
Visual and Aesthetic Resources Assessment Technical Report



U.S. Highway 290 (US 290) / State
Highway (SH) 71 West from State Loop 1
(Mopac) to Ranch-to-Market (RM) 1826
and
SH 71 to Silvermine Drive
Travis County, Texas
CSJ # 0113-08-060 and 0700-03-077

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Attachment A: Figures

Figure 1 VIA: Landscape Units, Area of Visual Effect, and Key Observation Points

Figure 2 VIA: Key Observation Points Detail

Attachment B: Key Observation Point Site Photos

ACRONYMS

A list of common acronyms used throughout this document and their definitions is provided below.

ACC	Austin Community College
AVE	Area of Visual Affect
CSS	Context Sensitive Solutions
CTRMA	Central Texas Regional Mobility Authority
FTA	Federal Transit Administration
FHWA	Federal Highway Administration
KOP	Key Observation Point
NEPA	National Environmental Policy Act
NCHRP	National Cooperative Highway Research Program
RM	Ranch-to-Market Road
SH	State Highway
TxDOT	Texas Department of Transportation
U.S.	United States of America

1. INTRODUCTION

1.1 Background

The Texas Department of Transportation (TxDOT) and the Central Texas Regional Mobility Authority (CTRMA) are considering mobility improvements to U.S. Highway (US) 290 / State Highway (SH) 71 West through Oak Hill (the Oak Hill Parkway). The project corridor extends along US 290 from State Loop 1 (Loop 1 or Mopac) to Ranch-to-Market Road (RM) 1826 for a distance of approximately 6.15 miles with a transition to the west. The project also includes the interchange on SH 71 from US 290 to Silvermine Drive, a distance of approximately 1.31 miles. The proposed project corridor is within the City of Austin in Travis County, Texas. The project includes the proposed locations of two water quality detention ponds: the first along SH 71 north of Covered Bridge Drive and the second between SH 71 and Old Bee Caves Road across from Sunset Ridge. The existing bridge over Williamson Creek and several culverts and/or drainage structures would be replaced or rehabilitated to accommodate the additional roadway width and new alignment. The existing right-of-way ranges from 90 to 260 feet wide and the proposed right-of-way would range from approximately 150 to 600 feet wide. See **Figure 1** for the project location limits.

Highways and major transit facilities can affect the visual and aesthetic character of surrounding landscapes and perceptions of individuals who live within and visit these environments. An assessment of visual impacts was conducted in accordance with the Guidelines for Visual Impact Assessment of Highway Projects by the Federal Highway Administration (FHWA 2015). The 2015 FHWA guidance, *Visual Impact Assessment of Highway Projects*, provides a framework for evaluating impacts to visual and aesthetic resources for highway projects. The National Cooperative Highway Research Program (NCHRP) issued a report entitled *Evaluation of Methodologies for Visual Impact Assessments* in 2013 (TRB 2013). This technical report includes an analysis of changes in visual resources and anticipated viewer response to determine potential visual impacts of the proposed project Build Alternatives.

1.2 Existing Facility

Currently, the US 290/SH 71 facility consists of a six-lane urban freeway section with two- to four-lane frontage roads from Mopac to just west of Old Fredericksburg Road. Direct connector ramps connect US 290/SH 71 to the Mopac main lanes. Between Old Fredericksburg Road and Joe Tanner Lane, US 290/SH 71 transitions from a freeway/frontage road facility to a four- and five-lane urban highway; this urban highway section continues to just east of the SH 71 junction. Between SH 71 and RM 1826, the existing US 290 roadway consists of four 11-foot travel lanes with

intermittent 14-foot center turn lanes and shoulders ranging from 2 to 4 feet in width. The existing SH 71 accommodates four 12-foot travel lanes, two 8-foot shoulders, and a 14-foot continuous center turn lane.

Dual left-turn and right-turn lanes exist on US 290 at Convict Hill Road, the Austin Community College Driveway, the Speedy Stop, Oak Hill United Methodist Church, and RM 1826. Innovative improvements called continuous flow intersections (CFI) were constructed on US 290 at William Cannon Drive and SH 71, as well as a median U-turn at Joe Tanner Lane. The CFI was constructed in one direction at SH 71 and in two directions at William Cannon Drive.

1.3 Build Alternatives

1.3.1 Alternative A

Alternative A is a conventional controlled-access highway with frontage roads. New construction for roadway improvements would begin just east of Joe Tanner Lane where the existing main lanes transition to an urban highway. With *Alternative A*, the main lanes would be elevated over William Cannon Drive and the westbound main lanes and frontage road would be located north of Williamson Creek. The main lanes would be depressed under SH 71 and direct connectors would be provided, connecting eastbound SH 71 with US 290 and westbound US 290 with SH 71. Main lanes would vary from four lanes in each direction near William Cannon Drive to a two-lane transition near the western project extent. Grade-separated intersections would be constructed at Convict Hill Road, RM 1826, Scenic Brook Drive, and Circle Drive (S. View Road). Main lanes would generally be 12 feet wide with 10-foot-wide shoulders. Texas turnarounds, which allow vehicles traveling on a frontage road to U-turn onto the opposite frontage road, would be constructed on US 290 frontage roads at Scenic Brook Drive, RM 1826, Convict Hill Drive, and William Cannon Drive.

Along SH 71, the direct connector ramps would extend past Scenic Brook Drive where the main lanes would then transition to a five-lane (three lanes northbound, two lanes southbound) rural highway with Texas turnarounds. Bicycle and pedestrian facilities would be provided via a shared-use path and/or sidewalks along the entire project length.

Alternative A would require the acquisition of approximately 74.58 acres of new right-of-way, which would include acreages for the two stormwater detention ponds. Approximately 4.08 acres of temporary construction easements and 0.21 acres of shared-use path are currently proposed for this alternative.

1.3.2 Alternative C

Alternative C is a conventional controlled-access highway with frontage roads. Construction of roadway improvements would begin just east of Joe Tanner Lane where the existing main lanes transition to an urban highway. With *Alternative C*, main lanes would be elevated over William Cannon Drive with eastbound and westbound main lanes located north of Williamson Creek. Frontage roads would be along the existing highway. The main lanes would remain elevated over the intersection with SH 71. West of SH 71, *Alternatives A and C* share the same design, and grade-separated intersections would be constructed at Convict Hill Road, RM 1826, Scenic Brook Drive and Circle Drive (S. View Road). Direct connectors would allow drivers to access westbound SH 71 and eastbound US 290. US 290 would generally consist of two to four 12-foot lanes with 10-foot shoulders in each direction. Texas turnarounds would be constructed on US 290 frontage roads at Scenic Brook Drive, RM 1826, and Convict Hill Road.

Along SH 71, the direct connector ramps would extend past Scenic Brook Drive where the main lanes would transition to a five-lane (three lanes northbound, two lanes southbound) rural highway with Texas turnarounds. Bicycle and pedestrian facilities would be provided via a shared-use path and/or sidewalks along the entire project length.

Alternative C would require the acquisition of approximately 75.19 acres of new right-of-way, which would include acreages for the two stormwater detention ponds. Approximately 4.12 acres of temporary construction easements and 0.21 acres of shared-use path are currently proposed for this alternative.

1.3.3 No Build Alternative

Consistent with the requirements of the National Environmental Policy Act (NEPA) and FHWA guidelines, this analysis considers an alternative that assesses environmental effects if the proposed project were not built. This alternative, called the *No Build Alternative*, includes the routine maintenance and improvements of the existing roads in the study area and the currently programmed, committed, and funded roadway projects. While the *No Build Alternative* does not meet the project needs, it provides a baseline condition to compare and measure the effects of all both build alternatives.

2. AFFECTED ENVIRONMENT

2.1 Description

The project area is an urbanized area within an existing transportation corridor. Build alternative sites are made up largely of commercial and institutional land uses bordered by residential land uses and intermixed with small areas of undeveloped parcels. Most views of build alternatives are foreground views available from vantages no more than 1,000 feet of, and immediately adjacent to, the sites. Environmental elements such as buildings, vegetation, infrastructure, and terrain block views of the sites from foreground vantages beyond 1,000 feet, and from middle ground and background vantages. However, the build alternatives are visible from a few higher locations where topography, lack of tall vegetation, or multi-story buildings at an elevated vantage allow for such views (Austin Community College [ACC] Pinnacle campus). Similarly, a small number of views are available from vantage points at lower elevations, looking upward. Several parcels adjacent to the US 290 and SH 71 roadways are undeveloped vegetated lots containing disturbed oak-juniper and native-invasive woodland vegetation. Undeveloped land is fragmented throughout the project area.

The project area contains very few structural resources related to its early development; structures making up the cultural order reflect the area's transition from an agricultural-based community to a suburban development at the outermost edges of the City of Austin. The project area is largely composed of suburban commercial and residential land developments from the last four to five decades, intermixed with small areas of vegetated undeveloped parcels and institutional services (DEIS Appendix L: *Oak Hill Parkway Historic Resources Survey Report*).

The project is located within the Edwards Plateau Natural Region of Texas, an uplifted ecological region of Central Texas characterized by thin top soils and rolling hills of sandstone, limestone, and shales (DEIS Appendix J: Biological Resources Technical Report). Elevations within this region range from 100 feet to 3,000 feet above mean sea level, and topography is bisected by several river systems, creating a well-drained landscape. Historically a grassland savannah, the Edwards Plateau once supported a diverse assemblage of grasses and forbs with a juniper-oak woodland overstory; now the vegetation community in much of this region has evolved into a landscape dominated by native-invasive plants (TxDOT 2017). Natural features of the project corridor, such as the bluff along US 290, visually support the unique characteristics of the Edwards Plateau Natural Region.

2.2 Landscape Units

The Area of Visual Affect (AVE) comprises lands within 1,000 feet of the project area (**Figure 1**). The project area was aggregated into unique landscape units, defined by their similar visual features and homogeneous character. Landscape units are as follows:

Landscape Unit 1: Mopac to Joe Tanner Lane

Landscape Unit 2: Joe Tanner Lane to Old Bee Cave Road

Landscape Unit 3: The “Y” Interchange (Old Bee Cave Road to Scenic Book Drive and Convict Hill Road)

Landscape Unit 4: Convict Hill Road to Tara Lane

Landscape Unit 5: Scenic Brook Drive to Silvermine Drive

The presence of vegetation was not considered when identifying the larger landscape unit boundaries because screening provided by vegetation may be altered by human actions such as clearing for development and natural phenomena such as fire. However, vegetation was considered in the Key Observation Point (KOP) analysis because of the impact vegetation may have on the viewer’s perspective.

The potential for the incorporation of noise walls into the design was not considered in this visual analysis; noise wall layouts are generally started after developing final alignments and preliminary cross sections. Noise barriers could result in restricted views. People who live in areas affected by traffic noise are notified by mail when noise barriers are proposed for their areas. They are also informed about when and where a noise workshop will be held. The opinions of those affected are vital to the construction of a noise barrier. Even if the noise study indicates that a noise barrier is feasible and reasonable, the final decision to build or not is by a simple majority vote. Local officials are provided copies of the noise study and federal regulations on traffic noise to assist in future land use planning that promotes harmony between land development and highways. The potential location of noise walls to mitigate where predicted noise levels are above FHWA criteria are shown in the DEIS Appendix F: *Noise Analysis Technical Report*.

Aerial photographs and two site visits, for the exclusive purpose of documenting visual elements of the affected environment, were completed mid-afternoon on June 5 and July 6, 2017. Information was collected and organized into **Table 1**, Visual Character: Natural and Cultural Environments.

Below, **Table 1** catalogues specific information about the project area's natural and cultural environments as part of an inventory assessment. For the inventory of the cultural environment, visual attributes of cultural resources contained in the project's AVE include the visual character of its buildings, infrastructure, structures, artifacts and art. Like the attributes associated with natural visual resources, cultural resources interact with each other to form a composition. Some cultural visual resources, although not buildings, infrastructure, or structures, still can contribute to the visual character of the project area. Many of these items, classified by the visual impacts assessment process as artifacts, are those items that do not fit neatly into any other category. A discussion of methodology and impact analysis follows **Table 1**.

Table 1. Visual Character: Natural and Cultural Environments							
Landscape Unit	Visual Character of Natural Environment		Visual Character of Cultural Environment				Synthesis
	Land	Vegetation	Buildings	Infrastructure	Structures	Artifacts and Art	
1 (Mopac to Joe Tanner Lane)	Generally flat to rolling.	Grass turf medians, landscaped street frontage (street trees and turf).	Large commercial retail stores, strip malls, non-descript office buildings occupy open space of asphalt surfaced parking lots. Billboards and pole signs.	Dominant feature is three-level stacked interchange (US 290, SH 71, Mopac). Other elements include light and utility poles, and TxDOT signs.	US 290 interchange has few urban design elements incorporated into components of infrastructure. At the US 290/SH 71 and Mopac interchange, direct connector ramps connect US 290/SH71 mainlanes to the Mopac mainlanes; portion of 290/SH 71 from Mopac to west of Old Fredericksburg Rd. is six-lane urban freeway (three lanes each direction) with grade-separated interchanges. US 290/71 mainlanes are 12-feet wide with 10-foot wide shoulders, frontage road lane widths vary, 12 to 14 feet wide. Mainlanes are elevated over intersections at Monterey Oaks Blvd. and Old Fredericksburg Rd. Frontage roads here consist of four to eight lanes (two/four) each direction.	Three-level stacked interchange	Moderate
2 (Joe Tanner Lane to Old Bee Cave Road)	Gently rolling hills with geological features highlighting the karst nature of the landscape; visual character west of William Cannon Dr. dominated by bluff protruding upwards (approximately 938-feet above sea level).	Williamson Creek is located north of the parcels fronting US 290, stream bank vegetation is prominent visual feature in background, road is at grade, trees and turf become dominant foreground features; “iconic trees” are located on north side of US 290 in undeveloped parcels.	Old Rock Store (Austin Pizza Garden) and older auto-oriented commercial along base of cliff, along with large strip mall integrated into landscape of cliff and existing street network (signage at the strip mall shopping center is at higher elevation than structure and most prominent feature of the property).	Light/utility poles. Clay orange brick inlay for medians.	Between Old Fredericksburg Rd. and Joe Tanner Ln., US 290/SH 71 transitions from a freeway/frontage road facility to a four and five lane urban highway, lanes are 11 to 12- feet wide including intermittent 12-foot center left-turn lane. Drainage swale along small commercial properties (south of US 290), billboards. Detached single-family homes sit atop the hill on Wolfcreek Pass.	Iconic trees	Moderate
3 (the “Y”)	Flat, but with rolling hills in the background of the “Y.”	Street trees and parking lot landscaping are primary vegetation along SH 71. Large undeveloped tract fronting US 290 east of ACC Pinnacle is composed of stands of mature	Large commercial retail stores and smaller scale commercial operations with surface lots fronting the street, and striped asphalt-covered parking lots are dominant feature along SH 71.	Light/utility poles.	Billboards	None known	Moderate to low

Table 1. Visual Character: Natural and Cultural Environments							
Landscape Unit	Visual Character of Natural Environment		Visual Character of Cultural Environment				Synthesis
	Land	Vegetation	Buildings	Infrastructure	Structures	Artifacts and Art	
		trees, as is the area south of US 290 along the base of the cliff.					
4 (Convict Hill Road to Tara Lane)	Generally flat, rolling hills in background.	Densely vegetated rolling hills.	ACC Pinnacle campus, small-scale highway commercial, billboards, exaggerated high-peaked roof tops of housing development visible from corridor.	Light/utility poles, street lights.	ACC Pinnacle tower is tallest building in southwest Austin. The hill where the building is located stands approximately 55 feet above nearby US 290. The tower stands at approximately 985 feet above sea level, about 500 feet higher than downtown Austin. ACC moved into the building in 1991; the school cafeteria on 9th floor has views of downtown approximately nine miles away.	ACC Pinnacle campus	Moderate to high
5 (Scenic Brook Drive to Silvermine Drive)	Generally flat, rolling hills in background.	Densely vegetated rolling hills.	Low intensity small-scale commercial buildings (fabricated), detached single-family homes.	Light/utility poles, street lights.	None known	None known	Moderate to low

Source: Cox|McLain Environmental Consulting (CMEC), 2017.

3. METHODOLOGY

3.1 Criteria Defining Visual Quality

An evaluation of the existing visual quality is based on three criteria: Natural Harmony, Cultural Order and Coherence (FHWA 2015). Results from the evaluation for the project are documented in **Tables 2** and **3**.

- *Natural Harmony:* Viewing the visual resources of the natural environment creates a sense of natural harmony. People interpret the visual resources of the natural environment as being harmonious or inharmonious.
- *Cultural Order:* Viewing the visual resources of the cultural environment creates in people a sense of cultural order. People interpret the visual resources of the cultural environment as being orderly or disorderly.
- *Project Coherence:* Viewing the visual resources of the project environment creates in people a sense of project coherence. People interpret the visual resources of the project environment as being either coherent or incoherent.

3.2 Evaluation of Landscape Units

Once each landscape unit is evaluated for its vividness, intactness, and unity, it is categorized as having low, moderate, or high visual quality (FHWA 2015).

- *Low visual quality:* Areas may be visually disjointed, degraded, or jumbled, with no cohesion.
- *Moderate visual quality:* Areas may be pleasing to the eye, but lack dramatic or memorable features. Visual conditions in the region are commonly of moderate quality.
- *High visual quality:* Areas must clearly or dramatically exhibit the character of the region, and be distinct, unique, or memorable. Dramatic terrain or exceptionally memorable urban areas may fall into this category.

Within each landscape unit, key observation points (KOPs) were identified because they are critical or representative of the visual character of either the environment or the project. KOPs encompass views both of and from the highway and are

representative of the range of views that are affected by the project. Representative views were selected to catalog an image of critical baseline conditions to be used to assess visual impacts of the project. KOPs for the analysis provide an image capturing existing visual character and visual quality of the landscape unit altered by the proposed project. See **Figure 2** for a detailed view of the KOPs.

3.3 Viewer Group Sensitivity

The population affected by the proposed project is referred to as viewers. In the inventory phase, viewers are defined by their relationship to the proposed highway project and their visual preferences. There are two distinct groups of viewers: neighbors and travelers. Neighbors are those people who are adjacent to the highway and have “views of the road.” Travelers are those people who are using the highway and have “views from the road.” Neighbors and travelers can be further subdivided into categories that help to establish viewer preferences and their sensitivity to changes in visual resources. The compatibility of the impact and the sensitivity of the viewer yield the degree of the impact to visual quality (FHWA 2015).

Sensitivity to the impact is defined by the ability of viewers to see and care about a project’s impacts. The sensitivity to impact is based on viewer sensitivity to changes in the visual character of visual resources. Viewers are either sensitive or insensitive to impacts. By itself, the sensitivity of the impact should not be confused or conflated with the value of the impact (FHWA 2015).

A proposed project may benefit visual quality by either enhancing visual resources or by creating better views of those resources and improving the experience of visual quality by viewers. Similarly, it may adversely affect visual resources. The degree of change and resulting visual quality for the viewer are documented in **Tables 2 and 3** below.

Table 2. Visual Impacts of Alternative A							
Landscape Unit	Primary Viewer	Viewer Group Sensitivity	Key Observation Point (KOP)	Alternative A: Changes in Landscape	Existing Visual Quality	Degree of Change	Resulting Visual Quality
1 (Mopac to Joe Tanner Lane)	Travelers: Motorists	Low	KOP 1: US 290 interchange transition	<p>Current View: Suburban commercial development properties. Asphalt surface parking lots, utility poles, billboards and commercial business pole signs. Trees, turf, and rolling hills are dominant distant backdrop.</p> <p>Effect: Reconfiguration of at-grade travel lanes would occur.</p>	Low to moderate	Low	Low
2 (Joe Tanner Lane to Old Bee Cave Road)	Neighbors: Patrons	Moderate	KOP 1: Old Rock Store (Austin Pizza Garden)	<p>Current View: At-grade six-lane urban highway with large asphalt-covered median; stands of trees beyond asphalt are dominant feature against open sky views.</p> <p>Effect: At-grade transportation infrastructure improvements would not impact patrons' views from existing commercial operations. Landscaping improvements would occur and the existing swath of asphalt median would be re-organized, potentially improving the environment.</p>	Low	Moderate	Low
2	Travelers: Motorists	Low	KOP 2: William Cannon Drive	<p>Current View: William Cannon Drive looking north, roadways are visible; wooded tree area along William Cannon Drive and north of US 290 in background of open sky.</p> <p>Effect: Top of elevated roadway would be at elevation of existing tree tops north of US 290. Elevated roadway would be dominant visual feature. Looking south from William Cannon Drive, the elevated vertical face of the bluff would be impacted.</p> <p>Patrons' views from commercial operations (southwest corner of US 290 and William Cannon Drive) would be impacted by bulk and mass of the elevated mainlines immediately adjacent to the property; elevated mainlines would cast shadow over property and be dominant visual feature to patrons.</p>	Moderate	High	Moderate to low
2	Neighbors: Residents	High	KOP 3: Wolfcreek Pass	<p>Current View: No views beyond the homes were observed from existing right-of-way. A review of topography maps and a site visit suggests homes along the north side of Wolfcreek Pass with rear yards adjacent to the project area have rolling hill views in the background, with the existing transportation corridor in the middle ground of their view.</p> <p>Effect: The elevated US 290 mainlanes would be constructed approximately 20 to 40 feet below the elevation of the rear yards of single family homes along the northside of Wolfcreek Pass and approximately 100 feet to the north, putting the south face of the elevated mainline in the foreground of the existing view.</p>	High to Moderate	Moderate	Moderate
3 (the "Y")	Neighbors: Patrons	Low	KOP 1: Planet Fitness	<p>Current View: Utility poles/wires in foreground of rolling hills and cliff, large billboards, large commercial stores, and signage (pole and flush wall mount).</p>	Low	Low	Moderate

Table 2. Visual Impacts of Alternative A								
Landscape Unit	Primary Viewer	Viewer Group Sensitivity	Key Observation Point (KOP)	Alternative A: Changes in Landscape	Existing Visual Quality	Degree of Change	Resulting Visual Quality	
				Effect: View of rolling hills to the north would not be impacted with this alternative because US 290 mainlanes are depressed below the existing grade. The elevated SH 71 direct connector ramps would be in western view. Landscape trees and a shared-use path would be in foreground of this view against the backdrop of the cliff.				
3	Neighbors: Patrons	Low	KOP 2: Access Road between Prosperity Bank and Starbucks	<p>Current View: At-grade roads below and highway commercial development are elements of the view in the foreground, but it is the vegetated rolling hillside on the horizon that serves as the focal point of the view, not any individual element of the built environment.</p> <p>Effect: The view will be similar to the No Build Alternative. Within the existing transportation corridor, the US 290 mainlanes would be below grade, retaining walls supporting the US 290 depressed lanes and the at-grade access roads (at similar grade to existing) would be visible, but would not obstruct views nor act as an intrusion to the horizon. SH 71 connector ramps would be visible, but wrap around existing highway commercial developments at a similar elevation to the rooftops and pole signs. Landscape trees and a shared-use path would be introduced into the built environment along the SH 71 corridor. The transportation corridor would evolve from a loosely organized area of surface interchanges into an organized transportation network (elevated, at-grade, and below grade) serving a broad range of users (including pedestrians and cyclists).</p>	High	Low	High	
4 (Convict Hill Road to Tara Lane)	Neighbors: Patrons	Neutral	KOP 1: ACC Tower (café on 9 th floor)	<p>Current View: ACC Pinnacle provides a view of the downtown Austin skyline in the horizon. The building’s surface parking lot, the highway commercial surface parking lots at the “Y,” and the roof tops of the multi-family housing across the street break up the vegetated rolling hills. Existing transportation corridor ribbons through vegetation, but is not a central component of the view.</p> <p>Effect: Visual impacts would be limited, US 290 mainlanes are mostly located within the existing transportation corridor and would be depressed.</p>	Moderate to high	Low	Moderate to high	
4	Neighbors: Residents	High	KOP 2: Vantage Point Drive	<p>Current View: It was determined during a site visit that residential views could not be observed from the street right-of-way; however, from reviewing aerial images, it appears approximately 20 single family homes running parallel to the project have views of the adjacent wooded open space from their rear yards.</p> <p>Effect: Some existing vegetation to be removed as part of the project; however, the take of the undeveloped tract would not extend to the property line of the homeowners along Vantage Point Dive. It is assumed there would be less vegetation to provide a buffer from the at-grade roadway.</p>	Moderate to high	Moderate	Moderate	
5 (Scenic Brook Drive to Silvermine Drive)	Travelers: Motorists	Low	KOP 1: Scenic Brook Drive	Current View: Current view from Scenic Brook Drive is of auto-oriented commercial businesses (car wash and gas station) with tree tops, utility lines, and a billboard surrounded by vegetation with rolling hills and open sky views in the background.	Moderate to low	Moderate	Moderate	

Table 2. Visual Impacts of Alternative A							
Landscape Unit	Primary Viewer	Viewer Group Sensitivity	Key Observation Point (KOP)	Alternative A: Changes in Landscape	Existing Visual Quality	Degree of Change	Resulting Visual Quality
				Effect: Elevated SH 71 connectors would cross above Scenic Brook Drive (approx. 17 feet above grade). Landscape and pedestrian infrastructure improvements are proposed.			

Source: CMEC, 2017.

Table 3. Visual Impacts of Alternative C							
Landscape Unit	Primary Viewer	Viewer Group Sensitivity	Key Observation Point (KOP)	Alternative C: Changes in Landscape	Existing Visual Quality	Degree of Change	Resulting Visual Quality
1 (Mopac to Joe Tanner Lane)	Travelers: Motorists	Low	KOP 1: 290 Interchange transition	<p>Current View: Suburban commercial development properties. Asphalt surface parking lots, utility poles, billboards and commercial business pole signs. Trees, turf, and rolling hills are dominant distant backdrop.</p> <p>Effect: In this area, travel lanes transition from at-grade six-lane urban freeway to an elevated urban highway. Motorists heading east would have a longer view of downtown Austin, and those heading west would have an elevated view of the tops of the existing highway commercial development (roofs, utilities, pole signs, billboards) and tree tops in backdrop of rolling hills.</p>	Low to moderate	Moderate	Low to moderate
2 (Joe Tanner Lane to Old Bee Cave Road)	Neighbors: Patrons	Moderate	KOP 1: Old Rock Store (Austin Pizza Garden)	<p>Current View: At-grade six lane urban highway with large asphalt-covered median; strands of trees beyond asphalt roads in the foreground are dominant feature against open sky views in the back ground</p> <p>Effect: View would be obstructed by retaining wall supporting elevated US 290 mainlanes. Highest point of elevated highway exceeds height of Old Rock Store building.</p>	Low	High	Low
2	Travelers: Motorists	Low	KOP 2: William Cannon Drive	<p>Current View: William Cannon Drive looking north, roadways are visible; wooded tree area along William Cannon Drive and north of US 290 in background of open sky.</p> <p>Effect: Top of elevated US 290 would be at elevation of existing tree tops. The mainlanes are located north of frontage roads and an existing strand of trees that follows the creek. Elevated mainlines would be visible to patrons from commercial operations (southwest corner of US 290 and William Cannon Dr.), but are not in the foreground as elevated lanes are north of at-grade frontage roads. Elevated lanes anticipated to largely be obscured from view by existing creek vegetation.</p>	Moderate	High	Moderate
2	Neighbors: Residents	High	KOP 3: Wolfcreek Pass	<p>Current View: No views beyond the homes were observed from existing right-of-way. A review of topography maps and a site visit suggests homes along the north side of Wolfcreek Pass with rear yards adjacent to the project area have rolling hill views overlooking the bluff.</p> <p>Effect: The elevated US290 mainlanes will be 300 feet away from the rear yard property line of home on Wolfcreek Pass, north of Williamson Creek (which is densely vegetated on both sides). While the elevated mainlanes would be in the foreground of the view, they are in an existing transportation corridor and are anticipated to be integrated into the natural features of this landscape unit.</p>	High to Moderate	Moderate	Moderate

Table 3. Visual Impacts of Alternative C							
Landscape Unit	Primary Viewer	Viewer Group Sensitivity	Key Observation Point (KOP)	Alternative C: Changes in Landscape	Existing Visual Quality	Degree of Change	Resulting Visual Quality
3 (the “Y”)	Neighbors: Patrons	Low	KOP 1: Planet Fitness	<p>Current View: Utility poles/wires in foreground of rolling hills and cliff, large billboards, large commercial stores, and signage (pole and flush wall mount).</p> <p>Effect: This KOP would be framed by elevated roadways and the SH 71 direct connector ramps would be in the western view. US 290 elevated mainlines would be to the north, limiting views of the existing environment. Landscape improvements along the shared-use path would be in foreground of view, with tops of billboards and pole signs serving as a skyline framed by bulk and mass of elevated transportation improvements.</p>	Low	Low	Low
3	Neighbors: Patrons	Low	KOP 2: Access Road between Prosperity Bank and Starbucks	<p>Current View: At-grade roads below and highway commercial development are elements of the view in the foreground, but it is the vegetated rolling hillside on the horizon that serves as the focal point of the view, not any individual element of the built environment.</p> <p>Effect: Elevated lanes of US 290 would be the focal point of the view, bisecting the rolling hillside view on the horizon. The elevated US 290 and SH 71 connectors would be the dominant element of this view. North and south views of the face of the bluff and rolling hills would be obstructed from pedestrians and cyclists using the shared-use path system associated with the project. The design would frame two sides of the “Y” with both frontage and elevated roads serving as visual barrier to the rolling hillside in an area designated as a future town center.</p>	High	High	Moderate to High
4 (Convict Hill Road to Tara Lane)	Neighbors: Patrons	Neutral	KOP 1: ACC Tower (café on 9 th floor)	<p>Current View: ACC Pinnacle provides a view of the downtown Austin skyline in the horizon. The building’s surface parking lot, the highway commercial surface parking lots at the “Y,” and the roof tops of the multi-family housing across the street break up the vegetated rolling hills. Existing transportation corridor ribbons through vegetation, but is not a central component of the view.</p> <p>Effect: Visual impacts would be limited as the project is mostly located within the existing transportation corridor and would be at a similar elevation of the existing road.</p>	Moderate to high	Low	Moderate to high
4	Neighbors: Residents	High	KOP 2: Vantage Point Drive	<p>Current View: It was determined during a site visit that residential views could not be observed from the street right-of-way; however, from reviewing aerial images, it appears approximately 20 single family homes running parallel to the project have views of the adjacent wooded open space from their rear yards.</p> <p>Effect: Visual impacts are the same as Alternative A.</p>	Moderate to high	Moderate	Moderate

Table 3. Visual Impacts of Alternative C							
Landscape Unit	Primary Viewer	Viewer Group Sensitivity	Key Observation Point (KOP)	Alternative C: Changes in Landscape	Existing Visual Quality	Degree of Change	Resulting Visual Quality
5 (Scenic Brook Drive to Silvermine Drive)	Travelers: Motorists	Low	KOP 1: Scenic Brook Drive	<p>Current View: Current view from Scenic Brook Drive is of auto-oriented commercial businesses (car wash and gas station) with tree tops, utility lines, and a billboard surrounded by vegetation with rolling hills and open sky views in the background.</p> <p>Effect: Visual impacts are the same as Alternative A.</p>	Moderate to low	Moderate	Moderate

Source: CMEC, 2017.

4. CONSTRUCTION AND OPERATIONAL IMPACTS

4.1 Construction Impacts

Construction impacts would be temporary in nature but would be visible to most viewer groups. Demolition of some structures would affect visual form of the site, including removal of buildings, trees, and roads. Mature trees or large areas of vegetation may be removed. Staging areas may contain stockpiles of materials, lighting, signage, fences, and presence of large equipment such as cranes, scaffolding, and earth-moving equipment. Additional trucks and equipment would travel to and from the site. The construction site would represent a visual nuisance for the surrounding viewers; however, it would be temporary and typical of building projects in urban areas.

If night time work occurs, the construction contractor would minimize project-related light and glare, consistent with safety considerations. Portable lights may be operated at the lowest practicable wattage and height would be minimized. Lights would be screened and directed downward toward work activities and away from the night sky and nearby residents. The number of night time lights used would be minimized.

4.2 Operational Impacts

Operational impacts would include the visual impacts of the built facilities (stacked interchange, direct connectors, main lanes, frontage roads, underpass, shared-use path, and pedestrian infrastructure). The following impacts would be common to all build alternatives:

- Changes to landforms through grading and adding retaining walls.
- Changes to building mass, such as removal of some existing buildings and construction of new transportation structures.
- Changes to vegetation, such as removal of existing vegetation and planting of new vegetation.

Potential mitigation measures include landscaping treatments to enhance the visual character of build alternatives. Such treatments would include incorporating landscaping along the transportation corridor, as appropriate, to diversify the visual landscape. Landscaping would include regionally native plants for landscaping and implementing design and construction practices that minimize adverse effects on the natural habitat. To the extent possible, the proposed project would continue to be designed to create an aesthetically and visually pleasing experience for both roadway users and roadway viewers.

Other elements may include treatment of walls, incorporation of a variety of architectural finishes and lighting treatments. These measures would help to enhance the local character, improve aesthetics, and reduce the visual scale of proposed project. The project designers and contractors would adhere to the landscape guidelines in TxDOT's *Standard Specifications for Construction and Maintenance of Highways, Streets, and Bridges* (June 2004) and would meet code requirements of the City of Austin. Context - sensitive design elements could include the following items:

- Landscaping at perimeter of the build alternative sites.
- Streetscape elements along adjacent frontage streets, such as sidewalks, street trees, and other aesthetic features.
- Architectural features on the columns and retaining walls, including varying materials

All lighting would be in accordance with the Texas Health and Safety Code Title 5 §425.002 regarding light pollution. To the extent possible, outdoor lighting fixtures would only be installed and operated if the purpose of the lighting cannot be achieved by the installation of reflective road markers, lines, warning, or informational signs, or other effective passive methods. Additionally, full consideration would be given to energy conservation, reduction of glare, minimizing light pollution, and preserving the natural light environment. An example of commonly used lighting meeting these considerations is the use of high-pressure sodium lamps equipped with glare shields.

Where practicable, mitigation to improve the visual and aesthetic qualities of the project area would include the following features:

- Landscape plantings and re-vegetation per TxDOT's Green Ribbon Landscape Improvement Program, which allocates funds for trees and plants within roadway right-of-way.
- Promoting roadside native wildflower planting programs
- Noise barriers
- Providing adequate signage and easy access to roadway facilities
- Treatment of the side surfaces and columns of the project using façade materials of varying texture, color, etc.
- Incorporation of Context Sensitive Solutions (CSS) and design elements from the Green Mobility Challenge

5. CONCLUSION

Build Alternatives are the culmination of an on-going design process since 2012, and opportunities have been identified to maximize compatibility with the existing built and natural environments. The NEPA process incorporated CSS throughout the public involvement process and other alternatives were eliminated earlier in project development due to more severe adverse visual impacts. The structural design elements were developed to be compatible with the surrounding natural and cultural environments to minimize visual impacts.

In general, the visual impacts of both alternatives are neutral; however, in Landscape Unit 3, Alternative C would degrade visual quality due to the collective bulk and mass of the elevated roadways in relation to topography and existing land development patterns in this unit. In this same area, Alternative A would result in a lesser adverse visual impact and preferable connectivity to bicycle and pedestrian facilities.

Under the No Build Alternative, the proposed project would not be built. Future population and employment growth are assumed to occur as described in adopted plans, but without the proposed project, visual quality within the region may incrementally change consistent with existing trends as a result.

6. REFERENCES

Federal Highway Administration (FHWA) 2015. *Guidelines for the Visual Impact Assessment of Highway Projects*.

Texas Department of Transportation (TxDOT). 2014. *Standard Specifications for Construction and Maintenance of Highways, Streets, and Bridges*.

Transportation Research Board (TRB). 2013. *Evaluation of Methodologies for Visual Impact Assessments*. NCHRP Report 741. Washington, D.C.

Attachment A

Figures

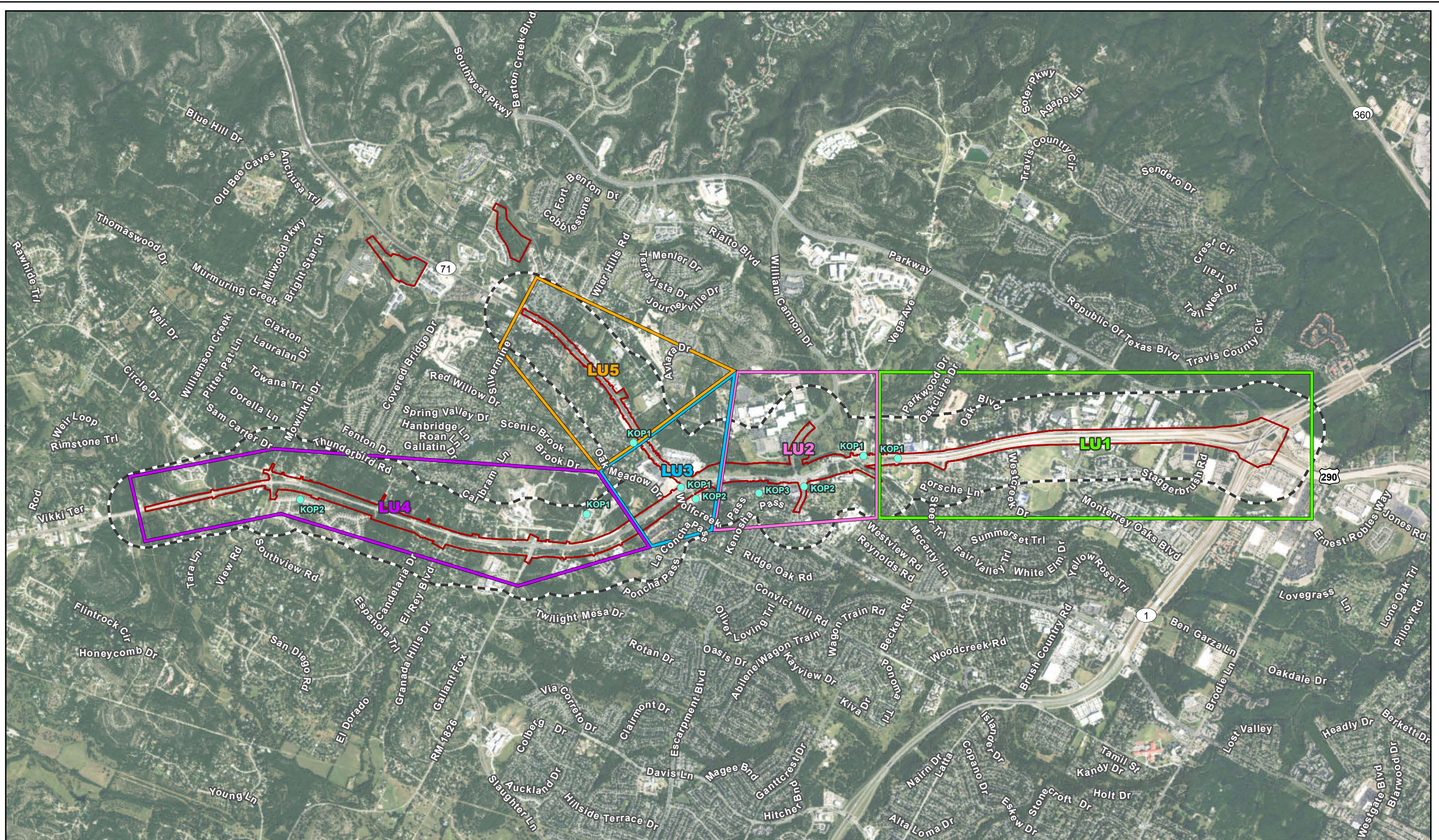


Figure 1. VIA: Landscape Units, Area of Visual Effect, and Key Observation Points

Oak Hill Parkway: US 290W from Mopac/Loop 1 to west of Circle Drive and SH 71 from US 290W to Silvermine Drive

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- | | | | |
|-----------------------------|------------------|------------------|-----------------------------|
| Project Location | Landscape Unit 1 | Landscape Unit 3 | Landscape Unit 5 |
| Area of Visual Effect (AVE) | Landscape Unit 2 | Landscape Unit 4 | Key Observation Point (KOP) |

Data Source: CMEC (2017)
Aerial Source: TNRIS (2015)

	0 2,500 Feet
	0 800 Meters
Prepared for: TXDOT	1 in = 2,500 feet
CSJ: 0013-08-060 and 0700-03-077	Scale: 1:30,000
	Date: 9/5/2017



Figure 2a. VIA: Key Observation Points Detail

Oak Hill Parkway: US 290W from Mopac/Loop 1 to west of Circle Drive and SH 71 from US 290W to Silvermine Drive

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Data Sources: CMEC (2017), TCAD (2016), Aerial Source: TNRIIS (2015)

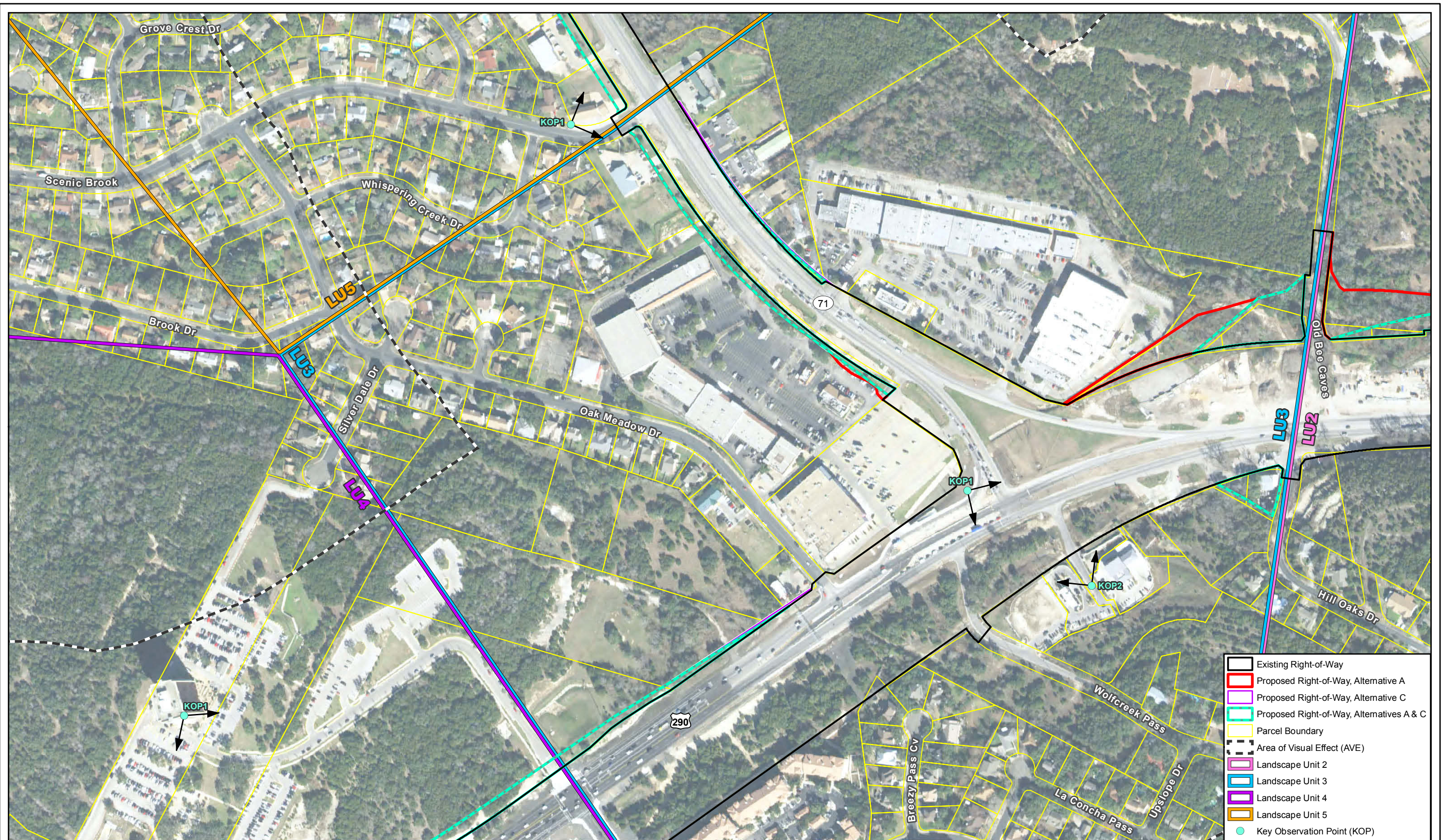
Prepared for: TXDOT

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1 in = 300 feet

Scale: 1:3,600

Date: 9/5/2017



- Existing Right-of-Way
- Proposed Right-of-Way, Alternative A
- Proposed Right-of-Way, Alternative C
- Proposed Right-of-Way, Alternatives A & C
- Parcel Boundary
- Area of Visual Effect (AVE)
- Landscape Unit 2
- Landscape Unit 3
- Landscape Unit 4
- Landscape Unit 5
- Key Observation Point (KOP)

Figure 2b. VIA: Key Observation Points Detail

Oak Hill Parkway: US 290W from Mopac/Loop 1 to west of Circle Drive and SH 71 from US 290W to Silvermine Drive

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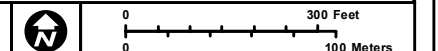
Data Sources: CMEC (2017), TCAD (2016), Aerial Source: TNRIS (2015)

Prepared for: TXDOT

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CSJ: 0013-08-060 and 0700-03-077

Date: 9/5/2017



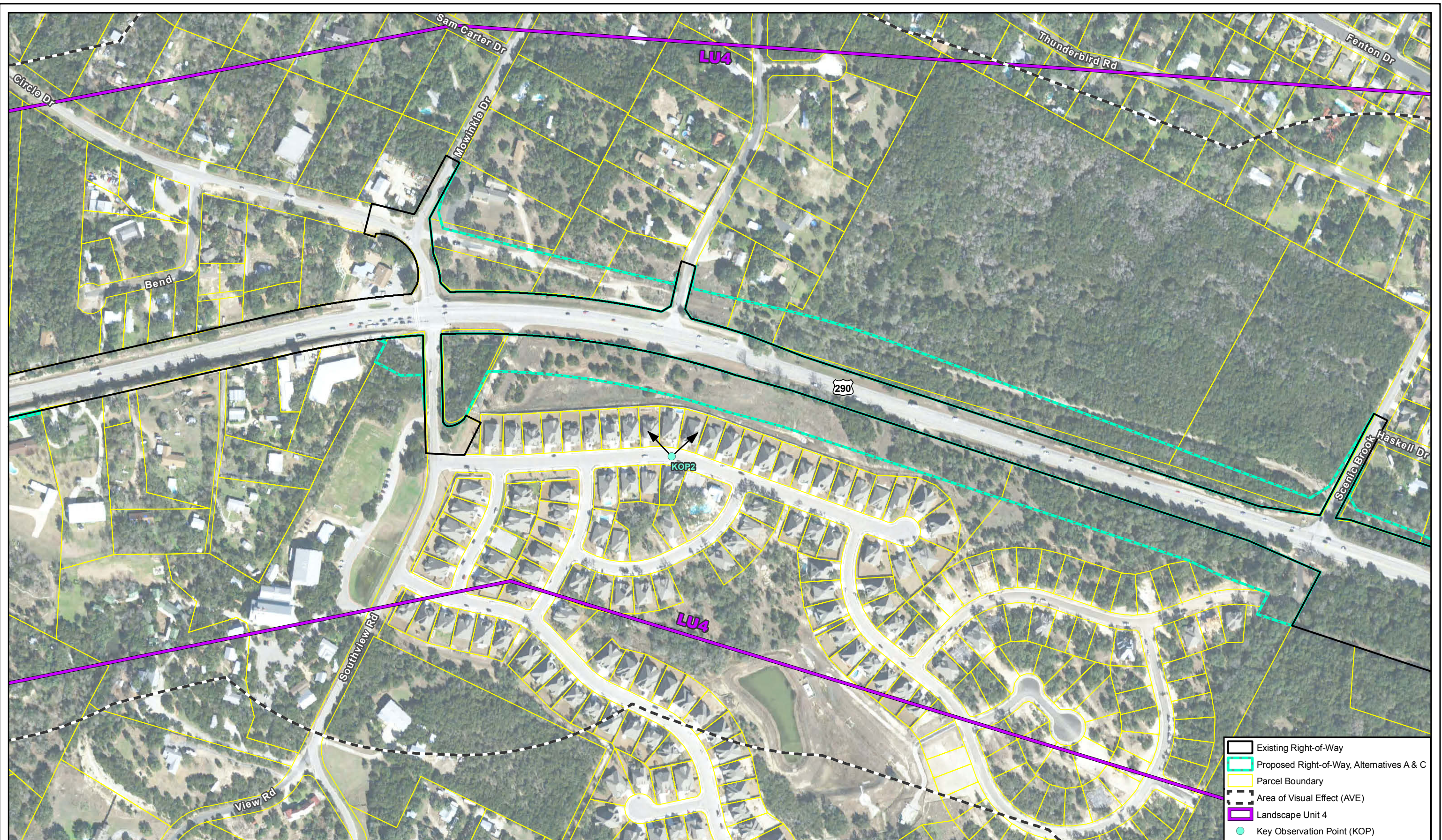


Figure 2c. VIA: Key Observation Points Detail

Oak Hill Parkway: US 290W from Mopac/Loop 1 to west of Circle Drive and SH 71 from US 290W to Silvermine Drive

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Data Sources: CMEC (2017), TCAD (2016), Aerial Source: TNRIS (2015)

Prepared for: TXDOT	1 in = 300 feet
Scale: 1:3,600	Date: 9/5/2017
CSJ: 0013-08-060 and 0700-03-077	

Attachment B

Key Observation Point Site Photos

Landscape Unit 1: Mopac to Joe Tanner Lane

KOP 1 290 Interchange Transition: No Build Alternative (facing west)



KOP 1 290 Interchange Transition: No Build Alternative (facing east)



Visual and Aesthetic Resources Assessment Technical Report

Landscape Unit 2: Joe Tanner Lane to Old Bee Cave Road

KOP 1 Austin Pizza Garden: No Build Alternative (facing southeast)

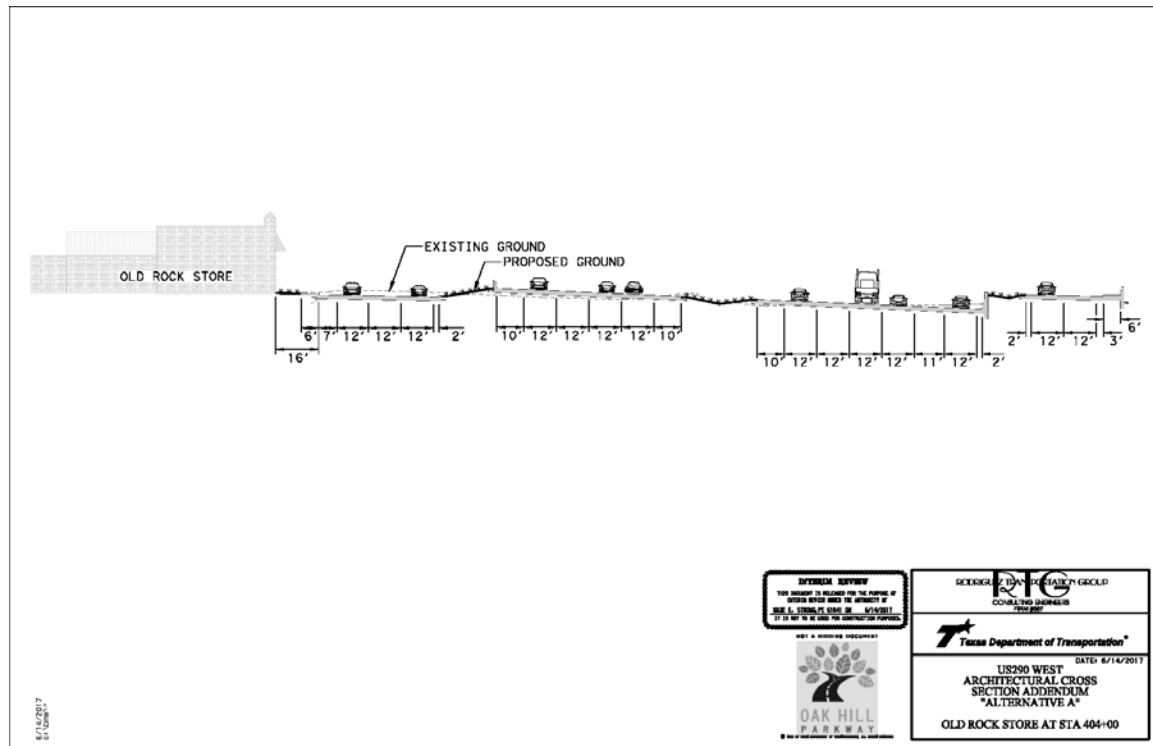


KOP 1 Austin Pizza Garden: No Build Alternative (facing southwest)

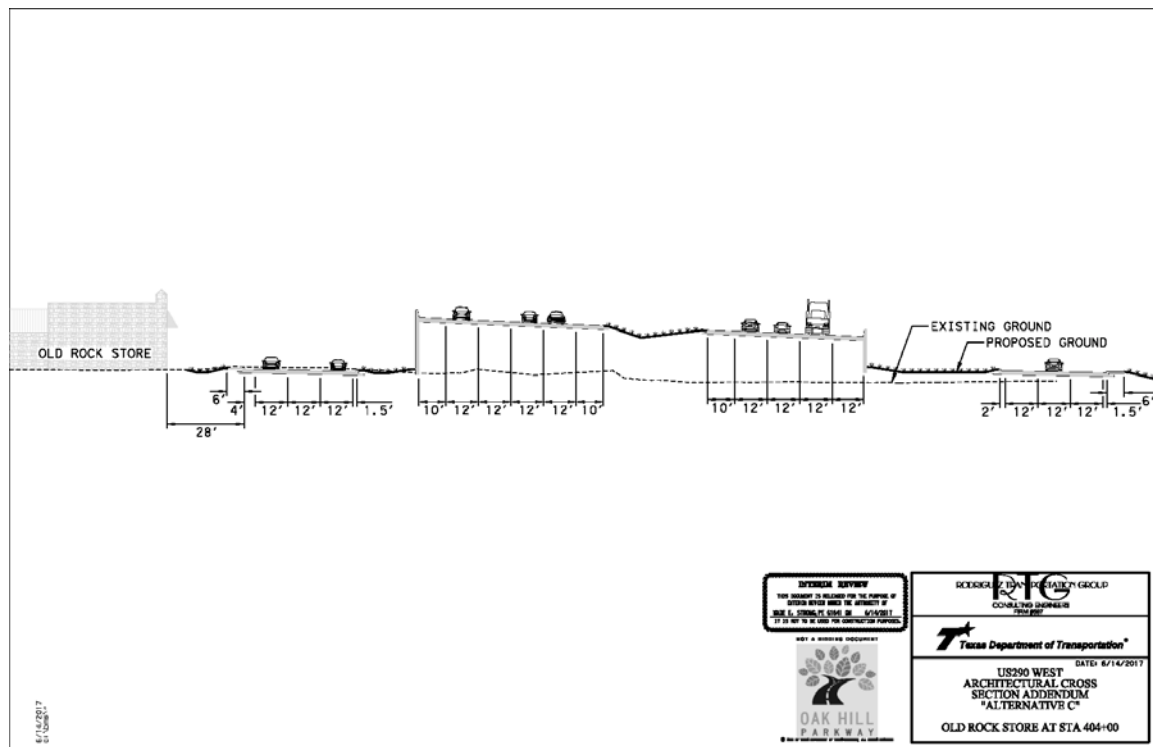


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KOP 1 Austin Pizza Garden: Alternative A



KOP 1 Austin Pizza Garden: Alternative C



KOP 2 William Cannon Intersection: No Build Alternative (facing northeast from William Cannon Dr.)



KOP 2 William Cannon Intersection: No Build Alternative (facing northwest from William Cannon Dr.)



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KOP 2 William Cannon Intersection: No Build Alternative (Oak Hill Centre surface parking lot facing north)



KOP 2 William Cannon Intersection: Alternative A Rendering



ALTERNATIVE A
VIEW AT WILLIAM CANNON DR.
LOOKING NORTH TO US 299



Artist Rendering: All imagery throughout this report, including this rendering, is for conceptual purposes only. The dimensions, specifications, colors, values, and materials shown in these images are for general reference and should not be used for any specific design or construction purposes. All images are subject to change.

KOP 2 William Cannon Intersection: Alternative C Rendering



ALTERNATIVE C
VIEW AT WILLIAM CANNON DR.
LOOKING NORTH TO US 299



Artist Rendering: All imagery throughout this report, including this rendering, is for conceptual purposes only. The dimensions, specifications, colors, values, and materials shown in these images are for general reference and should not be used for any specific design or construction purposes. All images are subject to change.

Visual and Aesthetic Resources Assessment Technical Report

KOP 2 William Cannon Intersection: Alternative A Rendering



KOP 2 William Cannon Intersection: Alternative C Rendering



Landscape Unit 3: The “Y” Interchange (Old Bee Cave Road to [N] Scenic Book Drive and [S] Convict Hill Road)

KOP 1 Planet Fitness (currently vacant): No Build Alternative (facing southeast)

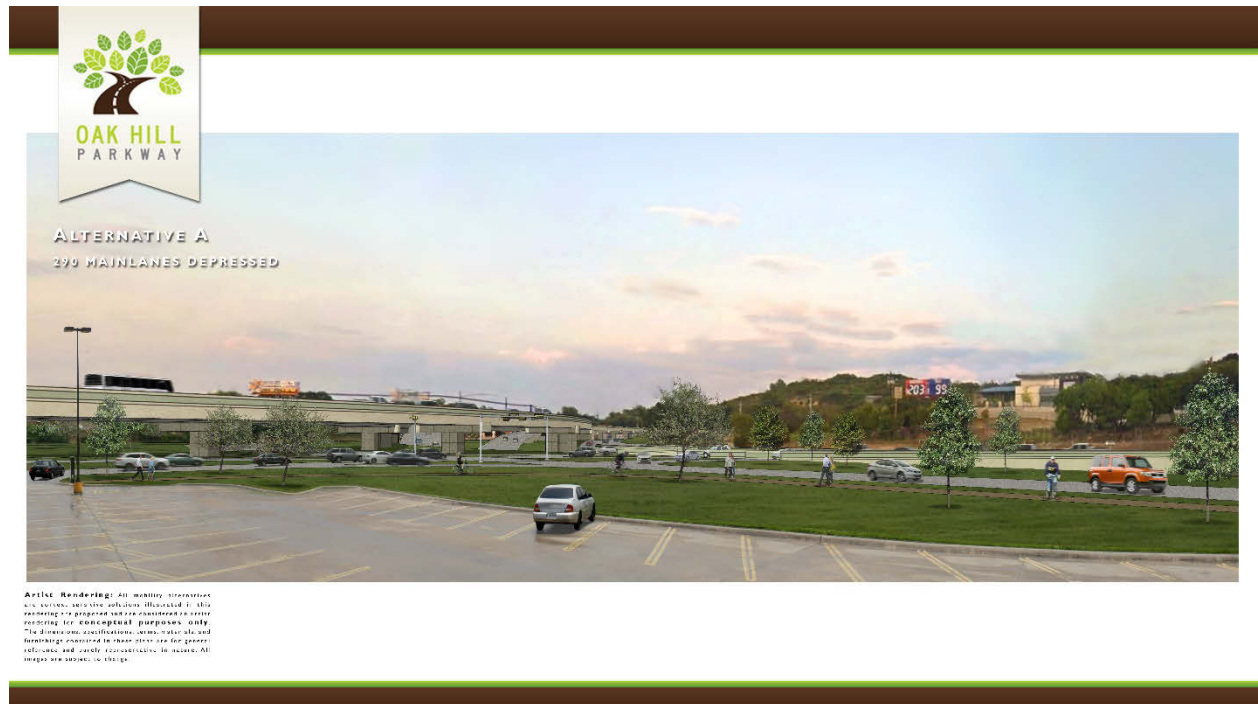


KOP 1 Planet Fitness (currently vacant): No Build Alternative (facing southwest)

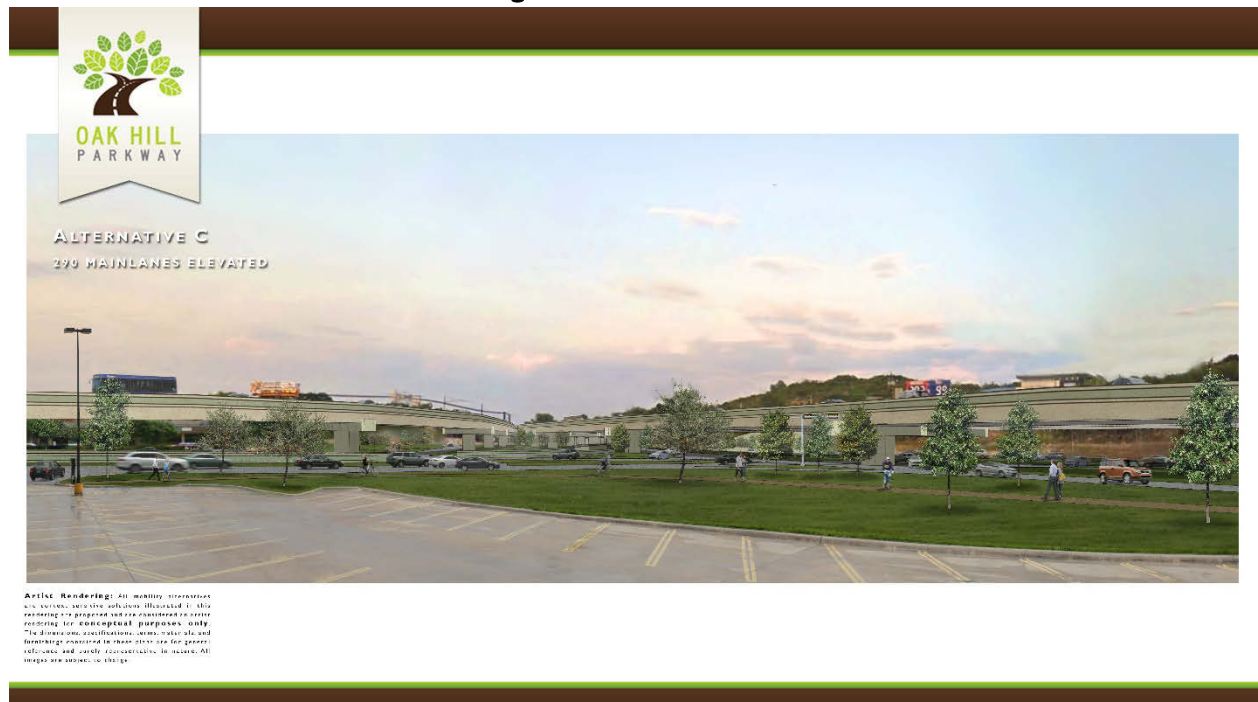


Visual and Aesthetic Resources Assessment Technical Report

KOP 1 Planet Fitness: Alternative A Rendering



KOP 1 Planet Fitness: Alternative C Rendering



Visual and Aesthetic Resources Assessment Technical Report

KOP 2 : Access Road between Prosperity Bank and Starbucks: No Build Alternative (facing northwest)

Note: Representative image captured from Hill Oaks Drive

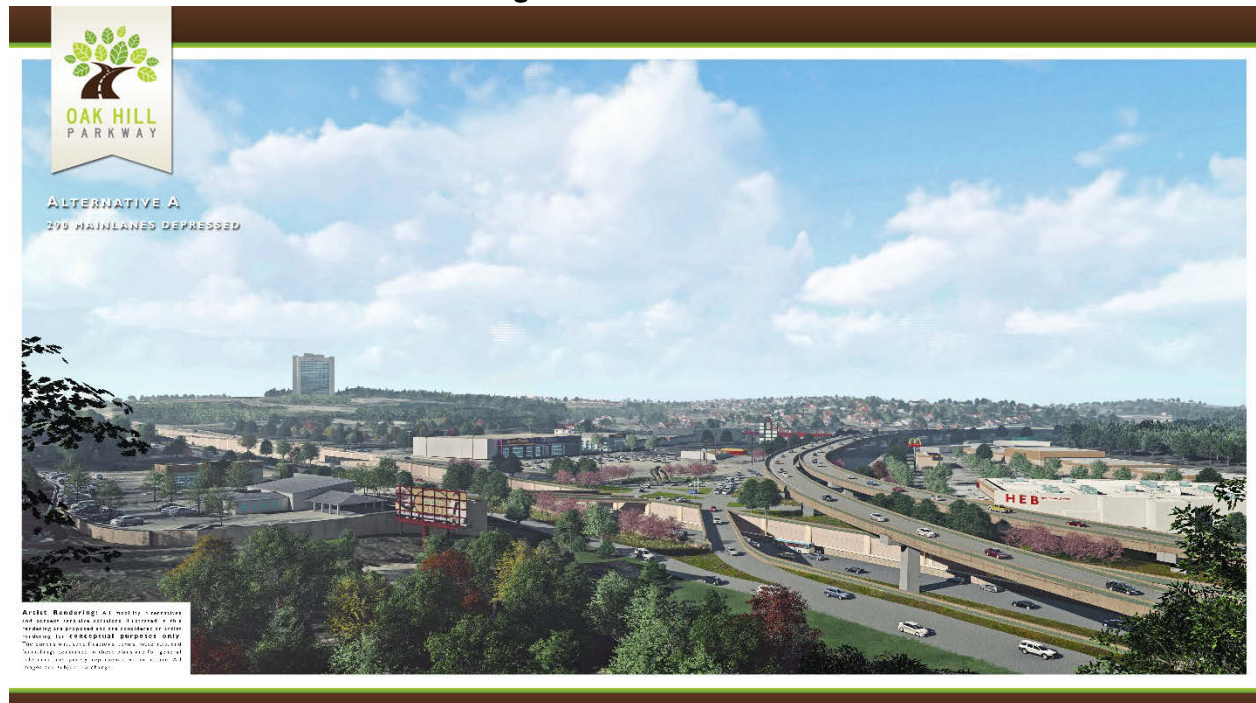


KOP 2 : Access Road between Prosperity Bank and Starbucks : No Build Alternative (facing northwest).

Note: Representative image from adjacent Prosperity Bank parking lot.



KOP 2 Hill Oaks Drive: Alternative A Rendering



KOP 2 Hill Oaks Drive: Alternative C Rendering



Landscape Unit 4: Convict Hill Road to Tara Lane

KOP 1 ACC Tower: 9th Floor Café: No Build Alternative (facing east)



KOP 1 ACC Tower: 9th Floor Café: No Build Alternative (facing south)



Landscape Unit 5: Scenic Brook Drive to Silvermine Drive

KOP 1 Scenic Brook Drive: No Build Alternative (from Scenic Brook Drive facing northeast)



KOP 1 Scenic Brook Drive: No Build Alternative (from SH 71 facing southeast)



KOP 1 Scenic Brook Drive: Alternatives A and C Rendering

