Resources

Potential impacts to groundwater resources are fairly equivalent as all four corridors traverse the Edwards Aquifer Recharge, Contributing and Transition Zones and would be subject to TCEQ Edwards Aquifer rules. However, Corridors A and B potentially affect more recorded water wells. Surface water impacts would be lowest within Corridor B given its developed environment with no river or stream crossings. Corridor D presents the greatest potential impact to surface water resources given the two Blanco River and associated floodplain crossings. Surface water impacts posed by Corridors A and C are relatively equivalent as they both cross either named streams or tributaries to the Blanco River and affect 64 and 55 acres of floodplain, respectively.

GCWA Habitat

Given that they traverse stretches of undeveloped oak-juniper woodlands, Corridors C and D have highest potential impacts to GCWA habitat. Corridor A potentially impacts GCWA habitat near its western terminus and Corridor B has the lowest potential to impact GCWA habitat.

Community Resources, Businesses and Neighborhoods

Corridors A and B are essentially urban options within Kyle and would potentially affect substantially more public facilities, neighborhoods and therefore, residences than Corridors C and D which are more rural in nature. The biggest constraint to Corridor A will be its potential to impact the public schools while the biggest constraint for Corridor B will be its potential impacts

to many businesses in downtown Kyle. Rural subdivisions and residents are very concerned about impacts to their neighborhoods and surrounding roadways from Corridor C and, to a lesser extent, Corridor D.

Land Use

Corridors A and B have the potential to affect the largest amount of commercial and residential land since they traverse developed areas for the most part. Using Corridor A or B would not bring in a new transportation corridor per se, but would definitely change the nature of Corridor B from a relatively quaint downtown street to a much wider arterial with more of a “highway feel.” Corridors C and D would represent a new location transportation corridor that would alter and/or affect existing undeveloped, agricultural and, to a lesser extent, rural subdivision land uses in a variety of ways. The most dramatic changes would be posed by Corridor D due to the opening up of previously inaccessible tracts with new bridges over the Blanco River.

Cultural Resources, Parklands and Historic Sites

Corridors A and B could potentially affect known prehistoric sites and Corridor B, in particular, would have a high likelihood of affecting historic aged structures in downtown Kyle. All four corridors have Michaelis Ranch; an NRHP-listed property and Section 4(f) property. Corridor B has the most Historical sites (four including Michaelis Ranch), as well as Gregg-Clarke Park, a Section 6(f) resource. Of the two southern options, Corridor D would have the highest likelihood to impact potential prehistoric sites in and around the Blanco River. Corridor D also has three historical sites, Michaelis Ranch, Kyle Cemetery and the Kyle Claiborne Log House. The known historical sites properties and park could likely be avoided from direct impacts through design; however, Corridor B clearly has the highest risk for conflict with historic aged structures which have yet to be surveyed, identified and mapped in downtown Kyle.

Environmental Justice and Limited English Proficiency

Corridor B has the potential to affect the highest percentage of EJ residents. Two of the six block groups it intersects qualify as EJ populations due to high minority percentages (one of which has a poverty rate that is significantly higher than other block groups rates and the county percentage). Corridor A presents the second highest risk level, as two of its five BGs constitute EJ populations due to high minority percentages. Corridor C and D present comparatively lower risk levels for impacts to EJ populations. Only one of the five BGs intersecting Corridor C has a high minority percentage, and a poverty rate substantially higher than other BGs and the County. Corridor D is the most low-risk corridor option, as no minority population percentages exceed 50 percent, and only one BG contains a population with a comparatively high poverty rate. Therefore, Corridor D has the least potential impacts to EJ populations. Regarding LEP populations, the CT with the highest rate of LEP residents (8.2 percent of the total population) intersects all four corridor alternatives. Furthermore, all CTs have varying degrees of LEP resident percentages, indicating that accommodations in the form of interpretation / translation services would likely be required for each corridor.

Bicycle and Pedestrian Mobility

Generally speaking, improvements in bicycle and pedestrian mobility would be considered in the design process for any selected corridor; however, Corridor B would be the most difficult to accommodate such needs given the tight space constraints in downtown Kyle. Corridor B is already challenged in terms of bicycle and pedestrian mobility and safety and widening the roadway through this area would impact it further. Corridor A would also have special needs for students, faculty and visitors at the affected schools.

3.2 CONCLUSION

Based on the above analysis, Corridor C has been selected as the preferred corridor for the proposed realignment of FM 150. Although Corridor A was favored by the public, when the corridors were analyzed using all of the evaluation criteria together, Corridor C was determined to be the best option of the four corridors. The biggest constraint with Corridor A is the potential for roadway alignments going between two schools which would cause a variety of significant public safety issues. Corridor B would potentially cause more harm to downtown Kyle, by eliminating parking, encroaching on residential and business lots, as well as requiring improvements to the UPRR crossing. Corridor D would require extensive engineering costs and environmental compliance as it requires two bridges over the Blanco River and has the most potential GCWA habitat. Some of the major factors that stood out in favor for Corridor C include that it:

- matches well with the HCTP;
- provides the most feasible constructability;
- avoids business and public facility resources; and overall, provides more alignment options;
- provides a corridor that best solves the transportation problems; and,
- balances human and natural environment impacts without inhibiting future growth and development of the community.

Moving forward, roadway alignments within Corridor C will be analyzed to determine the best route for the proposed FM 150. Public meetings will be held to collect feedback from the public and to present the results of the route analysis. Ultimately, an alignment will be selected within Corridor C as the basis for design of the proposed roadway. **Table 1** below further summarizes the evaluation criteria by corridor, including the “no-build” alternative.

Table 1: Corridor and No Build Alternatives Evaluation Table					
Criteria	Corridor A	Corridor B	Corridor C	Corridor D	No Build
Construction Cost	Lowest cost	Lower than D, but higher than A and C	Lower than B and D, but higher than A	Most expensive overall	NA
Direct Property Constraints	Requires majority new ROW and construction between two schools.	Requires new ROW; eliminates roadside parking downtown; and require extensive coordination with property owners.	Would require almost entirely new ROW except for alignments connection at Yarrington Road.	Would require almost entirely new ROW except for alignments connection at Yarrington Road; ROW acquisition potentially easier than other three corridors.	No new ROW
Adjacent Property Constraints	Would increased traffic volume and noise near two schools and Plum Creek neighborhood.	Would increased traffic, noise and travel time; would potentially decreased property values, roadway's level of service, lot sizes; and congestion.	Would increased traffic noise for residential neighborhoods at the southern end of the corridor; and would potentially decreased traffic congestion.	Would increased traffic noise for residential neighborhoods at the southern end of the corridor; and undeveloped areas would potentially increase in property value.	Would increased FM 150 travel times and would potentially decreased roadway's level of service; and potential to negatively affect property values.
Accommodates Existing Travel Patterns/Demands	Shortest connection from existing FM 150 to I-35; best route to relocate current Austin bound traffic away from downtown Kyle.	Would accommodate current travel demands and patterns of FM 150.	Would accommodate current south and east bound traffic demands; and would relocate traffic away from downtown Kyle.	Would accommodate current south and east bound traffic demands; and would relocate traffic away from downtown Kyle.	Would not accommodate existing demands as there are currently extensive delays along Center Street through downtown Kyle.
Accommodates Future Travel Patterns/Demands	Would accommodate future travel patterns, and would complete HCTP northern segment of the proposed Kyle Loop.	Would accommodate future travel patterns.	Would accommodate future travel patterns, and would complete HCTP southern segment of the proposed Kyle Loop.	Would accommodate future travel patterns, and is similar to HCTP southern segment of the proposed Kyle Loop.	Would not accommodate future travel demands and will increased delays and congestion.
Improves Union Pacific Railroad Crossing	Would require significant improvements to UPRR crossing.	Would require improvements to UPRR crossing.	No improvements needed for UPRR crossing.	No improvements needed for UPRR crossing.	No improvements needed for UPRR crossing.
Groundwater	Over portions of all three zones; Edwards Aquifer Rules would apply; and 17 recorded water wells	Over portions of all three zone; Edwards Aquifer Rules would apply; and 19 recorded water wells.	Over portions of all three zones; Edwards Aquifer Rules would apply; and 9 recorded water wells.	Over portions of all three zones; Edwards Aquifer Rules would apply; and 8 recorded water wells.	Edwards Aquifer Rules would not apply and 0 recorded water wells.

Table 1: Corridor and No Build Alternatives Evaluation Table

Criteria	Corridor A	Corridor B	Corridor C	Corridor D	No Build
Surface Water	Future alignments could potentially cross Bunton Branch 1-3 times, Plum Creek 1 time, and 6 floodplains totaling 64 acres.	There are no rivers or streams. However, future alignments could potentially cross 2 floodplains totaling 4.4 acres.	There are no rivers or streams. However, future alignments could potentially cross 3-5 floodplains totaling 55.3 acres.	Future alignments could potentially cross the Blanco River 1-3 times and 9 floodplains totaling 934.1 acres.	No rivers, streams or floodplains.
GCWA Habitat	171 acres of potential GCWA habitat	4 acres of potential GCWA habitat	628.6 acres of potential GCWA habitat	642.4 acres of potential GCWA habitat	None
Community Resources, Businesses, and Neighborhoods	Four public facilities, 16 businesses and one church. Neighborhoods include: Arroyo Ranch, Century Acres, Plum Creek, Mountain City, and northeast Crystal Meadow Drive.	Three public facilities, 34 businesses, and one church. Neighborhoods include: Arroyo Ranch, Quail Meadows Village at Meadow Woods, Dove Hollow Estates, Hometown Kyle, Silverado, Young Woods Addition, and West Center St. from Rebel Dr. to I-35.	Two businesses, one church and one cemetery. Neighborhoods include: Oak Mesa, Wildcat Hollow, Blanco River Crossing, and north Roland Lane.	Kyle Cemetery (which is a historic cemetery registered with the THC). Neighborhoods include: Blanco River Crossing and Cypress Fairway Village.	Community resources and businesses would be negatively impacted due to increased travel time due to inaction.
Land Use	Majority undeveloped; little to no impacts on existing businesses; potential increase to commercial and residential development.	Primarily developed commercial and residential use; minor impacts to existing land use, but major impacts to parking availability, lot size, and character of downtown Kyle.	Majority undeveloped; little to no impacts on existing businesses; potential increase to commercial and residential development.	Majority undeveloped; south is primarily agriculture use; little to no impacts on existing businesses; potential increase to commercial and residential development.	Primarily developed commercial and residential use.
Cultural Resources	One THC historic site, one documented archeological site, and low probability of having prehistoric archeological sites.	Four THC historic sites, a Section 6(f) resource, and lowest probability of having prehistoric archeological sites.	Two THC historic sites, one documented archeological site, and low probability of having prehistoric archeological sites.	Three THC historic sites, four documented archeological sites, and moderate to high probability of having prehistoric archeological sites.	No impact to cultural resources.
Parklands and Historic Sites	No registered Section 4(f) properties.	Gregg-Clarke Park is a registered NRHP, Section 4(f) property.	No registered Section 4(f) properties.	Kyle Cemetery and Kyle Clairborne Log House are registered NRHP, Section 4(f) properties.	NA

Table 1: Corridor and No Build Alternatives Evaluation Table

Criteria	Corridor A	Corridor B	Corridor C	Corridor D	No Build
Environmental Justice	Intersects 5 BGs, 2 of which have minority populations exceeding 50 percent: 10910.2 (94.4 percent) and 10902.3 (62.3 percent). BG 10902.3 also contains 18.5 percent residents below the poverty line—county rate. Given these outcomes, Corridor A presents a medium-level risk for impacts to EJ populations (slightly more than as Corridor C).	Intersects 6 BGs, 2 of which have minority populations exceeding 50 percent: 10910.3 (63.6 percent) and 10905.3 (73.3 percent). In addition, 10905.3 has a poverty rate substantially higher than those in the surrounding area (43.1 percent). Given these outcomes, Corridor B presents the highest risk-level to EJ populations.	Intersects 5 BGs, 1 of which has a minority population exceeding 50 percent: 10905.3 (73.3 percent). 2 BGs have high poverty rates: 10905.3 (43.1 percent) and 10702.1 (49.1 percent). The other 3 are lower than the county rate. Given these outcomes, Corridor C presents a medium-level risk for impacts to EJ populations (slightly less than Corridor A).	Intersects 4 BGs, none of which have minority populations exceeding 50 percent. All BGs except 10702.1 (49.1 percent) have poverty rates lower than the county rate. Given these outcomes, Corridor D presents the lowest risk-level for impacts to EJ populations.	EJ percents are same as that of Corridor B; however, there would be no impact to these populations under the “no-build” alternative.
Limited English Proficiency	Intersects 4 CTs with the following LEP percentages: 10902 (3.9 percent), 10905 (8.2 percent), 10909 (3.0 percent) and 10910 (7.1 percent).	Intersects 4 CTs (same as Corridor A) with the following LEP percentages: 10902 (3.9 percent), 10905 (8.2 percent), 10909 (3.0 percent) and 10910 (7.1 percent).	Intersects 3 CTs with the following LEP percentages: 10902 (3.9 percent), 10905 (8.2 percent), and 10702 (1.0 percent).	Intersects 3 CTs (the same as Corridor C) with the following LEP percentages: 10902 (3.9 percent), 10905 (8.2 percent), and 10702 (1.0 percent).	LEP percents are same as that of Corridor B; however, there would be no impact to these populations under the “no-build” alternative.
Bicycle and Pedestrian Mobility	Bicycle lanes and/or a shared use path would be a major consideration for proposed alignments, particularly around schools.	Currently no bicycle or pedestrian mobility; and expansion would have limited mobility options.	Bicycle lanes and/or a shared use path would be a consideration for proposed alignments.	Bicycle lanes and/or a shared use path would be a consideration for proposed alignments.	Increased traffic volumes would negatively impact the safety of cyclists and pedestrians along the existing roadway.
Constructability	Impacts traffic at intersection of FM 2770 and Kohler’s Crossing; temporary access issues to two schools; overpass requirements for I-35 causes significant impacts; no impacts for construction north of Kohler’s Crossing.	Improvements to intersections would likely require detours around the existing UPRR, and one way traffic during construction of Center Street.	No impacts would be experienced during construction of the northwest portion or along Old Stagecoach Road.	Two separate river crossings prove to be difficult; no impacts would be experienced during construction.	No construction requirements.

Table 1: Corridor and No Build Alternatives Evaluation Table					
Criteria	Corridor A	Corridor B	Corridor C	Corridor D	No Build
Public Input	Preferred overall corridor	Second preferred corridor.	Third preferred corridor	Least preferred corridor	NA

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Appendix A: Hays County Transportation Plan

Appendix B: Hays County Independent School District Letter



Hays Consolidated Independent School District

Michael McKie
Superintendent of Schools

February 4, 2015

Mr. Victor Vargas
Texas Department of Transportation
125 East 11th Street
Austin, Texas 78701

Dear Mr. Vargas:

Let me first express my appreciation for the work the Texas Department of Transportation is doing to improve roadways in Hays County. We are a rapidly growing county and our school district is benefiting from the enhanced infrastructure. However, I need to communicate to you a serious concern our district has with the plan to realign FM 150 by building a roadway between Hays High School, Live Oak Academy, and Barton Middle School. Quite frankly, we are worried about the safety of our students, their families, and our employees.

Twice each day we operate approximately 70 buses to transport 2,500 students to and from Hays High School, Live Oak Academy, and Barton Middle School. An additional 1,000 students are on the area roadways in their family vehicles or as pedestrians. The increased traffic caused by realigning FM 150 between three schools in close proximity to each other would create a hazardous area in and around the campuses. There is also a high probability this route will add congestion on roads adjacent to the campuses and create difficulty with egress and ingress to the schools.

During times Shelton Stadium, which is adjacent to Hays High School, is in use, as many as 5,000 people converge on the area requiring local law enforcement to direct traffic. People often park at Barton Middle School and walk to the stadium. Crossing a four-lane highway in order to walk to the stadium would create a serious hazard. Please consider conducting a thorough safety study prior to adopting any plan that routes a significant amount of traffic between our schools.

I know you share our concern for safety, as it is the first part of your mission statement – “Work with others to provide safe and reliable transportation solutions for Texas.” I believe the plan to realign FM 150 between our schools would also conflict with the second part of your mission. Drivers will not have a good experience during the daily school arrival and departure periods. Reliability of FM 150 as a thru-traffic route would suffer. We believe motorists would find the route frustrating during the peak hours of their daily commutes. They would likely find it unbearable on days when traffic congests because of football games and other large activities at our stadium.

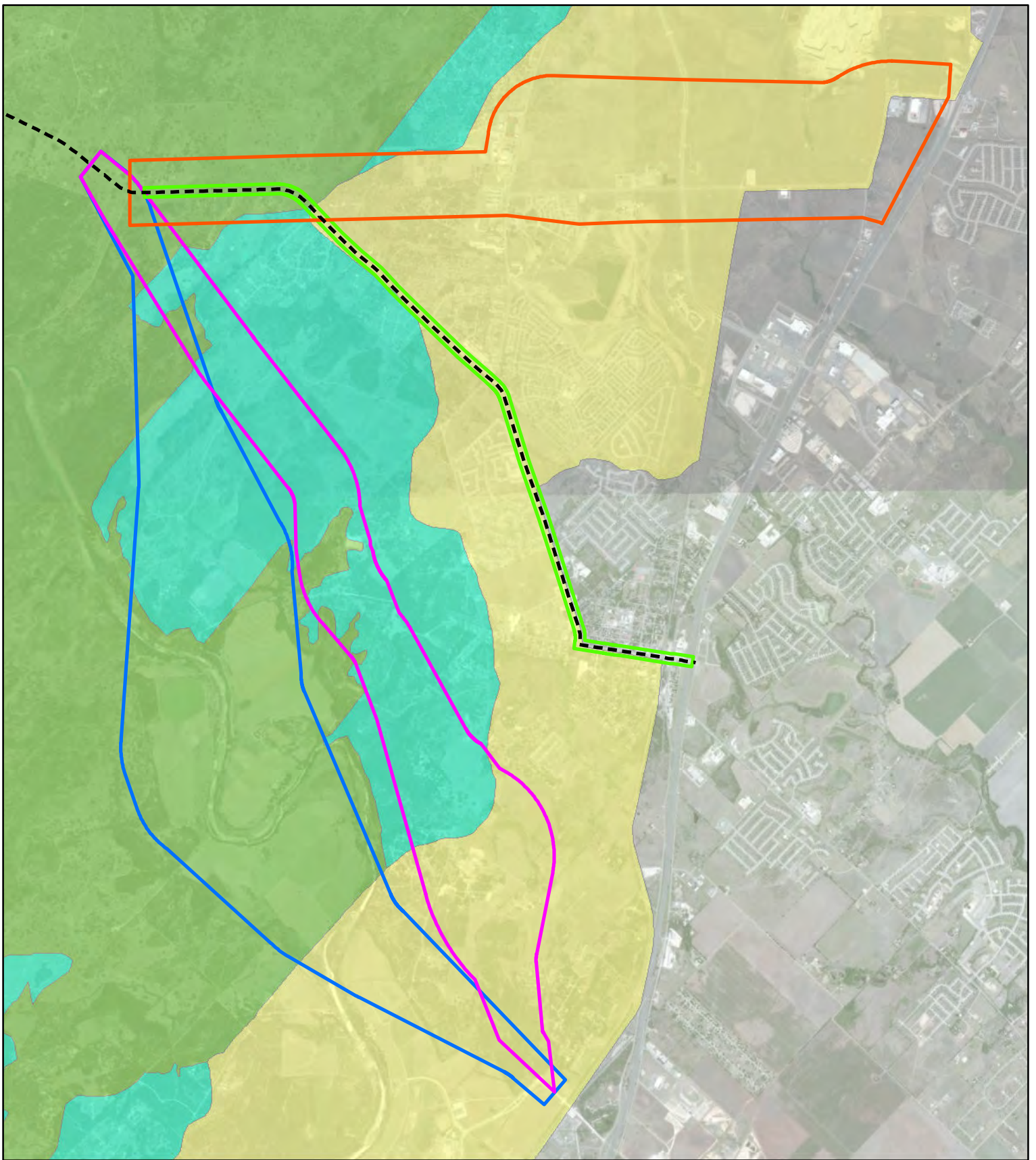
Thank you for your attention to our concerns. I speak for the entire school district when I request that you consider an alternate route for FM 150. If you need our help, or if you need additional information, we are happy to work with you.

Sincerely,

Michael McKie
Superintendent









cc: Hays CISD Board of Trustees

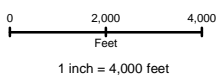
Appendix C: Edwards Aquifer Zones



Edwards Aquifer Zones

Key to Features

-  Existing FM 150
-  Corridor A
-  Corridor B
-  Corridor C
-  Corridor D
-  Edwards Aquifer Contributing Zone within the Transition Zone
-  Edwards Aquifer Recharge Zone
-  Edwards Aquifer Transition Zone



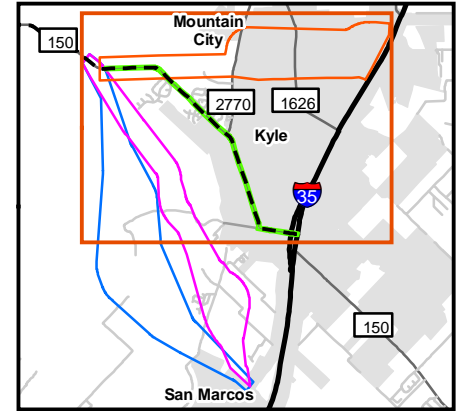
Appendix D: Natural Environment Constraints Map

FM 150 WEST ALIGNMENT STUDY

HAYS COUNTY



Locator Diagram

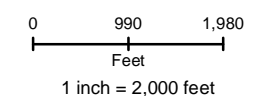
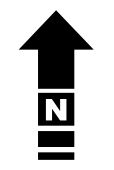


Key to Features

- Water Wells
- Existing FM 150
- Rivers and Streams
- Corridor A
- Corridor B
- Corridor C
- Corridor D
- 100 Year Floodplain

Potential Golden-cheeked Warbler Habitat

- Potential Low Quality Habitat
- Potential Medium Quality Habitat
- Potential High Quality Habitat



NATURAL ENVIRONMENT CONSTRAINTS

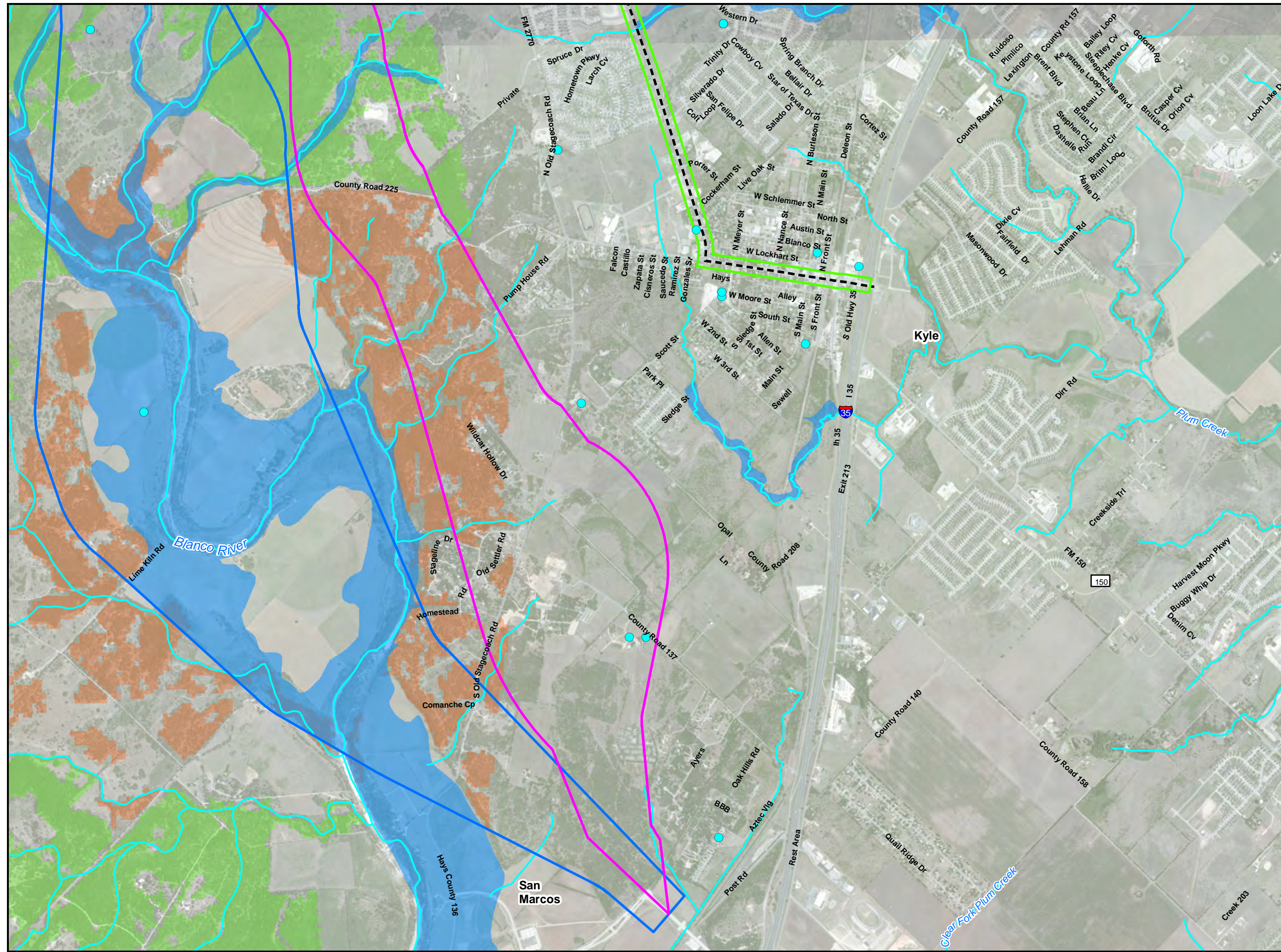
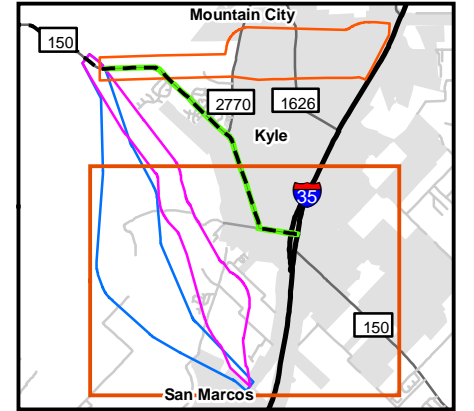
PLATE 2A

FM 150 WEST ALIGNMENT STUDY

HAYS COUNTY



Locator Diagram

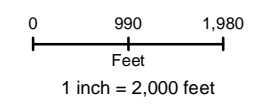
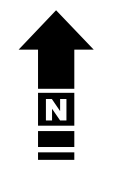


Key to Features

- Water Wells
- Existing FM 150
- Rivers and Streams
- Corridor A
- Corridor B
- Corridor C
- Corridor D
- 100 Year Floodplain

Potential Golden-cheeked Warbler Habitat

- Potential Low Quality Habitat
- Potential Medium Quality Habitat
- Potential High Quality Habitat



NATURAL ENVIRONMENT CONSTRAINTS

PLATE 2B

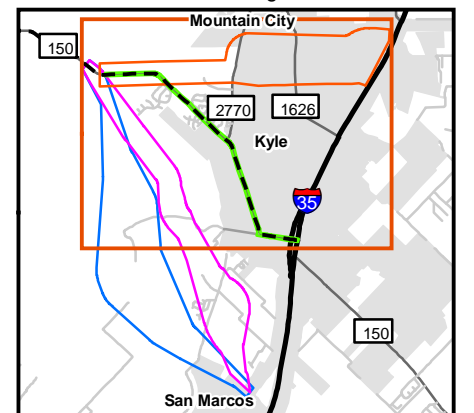
Appendix E: Human Environment Constraints Map

FM 150 WEST ALIGNMENT STUDY

HAYS COUNTY

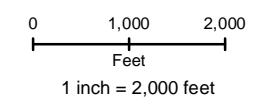
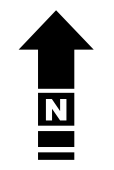


Locator Diagram



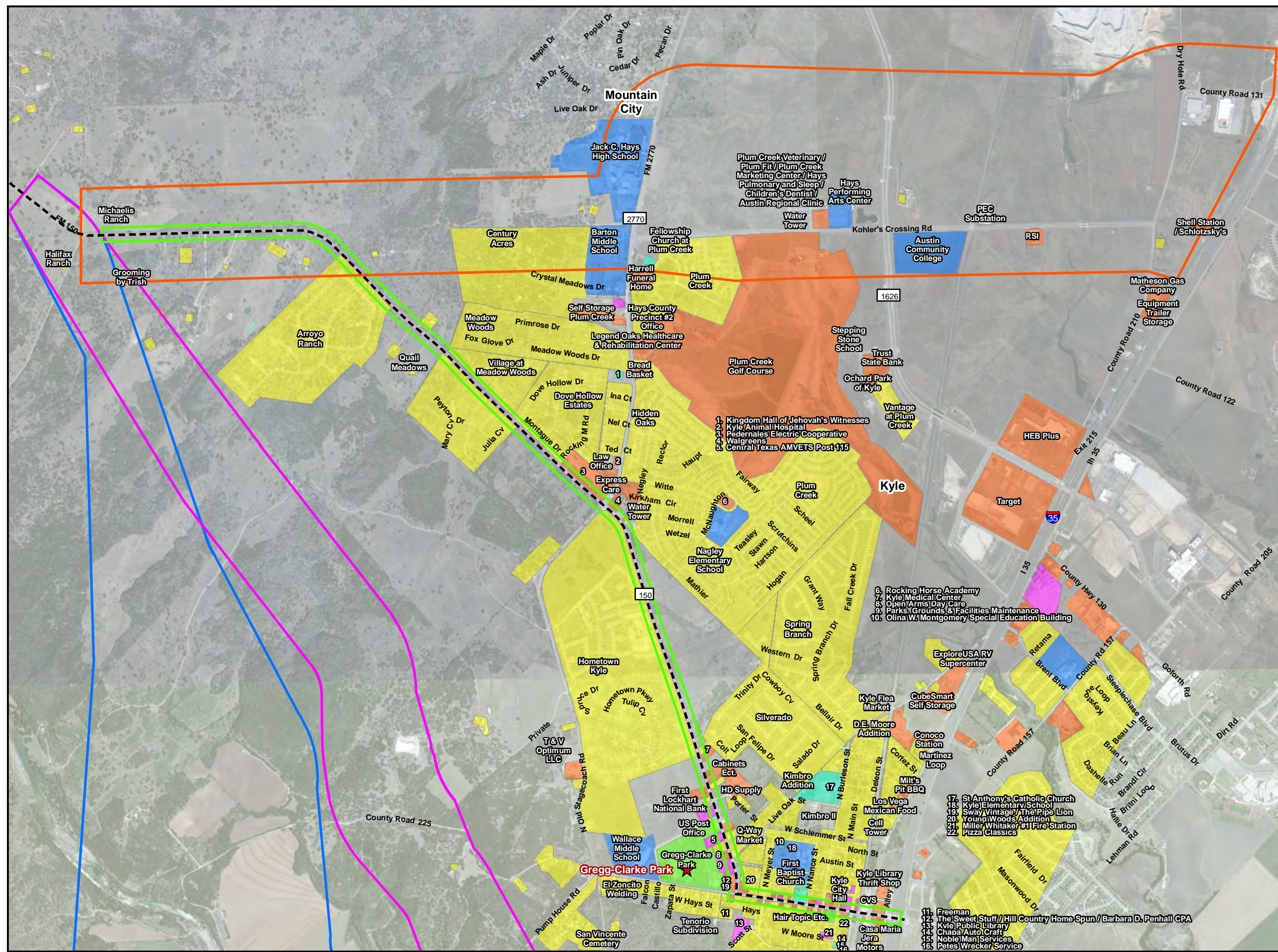
Key to Features

- ★ Historic Sites
 - ▲ Archeological Sites
 - - - Existing FM 150
 - Corridor A
 - Corridor B
 - Corridor C
 - Corridor D
- Land Use Types**
- Cemetery
 - Church
 - Commercial
 - Park
 - Public Facility
 - Residential
 - School
 - Utility



HUMAN ENVIRONMENT CONSTRAINTS

PLATE 1A

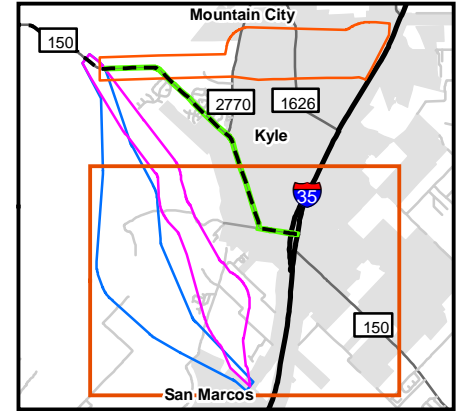


FM 150 WEST ALIGNMENT STUDY

HAYS COUNTY

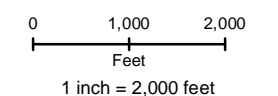
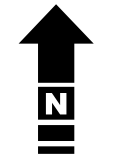


Locator Diagram



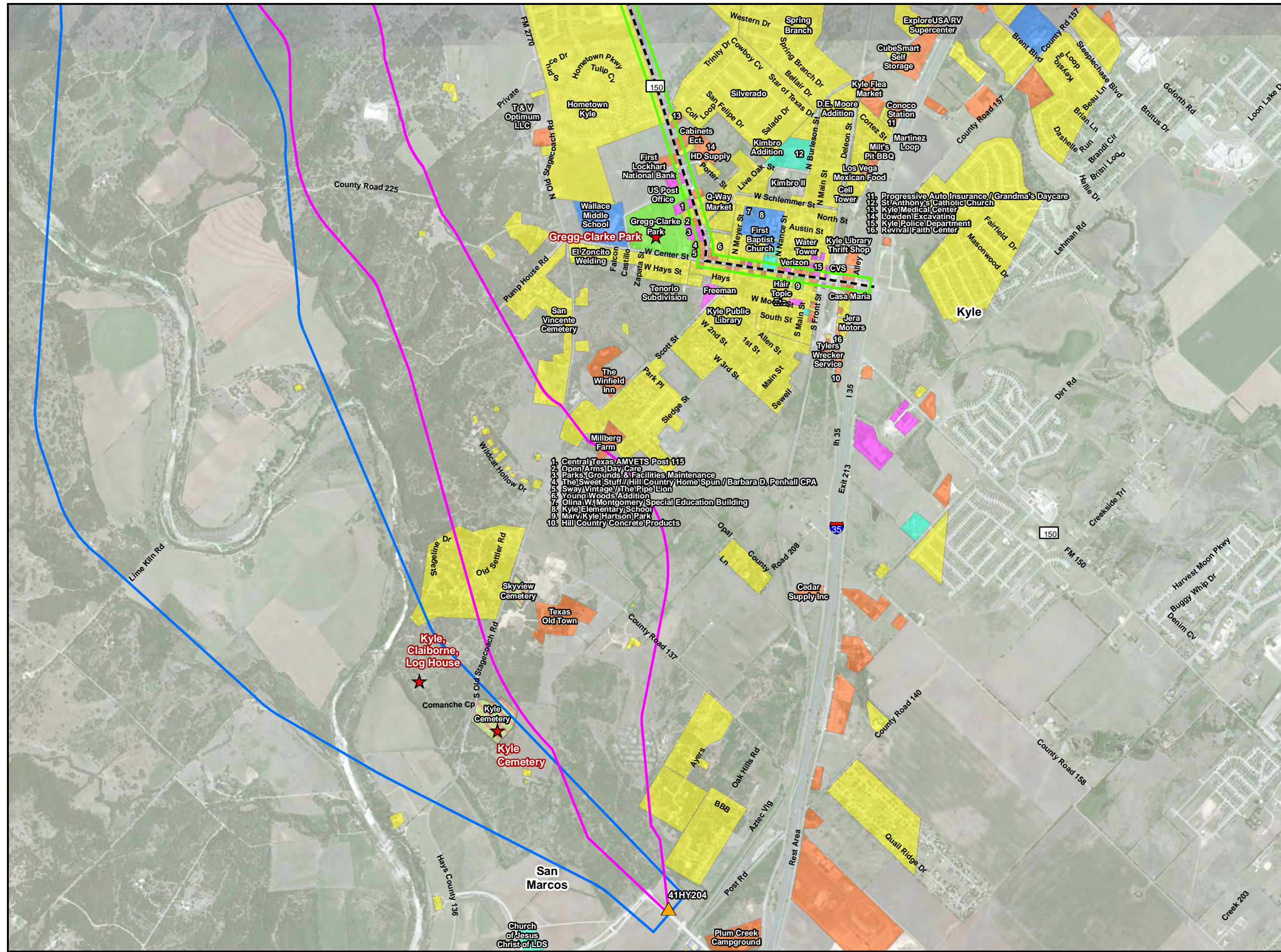
Key to Features

- ★ Historic Sites
 - ▲ Archeological Sites
 - - - Existing FM 150
 - Corridor A
 - Corridor B
 - Corridor C
 - Corridor D
- Land Use Types**
- Cemetery
 - Church
 - Commercial
 - Park
 - Public Facility
 - Residential
 - School
 - Utility



HUMAN ENVIRONMENT CONSTRAINTS

PLATE 1B



1. Central Texas AMVETS Post 115
2. Open Arms Day Care
3. Parks, Grounds & Facilities Maintenance
4. The Sweet Stuff / Hill Country Home Spun / Barbara D. Penhall CPA
5. Sway Vintage / The Pipe Lion
6. Young Woods Addition
7. Olina W. Montgomery Special Education Building
8. Kyle Elementary School
9. Marv Kyle Hartson Park
10. Hill Country Concrete Products

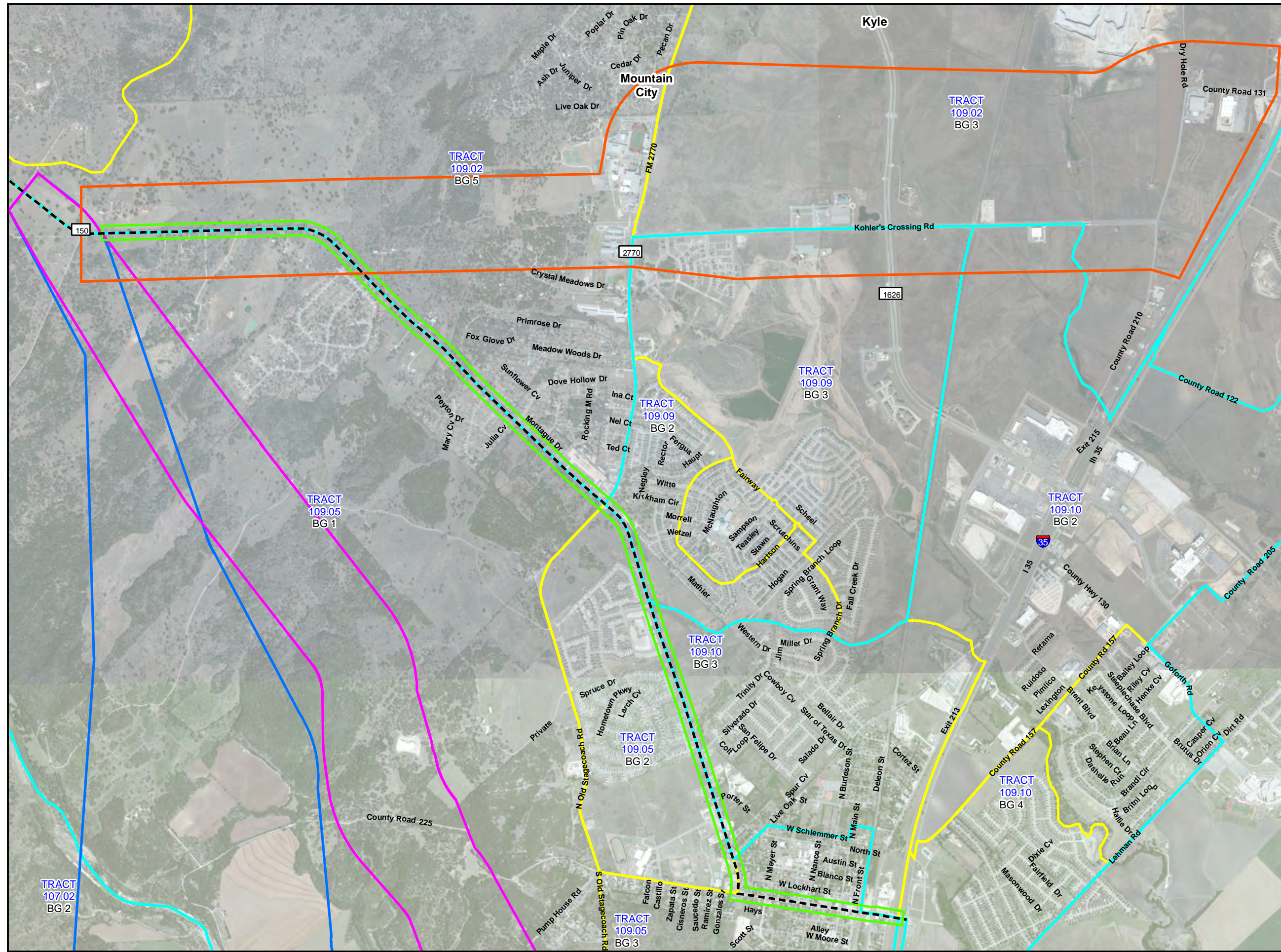
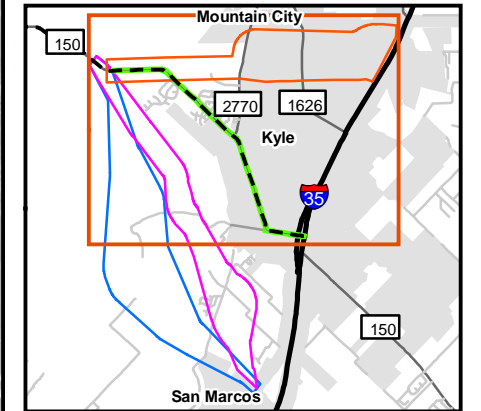
Appendix F: U.S. Census Bureau Block Groups and Census Tracts

FM 150 WEST ALIGNMENT STUDY

HAYS COUNTY

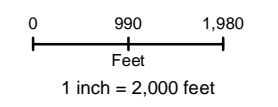
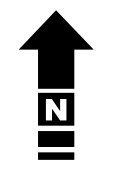


Locator Diagram



Key to Features

- Existing FM 150
- Corridor A
- Corridor B
- Corridor C
- Corridor D
- Census Tracts
- Census Block Groups



2013 CENSUS GEOGRAPHY

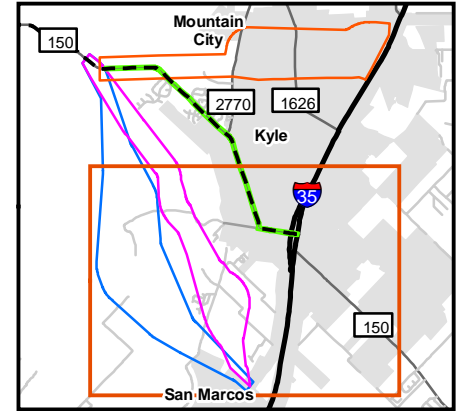
PLATE 3A

FM 150 WEST ALIGNMENT STUDY

HAYS COUNTY

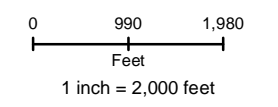
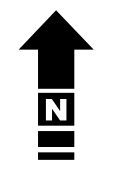


Locator Diagram



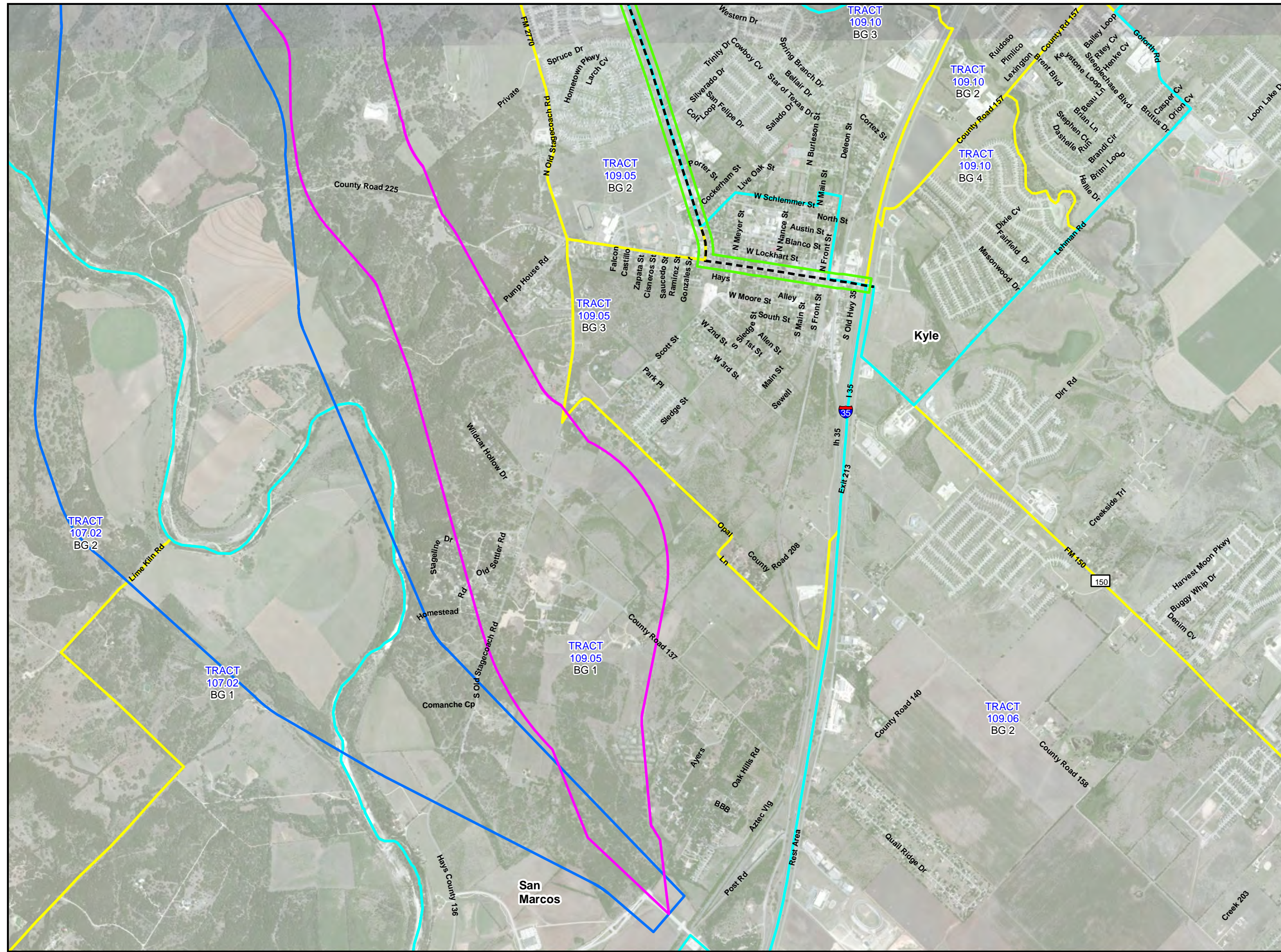
Key to Features

- Existing FM 150
- Corridor A
- Corridor B
- Corridor C
- Corridor D
- Census Tracts
- Census Block Groups



2013 CENSUS GEOGRAPHY

PLATE 3B

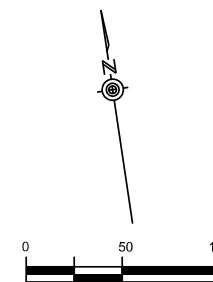


Appendix G: Existing Traffic Count Exhibits



SHEET LEGEND

200 AM PEAK HOUR TRAFFIC COUNT
 200 PM PEAK HOUR TRAFFIC COUNT



NOTES: AERIAL IMAGERY SHOWN IS 2009
 0.5M OBTAINED THROUGH CAPCOG

TAKEAWAYS:

- OF THE TRAFFIC COMING FROM DOWNTOWN KYLE:
 - APPROXIMATELY 50% ARE TRAVELING NORTHBOUND
 - APPROXIMATELY 20% ARE TRAVELING SOUTHBOUND
 - APPROXIMATELY 30% ARE TRAVELING TO EASTERN HAYS COUNTY
- OF THE TRAFFIC COMING FROM EASTERN HAYS COUNTY:
 - APPROXIMATELY 40% ARE TRAVELING NORTHBOUND
 - APPROXIMATELY 30% ARE TRAVELING SOUTHBOUND
 - APPROXIMATELY 30% ARE TRAVELING TO DOWNTOWN KYLE
- OF THE TRAFFIC COMING FROM THE NORTH:
 - APPROXIMATELY 50% ARE ULTIMATELY TRAVELING NORTHBOUND
 - APPROXIMATELY 5% ARE TRAVELING SOUTHBOUND
 - APPROXIMATELY 15% ARE TRAVELING TO DOWNTOWN KYLE
 - APPROXIMATELY 25% ARE TRAVELING EASTBOUND



HAYS COUNTY

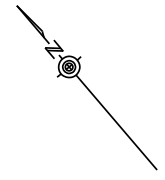
FM 150 WEST ALIGNMENT STUDY
 EXISTING TRAFFIC COUNTS

X:\Projects\0304 - Hays County FM 150 West Realignment\DWG\Exhibits\Report Exhibits\0304_Traffic_Counts_2770.dgn modified by gblackburn on 1/26/2015 - 1:08:30 PM



SHEET LEGEND

200 AM PEAK HOUR TRAFFIC COUNT
200 PM PEAK HOUR TRAFFIC COUNT



TAKEAWAYS:

- OF THE TRAFFIC COMING FROM DOWNTOWN KYLE:
 - APPROXIMATELY 60% ARE TRAVELING NORTHBOUND ONTO FM 2770
 - APPROXIMATELY 35% ARE TRAVELING TOWARDS WESTERN HAYS COUNTY
 - APPROXIMATELY 5% ARE TURNING LEFT ONTO OLD STAGECOACH ROAD
- OF THE TRAFFIC COMING FROM WESTERN HAYS COUNTY VIA FM 150:
 - APPROXIMATELY 65% ARE TRAVELING NORTHBOUNDS ONTO FM 2770
 - APPROXIMATELY 30% ARE CONTINUING SOUTH ON FM 150
 - APPROXIMATELY 5% ARE TURNING RIGHT ONTO OLD STAGECOACH ROAD
- OF THE TRAFFIC COMING FROM NORTHERN KYLE VIA FM 2770:
 - APPROXIMATELY 45% ARE TRAVELING TOWARDS WESTERN HAYS COUNTY
 - APPROXIMATELY 40% ARE TRAVELING TOWARDS DOWNTOWN KYLE
 - APPROXIMATELY 15% ARE CONTINUING STRAIGHT ONTO OLD STAGECOACH ROAD
- OF THE TRAFFIC COMING FROM OLD STAGECOACH ROAD:
 - APPROXIMATELY 70% ARE CONTINUING STRAIGHT ONTO FM 2770
 - APPROXIMATELY 20% ARE TRAVELING TOWARDS WESTERN HAYS COUNTY
 - APPROXIMATELY 10% ARE TRAVELING TOWARDS DOWNTOWN KYLE

HAYS COUNTY

FM 150 WEST ALIGNMENT STUDY
EXISTING TRAFFIC COUNTS

