Appendix K: Transportation Equity and Access Studies

Transportation Equity and Access Studies

APPENDIX K - Preface

Section 3.6.6 of the DEIS summarizes a series of Technical Memoranda prepared to address the topic of Transportation Equity and Access. The analysis consisted of a series of investigative tasks. For orientation and context, the full list of tasks included the following:

- **Task 1** involved reviewing a series of studies and information about the StreetLight InSight (StreetLight) modeling program to determine an appropriate scope of work.
- **Task 2** involved meeting minutes and documentation.
- **Task 3** involved a peer review of the draft Community Impact Assessment.
- The purpose of the **Task 4** memorandum was to identify a preliminary Transportation Equity and Access Focus Area (Focus Area).
- The purpose of **Task 5** was to understand active transportation efforts by the City of Austin and to document walkability scores in the CIA study area.
- The purpose of **Task 6** was to conduct a qualitative assessment of health conditions available from the Environmental Protection Agency (EPA) and to discuss the benefits of active transportation.
- The purpose of the **Task 7 memo** was to utilize the StreetLight InSight (StreetLight), a location-based services data vendor, to analyze bicycle and pedestrian trip data for priority Neighborhood Planning Areas (NPAs) and for key IH-35 crossing locations.

To:	Sonya Hernandez, Project Manager Texas Department of Transportation	From:	Larsen Andrews, Environmental Planner Ashley McLain, Senior Principal
File:	I-35 Capital Express Community Impacts Assessment: Supplemental Documentation, Task 4	Date:	March 30, 2022

Reference: I-35 Capital Express Community Impacts Assessment: Supplemental Documentation, Task 4 Transportation Equity and Access Focus Area Identification - Austin, Travis County, Texas

Project Description

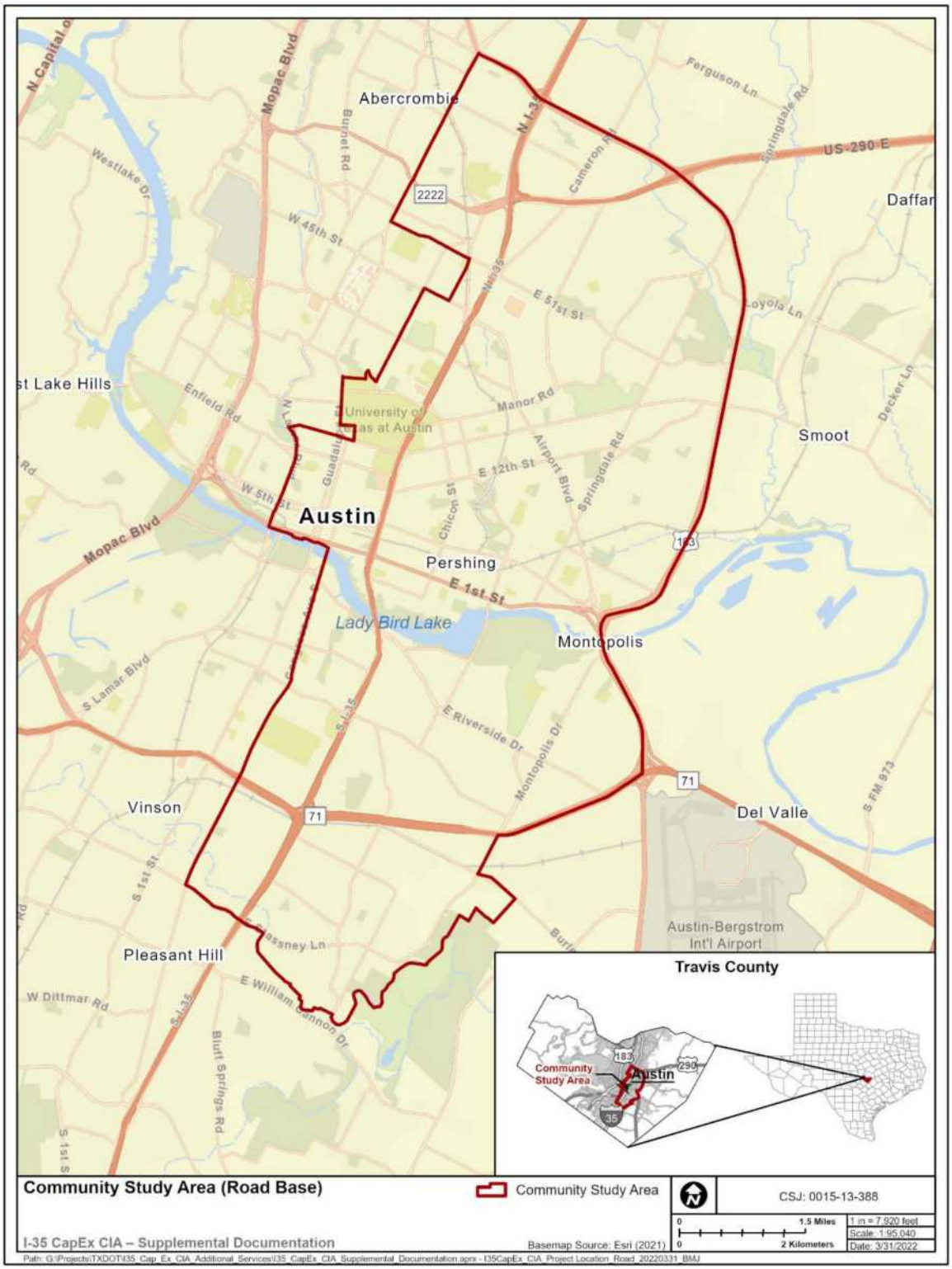
Texas Department of Transportation (TxDOT) is proposing improvements to I-35 from US 290 East to US 290W/SH 71 in Travis County; also known as, the I-35 Capitol Express (or "CapEx") Central project.

In general, the proposed improvements will add two non-tolled managed lanes in each direction, reconstruct intersections and bridges to increase bridge clearances and east/west mobility (as needed), and improve bicycle and pedestrian accommodations along I-35 frontage roads and at east/west crossings.

Possible build alternatives include lowered sections of managed and main lanes. Each build alternative will include various operational and safety enhancements that optimize the roadway footprint, and will reconstruct ramps, bridges, and intersections; improve frontage roads; enhance bicycle and pedestrian accommodations; accommodate transit routes; and add direct connectors at I-35/US 290 East. The project length is approximately eight miles.

The purpose of this memo is to identify a preliminary Transportation Equity and Access Focus Area (Focus Area). The size and location of the study area for this task is based on the Community Impact Assessment study area established in the Community Impact Assessment Technical Report (HDR, April 2022), based on demographic data of neighborhood planning areas along I-35 and west of US 183, often referred to as the Eastern Crescent. **See Figure 1, Project Location**.

Figure 1: Community Study Area



Definition of Equity from a Transportation Perspective and Purpose of Task

Defining "equity" for the purposes of the discussion poses a challenge given the current evolving state of official guidance on how to address equity. These CIA Additional Studies aim to supplement the existing CIA Technical Report and better understand the study area with a focus on modes of transportation, access to those modes, infrastructure for non-drivers, and potential gaps in that infrastructure that could exist in neighborhood planning areas with certain socioeconomic characteristics. The analysis will be a combination of qualitative and quantitative methods.

For the Task 4 component of this study, the goal is to identify a Transportation Equity and Access Focus Area. As additional tasks in this effort are undertaken, analysts may recommend a smaller geographic focus area. Alternatively, the team may retain the CIA study area to better understand, disclose, and acknowledge inequities in the overall transportation system in the study area. It is important to note that equity per se is not something that will be "achieved" with this analysis, but it may help guide TxDOT or others to more equitable outcomes.

The Federal Highway Administration hosts a website entitled Transportation Planning Capacity Building (https://www.planning.dot.gov/planning/topic_transportationequity.aspx). They offer an explanation of equity in transportation, shared here to provide the context for these additional studies. According to FHWA:

> Equity in transportation seeks fairness in mobility and accessibility to meet the needs of all community members. A central goal of transportation is to facilitate social and economic opportunities by providing equitable levels of access to affordable and reliable transportation options based on the needs of the populations being served, particularly populations that are traditionally underserved.

The National Environmental Policy Act (NEPA) analysis for potential community impacts has evolved over time with a focus on compliance under the Administrative Procedures Act, in addition to documentation of compliance with executive orders such as E.O. 12898 on Environmental Justice and E.O. 13166 on Limited English Proficiency. Various non-discrimination regulations exist as well, especially at the transportation program level including:

- Title VI 42 U.S. Code (U.S.C.) 2000d et seq. of the Civil Rights Act of 1964
- Section 162 (a) of the Federal-Aid Highway Act of 1973 (23 U.S.C. 324), which addresses discrimination based on sex;
- Section 504 of the Rehabilitation Act of 1973, which addresses disability discrimination;
- The Age Discrimination Act of 1975;
- The Civil Rights Restoration Act of 1987; and
- The Americans with Disabilities Act (ADA) of 1990.

In 2021, a new executive order (E.O. 13985) was passed. Federal agencies are working to determine how to provide implementation guidelines to agencies such as TxDOT. According to FHWA:

> Under Executive Order 13985 Advancing Racial Equity and Support for Underserved Communities (2021), the term "equity" means the consistent and systematic fair, just, and impartial treatment of all individuals, including individuals who belong to underserved communities that have been denied such treatment, such as Black, Latino, and Indigenous and Native American persons, Asian Americans and Pacific Islanders and other persons of color; members of religious minorities; lesbian, gay, bisexual, transgender, and queer (LGBTQ+) persons; persons with disabilities; persons who live in rural areas; and persons otherwise adversely affected by persistent poverty or inequality.

One challenge with the concept of equity is that it implies a customized solution for particular circumstances. Recognizing that challenge, FHWA states the following:

> It is important to note that transportation equity does not mean equal. An equitable transportation plan considers the circumstances impacting a community's mobility and connectivity needs, and this information

is used to determine the measures needed to develop an equitable transportation network. To attain an equitable transportation network, all components of Title VI, environmental justice (EJ), and Nondiscrimination must be considered.

In addition to the ongoing public engagement efforts currently underway by TxDOT, this memo is part of an effort by TxDOT to consider equity early and often by undertaking data collection efforts to address and improve equitable provision of transportation and mobility services in the I-35 CapEx CIA study area.

Definition of the Community Impact Assessment – Additional Studies Study Area

The study area intersects a total of 31 neighborhoods. This report describes "neighborhoods" generally as geographic areas designated by the City of Austin associated with the development of neighborhood plans through a multi-year participatory process involving members of the community. These Neighborhood Planning Areas (NPAs) create a framework for the community to express their values, as well as prioritize and address issues of concern for their community. The neighborhoods within the study area vary based on demographics, social history, community facilities, affordable housing, and travel patterns.

U.S. Census data were used to identify potential focus areas based on specific socioeconomic metrics.To analyze the demographics of neighborhoods within the study area, demographic data was gathered at the census block group level and aggregated according to the neighborhoods in which those block groups were located. GIS analysis was used to select census block groups if their centroid fell within a particular NPA. The Race/Ethnicity and percent minority data was collected at the block level due to the availability of 202 census data. Because the other demographic indicators are not currently available from the 2020 census, 2015-2019 American Community Survey (ACS) 5-year estimates were used at the block group level.

Data Findings Summary

Data obtained from the U.S. Census Bureau helped determine that the most populous neighborhoods in the study area are the Franklin Park, Montopolis, and Windsor Park neighborhoods, although this does not signify that they are necessarily the most densely populated. The predominantly minority neighborhoods in the study area are located east of I-35 with the highest percentages of minority residents in the Franklin Park, Montopolis, and Coronado Hills neighborhoods. The MLK-183, Montopolis, and Rosewood neighborhoods contain the lowest median household incomes of the neighborhoods in the study area, (not including the University of Texas at Austin (UT), which demonstrates low incomes due to high student populations). The highest proportion of children (under 18) of the neighborhoods in the study area is in the McKinney, Montopolis, and Rosewood neighborhoods, while the highest proportion of older residents (65 and over) in the study area are in the East Cesar Chavez, Johnston Terrace, and Govalle neighborhoods. Outside of UT Austin, the neighborhoods in the study area with the highest proportion of renters are in the Pleasant Valley, Riverside, and St. Edwards neighborhoods. The neighborhoods with the highest proportion of residents with a disability are in the Coronado Hills, MLK-183, and Pecan Springs-Springdale neighborhoods. The Rosewood, East Cesar Chavez, and Coronado Hills neighborhoods contain the highest proportion of zero car households of the neighborhoods in the study area outside of the UT.

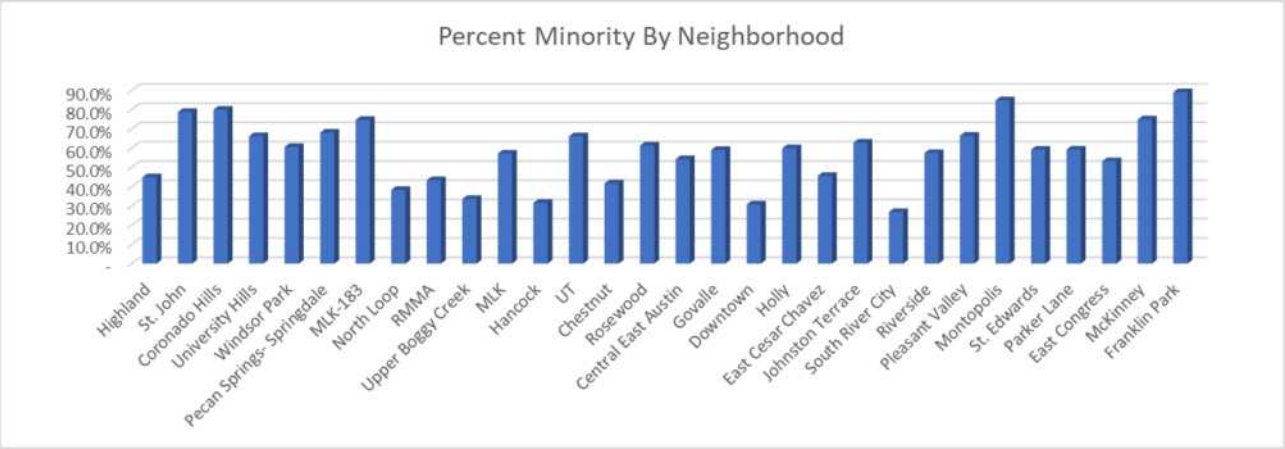
In general, the neighborhoods adjacent to the northern, eastern, and southern edge of the study area contain higher proportions of socioeconomic characteristics that help identify "vulnerable" populations than neighborhoods to the west and in the central portion of the study area. Across multiple measures, Rosewood, Coronado Hills, and Montopolis contain high concentrations of populations demonstrating these socioeconomic characteristics. However, none of these three neighborhoods are adjacent to I-35. Of the neighborhoods adjacent to I-35, Franklin Park and St. John have the highest percentage of minorities; St. John and St. Edwards have the highest percentage of renters; Riverside and St. John have the lowest median household incomes; East Cesar Chavez and St. Edwards have the highest percentages of zero-car households; Parker Lane and East Cesar Chavez have the highest percentages of adults with disabilities; East Cesar Chavez and East Congress have the highest percentage of seniors; and Franklin Park and McKinney have the highest percentage of children.

The following sections provide a brief discussion of the data, a chart for the relative percentages of each parameter by neighborhood, and GIS graphics. Additional data tables are included at the end of this document.

Minority Demographics

The Decennial Census gathers data on race and ethnicity. 2020 Census block level data was utilized to determine the percentage of each neighborhood's population that self-identifies as belonging to a minority group. Federal guidance on environmental justice defines anyone who does not self-identify as white and non-hispanic as belonging to a minority group. The bar chart above is ordered north-to-south with the northernmost neighborhood on the left and the southernmost neighborhood on the right. This chart shows that minority concentrations are highest in neighborhoods in the northern and southern sections of the community study area. As is noted in the CIA, I-35 has been both a physical and historical socioeconomic divide between majority white neighborhoods to the west and minority neighborhoods to the east. Observing the demographic data shown on the GIS maps, combined with a review of income data, it appears that neighborhoods east of downtown may have been experiencing gentrification. While dense concentrations of minority populations are found in eastern neighborhoods like Montopolis and Pecan Springs-Springdale, the neighborhoods adjacent to I-35 with particularly high concentrations are Franklin Park in the southern end of the study area and St. John and Coronado Hills.

GIS maps are included at the Block level as well as the Block Group level (for use in the composite graphic to be discussed later in this study.) See **Figures 2** and **3** below.



Source: U.S. Census Bureau, 2020 Decennial Census, Table P9.

Figure 2: Minority Population by Block

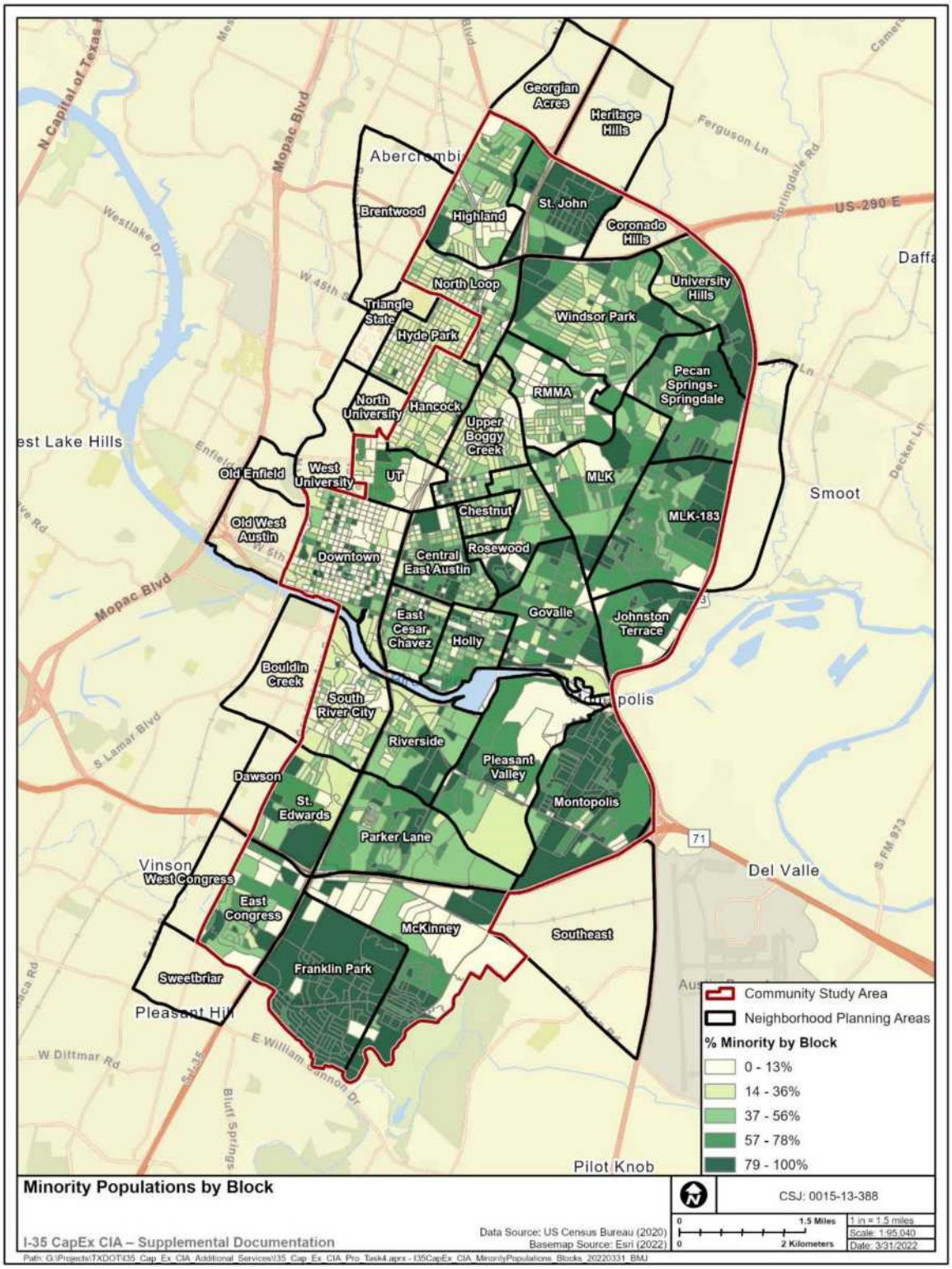
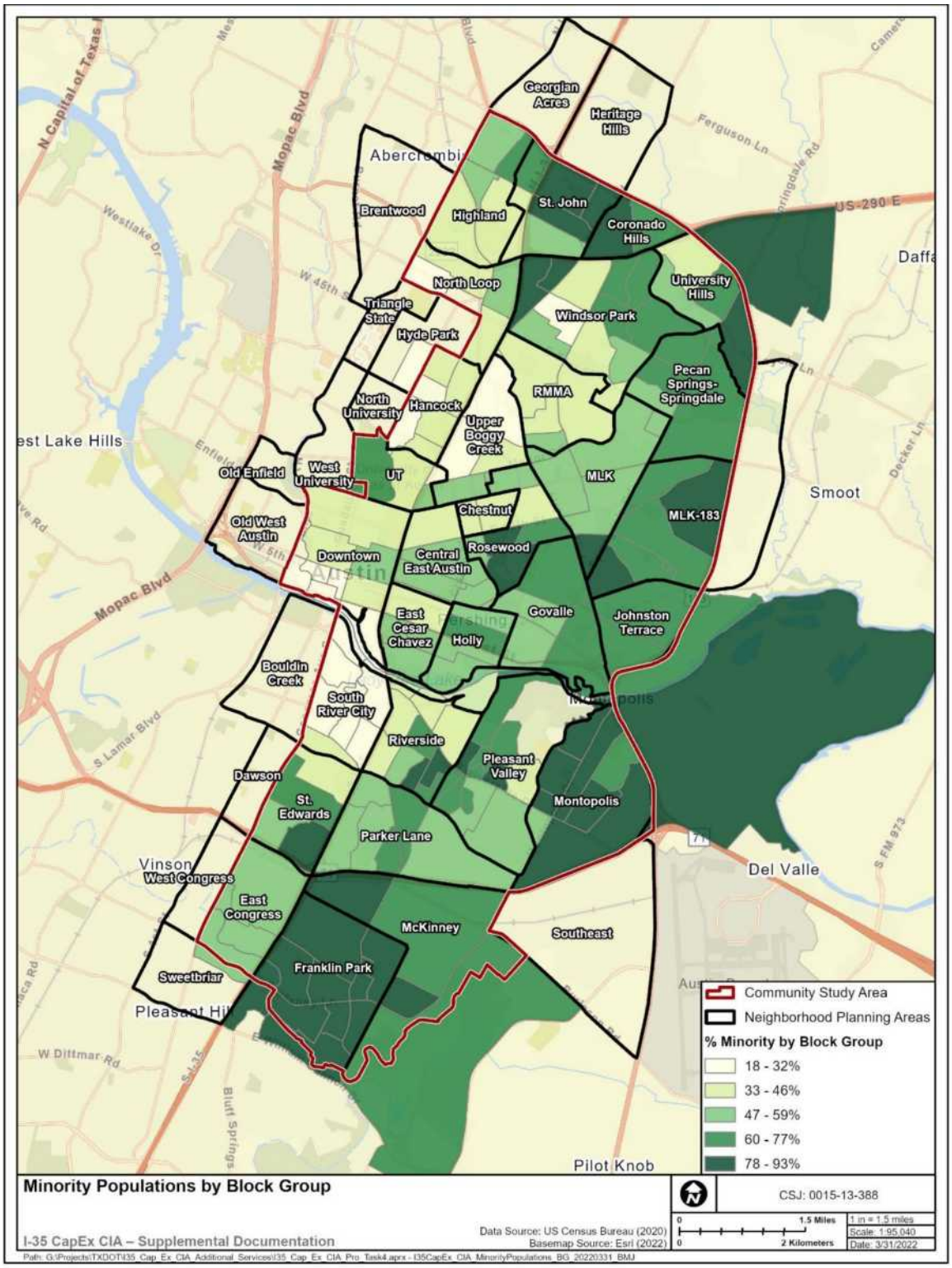
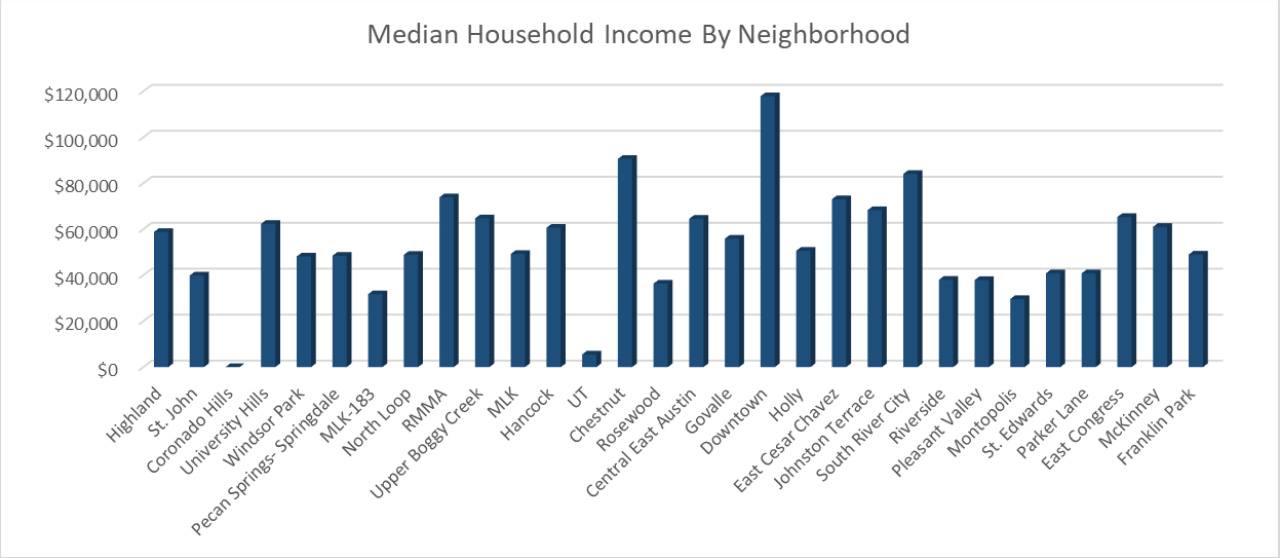


Figure 3: Minority Population by Block Group



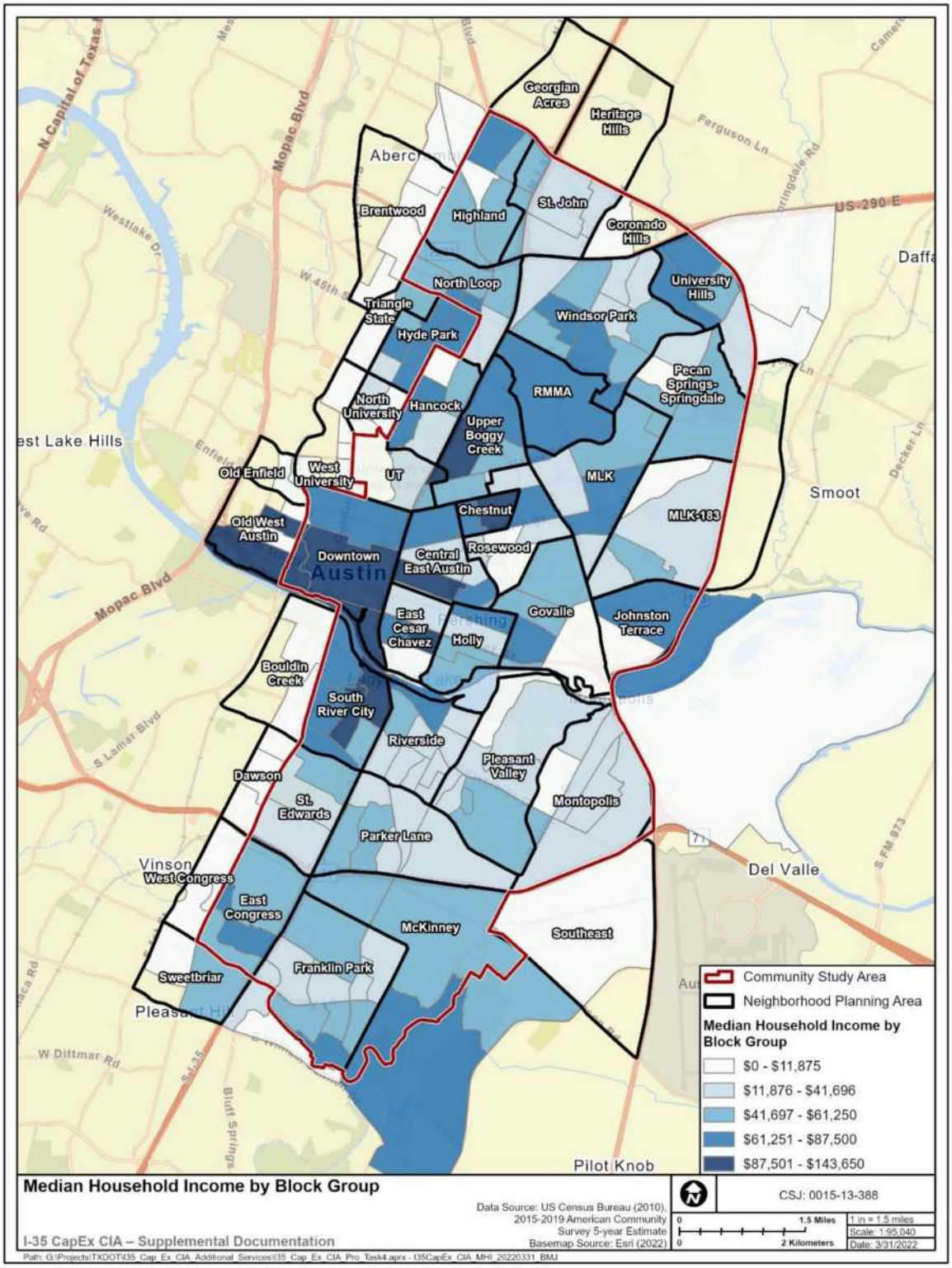
Income Characteristics

The ACS gathers data on median household income. As with all ACS tables, the smallest geography available is the Census Block Group. Some participants of the ACS withhold their income information. When an insufficient number of participants within a block group provide their income, the ACS will report the Median Household Income (MHI) of that area as a null value. This is the case at Coronado Hills. UT did have a sufficient number of respondents, but it remains an outlier most likely because the UT area is predominantly a student population with a lower percentage of income-earning residents. Rosewood has a particularly low MHI relative to Chestnut and some degree Central East Austin. Another area of concern is the group of neighborhoods along East Riverside and east of I 35. These neighborhoods have below average MHIs. The Department of Health and Human Services' (DHHS) poverty level is $27,750 for a four-person household. Other than UT, none of the neighborhoods within the study area has a median income below this threshold. However, there are individual block groups in Pleasant Valley, St. Edwards, Windsor Park, Montopolis, Parker Lane, and Riverside that have median household incomes below the DHHS threshold. See **Figure 4** below.



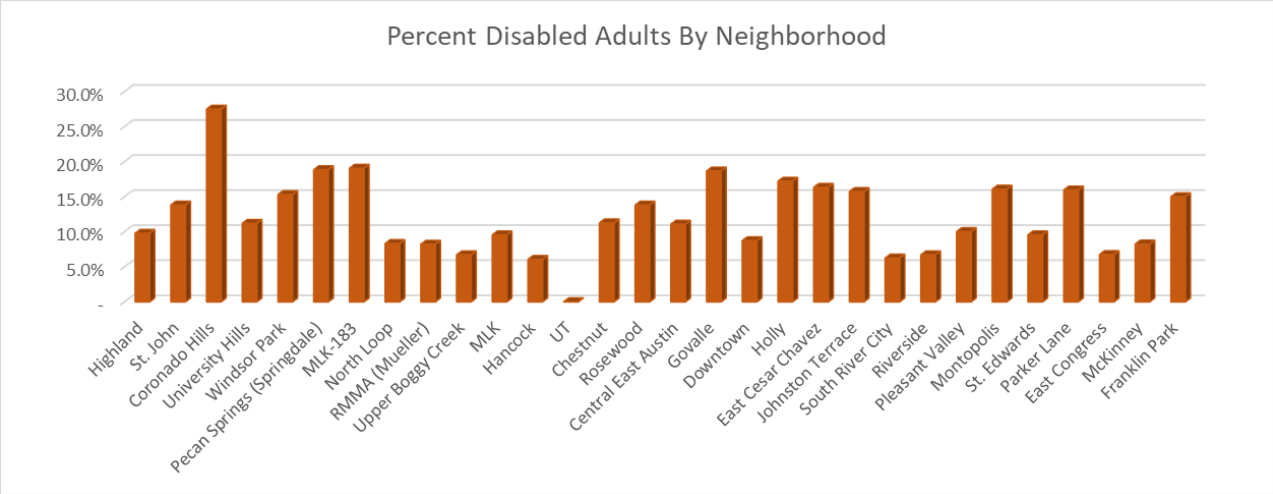
Source: U.S. Census Bureau, 2015-2019 American Community Survey (ACS). Tables B11001, B19013.

Figure 4: Median Household Income by Block Group



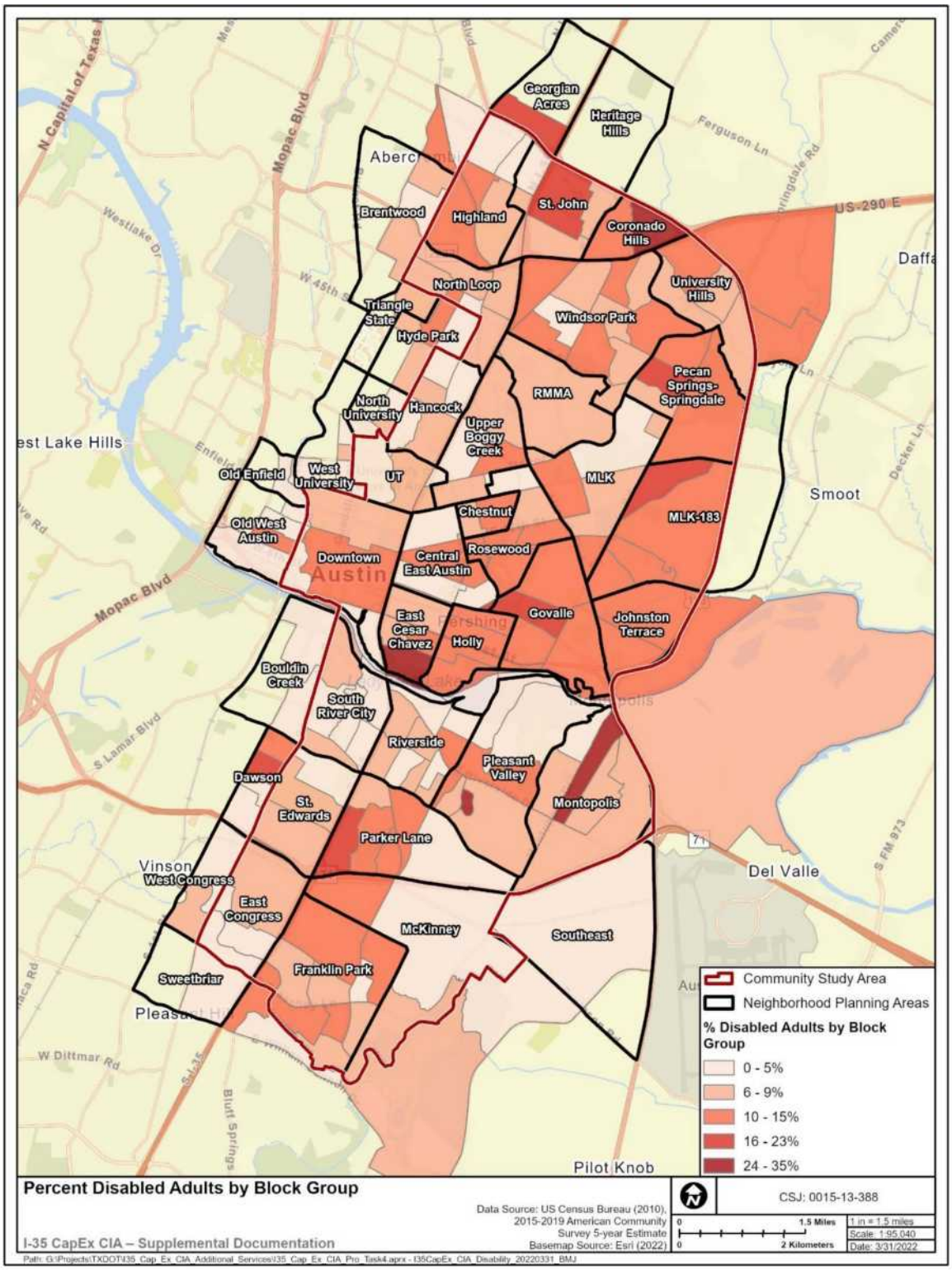
Populations with Disabilities

The ACS collects data on the number of individuals over the age of 18 that have a disability. The ACS asks about six disability types: hearing difficulty, vision difficulty, cognitive difficulty, ambulatory difficulty, self-care difficulty, and independent living difficulty. Respondents who report anyone of the six disability types are considered to have a disability (U.S. Census Bureau). The average percentage of adults with a disability across the entire study area is approximately 12%. Over a quarter of the adult population in Coronado Hills has a disability. This is possibly because there are a few apartment complexes within the neighborhood that are reserved for seniors and disabled adults. These include Pathways at Coronado Hills and St. George's Court. This neighborhood is at the northern terminus of the project area. Other northern neighborhoods with a high percentage of disabled adults are Pecan Springs and MLK-183 which are also along the eastern edge of the study area. The other area of concern for disabled adults is the group of neighborhoods along East Cesar Chavez including Holly and Govalle. See **Figure 5** below.



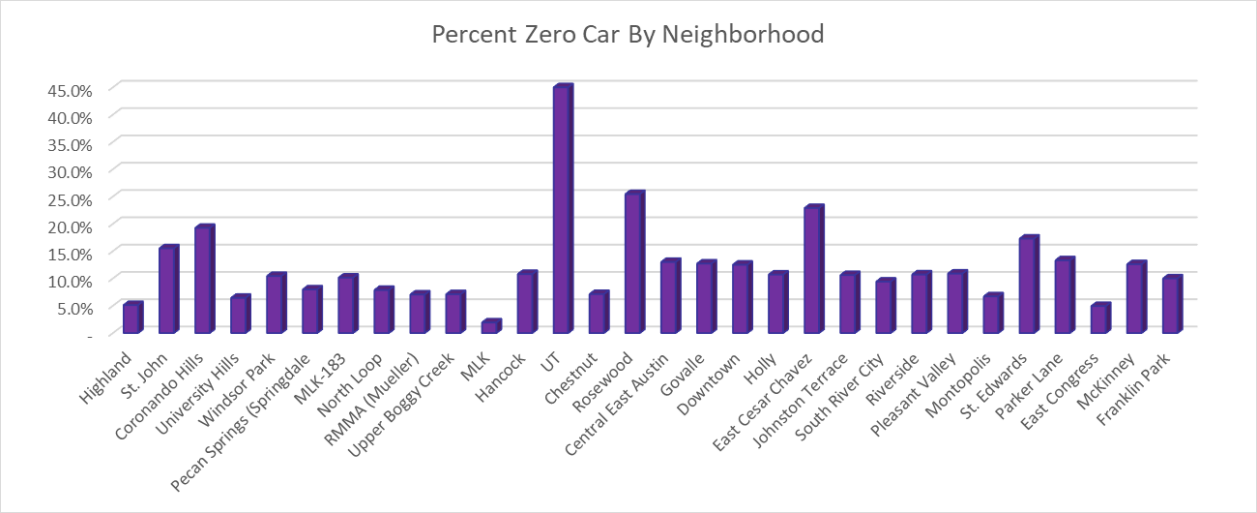
Source: U.S. Census Bureau, 2015-2019 American Community Survey (ACS). Table C21007.

Figure 5: Percent Disabled Adult by Block Group



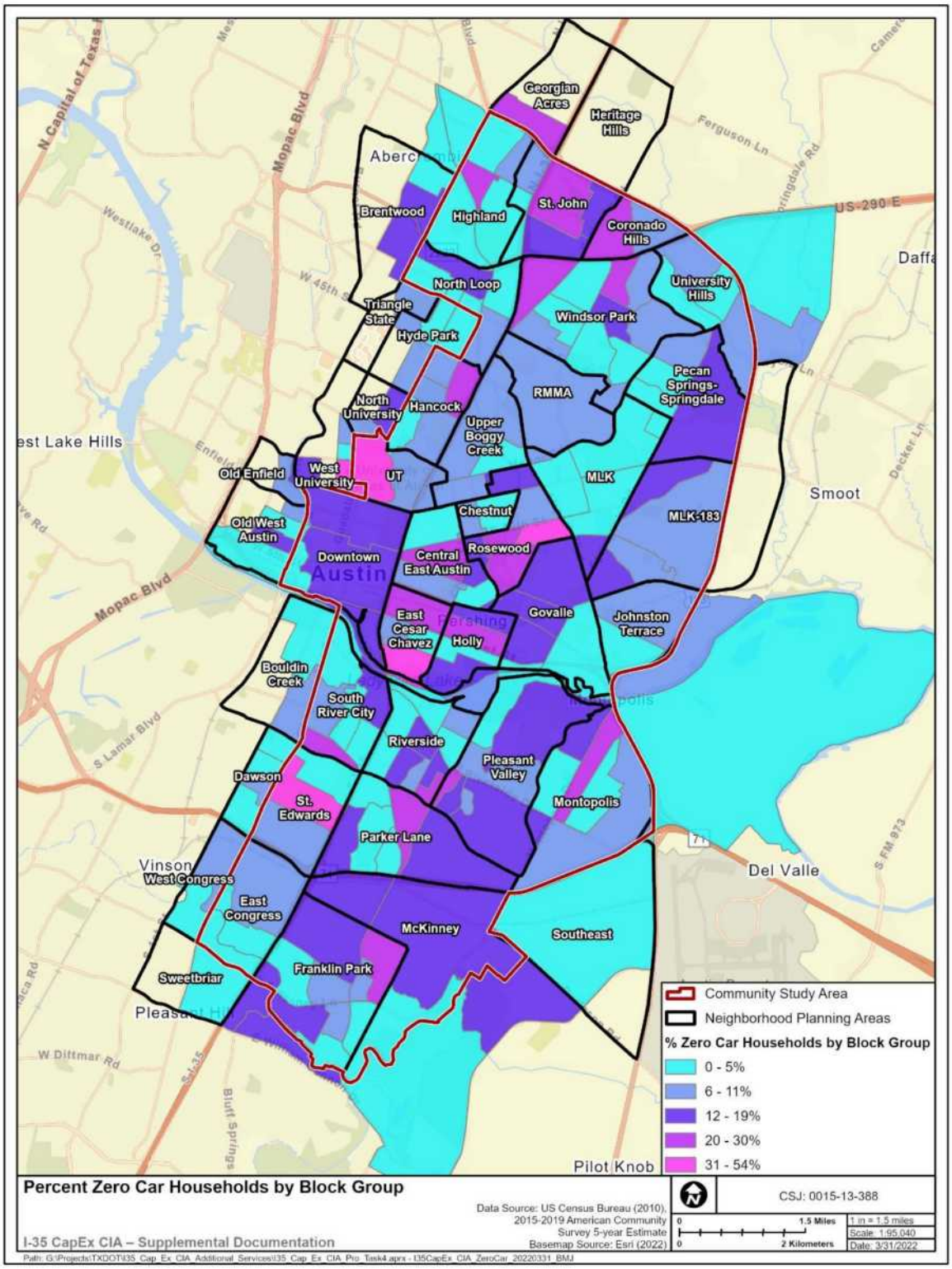
Zero Car Households

The ACS gathers data on the number of vehicles kept at home for use by members of a household. Access to vehicles reflects the relative need for transportation alternatives in a given block group. If a person does not have access to a personal vehicle, they will need to walk, bike, scooter, rideshare, or take transit to access nearby destinations. UT is an outlier because students are less likely to need a car and because parking passes at the university are limited and expensive. Rosewood and East Cesar Chavez are the two other neighborhoods with relatively high percentages of zero car households. See **Figure 6** below.



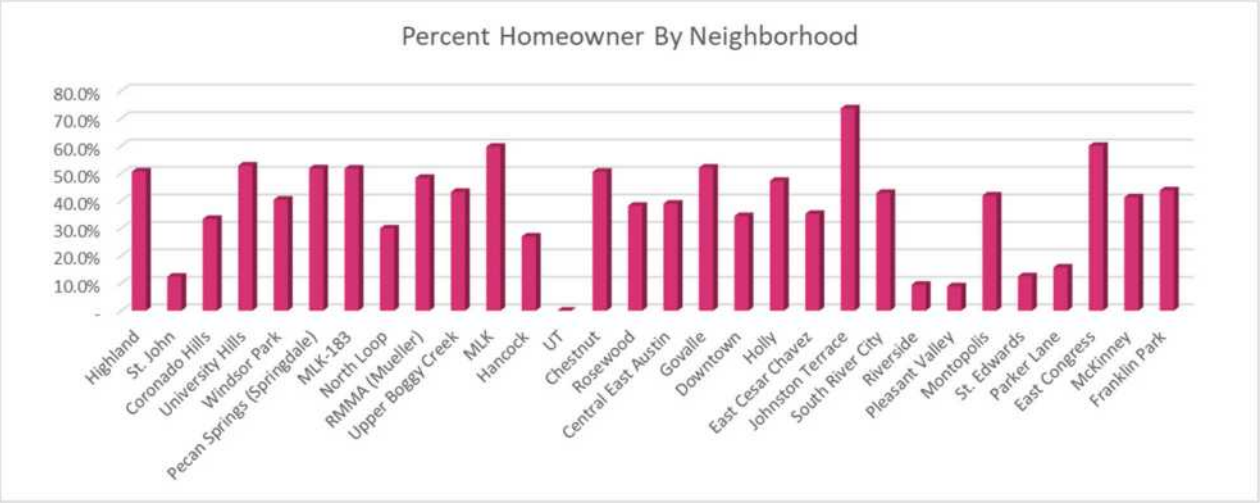
Source: U.S. Census Bureau, 2015-2019 American Community Survey (ACS). Table B25044.

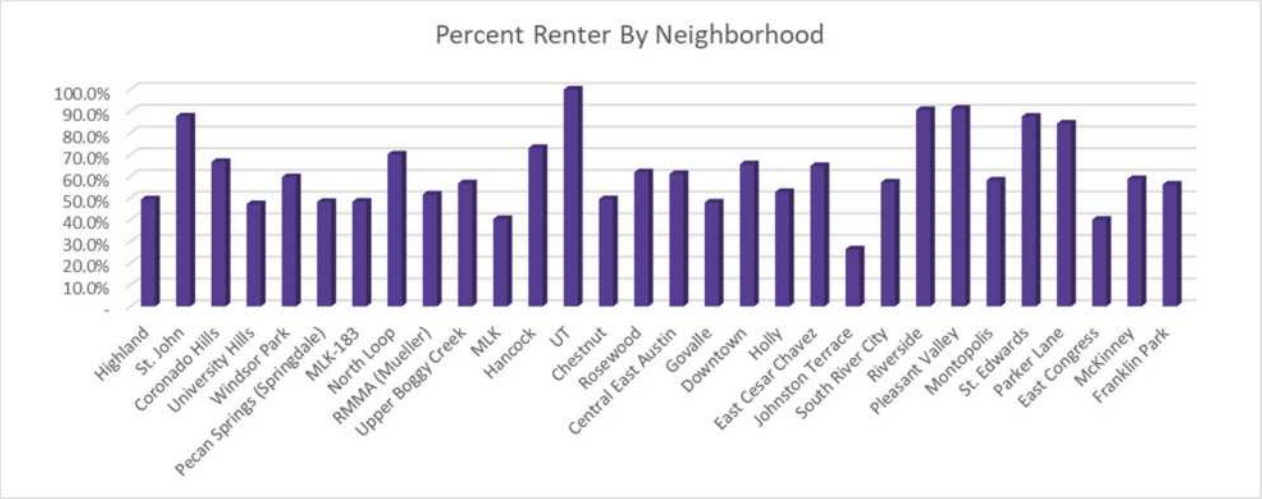
Figure 6: Percent Zero Car Households by Block Group



Tenure Characteristics – Home Ownership versus Renters

The ACS gathers data on the number of renters and the number of homeowners down to the block group level. The percentage of home ownership in a neighborhood indicates relative stability, because home ownership requires demonstration of the financial capability to meet the terms of a mortgage. Neighborhoods with higher percentages of renters may indicate student populations, transitional neighborhoods, or more affordable geographies depending on the other neighborhood characteristics. In some neighborhoods, rent prices may be quite high. The cluster of adjacent neighborhoods made up of Riverside, Pleasant Valley and Parker Lane have renter percentages above 80 percent. These neighborhoods are more renter dominant than downtown, which has very few single-family homes. See **Figures 7** and **8** below.





Source: U.S. Census Bureau, 2015-2019 ACS 5-Year Estimates. Tables B01003, B11001, B25009.

Figure 7: Percent Homeowner by Block Group

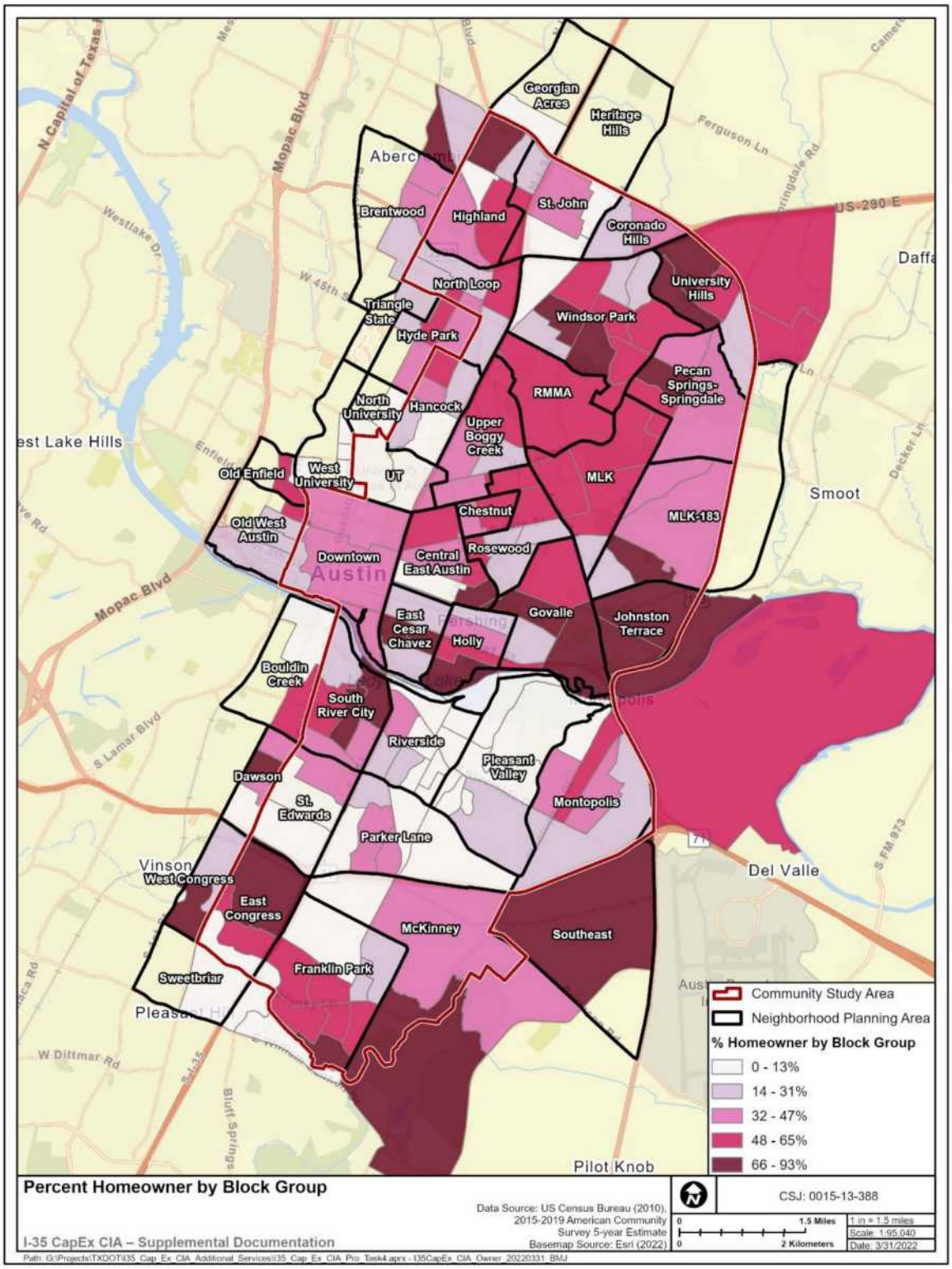
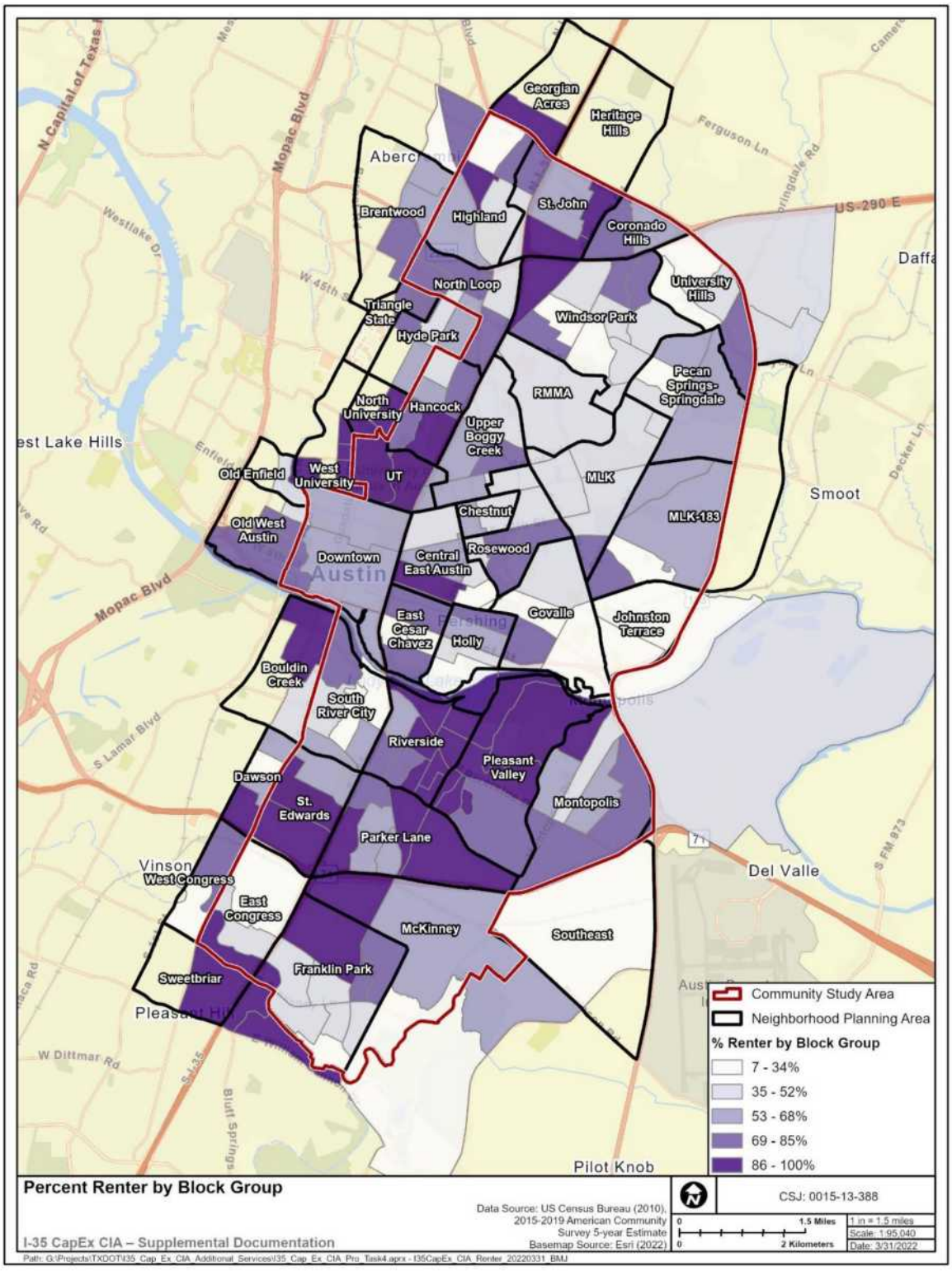
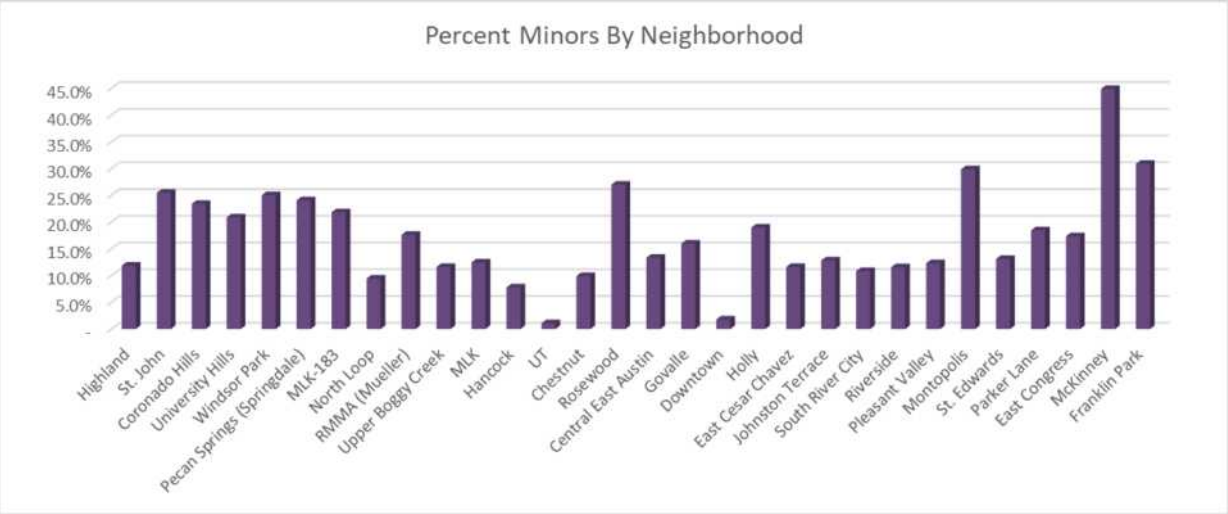


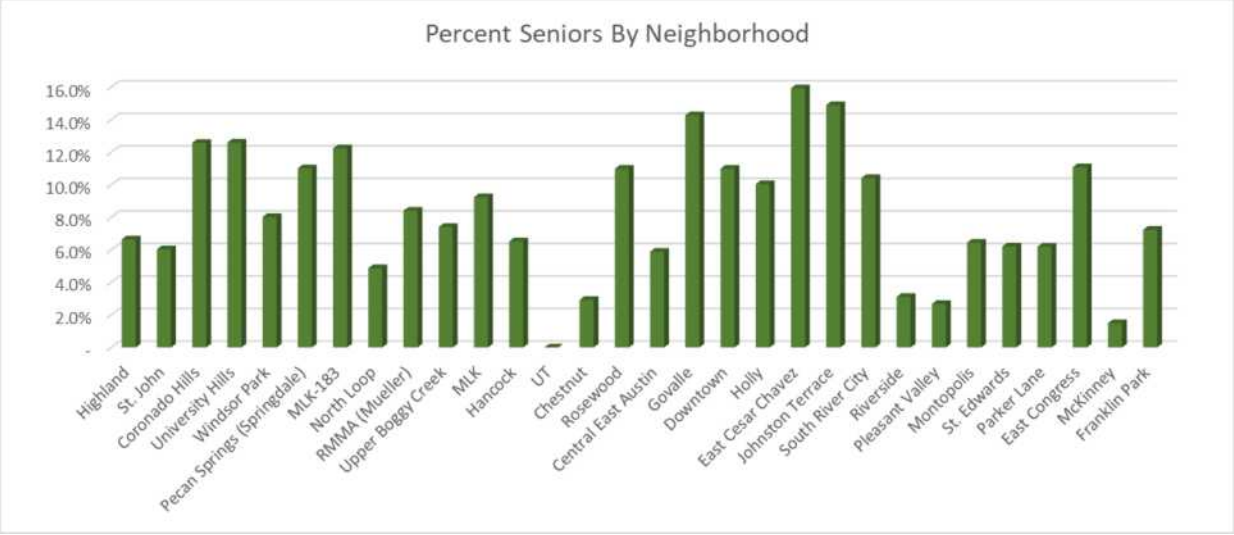
Figure 8: Percent Renter by Block Group



Age Distribution – Minors (under 18) and Seniors (65 years and older)

The ACS gathers data on the number of individuals in age brackets. In the top chart, minors are defined as being younger than 18 years old. In the second chart, seniors are defined as being 65 years old or older. Franklin Park has high percentages of both minors and seniors. McKinney stands out as having almost half of its population being under the age of 18; travel patterns in this neighborhood may show school-related trips. While there are no senior dominant neighborhoods in the study area, the neighborhoods along the north side of Lady Bird Lake, from Downtown to Johnston Terrace all have senior percentages above that of the study area whole, 7.4 percent. See **Figures 9** and **10** below.





Source: U.S. Census Bureau, 2015-2019 ACS 5-Year Estimates. Table B01001.

Figure 9: Percent Minors (<18 Years of Age) by Block Group

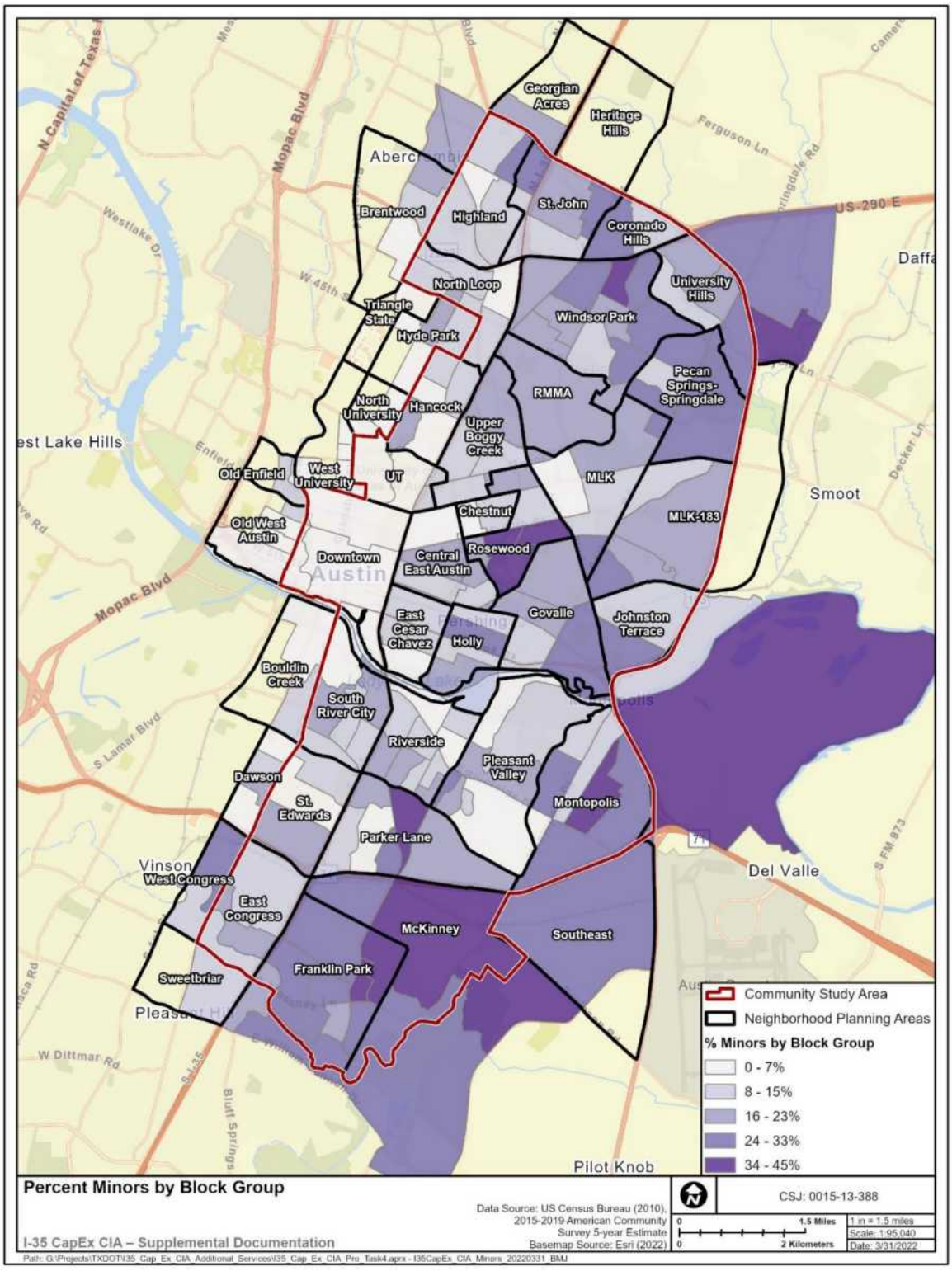
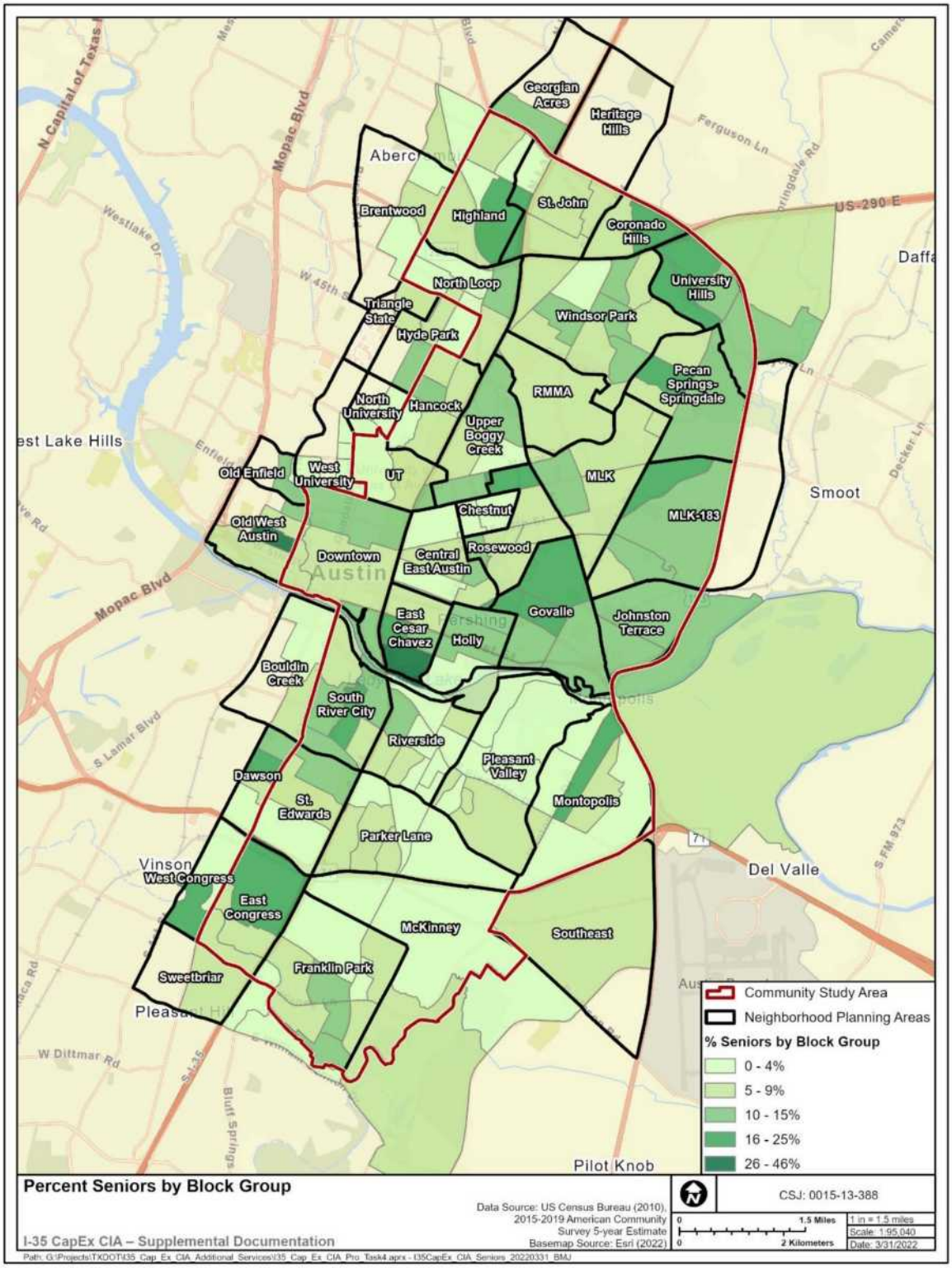


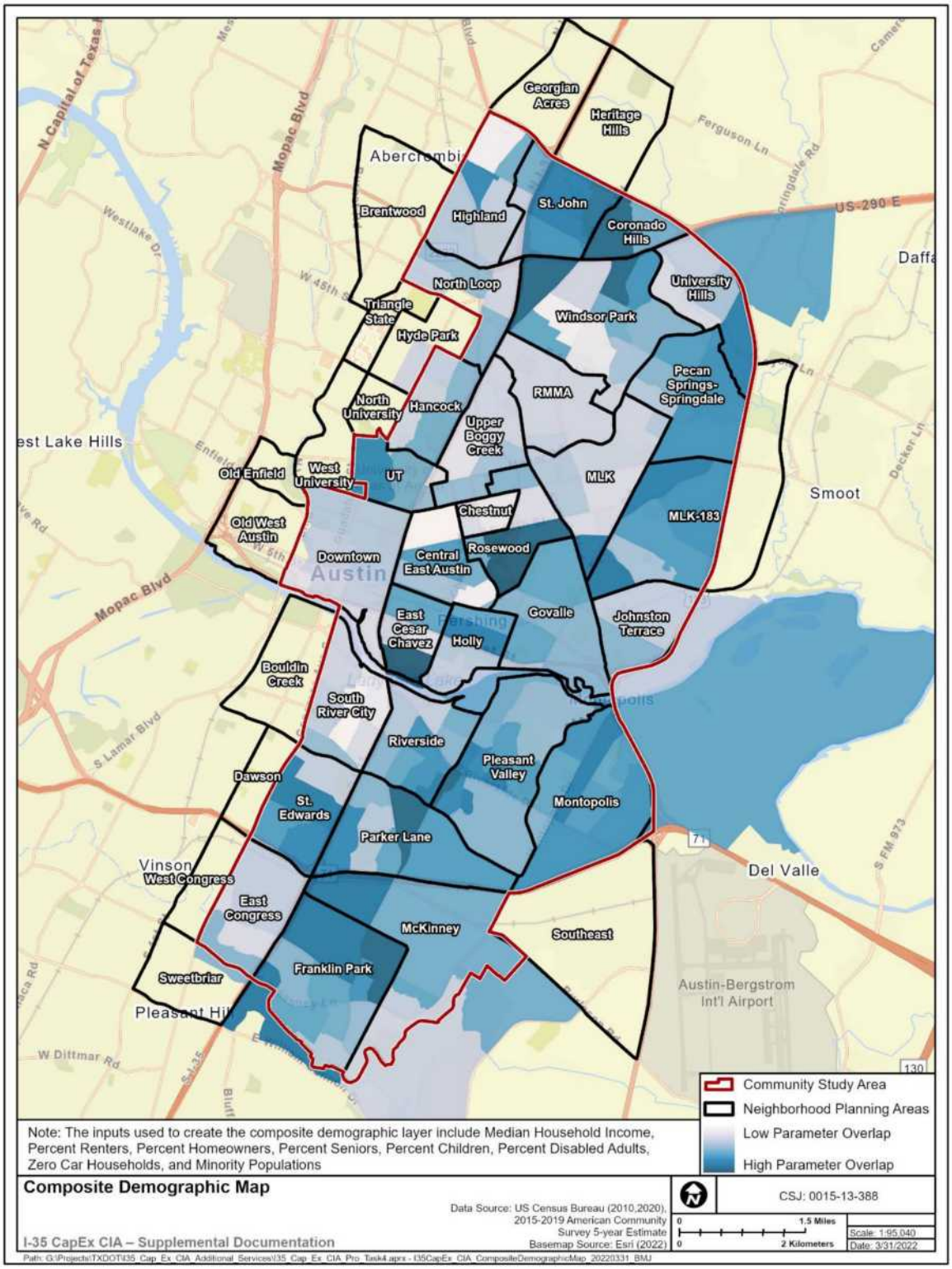
Figure 10: Percent Seniors (>65 Years of Age) by Block Group



Composite Data Graphic

The following GIS graphic depicts key demographic characteristics superimposed upon each other. While the various data parameters cannot be mathematically combined in any way, this visualization helps reveal areas with high concentrations of a number of parameters that may highlight areas with a need for additional focus from an equity in transportation perspective. Neighborhoods that stand out from this exercise include western Windsor Park, Coronado Hills, Rosewood, the southern portion of East Cesar Chavez, a central portion of Parker Lane, and the eastern portion of Franklin Park. Because additional tasks will be completed and more understanding of the conditions in the study area is forthcoming, at this stage these areas will be characterized as the Preliminary Focus Area. See **Figure 11** below.

Figure 11: Composite Demographic Map



Community Facilities and Affordable Housing

This section about community facilities and affordable housing provides a visualization of the presence of these resources that can be considered in subsequent analyses of travel patterns in the study area, particularly when analyzing StreetLight data.

These data are provided on the GIS maps that follow. Detailed data is not provided in table format but can be provided for zoomed in focus areas as needed for future stages of this analysis.

The community facilities within the study area map depicts the existing community facilities data gathered in the CIA Technical Report, along with additional churches, schools, libraries, places of worship, and grocery stores identified based on remote sources for the larger CIA study area.

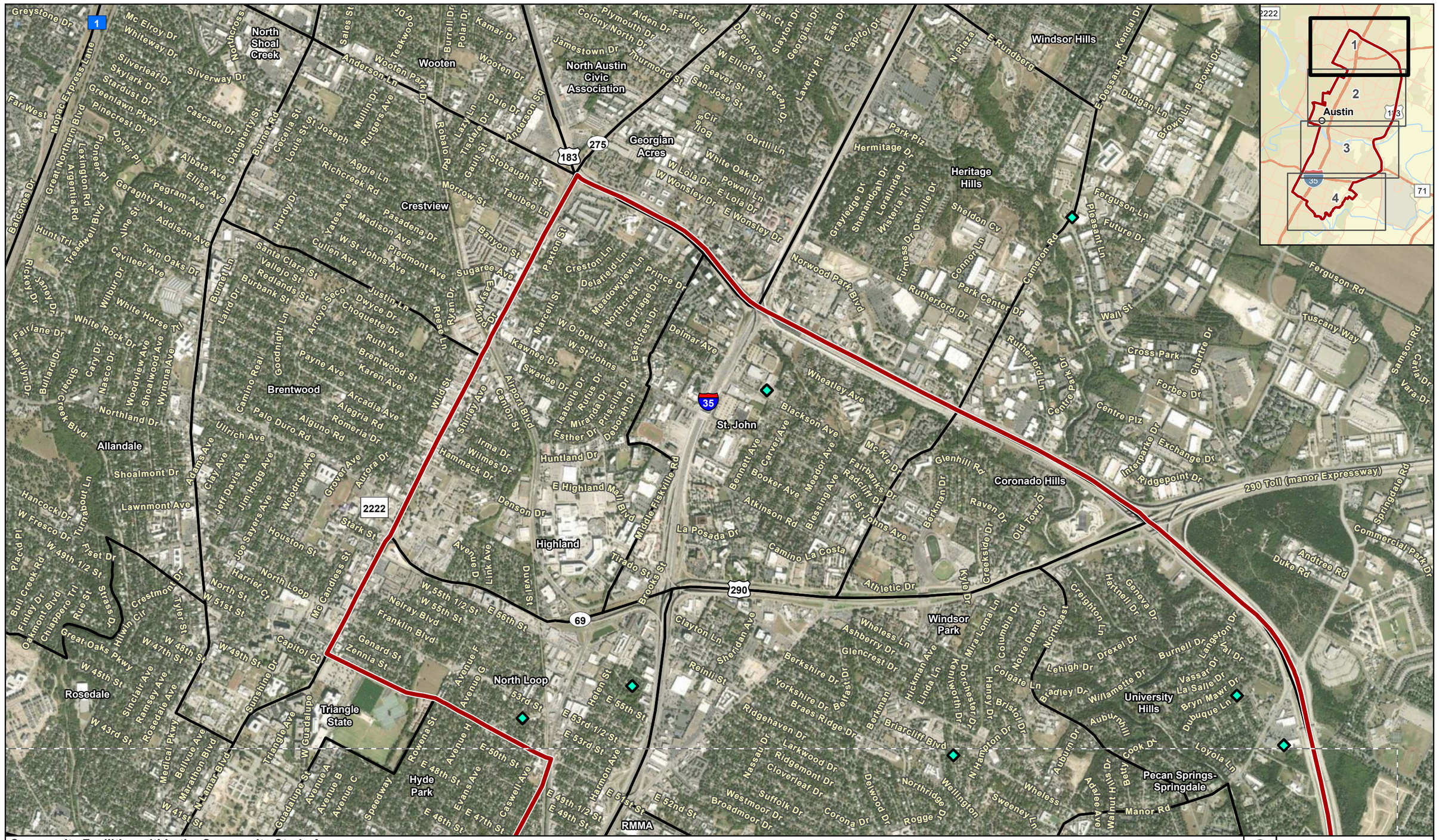
While the community facilities map understandably has many point in downtown and along the frontage roads where there are densely developed land uses, two other neighborhoods stand out as having recognizable clusters of community facilities. St. John at the northern end of the community study area and Franklin Park at the southern end both have concentrations of community facilities including schools, places of worship, and grocery stores.

The source of the affordable housing location data is the City of Austin's comprehensive affordable housing inventory. The affordable housing map shows all legally-binding and income-restricted housing within the study area. This map does not indicate quantity or availability of affordable housing units. The map shows that there is a dense cluster of income-restricted housing in Central East Austin. Please see large format maps in the attachment (**Community Facilities** and **Legally Binding Affordable Housing Developments within the Community Study Area**).

Next Steps

Subsequent tasks include identifying active transportation areas, walkability scores, a qualitative assessment of health indicators, and detailed analysis of StreetLight data to gain a better understanding of travel patterns in the study area. This Task 4 review of demographic information, affordable housing, and community facilities will be revisited along with the additional task findings to better understand transportation equity considerations in the community study area. Although a Preliminary Focus Area is being presented here for further discussion with the project team, analysts advise reviewing additional deliverables before narrowing detailed analysis to this Preliminary Focus Area.

COMMUNITY FACILITIES AND AFFORDABLE HOUSING



Community Facilities within the Community Study Area
Sheet 1 of 4

I-35 CapEx CIA – Supplemental Documentation

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Data Source: HDR (2022), City of Austin (2022), TEA (2022), HIFLD (2020), Stantec (2022)
Aerial Source: Maxar (2020)

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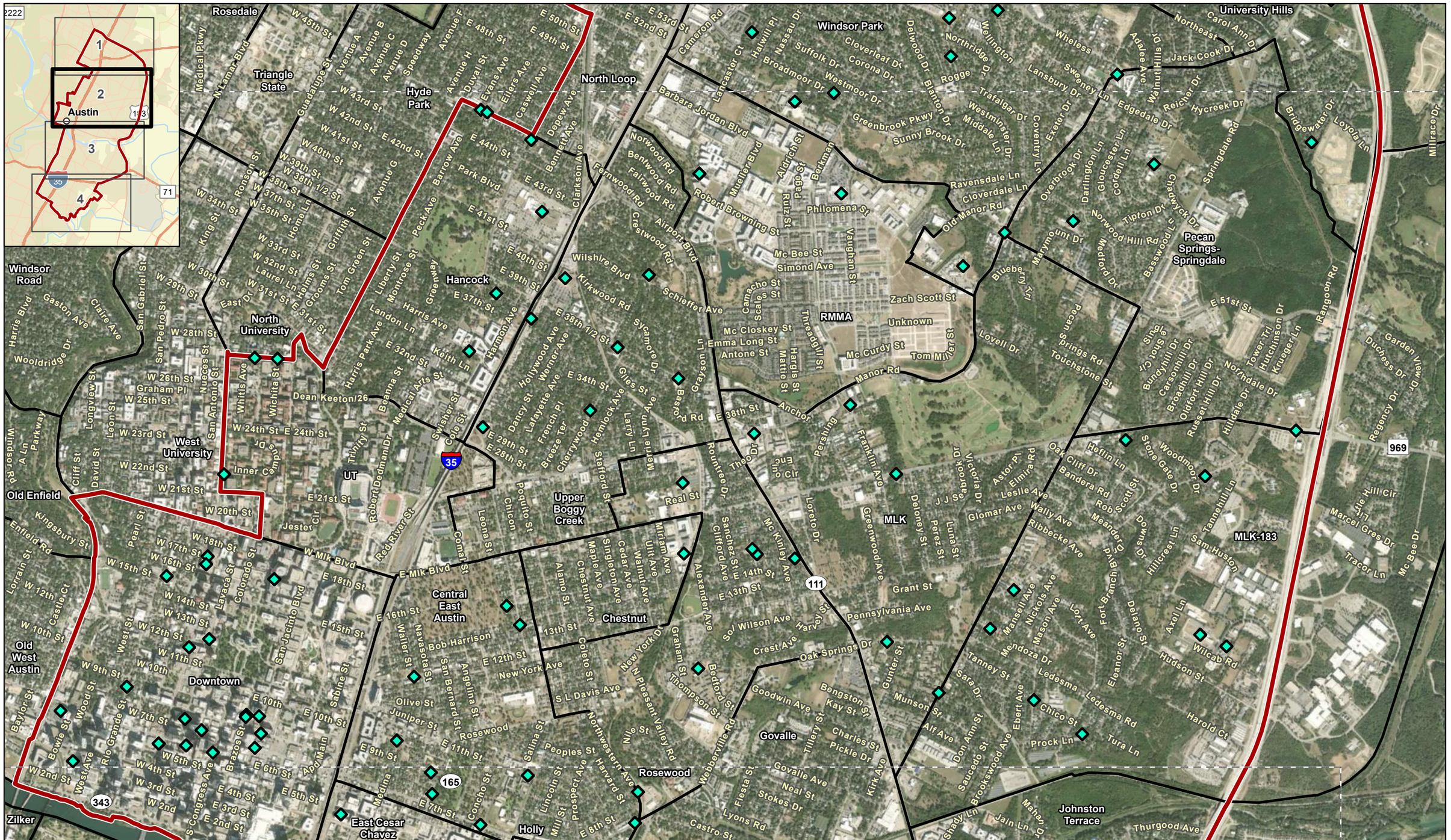
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Pecan Springs-Springdale
West University
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Upper Boggy Creek
Central East Austin
Chestnut
MLK
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Old West Austin
Downtown
Govalle
Rosewood
East Cesar Chavez
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Community Facilities within the Community Study Area
Sheet 2 of 4
I-35 CapEx CIA – Supplemental Documentation
Community Study Area
Community Facility
Neighborhood Planning Area
Sheet Limits
Data Source: HDR (2022), City of Austin (2022), TEA (2022), HIFLD (2020), Stantec (2022)
Aerial Source: Maxar (2020)
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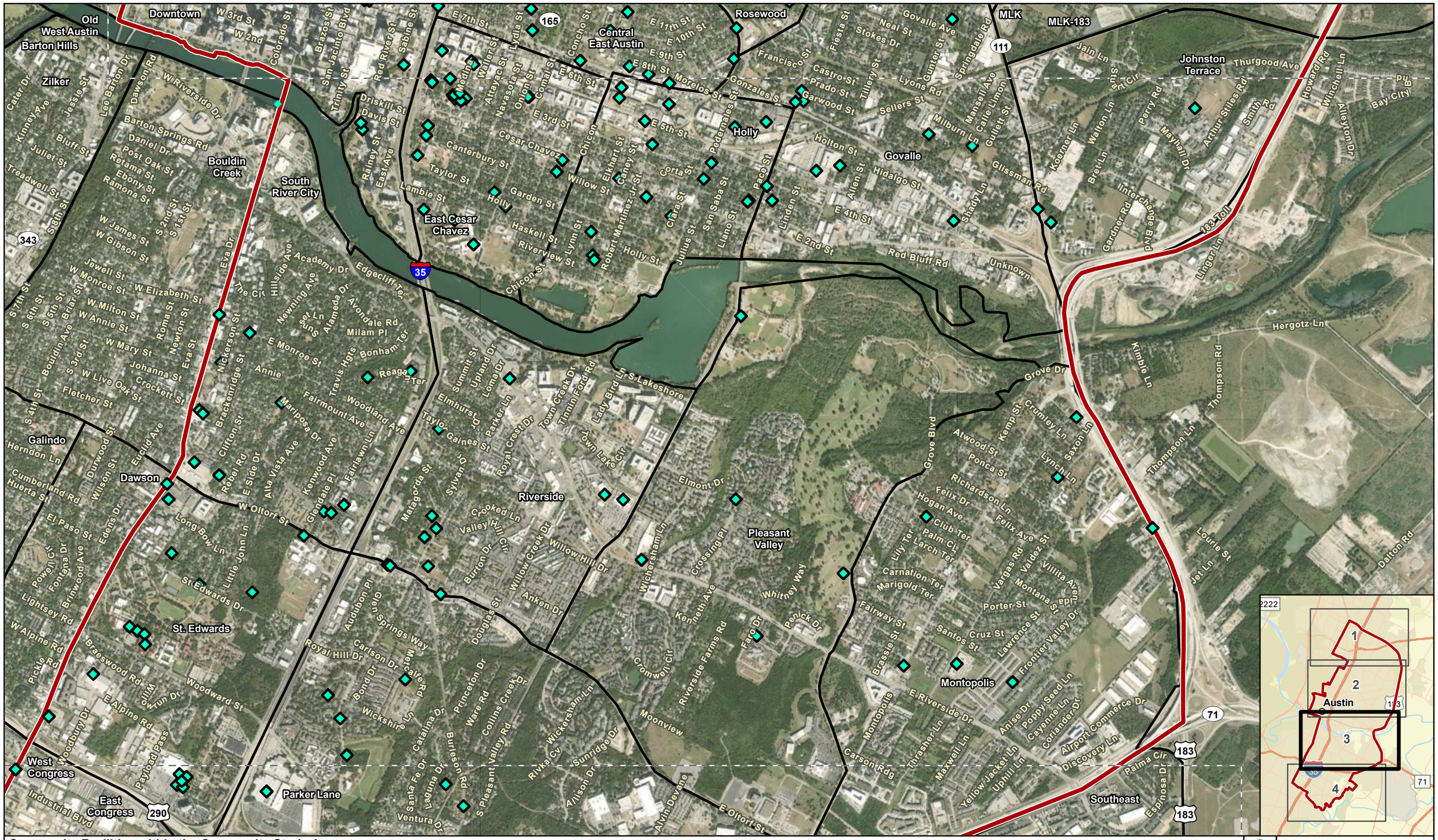

Community Facilities within the Community Study Area
Sheet 3 of 4

Community Study Area
Community Facility
Neighborhood Planning Area
Sheet Limits

Data Source: HDR (2022), City of Austin (2022), TEA (2022), HIFLD (2020), Stantec (2022)
Aerial Source: Maxar (2020)

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I-35 CapEx CIA – Supplemental Documentation

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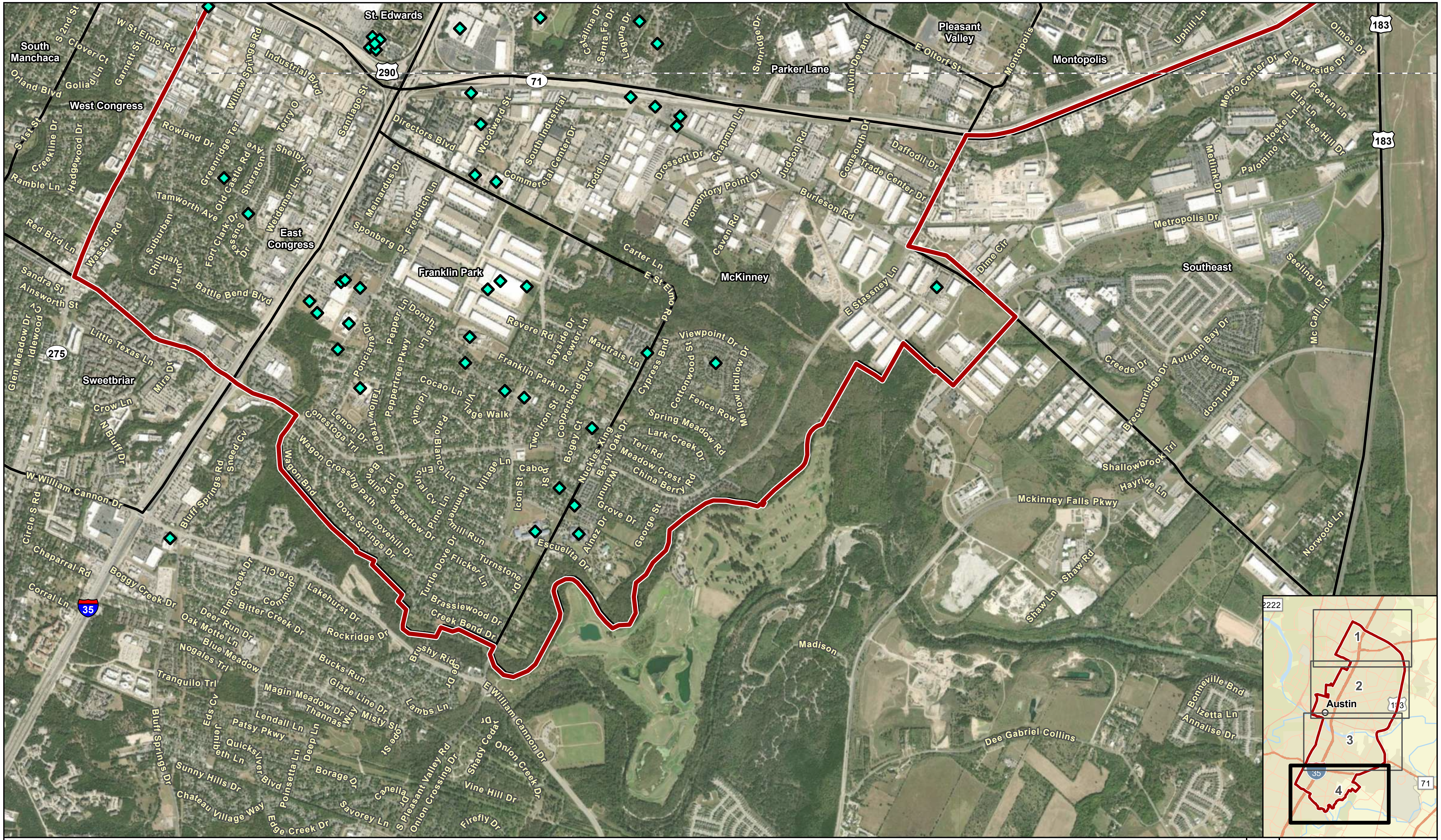

Community Facilities within the Community Study Area
Sheet 4 of 4

Community Study Area
Community Facility
Neighborhood Planning Area
Sheet Limits

I-35 CapEx CIA – Supplemental Documentation

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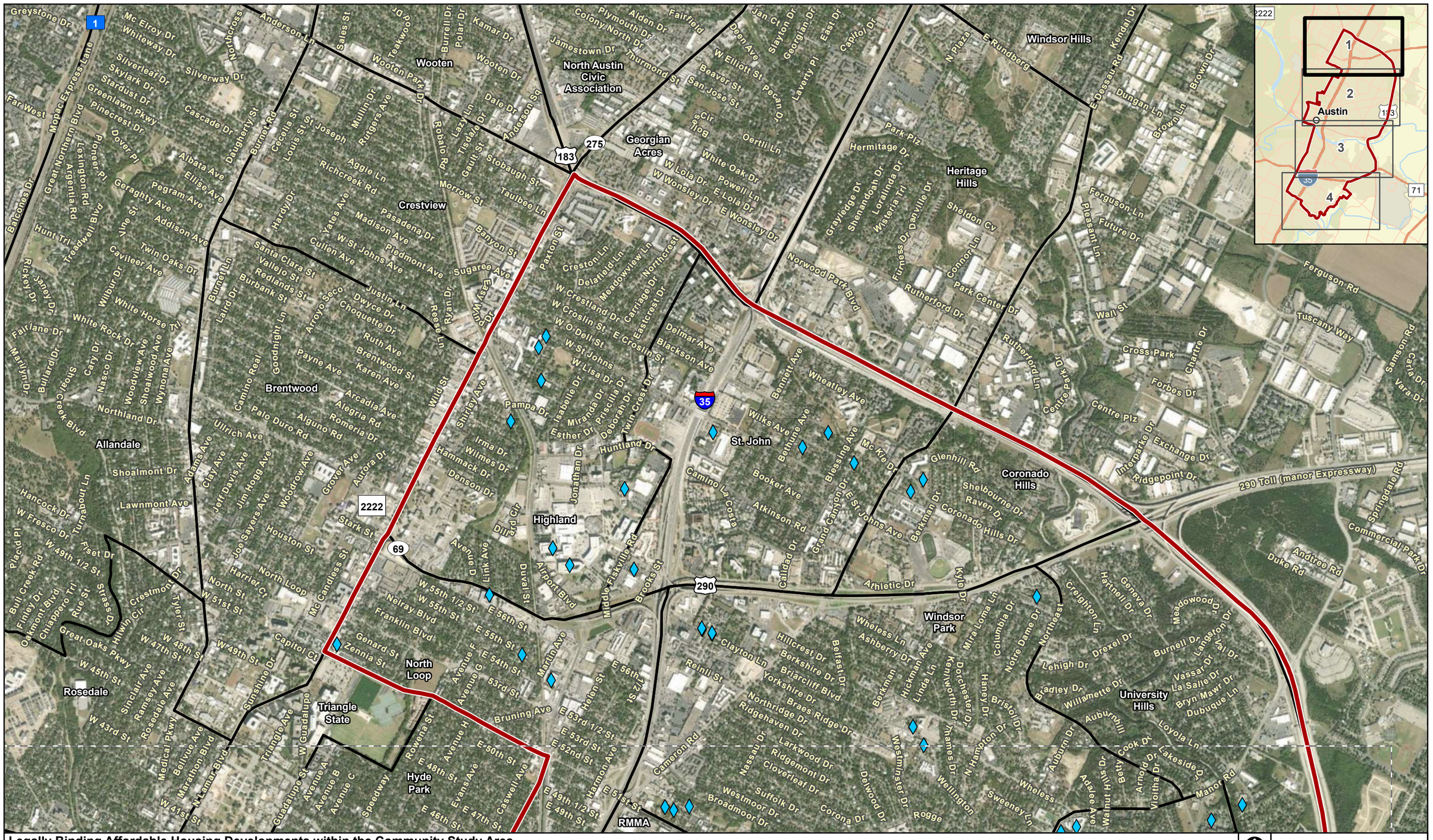
Data Source: HDR (2022), City of Austin (2022), TEA (2022), HIFLD (2020), Stantec (2022)
Aerial Source: Maxar (2020)



Legally Binding Affordable Housing Developments within the Community Study Area
Sheet 1 of 4

CIA Study Area
Affordable Housing
Neighborhood Planning Area
Sheet Limits

CSJ: 0015-13-388

Data Source: City of Austin (2022)
Aerial Source: Maxar (2020)

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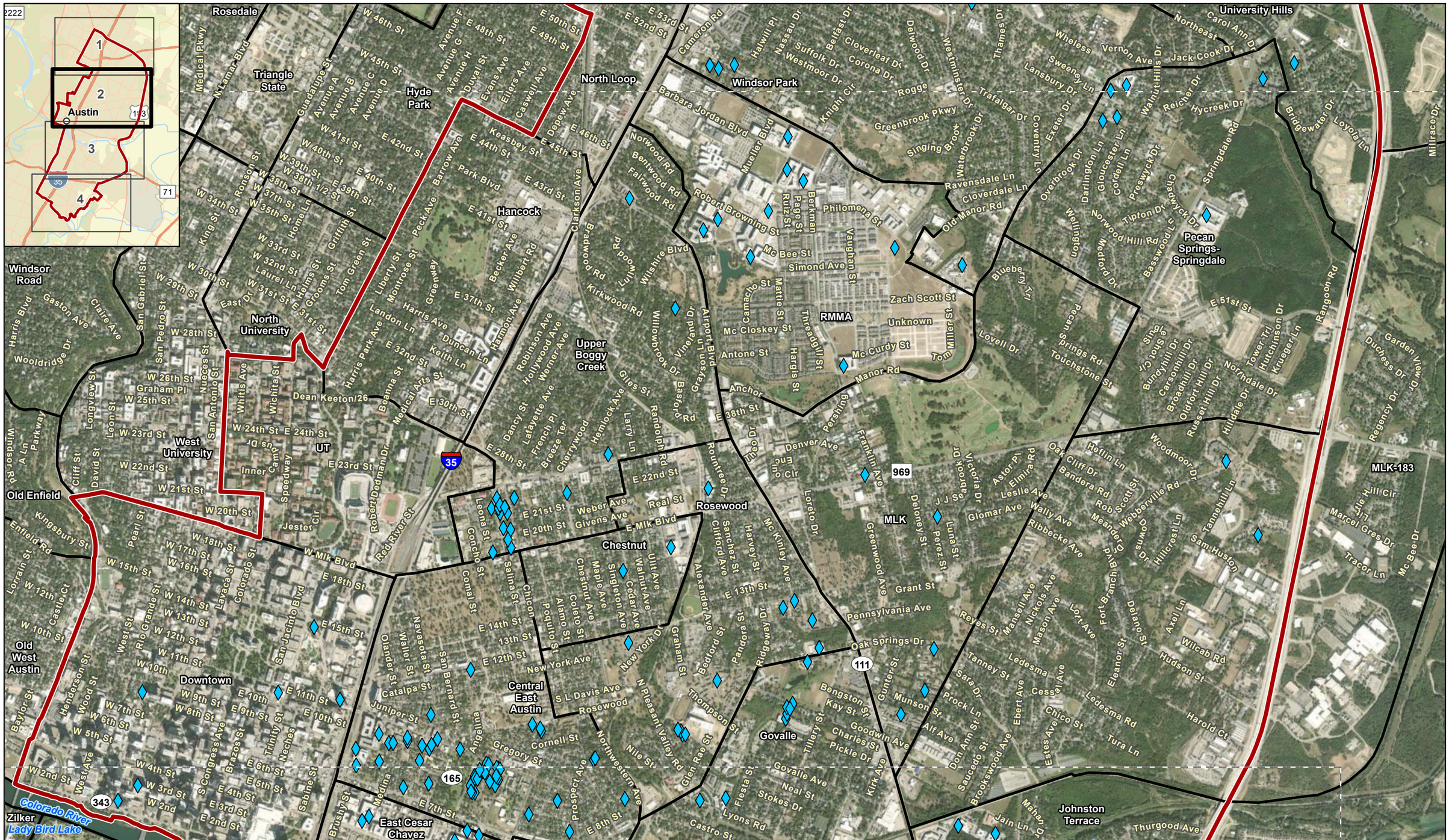

Legally Binding Affordable Housing Developments within the Community Study Area
Sheet 2 of 4

CIA Study Area
Affordable Housing
Neighborhood Planning Area
Sheet Limits

CSJ: 0015-13-388

Data Source: City of Austin (2022)
Aerial Source: Maxar (2020)

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Scale: 1:24,000
Date: 3/31/2022

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Legally Binding Affordable Housing Developments within the Community Study Area
Sheet 3 of 4

I-35 CapEx CIA – Supplemental Documentation

▭ CIA Study Area
◆ Affordable Housing
▭ Neighborhood Planning Area
⬚ Sheet Limits

Data Source: City of Austin (2022)
Aerial Source: Maxar (2020)

CSJ: 0015-13-388

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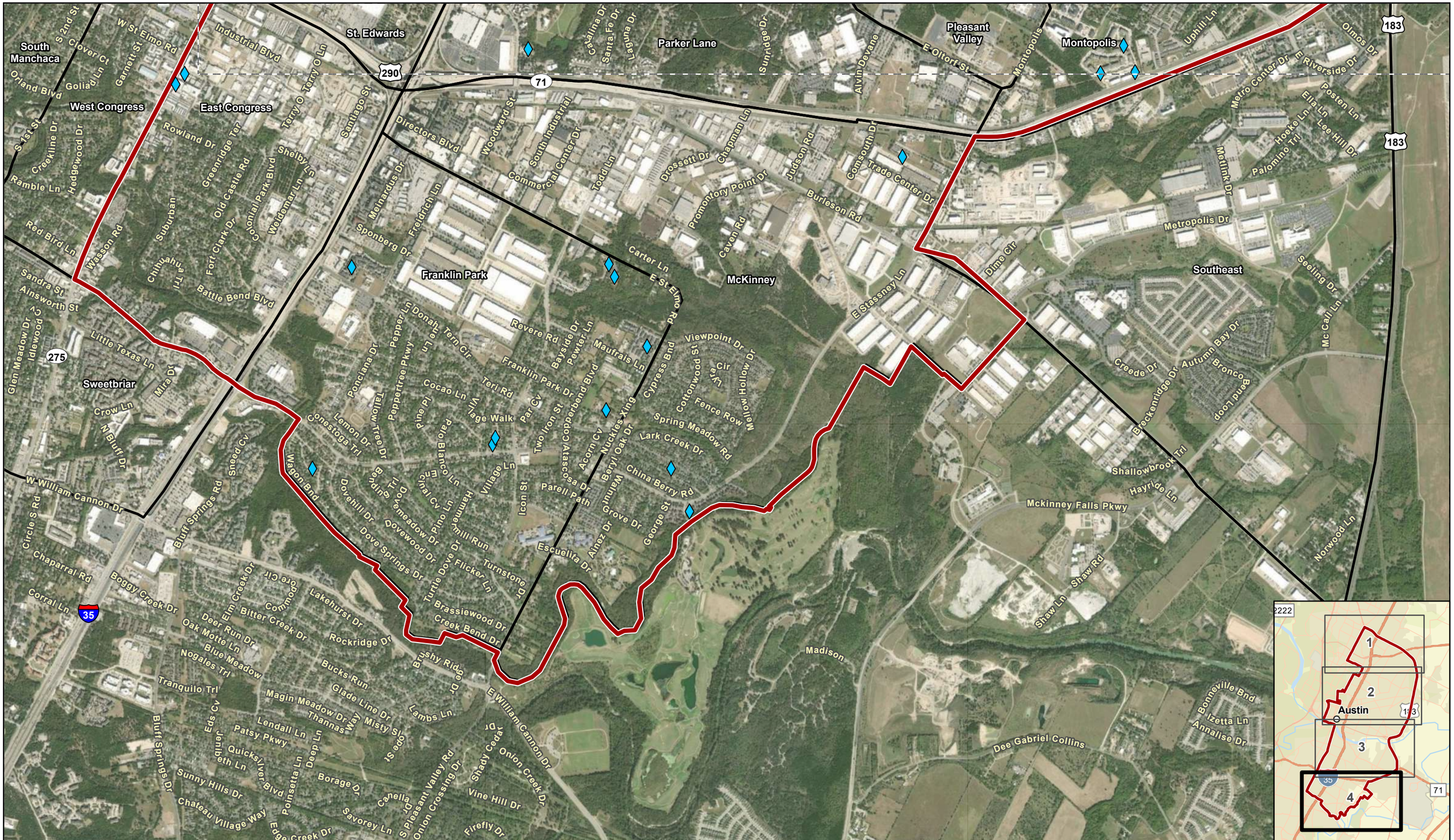

Legally Binding Affordable Housing Developments within the Community Study Area
Sheet 4 of 4

CIA Study Area
Affordable Housing
Neighborhood Planning Area
Sheet Limits

CSJ: 0015-13-388

Data Source: City of Austin (2022)
Aerial Source: Maxar (2020)

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Date: 3/31/2022

I-35 CapEx CIA – Supplemental Documentation

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SUPPORTING DATA TABLES

Table 1. Race and Ethnicity by Neighborhood in the Study Area

Neighborhood	Total Population	Percent White*	Percent Black*	Percent American Indian*	Percent Asian*	Percent Pacific Islander*	Percent Some Other Race*	Percent Two or More Races*	Percent Hispanic or Latino**	Percent Total Minority
Highland	4,262	55.1%	4.7%	0.5%	5.2%	0.1%	1.1%	28.2%	28.2%	44.9%
St. John	9,625	21.2%	10.1%	0.2%	3.8%	0.0%	0.3%	61.8%	61.8%	78.8%
Coronado Hills	3,013	20.1%	15.9%	0.4%	1.9%	0.0%	0.5%	58.2%	58.2%	79.9%
University Hills	5,953	33.8%	24.7%	0.1%	2.4%	0.1%	0.9%	34.9%	34.9%	66.2%
Windsor Park	14,729	39.4%	11.1%	0.2%	2.3%	0.0%	0.6%	43.1%	43.1%	60.6%
Pecan Springs-Springdale	5,611	31.9%	31.3%	0.2%	2.2%	0.0%	0.6%	29.8%	29.8%	68.1%
MLK-183	7,511	25.3%	27.8%	0.1%	1.6%	0.0%	0.4%	41.9%	41.9%	74.7%
North Loop	5,284	61.7%	3.3%	0.1%	6.4%	0.2%	0.6%	21.8%	21.8%	38.3%
RMMA	8,300	56.6%	6.3%	0.2%	11.5%	0.1%	0.5%	19.2%	19.2%	43.4%
Upper Boggy Creek	5,882	66.5%	6.9%	0.2%	4.2%	0.2%	0.3%	17.1%	17.1%	33.5%
MLK	3,161	42.8%	19.7%	0.1%	3.7%	-	0.3%	29.1%	29.1%	57.2%
Hancock	5,928	68.4%	1.7%	0.2%	10.4%	0.0%	0.5%	14.0%	14.0%	31.6%
UT	8,294	33.8%	7.3%	0.5%	31.7%	0.1%	0.1%	25.6%	25.6%	66.2%
Chestnut	2,357	58.3%	9.5%	0.3%	5.4%	-	1.0%	19.9%	19.9%	41.7%
Rosewood	4,660	38.7%	21.1%	0.2%	2.1%	0.2%	0.4%	33.8%	33.8%	61.3%
Central East Austin	5,939	45.8%	17.6%	0.1%	3.4%	0.1%	0.4%	28.1%	28.1%	54.2%
Govalle	5,985	41.0%	6.0%	0.1%	3.0%	-	0.6%	45.8%	45.8%	59.0%
Downtown	13,532	69.3%	5.6%	0.2%	7.7%	0.1%	0.7%	12.8%	12.8%	30.7%
Holly	3,029	40.1%	7.2%	0.8%	3.0%	0.1%	0.9%	44.2%	44.2%	59.9%

Table 1. Race and Ethnicity by Neighborhood in the Study Area

Neighborhood	Total Population	Percent White*	Percent Black*	Percent American Indian*	Percent Asian*	Percent Pacific Islander*	Percent Some Other Race*	Percent Two or More Races*	Percent Hispanic or Latino**	Percent Total Minority
East Cesar Chavez	4,960	54.4%	4.9%	0.1%	5.0%	0.1%	0.3%	31.5%	31.5%	45.6%
Johnston Terrace	2,199	37.2%	14.8%	0.2%	2.6%	-	0.5%	41.6%	41.6%	62.8%
South River City	6,574	73.2%	1.9%	0.1%	5.0%	0.0%	0.4%	14.5%	14.5%	26.8%
Riverside	13,321	42.5%	5.9%	0.3%	7.0%	0.1%	0.7%	39.1%	39.1%	57.5%
Pleasant Valley	14,009	33.6%	16.5%	0.5%	5.9%	0.1%	0.6%	39.2%	39.2%	66.4%
Montopolis	14,829	15.2%	8.3%	0.2%	2.0%	0.0%	0.7%	71.5%	71.5%	84.8%
St. Edwards	5,335	40.8%	6.5%	0.8%	6.4%	0.2%	0.4%	42.2%	42.2%	59.2%
Parker Lane	9,517	40.8%	8.8%	0.3%	3.2%	0.1%	0.5%	42.9%	42.9%	59.2%
East Congress	4,224	46.8%	5.1%	0.3%	3.6%	0.0%	0.5%	40.2%	40.2%	53.2%
McKinney	7,062	25.1%	6.8%	0.2%	2.9%	0.0%	0.6%	61.5%	61.5%	74.9%
Franklin Park	18,473	11.0%	8.0%	0.2%	0.9%	0.1%	0.4%	78.0%	78.0%	89.0%
Grand Total	223,558	39.5%	10.3%	0.3%	5.3%	0.1%	0.5%	40.6%	40.6%	60.5%

Source: 2020 Decennial Census, Table P2.
** The concept of race is separate from the concept of Hispanic origin. Hispanic origin can be viewed as the heritage, nationality, lineage, or country of birth of the person or the person's parents or ancestors before arriving in the United States. People who identify as Hispanic, Latino, or Spanish may be any race.

Table 2. Median Household Income by Neighborhood in the Study Area		
Neighborhood	**Total Households**	**Median Household Income (in 2019 inflation adjusted dollars)**
Highland	2,146	$58,802
St. John	3,802	$39,861
Coronado Hills	1,314	-
University Hills	1,940	$62,332
Windsor Park	6,083	$48,117
Pecan Springs- Springdale	2,166	$48,438
MLK-183	3,112	$31,717
North Loop	2,423	$48,837
RMMA	2,805	$73,875
Upper Boggy Creek	2,854	$64,732
MLK	1,342	$49,250
Hancock	2,980	$60,621
UT	20	$5,500
Chestnut	799	$90,566
Rosewood	1,721	$36,329
Central East Austin	2,412	$64,526
Govalle	2,539	$55,875
Downtown	5,321	$117,865
Holly	971	$50,625
East Cesar Chavez	1,839	$73,042
Johnston Terrace	933	$68,269

Table 2. Median Household Income by Neighborhood in the Study Area		
Neighborhood	**Total Households**	**Median Household Income (in 2019 inflation adjusted dollars)**
South River City	3,629	$84,024
Riverside	6,335	$37,984
Pleasant Valley	6,491	$37,889
Montopolis	3,442	$29,648
St. Edwards	2,059	$40,808
Parker Lane	4,855	$40,804
East Congress	1,093	$65,320
McKinney	579	$61,000
Franklin Park	4,841	$48,973
Grand Total	82,846	$48,785

Source: U.S. Census Bureau, 2015-2019 American Community Survey, Tables B11001 and B19013
Note: ACS data are estimates; they are not counts. Income data is provided in 2019 inflation adjusted dollars.
An '-' entry in the estimate column indicates that either no sample observations or too few sample observations were available to compute an estimate, or a ratio of medians cannot be calculated because one or both of the median estimates falls in the lowest interval or upper interval of an open-ended distribution.

Table 3. Population with a Disability by Neighborhood in the Study Area			
Neighborhood	**Total Population 18 years & over**	**Population 18 years & over with a Disability**	**Percent Population 18 years & over with a Disability**
Highland	3,924	383	9.8%
St. John	6,914	954	13.8%
Coronado Hills	2,086	573	27.5%
University Hills	3,335	373	11.2%
Windsor Park	10,878	1,663	15.3%
Pecan Springs- Springdale	4,264	803	18.8%
MLK-183	6,226	1,185	19.0%
North Loop	4,093	340	8.3%
RMMA	4,450	365	8.2%
Upper Boggy Creek	4,726	316	6.7%
MLK	2,937	280	9.5%
Hancock	5,327	322	6.0%
UT	61	-	-
Chestnut	1,671	188	11.3%
Rosewood	3,111	429	13.8%
Central East Austin	4,648	514	11.1%
Govalle	4,205	784	18.6%
Downtown	7,504	654	8.7%
Holly	1,937	333	17.2%
East Cesar Chavez	2,427	396	16.3%
Johnston Terrace	1,571	247	15.7%

Table 3. Population with a Disability by Neighborhood in the Study Area			
Neighborhood	**Total Population 18 years & over**	**Population 18 years & over with a Disability**	**Percent Population 18 years & over with a Disability**
South River City	5,441	339	6.2%
Riverside	10,784	721	6.7%
Pleasant Valley	14,299	1,431	10.0%
Montopolis	6,977	1,120	16.1%
St. Edwards	3,110	297	9.5%
Parker Lane	7,938	1,265	15.9%
East Congress	1,963	132	6.7%
McKinney	1,471	121	8.2%
Franklin Park	11,525	1,725	15.0%
Grand Total	149,803	18,253	12.2%

Source: U.S. Census Bureau, 2015-2019 American Community Survey (ACS). Table C21007.

Table 4. Zero Car Households by Neighborhood in the Study Area			
Neighborhood	**Total Households**	**Number of Zero Car Households**	**Percent Zero Car Households**
Highland	2,146	110	5.1%
St. John	3,802	590	15.5%
Coronado Hills	1,314	253	19.3%
University Hills	1,940	125	6.4%
Windsor Park	6,083	635	10.4%
Pecan Springs- Springdale	2,166	173	8.0%
MLK-183	3,112	316	10.2%
North Loop	2,423	191	7.9%
RMMA	2,805	198	7.1%
Upper Boggy Creek	2,854	203	7.1%
MLK	1,342	26	1.9%
Hancock	2,980	322	10.8%
UT	20	9	45.0%
Chestnut	799	57	7.1%
Rosewood	1,721	438	25.5%
Central East Austin	2,412	314	13.0%
Govalle	2,539	323	12.7%
Downtown	5,321	666	12.5%
Holly	971	104	10.7%
East Cesar Chavez	1,839	421	22.9%
Johnston Terrace	933	99	10.6%

Table 4. Zero Car Households by Neighborhood in the Study Area

Neighborhood	Total Households	Number of Zero Car Households	Percent Zero Car Households
South River City	3,629	342	9.4%
Riverside	6,335	679	10.7%
Pleasant Valley	6,491	707	10.9%
Montopolis	3,442	231	6.7%
St. Edwards	2,059	356	17.3%
Parker Lane	4,855	647	13.3%
East Congress	1,093	54	4.9%
McKinney	579	73	12.6%
Franklin Park	4,841	484	10.0%
Grand Total	82,846	9,146	11.0%

Source: U.S. Census Bureau, 2015-2019 American Community Survey (ACS). Table B25044.

Table 5. Tenure and Households by Neighborhood in the Study Area			
Neighborhood	**Total Households**	**Percent Owner Households**	**Percent Renter Households**
Highland	2,146	50.7%	49.3%
St. John	3,802	12.4%	87.6%
Coronado Hills	1,314	33.4%	66.6%
University Hills	1,940	52.8%	47.2%
Windsor Park	6,083	40.4%	59.6%
Pecan Springs- Springdale	2,166	51.8%	48.2%
MLK-183	3,112	51.7%	48.3%
North Loop	2,423	29.9%	70.1%
RMMA	2,805	48.3%	51.7%
Upper Boggy Creek	2,854	43.2%	56.8%
MLK	1,342	59.7%	40.3%
Hancock	2,980	27.0%	73.0%
UT	20	-	100.0%
Chestnut	799	50.6%	49.4%
Rosewood	1,721	38.2%	61.8%
Central East Austin	2,412	39.0%	61.0%
Govalle	2,539	52.1%	47.9%
Downtown	5,321	34.5%	65.5%
Holly	971	47.3%	52.7%
East Cesar Chavez	1,839	35.2%	64.8%
Johnston Terrace	933	73.6%	26.4%
South River City	3,629	42.9%	57.1%

Table 5. Tenure and Households by Neighborhood in the Study Area			
Neighborhood	**Total Households**	**Percent Owner Households**	**Percent Renter Households**
Riverside	6,335	9.5%	90.5%
Pleasant Valley	6,491	8.9%	91.1%
Montopolis	3,442	41.9%	58.1%
St. Edwards	2,059	12.5%	87.5%
Parker Lane	4,855	15.7%	84.3%
East Congress	1,093	60.0%	40.0%
McKinney	579	41.3%	58.7%
Franklin Park	4,841	43.8%	56.2%
Grand Total	82,846	34.2%	65.8%

Source: U.S. Census Bureau, 2015-2019 ACS 5-Year Estimates. Tables B01003, B11001, B25009. Note that UT contains a predominantly student population

Table 6. Age of Population by Neighborhood in the Study Area						
Neighborhood	**Total Population**	**Percent Under 18**	**Percent 18-34**	**Percent 35-49**	**Percent 50-64**	**Percent 65 and over**
Highland	4,815	11.9%	38.7%	25.8%	16.9%	6.6%
St. John	10,102	25.5%	37.2%	20.5%	10.8%	6.0%
Coronado Hills	3,259	23.4%	35.2%	15.1%	13.7%	12.6%
University Hills	5,015	20.9%	27.2%	21.5%	17.8%	12.6%
Windsor Park	16,388	25.0%	27.0%	24.1%	15.9%	8.0%
Pecan Springs-Springdale	6,617	24.1%	30.9%	21.1%	12.9%	11.0%
MLK-183	9,466	21.8%	26.0%	21.3%	18.6%	12.2%
North Loop	4,798	9.4%	54.3%	22.2%	9.2%	4.9%
RMMA	6,029	17.6%	29.8%	27.8%	16.4%	8.4%
Upper Boggy Creek	5,844	11.6%	40.5%	27.6%	12.9%	7.4%
MLK	3,766	12.5%	38.1%	25.4%	14.8%	9.2%
Hancock	6,560	7.8%	61.9%	16.2%	7.7%	6.5%
UT	9,083	1.1%	98.0%	0.7%	0.2%	-
Chestnut	2,018	9.9%	50.5%	25.6%	11.1%	2.9%
Rosewood	5,142	27.0%	30.0%	19.9%	12.1%	11.0%
Central East Austin	6,185	13.3%	47.8%	19.3%	13.6%	5.9%
Govalle	6,044	16.0%	29.7%	23.3%	16.7%	14.3%
Downtown	8,798	1.8%	46.4%	21.9%	18.9%	11.0%
Holly	2,729	19.0%	35.0%	18.0%	18.0%	10.0%
East Cesar Chavez	3,350	11.6%	38.0%	23.2%	11.2%	15.9%
Johnston Terrace	2,174	12.8%	25.3%	34.4%	12.6%	14.9%

Table 6. Age of Population by Neighborhood in the Study Area						
Neighborhood	**Total Population**	**Percent Under 18**	**Percent 18-34**	**Percent 35-49**	**Percent 50-64**	**Percent 65 and over**
South River City	6,938	10.8%	39.8%	24.6%	14.4%	10.4%
Riverside	12,670	11.6%	54.7%	22.2%	8.4%	3.1%
Pleasant Valley	16,821	12.3%	66.9%	10.7%	7.5%	2.7%
Montopolis	10,957	29.9%	32.6%	21.0%	10.1%	6.4%
St. Edwards	5,216	13.1%	58.3%	12.8%	9.6%	6.2%
Parker Lane	10,536	18.5%	40.5%	19.3%	15.6%	6.2%
East Congress	2,743	17.4%	30.7%	27.9%	13.0%	11.1%
McKinney	2,744	44.9%	23.0%	23.8%	6.8%	1.5%
Franklin Park	18,629	30.9%	25.3%	22.8%	13.8%	7.2%
Grand Total	215,436	17.8%	42.0%	20.3%	12.5%	7.4%

Source: U.S. Census Bureau, 2015-2019 ACS 5-Year Estimates. Table B01001.

To:	Sonya Hernandez, Project Manager Texas Department of Transportation	From:	Larsen Andrews, Environmental Planner Ashley McLain, Senior Principal
File:	I-35 Capital Express Community Impacts Assessment: Supplemental Documentation, Task 5	Date:	April 22, 2022

Reference: I-35 Capital Express Community Impacts Assessment: Supplemental Documentation, Task 5 Active Transportation- Austin, Travis County, Texas

Project Description

Texas Department of Transportation (TxDOT) is proposing improvements to I-35 from US 290 East to US 290W/SH 71 in Travis County; also known as, the I-35 Capitol Express (or "CapEx") Central project.

In general, the proposed improvements will add two non-tolled managed lanes in each direction, reconstruct intersections and bridges to increase bridge clearances and east/west mobility (as needed), and improve bicycle and pedestrian accommodations along I-35 frontage roads and at east/west crossings.

Possible build alternatives include lowered sections of managed and main lanes. Each build alternative will include various operational and safety enhancements that optimize the roadway footprint, and will reconstruct ramps, bridges, and intersections; improve frontage roads; enhance bicycle and pedestrian accommodations; accommodate transit routes; and add direct connectors at I-35/US 290 East. The project length is approximately eight miles.

The purpose of this memo is to assess the existing conditions of active transportation infrastructure within the study area. Transit and micromobility options are also examined. The size and location of the study area for this task is based on the Community Impact Assessment study area established in the Community Impact Assessment Technical Report (HDR, April 2022), based on demographic data of neighborhood planning areas along I-35 and west of US 183, often referred to as the Eastern Crescent. **See Figure 1, Project Location**.

Methodology

This memo provides an active transportation and transit profile of the neighborhoods within the study area. The existing sidewalks and bike lanes are discussed at the neighborhood level, as are transit routes and stops. Attention is also given to the connectivity between neighborhoods. These existing conditions are displayed in **Figures 1-3** at the end of this document. **Figure 4** displays active transportation improvements that are proposed by the Austin Strategic Mobility Plan to be constructed in 2022. These current and future projects are discussed in the neighborhood profiles in order to anticipate how the existing conditions could change.

In addition to the maps layers for existing infrastructure and planned projects, this report uses a quantitative analysis from the Environmental Protection Agency (EPA) National Walkability Index to evaluate how walkable each neighborhood in the study area is. This unique dataset assigns a score to each U.S. Census Bureau Block Group in the United States. The score is based on three variables: (1) intersection density, (2) proximity to transit stops, and (3) diversity of land uses (employment mix and employment and household mix). For each variable, block groups are compared with one another to give each a unique national ranking. Using these rankings, the Index places block groups in 20 quantiles for each variable, 1 being the lowest and 20 being the

highest. A weighing scheme is then used to determine the average quantile score for each block group. The Index uses the following weighted formula:

Final National Walkability Index score = (w/3)+(x/3)+(y/6)+(z/6)

Where w = block group's ranked score for intersection density

x = block group's ranked score for proximity to transit stops

y = block group's ranked score for employment mix

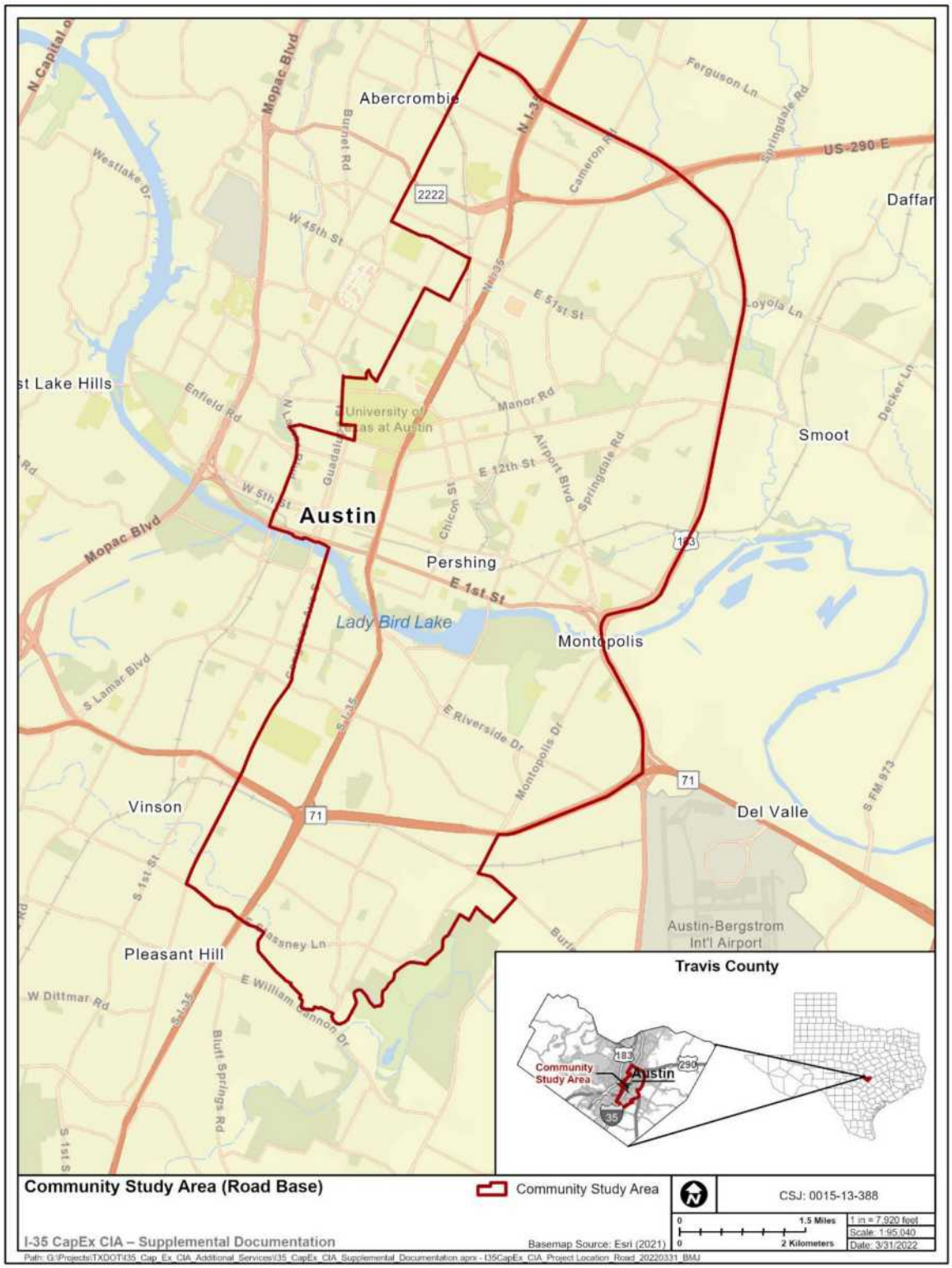
z = block group's ranked score for employment and household mix

Block groups that are less walkable have lower scores (closer to 1), and block groups that are more walkable have higher scores (closer to 20). To evaluate the walkability of each neighborhood, this report gives the range of National Walkability Index scores for each block group in the given neighborhood (EPA 2021). See the table of EPA Walkability Index scores at the end of this document.

While not discussed in depth here, a note should be made on micromobility. Micromobility incorporates electric bikes and scooters that are available for rent and are not required to be returned to a central location. Examples include Lime and Bird scooters and the CapMetro MetroBike. Scooters in particular became extremely popular upon the introduction of Bird scooters in Austin in April, 2018. Since the City of Austin began collecting data on micromobility use in 2019, over 10 million trips have been recorded, at an average of approximately 9,000 trips a day. These trips are usually less than ten minutes long and between a half-mile and a mile (Ride Report, 2022). CapMetro and TxDOT are both working on programs to acknowledge this form of mobility as a component of the solution for final mile challenges.

Access and mobility are important terms for this analysis. Mobility describes the conditions of movement along a transportation network. Access goes a step further and takes into account the individuals using the network and the places they move among. Thus accessibility might be applied to a place, a population, or a method of transportation. The concluding section of this document provides a qualitative assessment of how the neighborhoods in the study area compare to one another in terms of accessibility and mobility.

Figure 1: Community Study Area



Highland

The National Walkability Index, used to measure relative walkability of U.S. communities, scores on a scale of 1 to 20. Highland's National Walkability Index scores range from 11.8 to 18.7 (EPA 2022), with an average of 16.2. Despite its relative distance from downtown, Highland is one of the top ten most walkable neighborhoods in the study area. Highland's walkability is reflected in its density of amenities and its mix of land uses and destinations. The neighborhood is split in two by Airport Boulevard, which in most sections is a five lane road. This barrier is somewhat offset by the presence of shared use paths on both sides of the road. The area around Austin Community College Highland is newly developed and mixed use. It is also an accessible transit destination as the Red Line, the City's only existing light rail route, has a stop across the street from the campus. The map of 2022 Austin Strategic Mobility Plan projects shows a few bike lane and sidewalk improvements. The most significant improvement is the enhancements of bike infrastructure along St. John Street.

St. John

St. John's National Walkability Index scores range from 11.6 to 14.6 (EPA 2022). These scores are higher than the national average, despite the neighborhood being bordered by three busy highways. This is possibly due to the relatively higher density of intersections and the tighter mix of housing and commerce throughout the neighborhood. However, the bike and sidewalk infrastructure within the neighborhood has few connections to other neighborhoods because the highways create barriers. St. John, like a few other neighborhoods in the study area, has bike lanes primarilyon streets that also have bus routes and stops. This can be inconvenient for cyclists, as busses merge into bike lanes during on-boarding and off-boarding. However, the crossover of infrastructure is convenient for riders who use bikes or scooters for first and last mile.

Coronado Hills

Coronado Hills's National Walkability Index scores range from 9.1 to 13.1 (EPA 2022). While this neighborhood has nearby amenities, including schools and stores, it has a weak network of bike and pedestrian infrastructure. The bike lanes are limited to a couple busy roads including along frontage roads. There are more sidewalks, but in many areas the sidewalks start and end, forcing pedestrians to on and off the main roadway intermittently. St. John and Coronado Hills are isolated from the rest of the City in a triangle made up of three highways: I-35, US 183, and US 290. Both neighborhoods have poor accessibility for pedestrians and cyclists trying to cross in or out of this triangle. Coronado Hills also has very few transit options, with most routes and stops located in the southwest corner of the neighborhood. This is inconvenient for neighborhood residents, as most of the residential areas are on the north side of the neighborhood along US 183. Only one improvement, a short segment of St. John's road bike lane, is planned for 2022.

University Hills

University Hills's National Walkability Index scores range from 10.5 to 14.1 (EPA 2022). University Hills and neighboring Coronado Hills are two of the five least walkable neighborhoods in the study area. Despite the suburban character of the neighborhood, University Hills has a decently connected network of sidewalks. However, many of these sidewalks are not continuous. There are few bike lanes, and only one bike lane provides easy access across a neighborhood boundary. The interior of the neighborhood is only serviced by one bus route. In 2022, the sidewalk network within the neighborhood will be enhanced with new sidewalks in the northern portion of the neighborhood.

Windsor Park

Windsor Park's National Walkability Index scores range from 11.6 to 18.5 (EPA 2022). Windsor Park has a higher density of intersections in its residential streets than other neighborhoods in northeast Austin. This allows pedestrians and cyclists to move throughout the area without relying on more heavily trafficked thoroughfares. However, Windsor Park incorporates a larger geography than most other neighborhoods in the study area, and much of the neighborhood lacks both sidewalks, bike lanes, and transit. Furthermore, the only 2022 active

transportation improvements are bike lane improvements to streets that already have bike lanes and sidewalk improvements to streets that already have sidewalks.

Pecan Springs-Springdale

Springdale's National Walkability Index scores range from 9.1 to 13.5 (EPA 2021). Pecan Springs-Springdale incorporates two residential areas separated by a largely undeveloped area. Cyclists and pedestrians experience this separation through the lack of active transportation infrastructure connecting the two neighborhood interiors. In fact, the only bike infrastructure in the neighborhood skirts the edges of these residential areas. Likewise, there are zero transportation stops within the interior of the Pecan Springs-Springdale neighborhood. Like other neighborhoods in the northeast portion of the study area, commuting without a car to or from the neighborhood presents significant barriers.

MLK-183

MLK-183's National Walkability Index scores range from 10.5 to 14 (EPA 2022). While this neighborhood is very hilly and has few nearby amenities, it has a relatively strong network of sidewalks. In contrast, residents in the southern half of the study area would in many cases need to walk or bike a half mile to get to the nearest bus stop. The major arterial in the neighborhood is Springdale Road. Most other streets in the neighborhood feed into this road. Springdale Road has continuous sidewalks and bike lanes. There are no projects planned for the neighborhood interiors in 2022.

North Loop

North Loop's National Walkability Index scores range from 13.5 to 17.1 (EPA 2022). North Loop has both high-traffic thoroughfares and low-traffic, single-family residential zones. The neighborhood is serviced by several north-south bus routes, but only one route that runs east-west. Travel between the eastern half of the neighborhood and the western half is divided by Airport Boulevard which is wide and busy. Furthermore, unlike in nearby Highland, the section of Airport in this neighborhood has discontinuous active transportation infrastructure. Cyclists in this area enjoy uninterrupted bike lanes between the neighborhood interior and downtown. The map of 2022 active transportation improvements shows several projects in North Loop, including improvements along Airport which could enhance connectivity between the eastern and western halfs of the neighborhood.

Mueller (RMMA)

Mueller's National Walkability Index score is 19 (EPA 2022). Mueller is a 21ST century master-planned community that is designed with the principles of mixed-use and walkable urbanism. It has the highest average walk score of any neighborhood in the study area. This is due to its combination of a tight grid with safe intersections and the easily accessible commercial and civic amenities located within the neighborhood. Mueller residents benefit from the most complete network of sidewalks outside of Downtown. Biking is also encouraged in the neighborhood. Mueller has several protected bike lanes, and while the neighborhood is very distinct from the surrounding neighborhoods, the active transportation infrastructure has many safe connections to the larger city networks. In contrast for transit riders, currently there are only two stops in the residential section of Mueller. The City has only one planned active transportation project for Mueller in 2022; a bike lane that runs north-south through the neighborhood.

Upper Boggy Creek

Upper Boggy Creek's National Walkability Index scores range from 13.6 to 18 (EPA 2022). The southernmost section of this neighborhood, between Manor Road and East Martin Luther King Boulevard, has a well connected network of sidewalks. Elsewhere in the neighborhood, sidewalks are spare and mostly run north-south. Manor and East MLK are hubs of commercial activity, while the rest of Upper Boggy Creek is single-family residential, so the concentration of sidewalks between these two streets is logical. This neighborhood has even distribution of bike lanes. The Red Line traverses Upper Boggy Creek, but does not stop within its boundaries. The nearest stop,

however is not far to the southeast. The neighborhood has several transit options that run east-west between the apartment buildings in the neighborhood and the University of Texas Campus. In 2022, the northern section of Upper Boggy Creek will receive improvements to several sidewalks and bike lines.

MLK

MLK's National Walkability Index scores range from 9.5 to 17 (EPA 2022). This is a large range that reflects a lack of connectivity across the neighborhood whole. The least walkable neighborhood according to the Index is in fact the one that borders Mueller, which is the most walkable neighborhood in the city. That block group has only one section of sidewalk and zero bike lanes within its interior. Throughout the MLK neighborhood, bike, pedestrian and transit infrastructure is focused on east-west corridors such as East MLK, East 12th, and Oak Springs Drive. In 2022, East 12th St and Springdale Road will be improved with new sidewalks and bike lanes.

Hancock

Hancock's National Walkability Index scores range from 13.6 to 18.8 (EPA 2022). Despite being very walkable, there are several barriers to the fluid movement of bikes and pedestrians in this neighborhood, including Waller Creek, Hancock Golf Course, and 38th Street. There is a large shopping center with a grocery store in the northeastern portion of the neighborhood along Red River Street. Access to and from this amenity is aided by frequent bus service, continuous sidewalks, and frequent crosswalks. While continuous bike lanes are present on 38th Street and Red River Street, these are unprotected and can be uncomfortable due to the high speed of traffic and frequent stops of buses. Hancock borders I-35, and while there are bike lanes and sidewalks that connect the neighborhoods across the highway, these pedestrians and cyclists often do not have the protection of designated signals. In 2022, this could improve with a couple projects planned on both sides of I-35.

University of Texas Campus

UT's National Walkability Index score is 18.8 (EPA 2022). The campus is very walkable and most of it is inaccessible to vehicles other than those used by UT staff and permit holders. While many sidewalks and bike lanes are visible in the maps, many walkways are not shown. This is explainable because unlike elsewhere in the study area, most transportation infrastructure in UT's campus is not built or maintained by the City of Austin. The campus benefits from several high-frequency bus routes that move riders to and from the surrounding neighborhoods where many students live. While the city has only one planned project within the campus, a short segment of bike lane, Dean Keaton which marks the campus's northern boundary will be improved with better bike lanes.

Chestnut

Chestnut's National Walkability Index scores range from 15.6 to 16.6 (EPA 2022). Chestnut is a small and compact neighborhood with a well connected grid of sidewalks. Although only one transit route and one bike lane traverse the interior of the neighborhood, this does not reflect a burden on residents because the neighborhood is small enough so that a transit stop is generally within a comfortable walking distance. Chestnut also benefits from having a stop on the Red Line, allowing easier access to downtown and activity centers in the north of the city, compared to other Eastside neighborhoods. While the neighborhood is dominated by single family housing land-use, there are new mixed-use transit oriented developments near the Red Line station, which contribute to the high National Walkability Index scores. Despite its size, Chestnut has more planned active transportation projects than most other neighborhoods in the study area. These include sidewalk improvements on several residential streets.

Rosewood

Bouldin Creek's National Walkability Index scores range from 13.5 to 15.3 (EPA 2022). Many streets in Rosewood have sidewalks, however the density of intersections is smaller than in adjacent neighborhoods because the street-grid is less prevalent here with more cul-de-sacs and dead-ends. Rosewood has a few large parks including the Boggy Creek Greenbelt, which adds to the active transportation infrastructure. This

neighborhood may benefit from the Red Line station which is located in the adjacent Chestnut neighborhood. Similar to Chestnut, Rosewood will benefit from a good number of active transportation projects in 2022, including several new sidewalks and improvements to existing bike lanes.

Central East Austin

Central East Austin's National Walkability Index scores range from 15.5 to 18 (EPA 2022). Central East Austin is one of the most walkable neighborhoods within the study area. The only neighborhoods with more sidewalk connectivity are Downtown and perhaps Mueller. Despite steep hills and a lack of protected bike lanes, biking is a common mode of transportation in this neighborhood relative to the study area as a whole. The neighborhood is serviced by three MetroBus Local routes, a University of Texas (UT) Shuttle Bus, and two high-frequency MetroBus Local routes.

Govalle

Govalle's National Walkability Index scores range from 14.1 to 17.6 (EPA 2022). While not as complete as some of the adjacent neighborhoods, Govalle's sidewalk network covers many of the streets in the neighborhood. Govalle is relatively bike friendly, with many bike lanes especially in its southern half. This neighborhood is flat and has many nearby amenities, that contribute to its walkability and bikeability. Govalle is also intersected with several transit routes. Relatively few active transportation projects are planned for Govalle in 2022. One is improvements to bike and pedestrian infrastructure alon Springdale Rd.

Downtown

Austin's Downtown National Walkability Index scores range from 16.3 to 18.8 (EPA 2021), rating Downtown as one of the most walkable and transit-accessible neighborhoods in Austin. Downtown's walkability is reflected in its density of amenities and its thorough network of sidewalks and signaled crosswalks. Downtown is also very bikeable. Most streets in Downtown have bike lanes. A few have protected bike lanes separated from traffic by flex posts, concrete buttons, and concrete curbs. Despite Downtown's high level of walkability, only approximately 10 percent of Downtown households are zero-car households, which may indicate higher income households given the cost of maintaining a downtown residence along with paid parking space (U.S. Census Bureau, 2015-2019 ACS 5-Year Estimates). In 2013, the City of Austin removed mandated parking minimums in the Central Business District, which roughly coincides with the downtown geographic boundaries. Despite this regulatory change and the potential cost savings, downtown housing developers are presumably still building parking spaces because downtown residents are still largely car dependent even though Downtown is the most transit-accessible neighborhood in Austin. The terminus of the Red Line is located at the Austin Convention Center. Downtown is connected to areas north and south by two MetroRapid routes. In 2022, the City is planning to improve bike infrastructure on nine different streets.

East Cesar Chavez

East Cesar Chavez's National Walkability Index scores range from 14.5 to 19.3 (EPA 2022). East Cesar Chavez is one of the most walkable neighborhoods in the study area. This can be partially attributed to the absence of major thoroughfares and the presence of sidewalks on both sides of every street. East Cesar Chavez is very bike friendly. This neighborhood is flat, has many nearby amenities, and has a strong network of bike infrastructure, including the Lady Bird Lake Hike-and Bike Trail. The neighborhood is serviced by one high-frequency MetroBus Local route and one regular-frequency MetroBus Local route. Also, as mentioned previously, the Red Line runs through the East Cesar Chavez neighborhood. East Cesar Chavez has several planned active transportation projects for 2022, including two crossing points under I-35.

Holly

Holly's National Walkability Index scores range from 15 to 17.5 (EPA 2022). The Holly neighborhood is a very walkable neighborhood and also very bikeable. This neighborhood is flat, has many nearby amenities, and has a strong network of bicycle infrastructure, including the Lady Bird Lake Hike-and-Bike Trail. Holly is serviced by

three high-frequency MetroBus Local routes, a UT shuttle bus, and one regular service MetroBus Local route. The Red Line passes through the neighborhood but does not make a stop within its boundaries. In 2022, pedestrian improvements are planned for the lake trail and for East Cesar Chavez Street.

Johnston Terrace

Johnston Terrace's National Walkability Index score is 15.1 (EPA 2022). Johnston Terrace is the least dominated by single-family residential land use of any Eastside neighborhood in the study area. Also, the streets are not laid out in a grid as they are in other neighborhoods. However, Johnston Terrace is still relatively walkable because it has sidewalks on most of the streets and there is a mix of land uses. The neighborhood also has the Walnut Creek Greenbelt trail, which is popular for cyclists. The neighborhood lacks decent access to transit, as there is only one stop within the interior of the neighborhood and only two along its eastern boundary on Airport Boulevard. Only one short segment of sidewalk is proposed for improvement in Johnston Terrace is 2022.

South River City

South River City's National Walkability Index scores range from 9.6 to 18.8 (EPA 2022). This neighborhood is very hilly but has some bike lanes and does not have heavy car traffic outside of the three major thoroughfares: East Riverside Boulevard, South Congress Avenue, and Oltorf Street. South River City is serviced by two High-frequency MetroBus Local routes, one MetroRapid route, and one regular service MetroBus Local route. Zero active transportation projects are planned for this neighborhood in 2022.

Riverside

Riverside's National Walkability Index scores range from 8 to 15.6 (EPA 2022). While the major corridor of East Riverside Drive is lined with many commercial and civic amenities, the current street configuration is not safe for pedestrians because the sidewalks are frequently intersected by driveways for businesses. The Riverside neighborhood is serviced by three high-frequency MetroBus Local route, the UT shuttle bus, and one regular service MetroBus Local route. The area has many bus stops, but is largely car-oriented as many driveways and cross streets tie into East Riverside Drive. Active transportation improvements are planned for two north-south streets in the neighborhood; Parker Lane and Burton Road.

Pleasant Valley

Pleasant Valley's National Walkability Index scores range from 6.6 to 13.8 (EPA 2022). While this neighborhood is very flat and has nearby amenities, it has a weak network of bike infrastructure outside of the shared-use paths located in Roy G. Guerrero Park. The three major arterials of Pleasant Valley are East Riverside Drive, Grove Boulevard, and South Pleasant Valley Road. All other streets in the neighborhood feed into one of these three roads. All three of these roads have continuous sidewalks on each side; however, there are no bike lanes on these roads. It is possible that the mediocre walkability scores are due to the long distances between intersections which correlates with fewer walking trips. Pleasant Valley is serviced by two regular service MetroBus Local routes, three high-frequency MetroBus Local routes, and the UT shuttle bus. The area has many bus stops, but it is largely car oriented with many driveways and cross streets tying into the major arterials. Bike Lane improvements are proposed for Pleasant Valley Road, Oltorf Street, and Grove Boulevard; however, these streets are all on the borders with other neighborhoods.

Montopolis

Montopolis's National Walkability Index scores range from 12.3 to 13.8 (EPA 2021). Montopolis has a higher density of intersections in its residential streets than other neighborhoods in southeast Austin. This allows pedestrians and cyclists to move throughout the area without relying on dangerous thoroughfares. However, Montopolis's residential area is geographically isolated from the commercial areas of the neighborhood, which are concentrated along the major roads of East Riverside Drive and the frontage roads of SH 71 and US 183, all of which are dangerous for pedestrians and designed mainly for vehicle traffic. Montopolis is serviced by

three regular service MetroBus Local routes and two High-frequency MetroBus Local routes. Similar to Pleasant Valley, zero active transportation improvements are proposed for Montopolis in 2022.

St. Edwards

St. Edwards's National Walkability Index scores range from 13.8 to 16.5 (EPA 2021). Outside of the St. Edwards Campus which occupies approximately one sixth of the land area, there are very few sidewalks in St. Edwards. The same is true of bike lanes and transit. In fact, there are zero public bus routes that cross the interior of the St. Edwards neighborhood. One new bike lane is proposed for Woodward Street which runs east-west across the neighborhood.

Parker Lane

Parker Lane's National Walkability Index scores range from 10.3 to 15.8 (EPA 2022). These scores are higher than those of its surrounding neighborhoods in the southeastern section of the study area. This is possibly due to the relatively higher density of intersections and the tighter mix of housing and commerce throughout the neighborhood. While the neighborhood has decent bike lane connectivity, the bikeability of the neighborhood is reduced by the combined factors of its hills and lack of amenities. Parker Lane is serviced by two high-frequency MetroBus Local routes, and two regular service MetroBus Local routes. Active transportation improvements are proposed for Burleson Road in 2022.

East Congress

East Congress's National Walkability Index scores range from 7.5 to 13.6 (EPA 2022). East Congress can be divided into the more industrial and commercial northern section and more residential southern section. There are very few mapped sidewalks in the northern section, but the section actually has amuch higher walkability score than the southern section. This is probably due to the mix of land uses and tighter grid of streets. East Congress has bike lanes and bus routes along the arterials that define its northern, western, and southern boundaries. However, there is not any transit or bike infrastructure elsewhere in the neighborhood. East Congress also does not have any planned active transportation improvements for 2022.

McKinney

McKinney's National Walkability Index score is 8.3 (EPA 2022). This means that it is the least walkable neighborhood in the study area, according to this metric. McKinney is also split into a commercial and industrial northern section and a single-family residential southern section. While the residential section has a more complete network of sidewalks than in East Congress, they are isolated from non-residential zones as all the residential streets feed into just a couple arterials. One of these arterials, East Stassney Lane, also has bike infrastructure and transit service. A few bike and transit options are also present in the commercial northern section. Only one active transportation improvement is planned for McKinney in 2022; a segment of sidewalk along Burleson Road.

Franklin Park

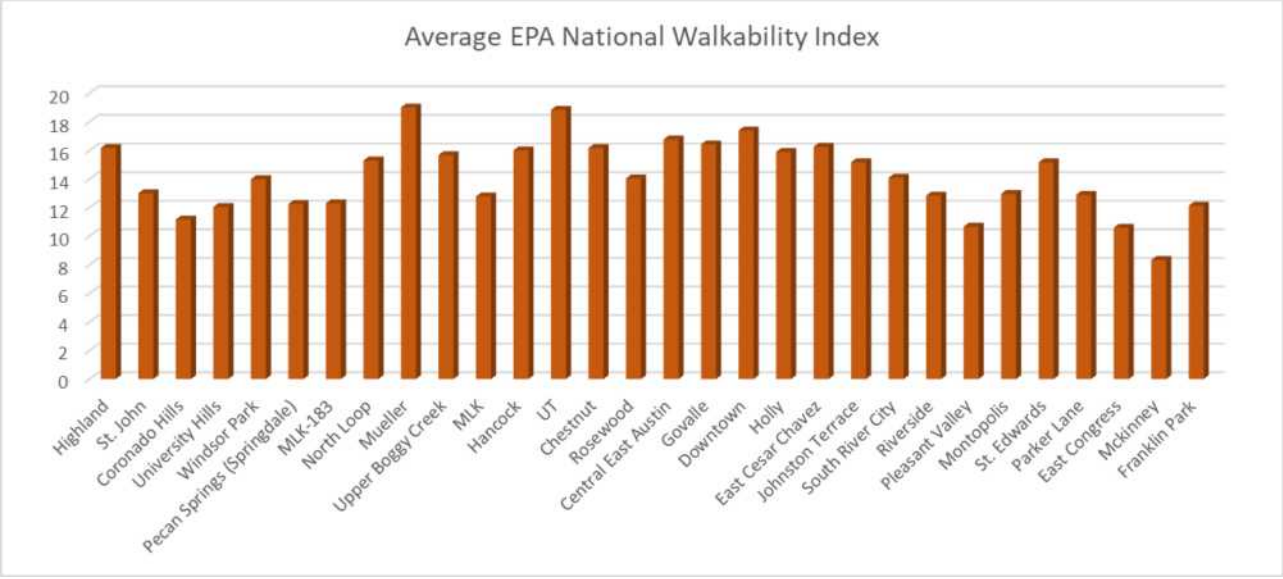
Franklin Park's National Walkability Index scores range from 10.1 to 13.6 (EPA 2022). Nearly every street in Franklin Park has sidewalks on both sides. This is unique to only this neighborhood and Mueller. Franklin Park's streets are laid out much more similar to car-centric suburbs than Mueller's however, with many cul-de-sacs. This and the lack of land-use mix, results in lower scores. Franklin Park has transit service along three streets; East Stasney Lane, South Pleasant Valley Road, and Teri Road. Bike lanes are present on these same three roads. In 2022, improvements are proposed for the bike lanes along South Pleasant Valley Road.

Conclusion

Various general patterns can be seen in the figures below. Generally, walkability decreases the further one is from Downtown. Neighborhoods and block groups closer to I-35 have better walk scores than block groups closer to US 183. This is a reflection only of the factors that contribute to the EPA National Walkability Index. Areas close to I-35 have more transit stops and a more balanced mixture of land uses than those on the Eastern Crescent. It is important to note that the Index does not measure safety or pedestrian infrastructure like sidewalks and crosswalks. The maps of existing infrastructure covers some of the Index's data gaps. An area like Upper Boggy Creek with good Walkability Index scores actually has large areas with hardly any sidewalks. Conversely, Franklin Park has mediocre Walkability Index scores, but actually has sidewalks on both sides of every residential street. Some neighborhoods show strong pedestrian accessibility in both maps. These include Mueller (RMMA), Downtown, Holly, Central East Austin, and Chestnut. Likewise, some neighborhoods reveal a lack of infrastructure in both maps, these include Coronado Hills, University Hills, Pecan Springs-Springdale, MLK, Pleasant Valley, and East Congress.

Although this analysis does not delve into the subject, it is possible that some of the areas with high walk scores are unpleasant places to walk. It is also possible that some of the neighborhoods with many bike lanes are uncomfortable places to bike. Figure 3 displays bike lanes in the study area, but it does not differentiate whether these bike lanes are separated from traffic by bollard, a curb, or striping. Transit access is scarce in several neighborhoods, particularly those south of the river and west of I-35.

A desktop analysis like this has limitations. Qualitative information on whether pedestrians and cyclists feel safe or comfortable along a stretch of road are not included. What will be added to this analysis in Task 7 is data pertaining to the number of pedestrian and bike trips along the street network in the study area, as well as the origin and destination data for those trips. In order to carry the analyses in Task 7 it is necessary to select the areas, street segments, and points that warrant further analysis. Across all maps included in this analysis, certain neighborhoods consistently indicate poor walkability and poor bikeability. These include St. John, Coronado Hills, Pecan Springs-Springdale, MLK, MLK-183, Pleasant Valley, McKinney, and East Congress.



EPA National Walkability Index Scores in the Study Area					
Geography	**Employment and Household Mix (z)**	**Employment Mix (y)**	**Intersection Density (w)**	**Proximity to Transit Stops (x)**	**National Walkability Index Score ***
Highland					
CT 18.04, BG 2	15	13	14	20	16
CT 15.03, BG 2	20	14	20	19	18.66
CT 15.03, BG 3	11	6	11	16	11.83
CT 15.03, BG 4	13	16	20	20	18.17
St. John					
CT 18.12, BG 3	13	11	13	19	14.6
CT 18.04, BG 1	15	7	11	13	11.7
CT 18.12, BG 2	4	11	9	19	11.8
CT 18.12, BG 1	17	16	9	16	13.8
Coronado Hills					
CT 18.11, BG 1	15	14	9	16	13.2
CT 18.11, BG 2	2	3	12	13	9.2
University Hills					
CT 21.08, BG 2	16	13	12	16	14.2
CT 21.13, BG 1	2	7	12	15	10.5
CT 21.13, BG 2	3	14	13	14	11.8
CT 21.13, BG 3	9	15	10	13	11.7
Windsor Park					
CT 21.04, BG 1	13	18	14	19	16.2
CT 21.04, BG 2	4	9	15	17	12.8
CT 21.05, BG 1	12	19	10	15	13.5
CT 21.05, BG 2	19	18	19	18	18.5
CT 21.06, BG 1	17	17	18	19	18.0

EPA National Walkability Index Scores in the Study Area					
Geography	**Employment and Household Mix (z)**	**Employment Mix (y)**	**Intersection Density (w)**	**Proximity to Transit Stops (x)**	**National Walkability Index Score ***
CT 21.06, BG 2	4	9	15	15	12.2
CT 21.06, BG 3	4	10	12	16	11.7
CT 21.12, BG 1	1	13	10	18	11.7
CT 21.12, BG 2	6	11	12	15	11.8
CT 21.12, BG 3	11	12	12	17	13.5
MLK-183					
CT 21.09, BG 3	3	7	13	17	11.7
CT 21.10, BG 1	14	14	8	20	14.0
CT 21.10, BG 2	3	14	14	13	11.8
CT 21.11, BG 1	7	14	11	19	13.5
CT 22.08, BG 1	8	3	6	20	10.5
North Loop					
CT 03.04, BG 1	18	14	17	16	16.3
CT 03.05, BG 3	8	17	12	16	13.5
CT 15.03, BG 1	20	19	15	17	17.2
CT 21.05, BG 3	20	17	10	14	14.2
RMMA					
CT 03.06, BG 1	19	19	19	19	19.0
Upper Boggy Creek					
CT 03.07, BG 1	15	14	18	15	15.8
CT 04.01, BG 1	14	15	18	13	15.2
CT 04.02, BG 1	15	11	14	14	13.7
CT 04.02, BG 3	19	17	18	18	18.0
Pecan Springs-Springdale					

EPA National Walkability Index Scores in the Study Area					
Geography	**Employment and Household Mix (z)**	**Employment Mix (y)**	**Intersection Density (w)**	**Proximity to Transit Stops (x)**	**National Walkability Index Score ***
CT 21.07, BG 2	3	12	15	18	13.5
CT 21.07, BG 3	17	2	16	14	13.2
CT 21.07, BG 4	8	11	12	18	13.2
CT 21.08, BG 1	12	3	7	13	9.2
MLK					
CT 21.07, BG 1	9	6	7	14	9.5
CT 21.09, BG 1	18	18	14	19	17.0
CT 21.09, BG 2	5	10	12	16	11.8
Hancock					
CT 03.02, BG 3	6	14	15	16	13.7
CT 03.02, BG 4	19	16	20	19	18.8
CT 03.02, BG 5	14	20	20	17	18.0
CT 04.01, BG 2	2	3	20	20	14.2
CT 05.00, BG 3	6	16	17	18	15.3
University of Texas					
CT 06.01, BG 2	19	18	20	18	18.8
Chestnut					
CT 08.03, BG 1	11	11	19	17	15.7
CT 08.03, BG 2	11	11	20	19	16.7
Rosewood					
CT 04.02, BG 2	14	12	10	18	13.7
CT 08.02, BG 1	3	10	17	17	13.5
CT 08.02, BG 2	4	16	13	18	13.7
CT 08.02, BG 3	15	5	16	20	15.3

EPA National Walkability Index Scores in the Study Area					
Geography	**Employment and Household Mix (z)**	**Employment Mix (y)**	**Intersection Density (w)**	**Proximity to Transit Stops (x)**	**National Walkability Index Score ***
Central East Austin					
CT 08.03, BG 3	16	8	19	18	16.3
CT 08.04, BG 1	3	16	17	20	15.5
CT 08.04, BG 2	16	18	20	17	18.0
CT 09.01, BG 1	13	14	19	16	16.2
CT 09.01, BG 2	17	16	19	18	17.8
Govalle					
CT 08.01, BG 1	18	20	14	20	17.7
CT 09.02, BG 1	19	16	18	15	16.8
CT 09.02, BG 2	20	20	14	17	17.0
CT 21.11, BG 2	19	12	8	19	14.2
Downtown					
CT 7, BG 1	11	11	20	18	16.3
CT 11, BG 1	19	20	17	20	18.8
CT 11, BG 2	19	11	20	16	17.0
Holly					
CT 09.02, BG 3	20	15	19	16	17.5
CT 10.00, BG 3	16	9	16	17	15.2
CT 10.00, BG 4	16	6	19	15	15.0
East Cesar Chavez					
CT 09.02, BG 4	20	20	20	18	19.3
CT 10.00, BG 1	12	5	16	19	14.5
CT 10.00, BG 2	12	10	16	18	15.0
CT 10.00, BG 5	20	5	18	18	16.2

EPA National Walkability Index Scores in the Study Area					
Geography	**Employment and Household Mix (z)**	**Employment Mix (y)**	**Intersection Density (w)**	**Proximity to Transit Stops (x)**	**National Walkability Index Score ***
Johnston Terrace					
CT 21.11, BG 3	18	19	7	20	15.2
South River City					
CT 14.01, BG 1	17	8	11	19	14.2
CT 14.01, BG 2	18	14	17	16	16.3
CT 14.02, BG 1	12	6	14	16	13.0
CT 14.02, BG 2	4	11	17	13	12.5
CT 14.02, BG 3	7	3	10	14	9.7
CT 23.08, BG 1	17	18	20	19	18.8
Riverside					
CT 14.03, BG 1	16	16	12	15	14.3
CT 14.03, BG 2	17	20	13	14	15.2
CT 23.04, BG 2	16	14	15	17	15.7
CT 23.04, BG 3	9	3	20	16	14.0
CT 23.15, BG 1	5	13	9	14	10.7
CT 23.15, BG 2	5	7	11	19	12.0
CT 23.16, BG 1	11	14	14	17	14.5
CT 23.16, BG 2	8	7	7	19	11.2
CT 23.16, BG 3	6	6	1	17	8.0
Pleasant Valley					
CT 23.14, BG 1	11	4	11	20	12.8
CT 23.14, BG 2	16	8	7	13	10.7
CT 23.14, BG 3	1	1	1	18	6.7
CT 23.14, BG 4	2	6	11	18	11.0

EPA National Walkability Index Scores in the Study Area					
Geography	**Employment and Household Mix (z)**	**Employment Mix (y)**	**Intersection Density (w)**	**Proximity to Transit Stops (x)**	**National Walkability Index Score ***
CT 23.17, BG 1	2	5	9	13	8.5
CT 23.17, BG 2	3	4	13	17	11.2
CT 23.18, BG 1	3	18	13	18	13.8
Montopolis					
CT 23.12, BG 1	9	11	9	19	12.7
CT 23.12, BG 2	2	12	17	13	12.3
CT 23.12, BG 3	18	13	6	20	13.8
CT 23.18, BG 2	10	4	15	17	13.0
St. Edwards					
CT 23.08, BG 2	13	16	19	16	16.5
CT 23.08, BG 3	12	11	17	13	13.8
CT 23.08, BG 4	20	19	11	15	15.2
Parker Lane					
CT 23.07, BG 1	14	15	16	17	15.8
CT 23.07, BG 2	12	4	9	19	12.0
CT 23.07, BG 3	4	11	14	13	11.5
CT 23.07, BG 4	17	14	12	20	15.8
CT 23.13, BG 1	17	10	7	15	11.8
CT 23.13, BG 2	7	11	9	13	10.3
East Congress					
CT 24.03, BG 1	20	18	8	14	13.7
CT 24.03, BG 2	10	9	12	1	7.5
McKinney					
CT 24.31, BG 1	20	16	6	1	8.3

EPA National Walkability Index Scores in the Study Area					
Geography	**Employment and Household Mix (z)**	**Employment Mix (y)**	**Intersection Density (w)**	**Proximity to Transit Stops (x)**	**National Walkability Index Score ***
Franklin Park					
CT 24.11, BG 1	19	19	6	16	13.7
CT 24.11, BG 3	2	13	15	18	13.5
CT 24.12, BG 1	1	1	17	17	11.7
CT 24.12, BG 3	1	4	12	18	10.8
CT 24.12, BG 2	2	1	14	15	10.2
CT 24.13, BG 1	2	3	17	17	12.2
CT 24.13, BG 3	8	9	17	15	13.5
CT 24.13, BG 2	4	14	11	13	11.0
CT 24.11, BG 2	12	2	15	16	12.7

Source: EPA 2021.

* Final National Walkability Index Score = (W/3) + (X/3) + (Y/6) + (Z/6)

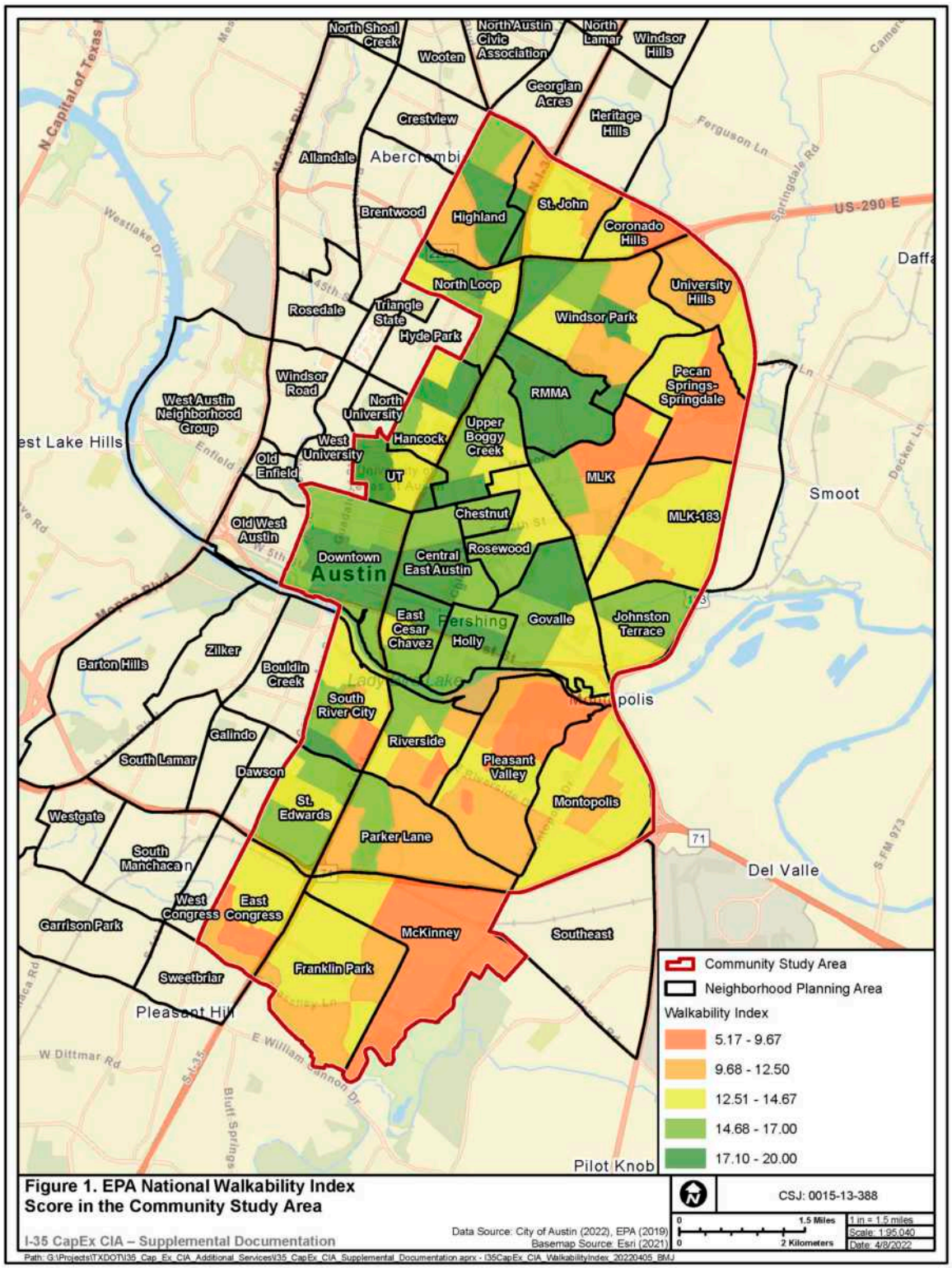


Figure 1. EPA National Walkability Index Score in the Community Study Area

I-35 CapEx CIA – Supplemental Documentation

Data Source: City of Austin (2022), EPA (2019)
Basemap Source: Esri (2021)

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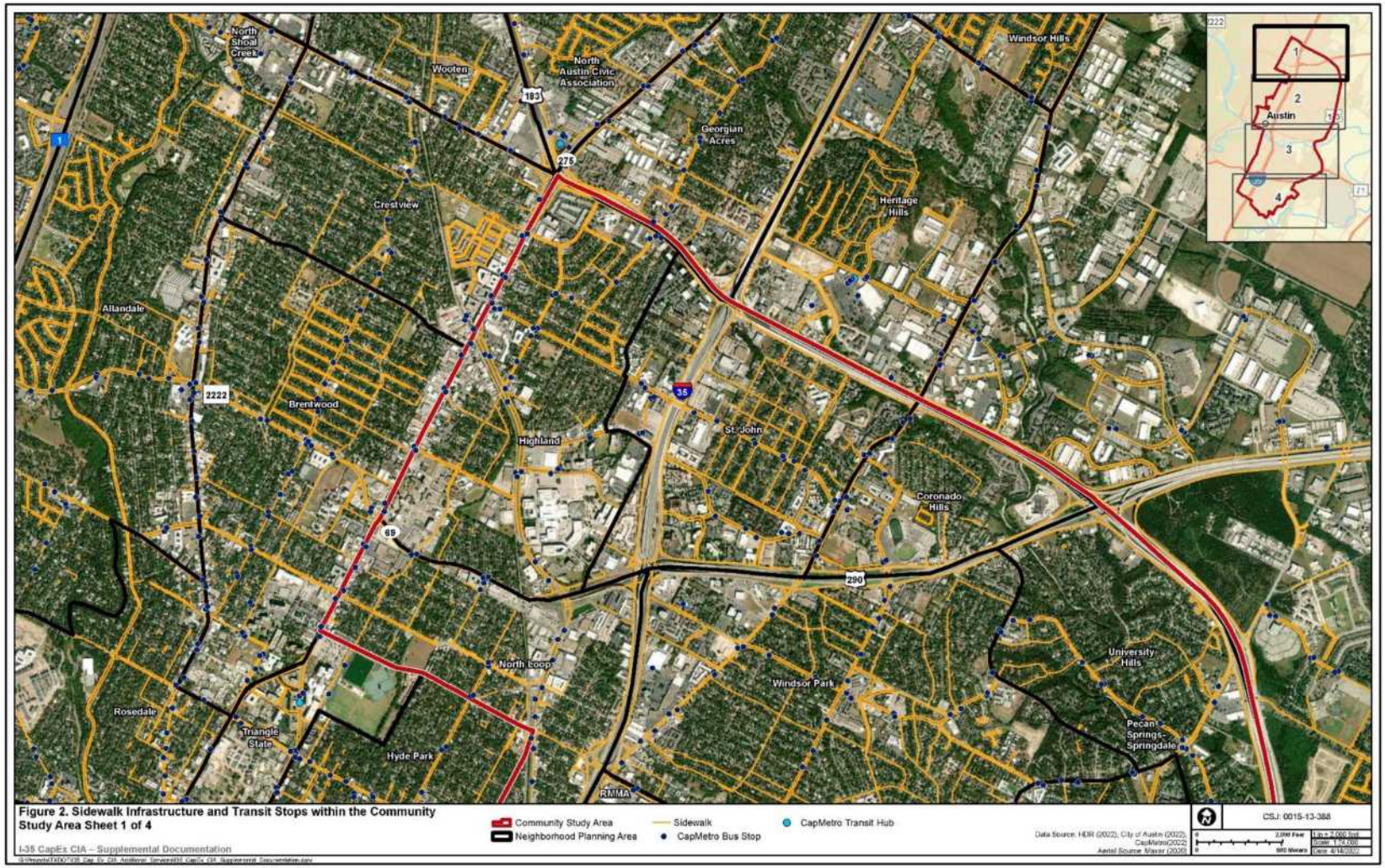

Figure 2. Sidewalk Infrastructure and Transit Stops within the Community Study Area Sheet 1 of 4

I-35 CapEx CIA – Supplemental Documentation

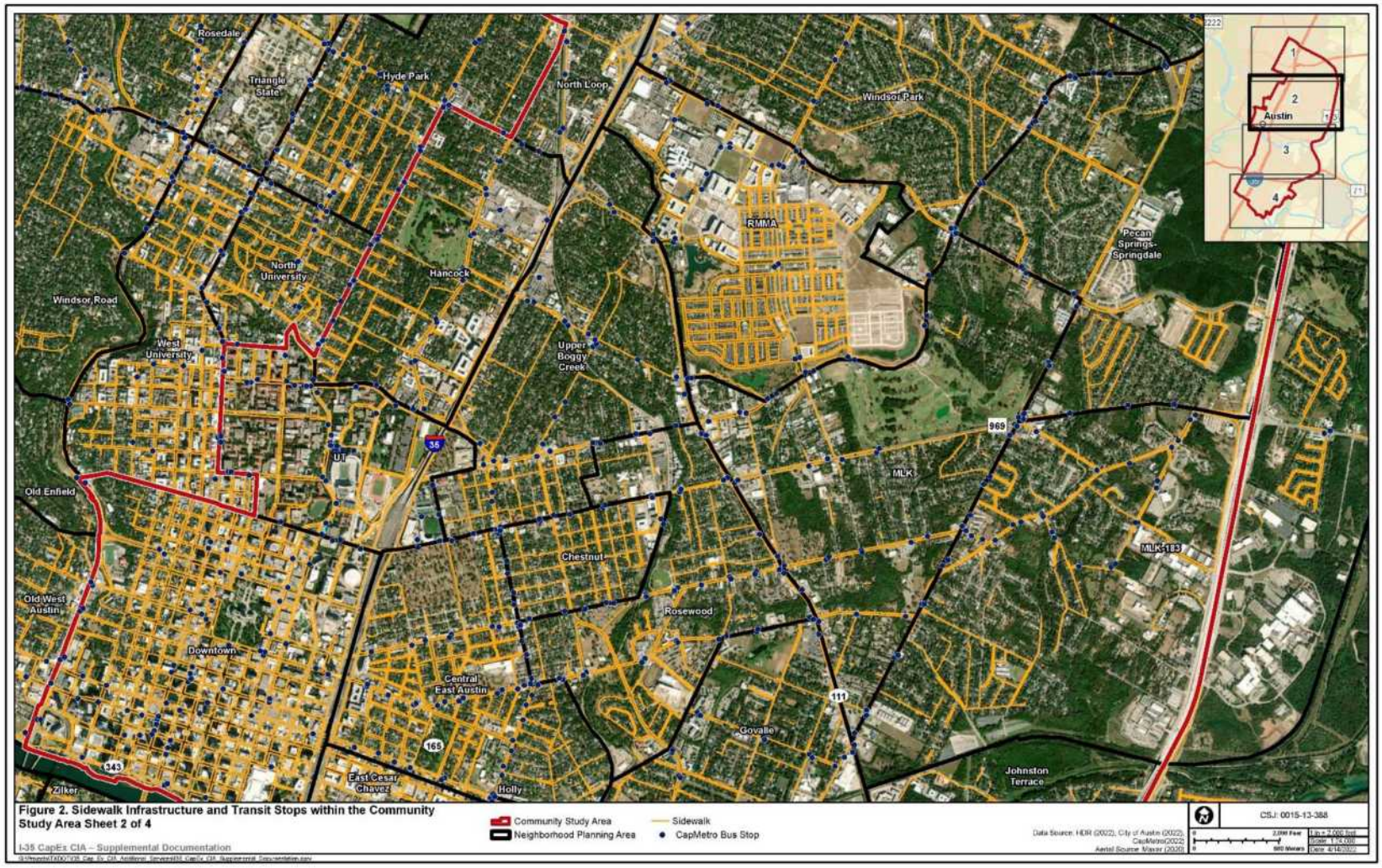

Figure 2. Sidewalk Infrastructure and Transit Stops within the Community Study Area Sheet 2 of 4

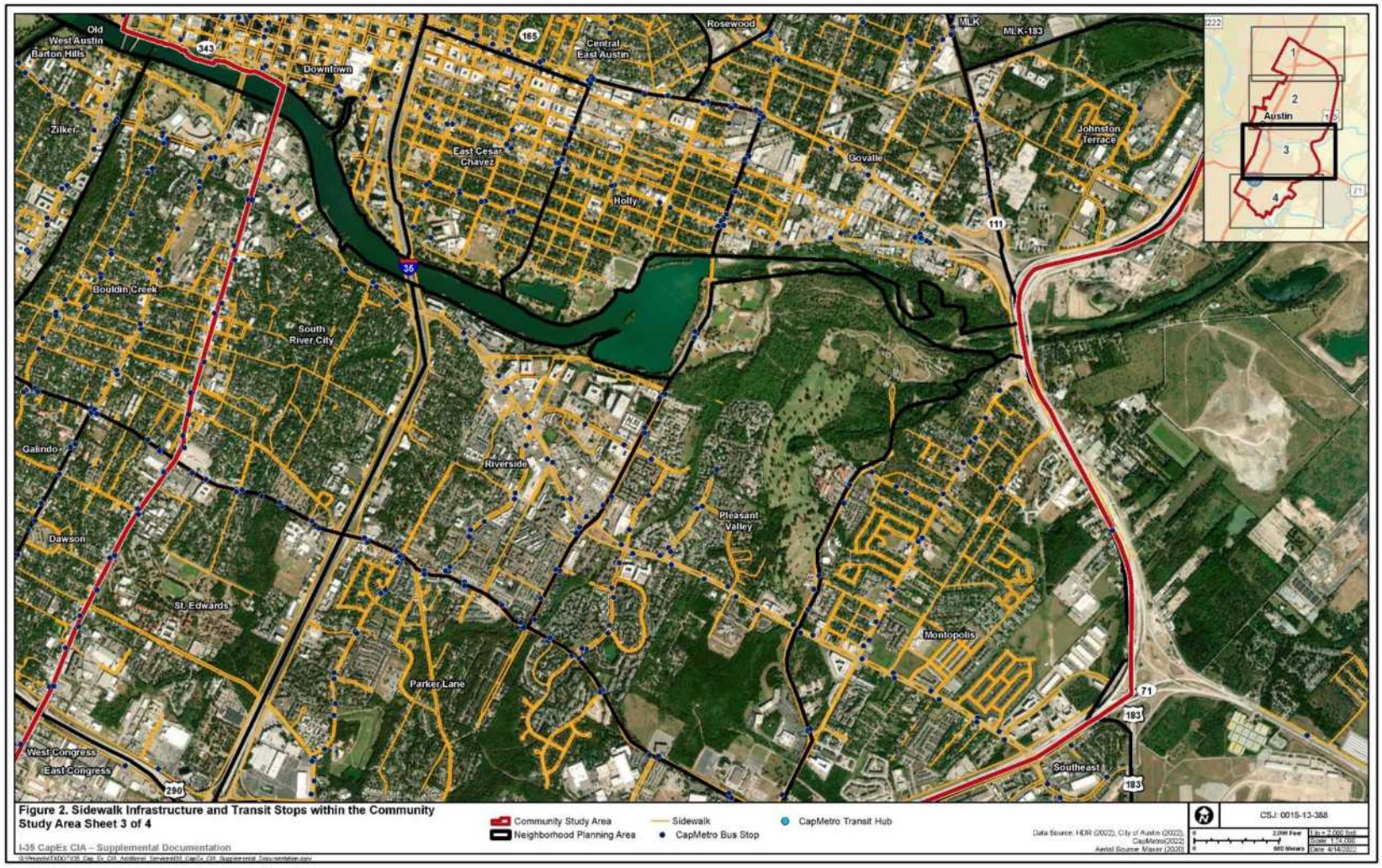

Figure 2. Sidewalk Infrastructure and Transit Stops within the Community Study Area Sheet 3 of 4

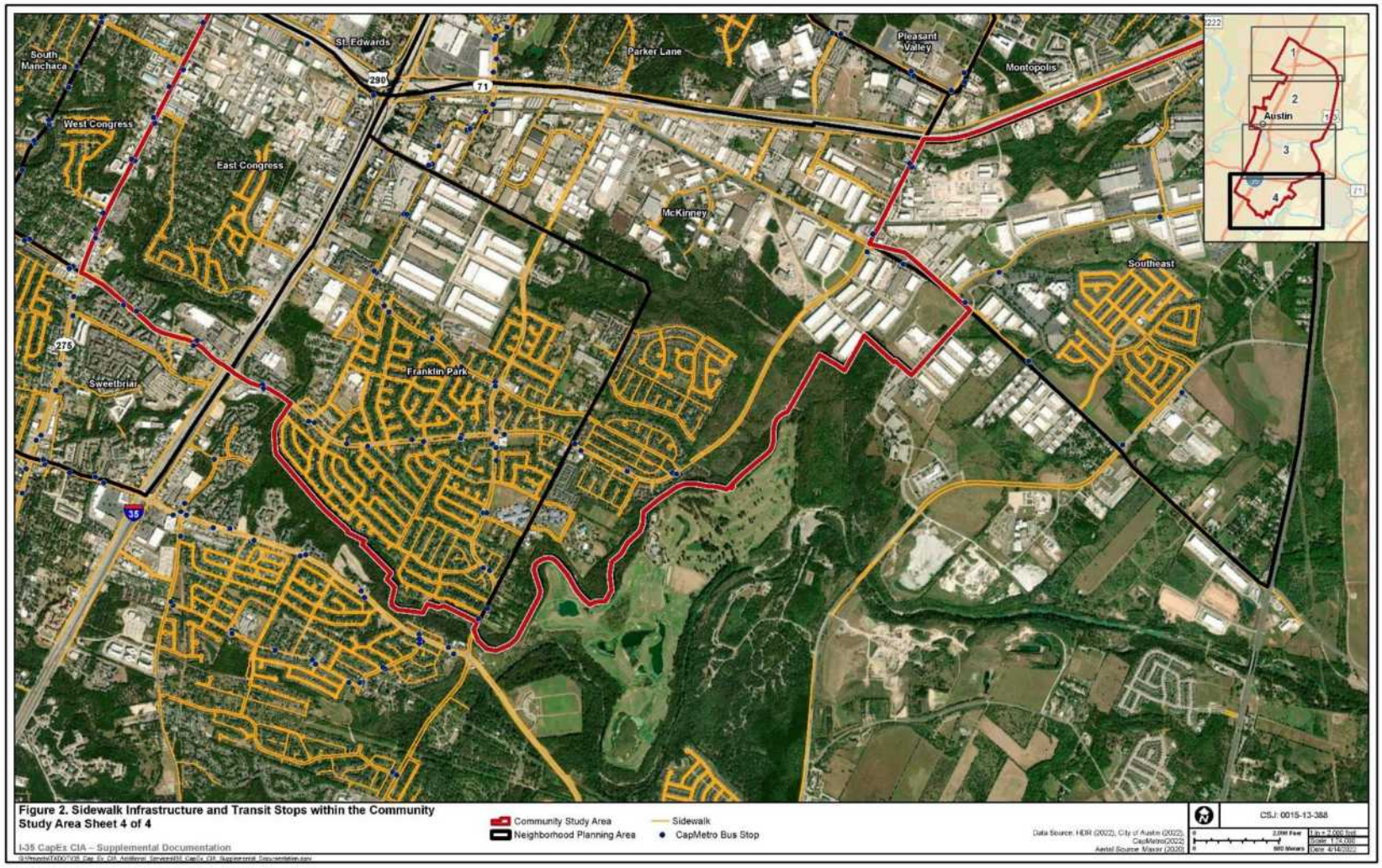

Figure 2. Sidewalk Infrastructure and Transit Stops within the Community Study Area Sheet 4 of 4

I-35 CapEx CIA – Supplemental Documentation

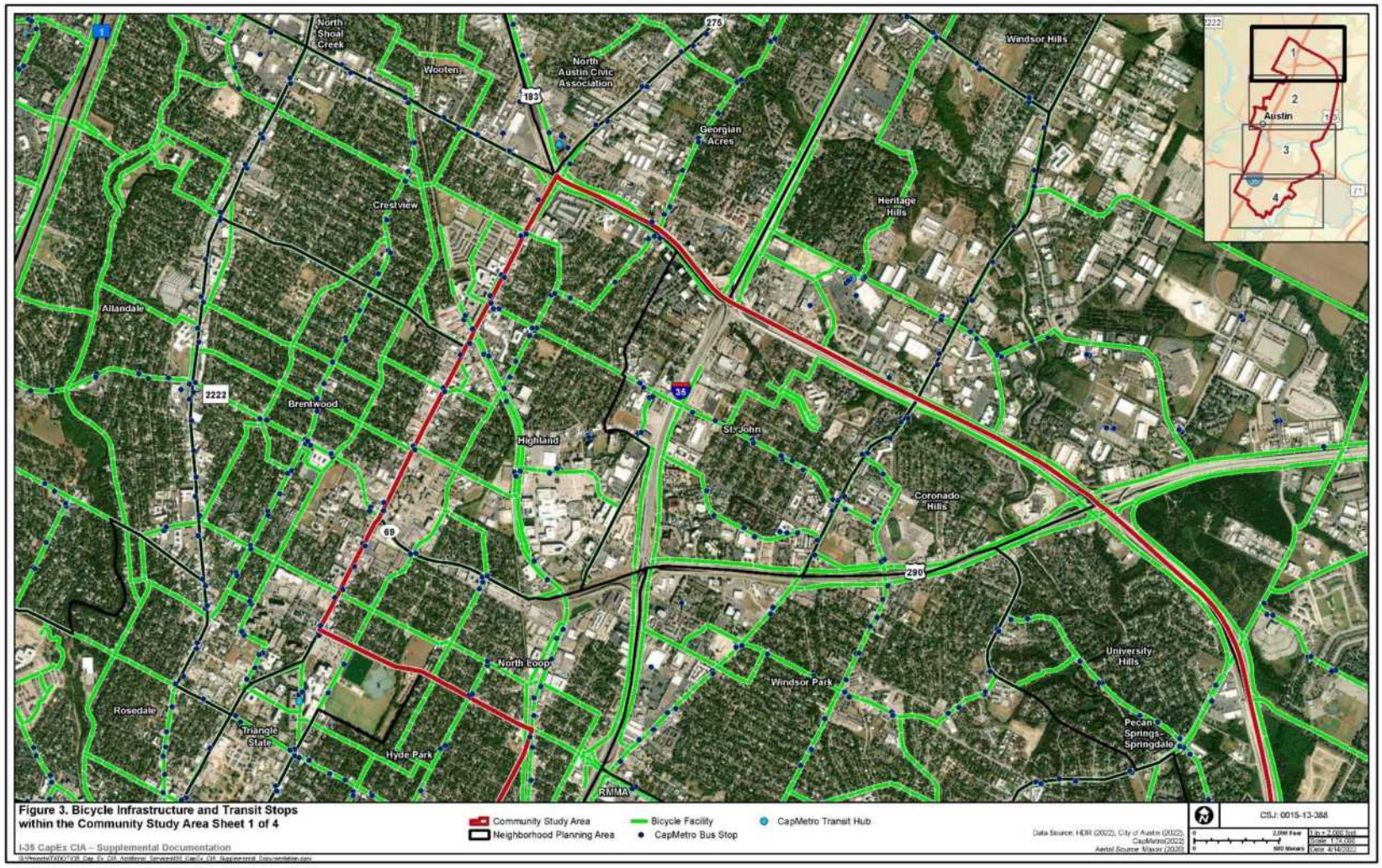

Figure 3. Bicycle Infrastructure and Transit Stops within the Community Study Area Sheet 1 of 4

I-35 CapEx CIA – Supplemental Documentation

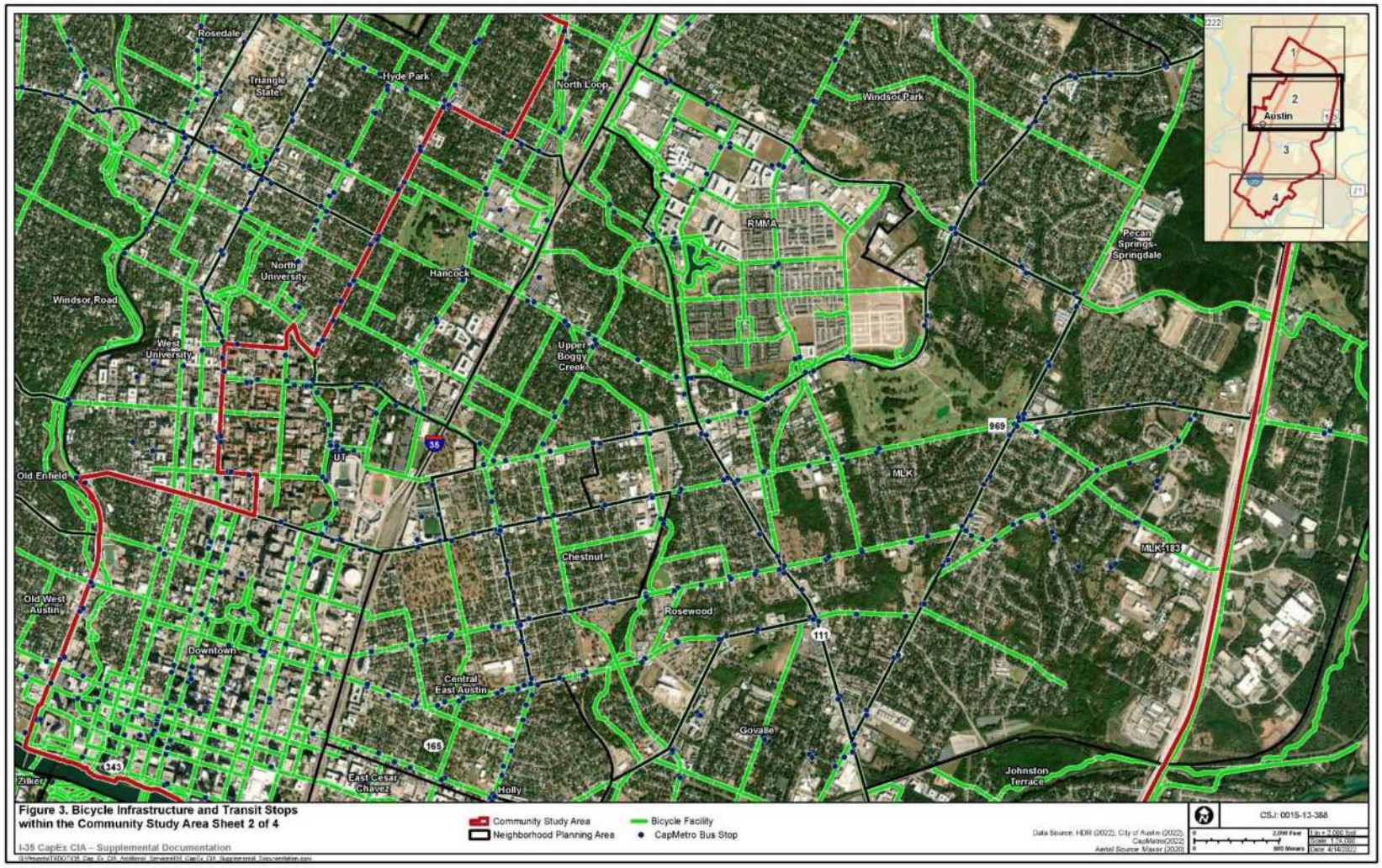

Figure 3. Bicycle Infrastructure and Transit Stops within the Community Study Area Sheet 2 of 4

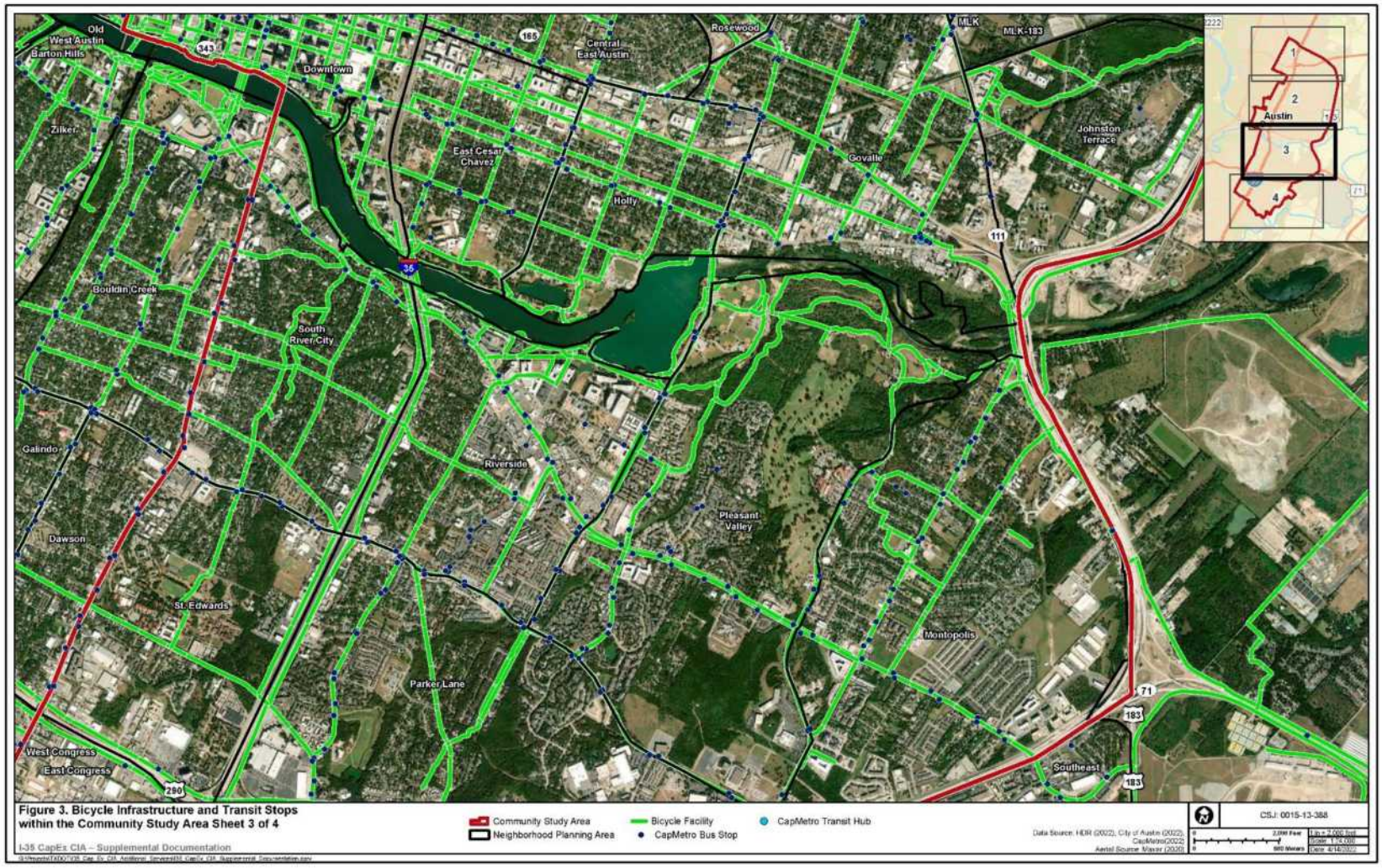

Figure 3. Bicycle Infrastructure and Transit Stops within the Community Study Area Sheet 3 of 4

I-35 CapEx CIA – Supplemental Documentation

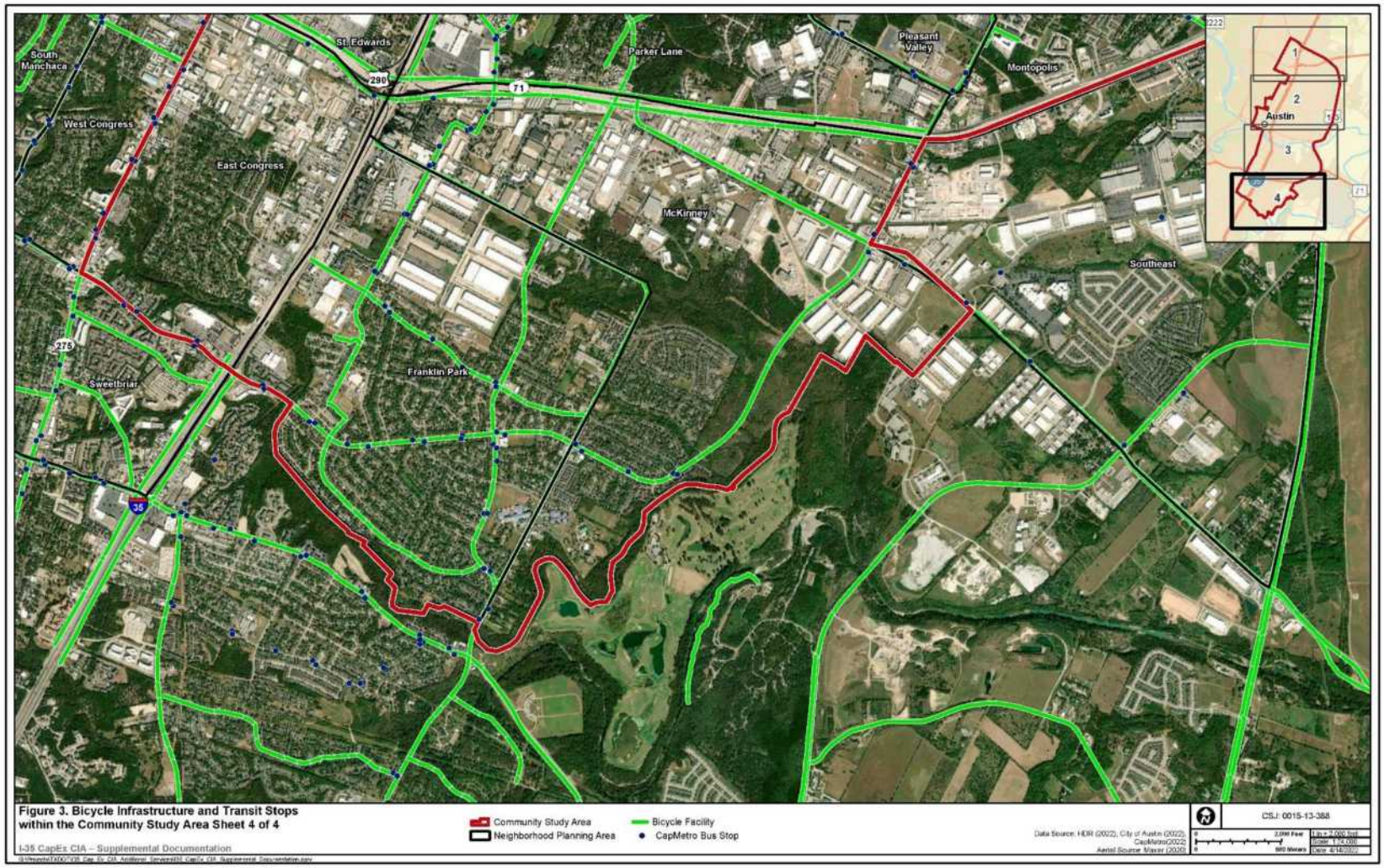

Figure 3. Bicycle Infrastructure and Transit Stops within the Community Study Area Sheet 4 of 4

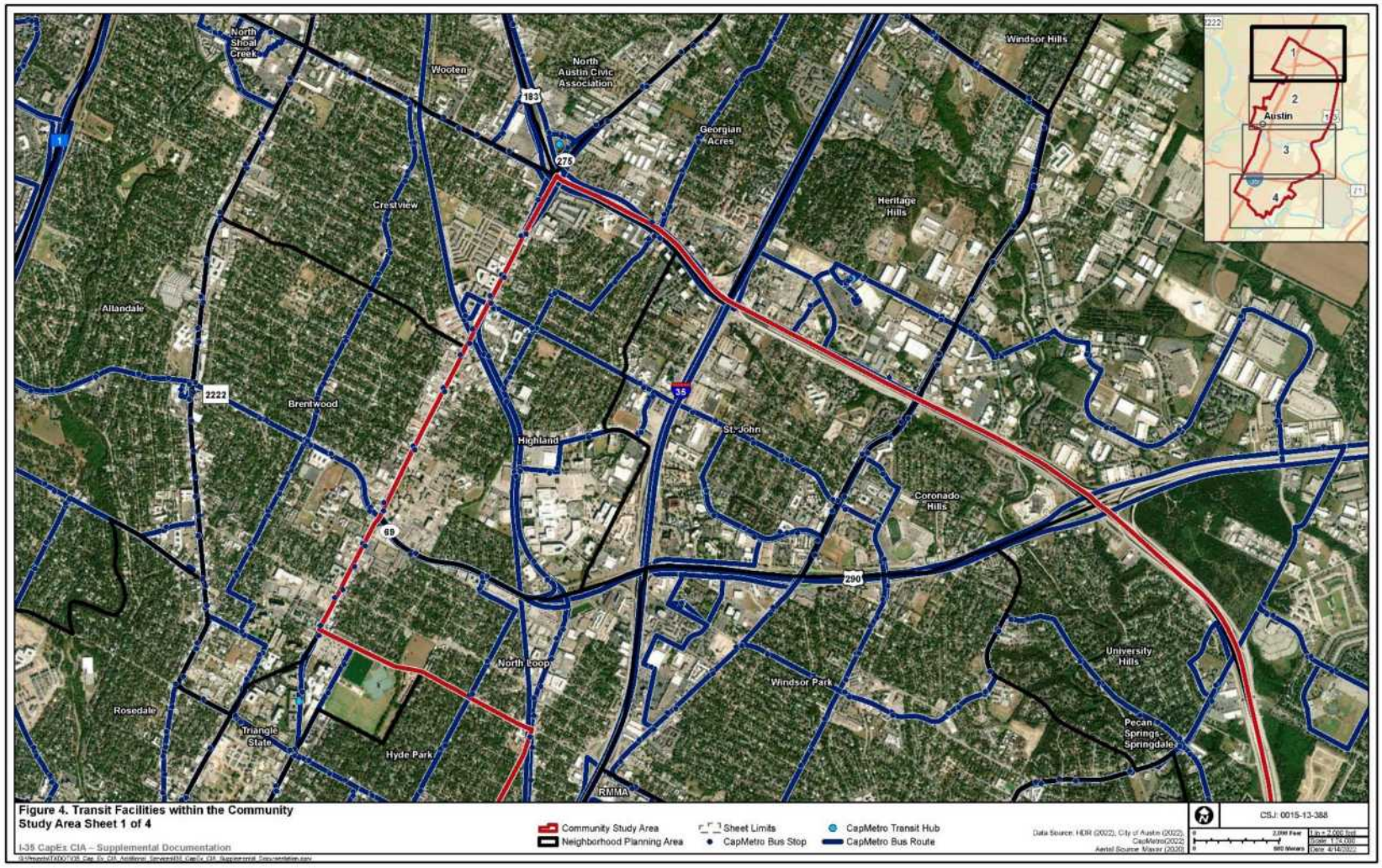

Figure 4. Transit Facilities within the Community Study Area Sheet 1 of 4

I-35 CapEx CIA – Supplemental Documentation

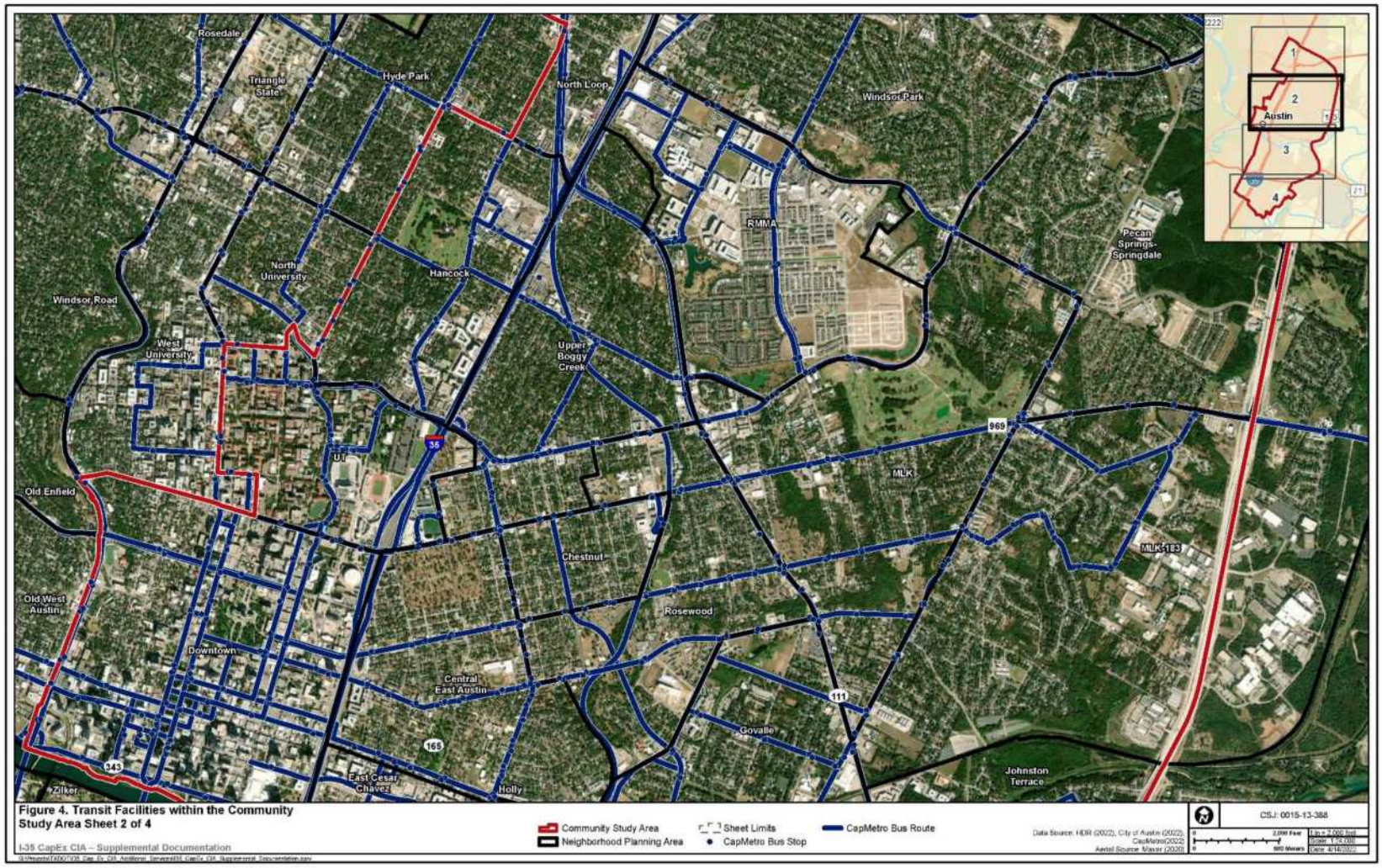

Figure 4. Transit Facilities within the Community Study Area Sheet 2 of 4

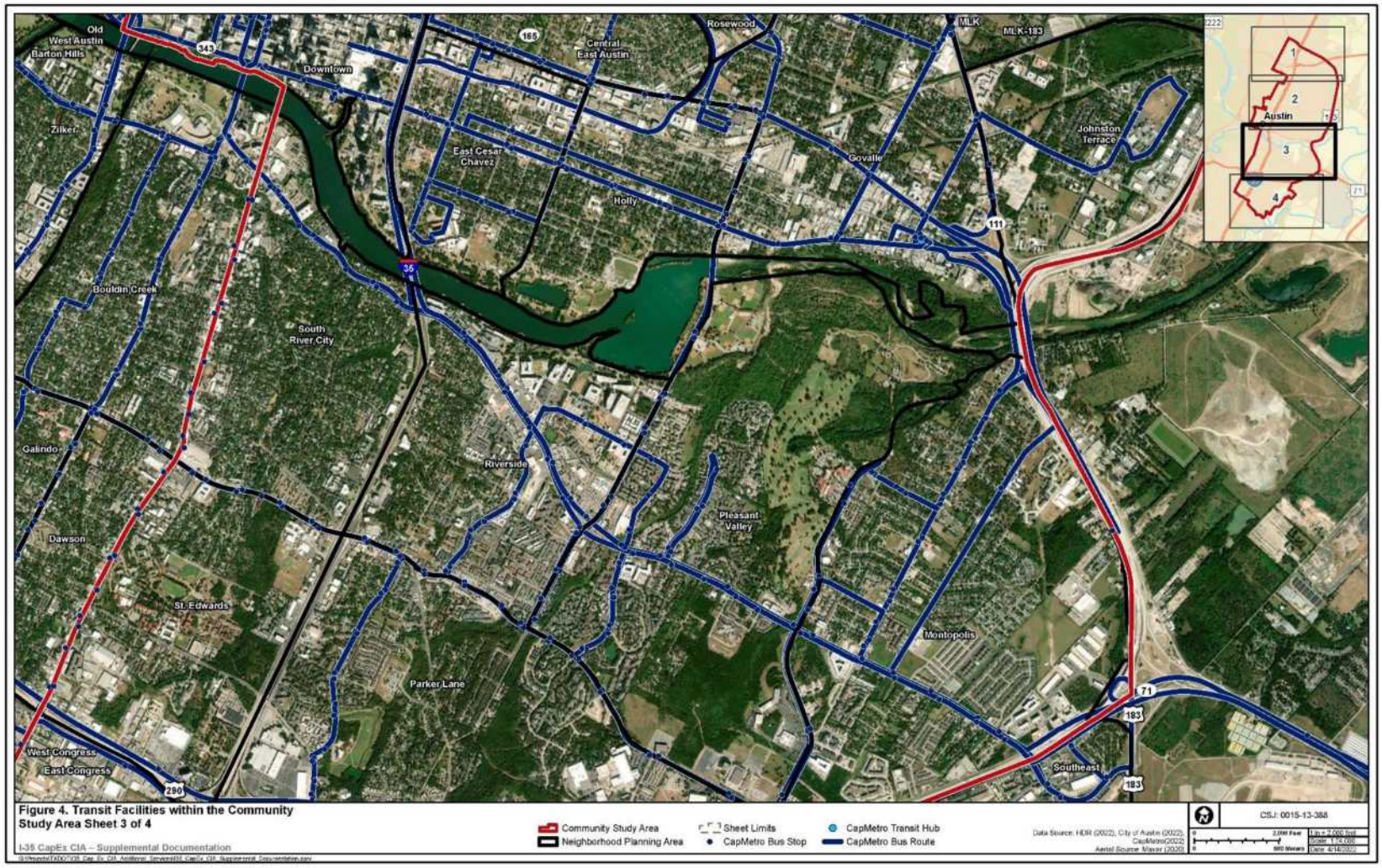

Figure 4. Transit Facilities within the Community Study Area Sheet 3 of 4

I-35 CapEx CIA – Supplemental Documentation

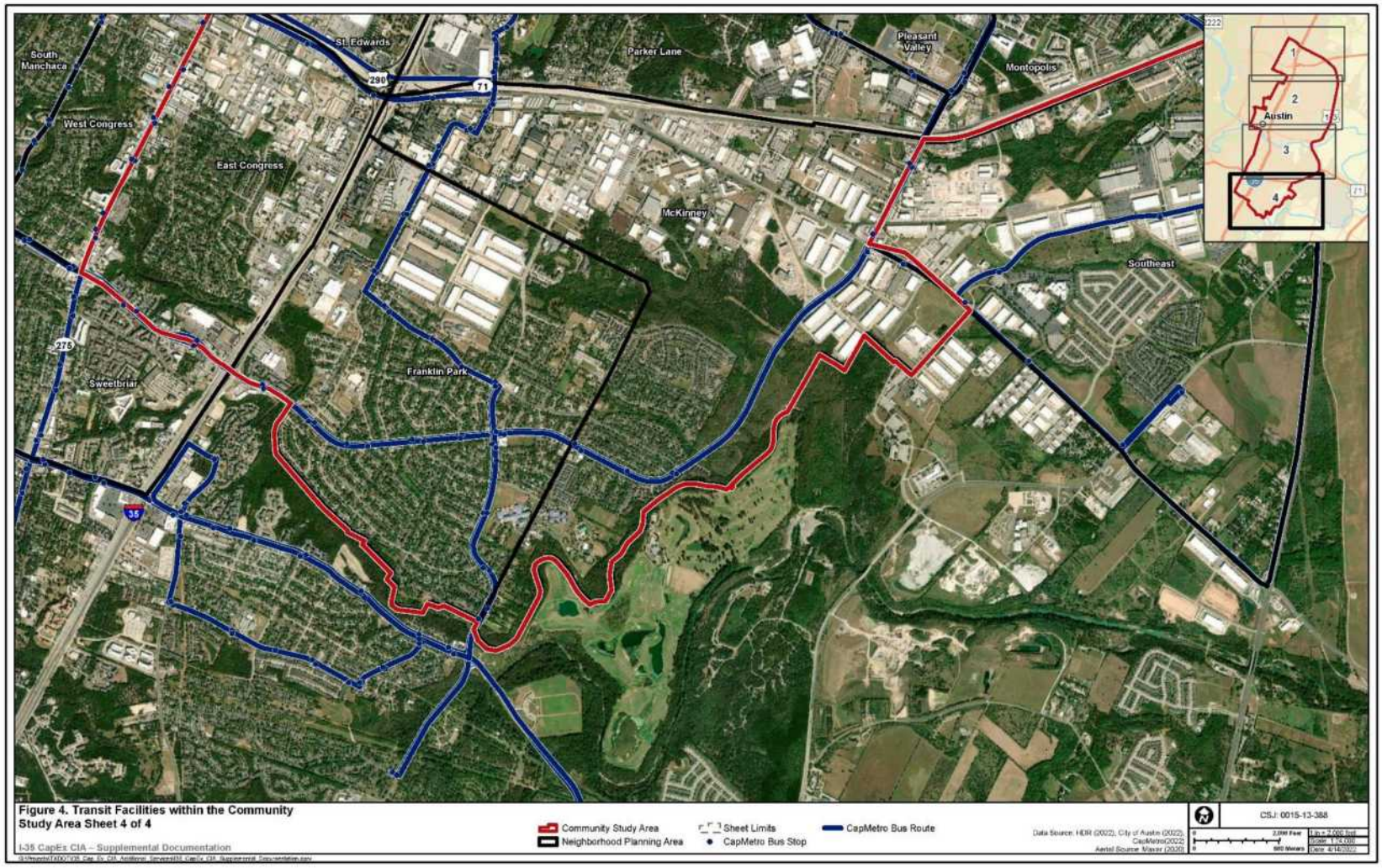
South Manchaca
St. Edwards
Parker Lane
Pleasant Valley
Montopolis
West Congress
East Congress
McKinney
Southeast
Franklin Park
Sweetbriar
Austin
290
71
275
35
Figure 4. Transit Facilities within the Community Study Area Sheet 4 of 4
I-35 CapEx CIA – Supplemental Documentation
Community Study Area
Neighborhood Planning Area
Sheet Limits
CapMetro Bus Stop
CapMetro Bus Route
CSJ: 0015-13-388

Figure 5. 2022 Austin Mobility Annual Plan - Planned Bikeway and Sidewalk Projects

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City of Austin (COA). 2022b. Open Data Portal: Sidewalks, Bikeways. https://data.austintexas.gov/. Accessed April 1, 2022.

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Memo

To:	Sonya Hernandez, Project Manager Texas Department of Transportation	From:	Mitch Ford, MSCRP, Historian Ashley McLain, Senior Principal
File:	I-35 Capital Express Community Impacts Assessment: Supplemental Documentation, Task 6	Date:	April 13, 2022 *revised August 8, 2022*

Reference: **I-35 Capital Express Community Impacts Assessment: Supplemental Documentation, Task 6 Qualitative Assessment of Active Transportation and Public Health - Austin, Travis County, Texas**

Project Description

Texas Department of Transportation (TxDOT) is proposing improvements to I-35 from US 290 East to US 290W/SH 71 in Travis County; also known as, the I-35 Capitol Express (or "CapEx") Central project.

In general, the proposed improvements will add two non-tolled managed lanes in each direction, reconstruct intersections and bridges to increase bridge clearances and east/west mobility (as needed), and improve bicycle and pedestrian accommodations along I-35 frontage roads and at east/west crossings.

Possible build alternatives include lowered sections of managed and main lanes. Each build alternative will include various operational and safety enhancements that optimize the roadway footprint, and will reconstruct ramps, bridges, and intersections; improve frontage roads; enhance bicycle and pedestrian accommodations; accommodate transit routes; and add direct connectors at I-35/US 290 East. The project length is approximately eight miles.

The purpose of this memo is to discuss the benefits of transportation improvements related to public health, and the current health climate of the study area. The size and location of the study area for this task is based on the Community Impact Assessment study area established in the Community Impact Assessment Technical Report (HDR, April 2022), based on demographic data of neighborhood planning areas along I-35 and west of US 183, often referred to as the Eastern Crescent. **See Figure 1, Project Location**.

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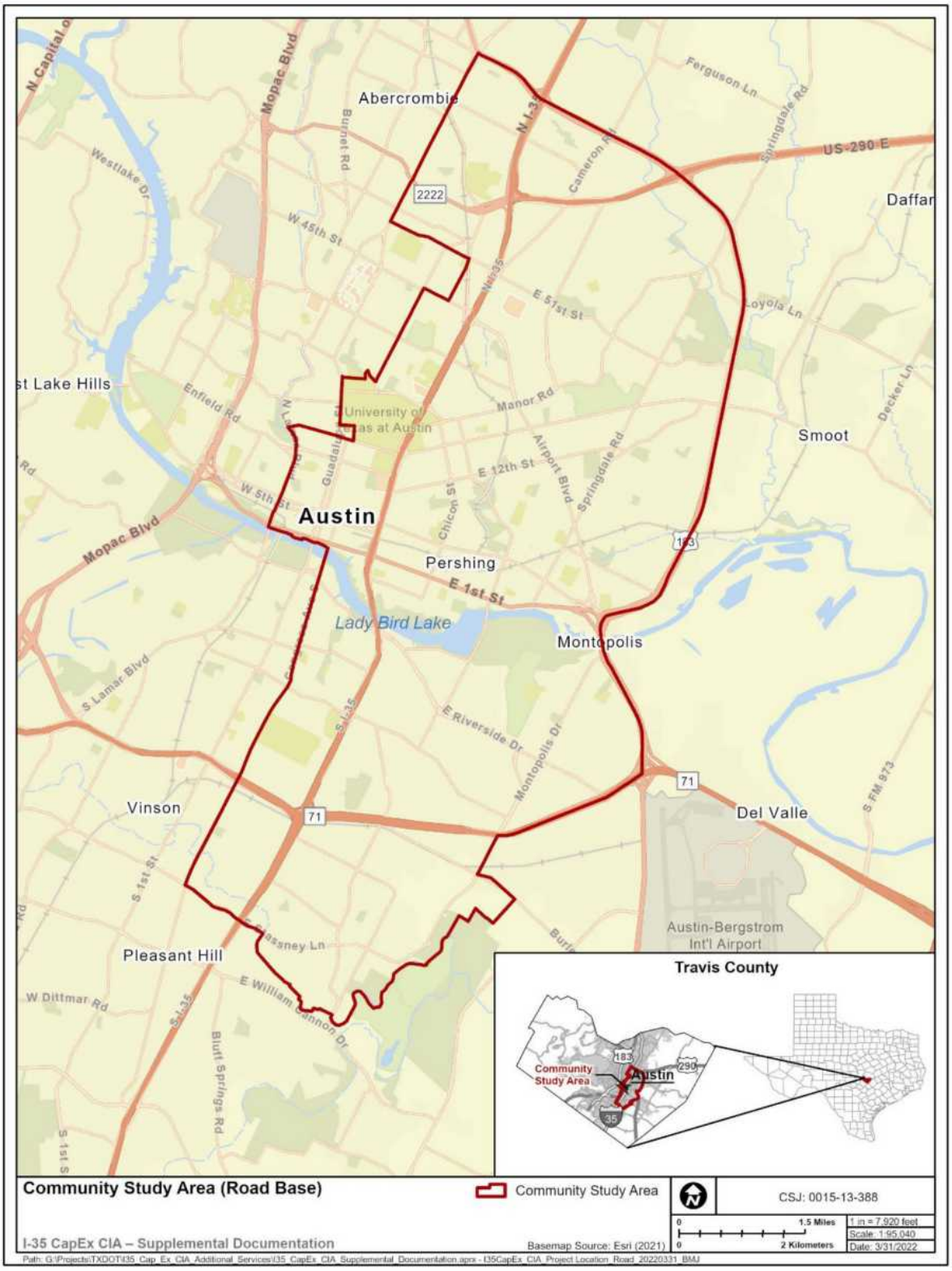
Table 1. Concentrations of Public Health Disparities 6

Figure 1. Community Study Area



Definition of Public Health from a Transportation Perspective and Purpose of Task

The Center for Disease Control (CDC) stresses the importance of physical activity for adults and children as a key method in managing disease prevention and wellness.[1] According to the *Physical Activity Guidelines for Americans*, "physical activity fosters normal growth and development and can make people feel better, function better, sleep better, and reduce the risk of a large number of chronic diseases."[2] In addition to physical ailments, mental health conditions have also been shown to be alleviated through exercise.[3] Physical activity provides numerous health benefits related to longevity, disease prevention, weight management, and biological functionality.[4] The CDC recommends children and adolescents complete 60 minutes of aerobic activity per day, with additional attention to muscle and bone strengthening activities for 3 days of the week each.[5] Adults are encouraged to complete at least 150 minutes (2 hours and 30 minutes) to 300 minutes (5 hours) of moderate-level exercise a week.[6] Sedentary lifestyles, referring to activity behaviors that limit physical movement, contribute to the development of cardiovascular disease and potential mortality, some cancers, and type 2 diabetes.[7] Even the smallest instant of physical activity is beneficial in preventing future disease development, delaying mortality, and improving general wellness of the mind and body.

An active lifestyle depends on a safe environment where one can exercise without potential injury. The CDC highlights the need for physical separations between motor vehicles and individuals (i.e., sidewalks, pathways, protected bike lanes), neighborhoods that utilize traffic-calming measures (i.e., road diets, speed bumps/humps, crosswalks), and well-lit areas to reduce instances of crime and injury (i.e., streetlights, lamp posts).[8] The combination of these environmental factors can determine one's desire to exercise in addition to one's safety. The aesthetic appearance may actively or passively inhibit physical activity.[9] An active barrier includes structural barriers like missing sidewalks or no presence of bike lanes. Passive barriers may include pedestrian unfriendly areas and areas without people present, causing concern for one's safety. The CDC also recommends that the individual must make sensible choices in selecting the timing of their physical activity.[10] Unfortunately, the limitations of infrastructure dictates how and when people exercise, not considering their own demands of work and/or school obligations. Instead of being rewarded for completing physical activity, individuals often need to navigate incomplete streets that have accessibility, safety, and comfortability issues.

Transportation improvements, specifically pedestrian and bicycle facilities, have been shown to yield public health benefits to communities. These improvements typically include shared use paths, sidewalk connections, bicycle lanes, and other infrastructure related to first and last mile connections to transit stops. It is important to note that physical activity does not have to be completed through purposeful exercise.[11] Last mile connections (i.e. bicycle storage, bicycle lanes, sidewalks, paths) provide an essential link for commuters to transit stops from their homes. This form of active transportation not only reduces one's carbon footprint, but also improves physical health and wellbeing without the added activity of purposeful exercise.

In Austin, health benefits from transportation infrastructure has already been investigated in the 2015 City of Austin South Lamar Corridor Health Impact Assessment (HIA). Spanning from Lady Bird Lake to Ben White Boulevard

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[1] CDC, "Physical Activity Guidelines for Americans, 2nd Edition," 8–9.

[2] CDC, 6.

[3] American Psychological Association, "Working out Boosts Brain Health."

[4] CDC, "Physical Activity Guidelines for Americans, 2nd Edition."

[5] CDC, 8.

[6] CDC, 9.

[7] CDC, 21.

[8] CDC, 92.

[9] American Heart Association, "Breaking Down Barriers to Fitness."

[10] CDC, "Physical Activity Guidelines for Americans, 2nd Edition," 92.

[11] Hexagon Consulting and Services, "The South Lamar Corridor Study Health Impact Assessment."

(SH-71), the HIA focused on the South Lamar Boulevard corridor and adjacent neighborhoods. As a public transit and mixed-use corridor, South Lamar needed last mile improvements in addition to general pedestrian and bicyclist infrastructure. These targeted improvements would improve access to transit as well as the various land uses, resulting in a walkable community. Coupled with essential improvements, the HIA recommended implementation of new greenspace areas to improve the aesthetic of the boulevard. All in all, the HIA found that "built environment elements such as accessibility and street connectivity, greenery, street scale pedestrian design and mixed land use all had positive effects on physical health, including body mass index (BMI). These and other findings make it clear that the built environment is a key component to healthy community."[12]

Although the South Lamar Corridor HIA focused on the southwestern area of the city, many of the findings apply to the current study area. The identity of being an auto-centric corridor is shared by South Lamar Boulevard and the I-35 corridor within the Eastern Crescent. The HIA found that numerous barriers existed in the South Lamar Corridor that are also relevant to the Eastern Crescent. These active barriers include access to public transit, lack of safe crossing opportunities, high speed limits, lack of neighborhood connectivity, high levels of impervious ground with limited greenspace and shade, and inadequate infrastructure for bicyclists and pedestrians.[13] Improvements to crossings of I-35 would increase active mobility between the two areas, promoting safe exercise in a more aesthetically-pleasing environment.

Methodology

The Environmental Protection Agency (EPA) Environmental Justice (EJ) EJScreen tool was used to calculate and analyze the public health climate of the study area.[14] Three datasets were used to measure health disparity based on percentage of the population: low life expectancy, heart disease, and asthma.[15] This health data is meant to complement existing data analysis performed in previous tasks related to the American Community Survey. Within the interactive mapping tool, the health data was calculated based on census tracts as well as the total study area boundary. The following sections describe each health disparity category in detail along with an analysis of the geographic distribution of the data recorded in EJScreen.

The methodology of this task consisted of uploading a shapefile of the study area boundary shown in **Figure 1** to the EJScreen platform (see **Figure 2**). Recently updated by the EPA, EJScreen 2.0 provides numerous advantages in measuring various datasets related to human and environmental health. The platform provides environmental justice indexes, pollution data, socioeconomic indicators, climate change data, critical service gaps, health disparities, and additional demographic data from the U.S. Census Bureau. For this task, only health disparity data was added onto the map and analyzed using the study area boundary. Additional related data such as low income levels, medically underserved areas, and food deserts were also assessed in tandem with the health data. Once selected, data can be pulled from the census tract geography using EPA and CDC sources (see **Figure 3**). Data was analyzed and compared with county, state, and national averages. Note that shading for the study area may obscure some of the graduated colors below, but this is a readily accessible online tool (https://ejscreen.epa.gov/mapper/) that provides important information so screenshots have been included 'as is' for this memo.

[12] Hexagon Consulting and Services, 10.
[13] Hexagon Consulting and Services, vii.
[14] EPA, "EJScreen."
[15] US EPA, "EJScreen Map Descriptions."

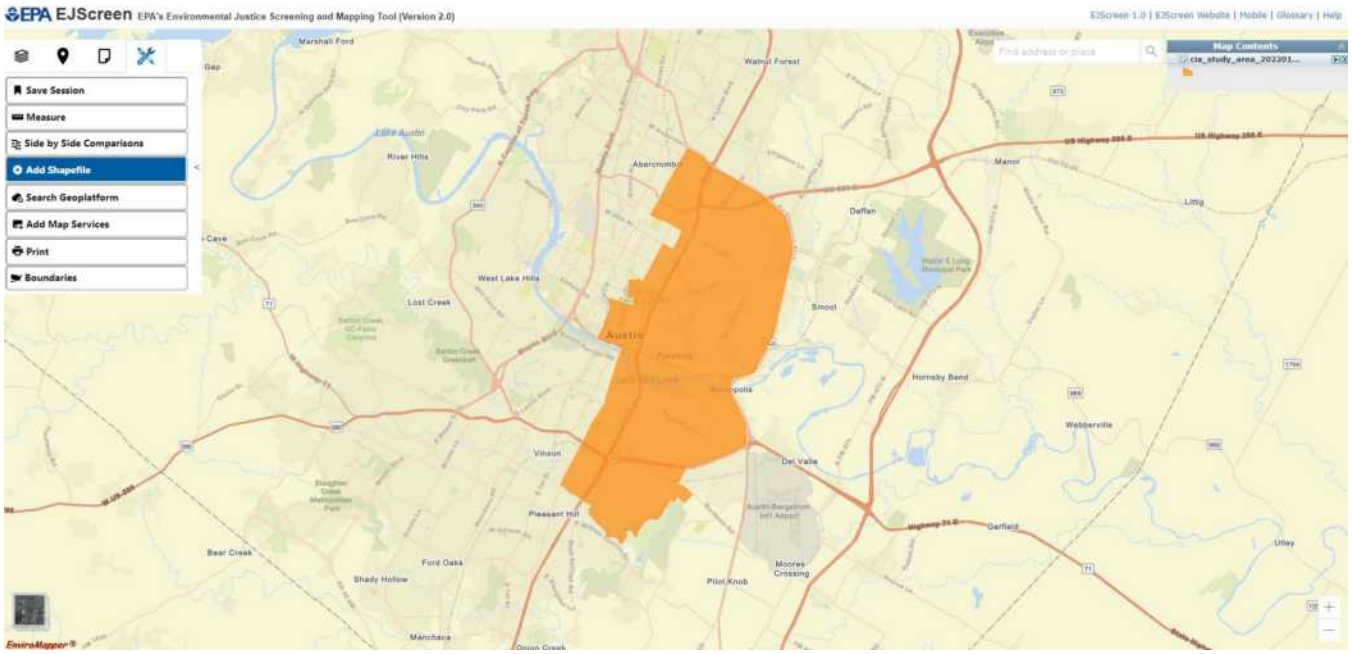


Figure 2. Screenshot of EJScreen with study area shapefile.

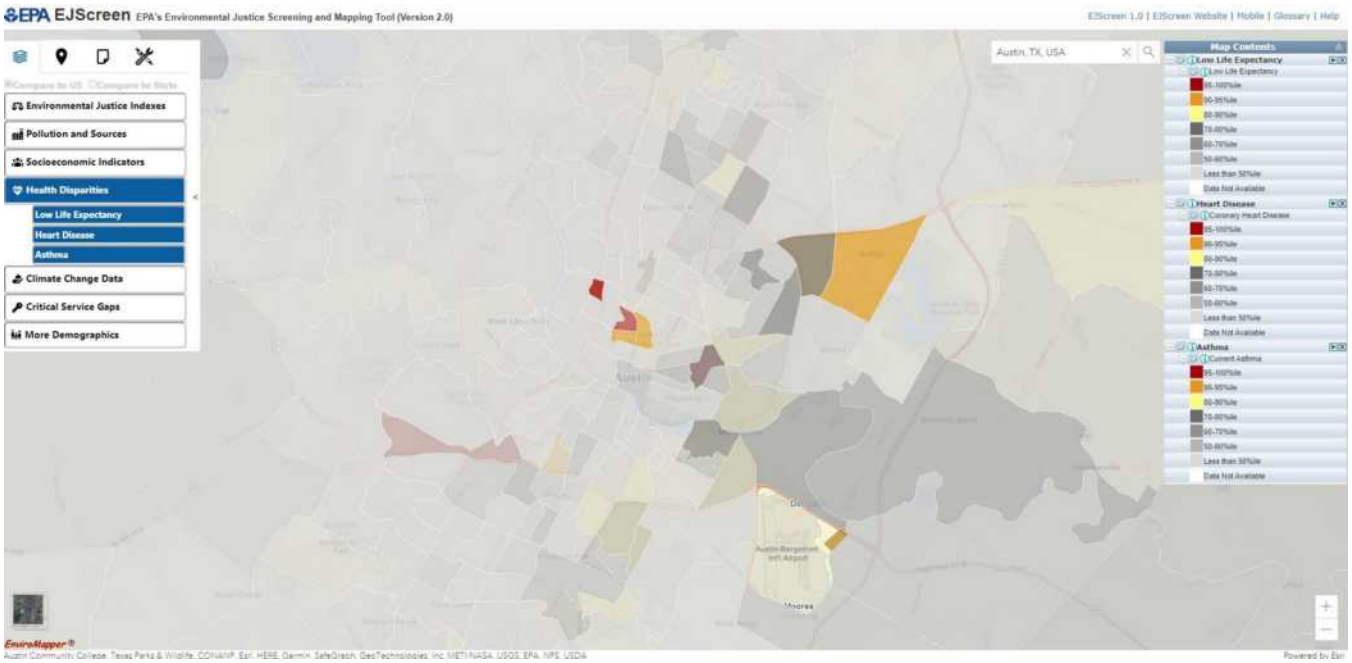


Figure 3. Screenshot of EJScreen with added data.

Data Findings Summary

Once the analysis was complete, data could be aligned based on Neighborhood Planning Areas previously used in former tasks.[16] Concentrations of health disparity were measured using neighborhoods with at least an 80th percentile or higher level for one of the health variables for inclusion in **Table 1**. Percentiles provide a score of a data value within the distribution of data. In other words, the 80th percentile of life expectancy in EJScreen translates to 80% or more of the population having a shorter lifespan. The 80th to 100th percentile can also be interpreted as the lowest 20% of total values in this case. Overall, health disparities were concentrated in the following census tracts and neighborhoods within the study area:

Table 1. Concentrations of Public Health Disparities*

GEOID	Neighborhood	Life Expectancy	Heart Disease	Asthma
48453000603	West Campus North	No data	1.6% (<60th %tile)	**12.4%** (95-100th %tile)
48453000604	West Campus South	No data	1.7% (<60th)	**11.8%** (90-95th)
48453000601	University of Texas	No data	1.2% (<60th)	**11.9%** (90-95th)
48453002107	Pecan Springs-Springdale	76.8 (< 80th %tile)	5.2% (<60th)	**10%** (70-90th)
48453002113	University Hills	77.3 (<80th)	4.5% (<60th)	8.7% (<70th %tile)
48453002104	Windsor Park	76 (<80th)	4.5% (<60th)	9.2% (<70th)
48453000803	Central East Austin	76.7 (<80th)	3% (<60th)	9.7% (<70th)
484530008022-484530008023	Rosewood-Chestnut	**71.9** (95-100th)	5.5% (<60th)	**10.3%** (70-90th)
48453002109	MLK	**74.1** (80-90th)	**6%** (60-70th)	9.4% (<70th)
48453002110	MLK-183	76.5 (<80th)	**6%** (60-70th)	9.4% (<70th)
48453000801	Govalle	78.7 (<80th)	**6.6%** (70-80th)	8.1% (<70th)
48453002111	Johnston Terrace	**75** (80-90th)	5.3% (<60th)	9.5% (<70th)
48453002317	Pleasant Valley	No data	1.7% (<60th)	**10.5%** (70-90th)
48453002312	Montopolis	**75.3** (80-90th)	4.9% (<60th)	9.5% (<70th)
48453002307	Parker Lane	**74.9** (80-90th)	3.3% (<60th)	8.5% (<70th)
48453002411	McKinney	**75.3** (80-90th)	4.7% (<60th)	9.5% (<70th)
48453002412	Franklin Park	76.8 (<80th)	4.4% (<60th)	9.0% (<70th)

*Calculated based on census tracts within the study area using the EPA EJScreen Program.
Neighborhoods are arranged from north to south within the study area. Bolded values and shaded areas represent the neighborhoods with the lowest life expectancy or highest percentages of heart disease and/or asthma.

Populations with Low Life Expectancy

Life expectancy is the average lifetime of an individual measured in years lived. The EPA-sourced life expectancy dataset was calculated for the range of 2010 to 2015 by the National Center for Health Statistics, the National Association for Public Health Statistics and Information Systems, and the Robert Wood Johnson Foundation.[17]

The average life expectancy in the United States in 2020 is 77 years old, and is specifically 74.2 years old for men and 79.9 years old for women.[18] In the order of lowest life expectancy, areas of concern in the study area include the neighborhoods of Rosewood (71.9), MLK (74.1), and Johnston Terrace (75).[19] All these neighborhoods have a life expectancy of 75 years old or lower (80th to 100th percentile). Since this dataset was calculated prior to the

[16] US EPA, "EJScreen."
[17] US EPA, "EJScreen Map Descriptions."
[18] CDC, "NVSS - United States Small-Area Life Expectancy Estimates Project"; phy et al., "Mortality in the United States, 2020."
[19] US EPA, "EJScreen."

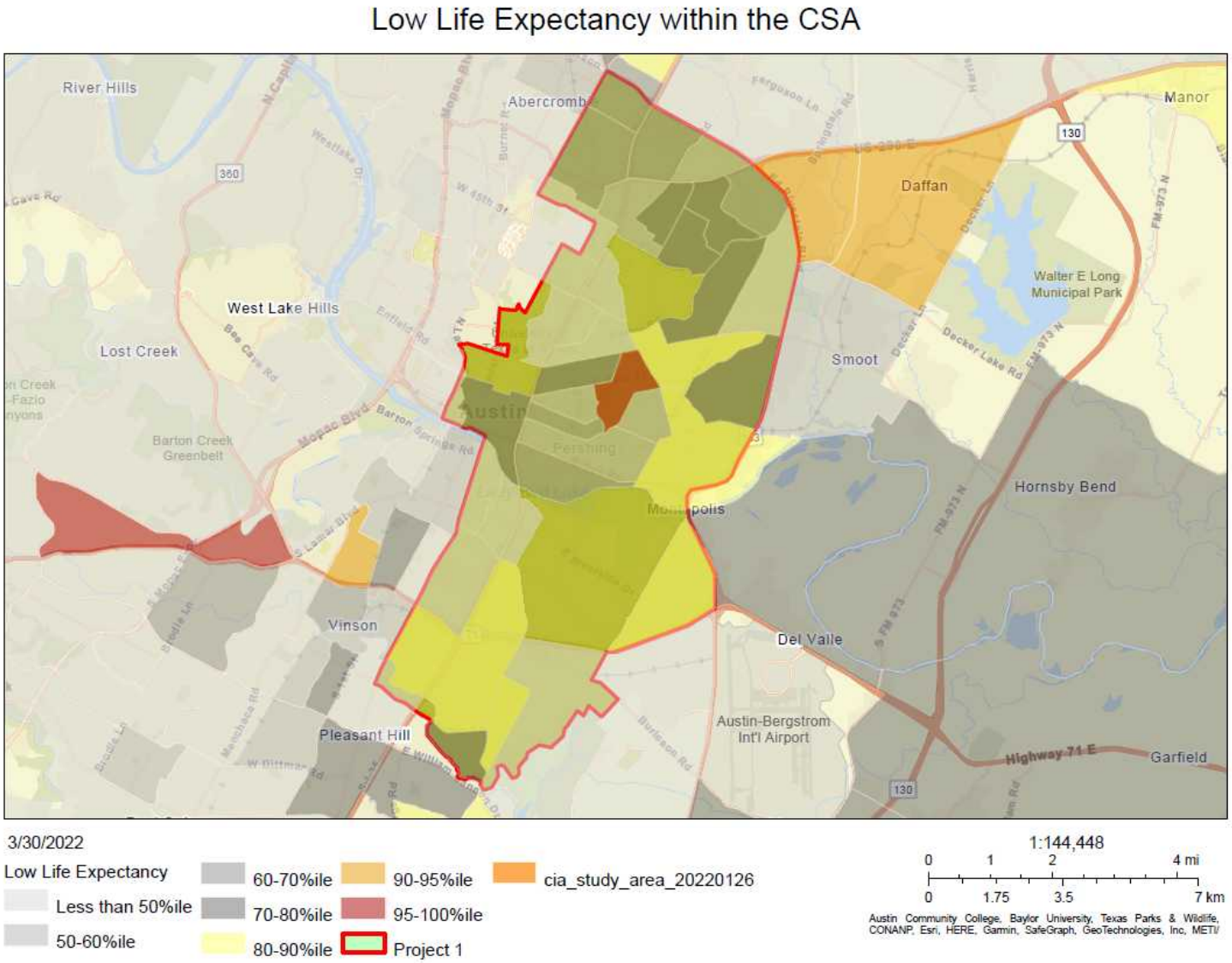
COVID-19 pandemic, these numbers may be lower due to the nationwide drop in life expectancy.[20] The neighborhoods of Pleasant Valley, West Campus (North and South areas), and University of Texas (UT) campus did not have data for life expectancy. This may be due to the transient nature of the university area (UT and West Campus) and the limited residents in the Pleasant Valley neighborhood next to Roy G. Guerrero Metropolitan Park.

The neighborhoods of Rosewood and Chestnut in central East Austin are affected by numerous disparities contributing to low life expectancy (see **Figure 4**). Specifically, the Rosewood-Chestnut census tract has a low income population of 75% (the 90-100th national percentile). In other words 1,704 people out of a total population of 2,272 are experiencing poverty. A portion of the neighborhood experiences low education attainment levels with 39% of the east block group having less than a high school education.[21] Rosewood-Chestnut is comprised of 83% people of color (nonwhite populations), a vulnerable population group that has been historically susceptible to chronic diseases.[22] East of Rosewood across Airport Boulevard is the MLK neighborhood, which also shows health disparities. Govalle and Johnson Terrace are to the south. Although not completely in the 80th-100th percentile, the southeast communities of Parker Lane, McKinney, and Franklin Park exhibit lower than normal life expectancy numbers at 8.5%, 9.5%, and 9%, respectively.[23]. See **Figure 5**.

Figure 4. Rosewood-Chestnut. Medically underserved areas (left) and low income areas (right) both show the Rosewood and Chestnut neighborhoods as vulnerable.

[20] phy et al., "Mortality in the United States, 2020."
[21] US EPA, "EJScreen."
[22] US EPA.
[23] US EPA.

Figure 5. Percent with Low Life Expectancy by Census Tract



Populations with Heart Disease

Heart disease, the leading cause of death in the United States, is an umbrella term used to describe several different heart conditions, the most common being coronary artery disease.[24] The CDC cites the environment as a possible factor for heart disease risk, with specific mention of high temperatures and air pollution levels as main contributors. EJScreen measures the prevalence of heart disease for adults aged 18 years and older. Areas of concern include Govalle, MLK, and MLK-183 neighborhoods, at 6.6% (Govalle) and 6% (MLK and MLK-183).[25] Both areas (see **Figure 6**) are classified as food deserts according to the EPA, meaning that they consist of low income populations and have low access to grocery stores. Food deserts can threaten food security including the attainment of nutritional foods needed to have healthy lifestyle. See **Figure 7**.

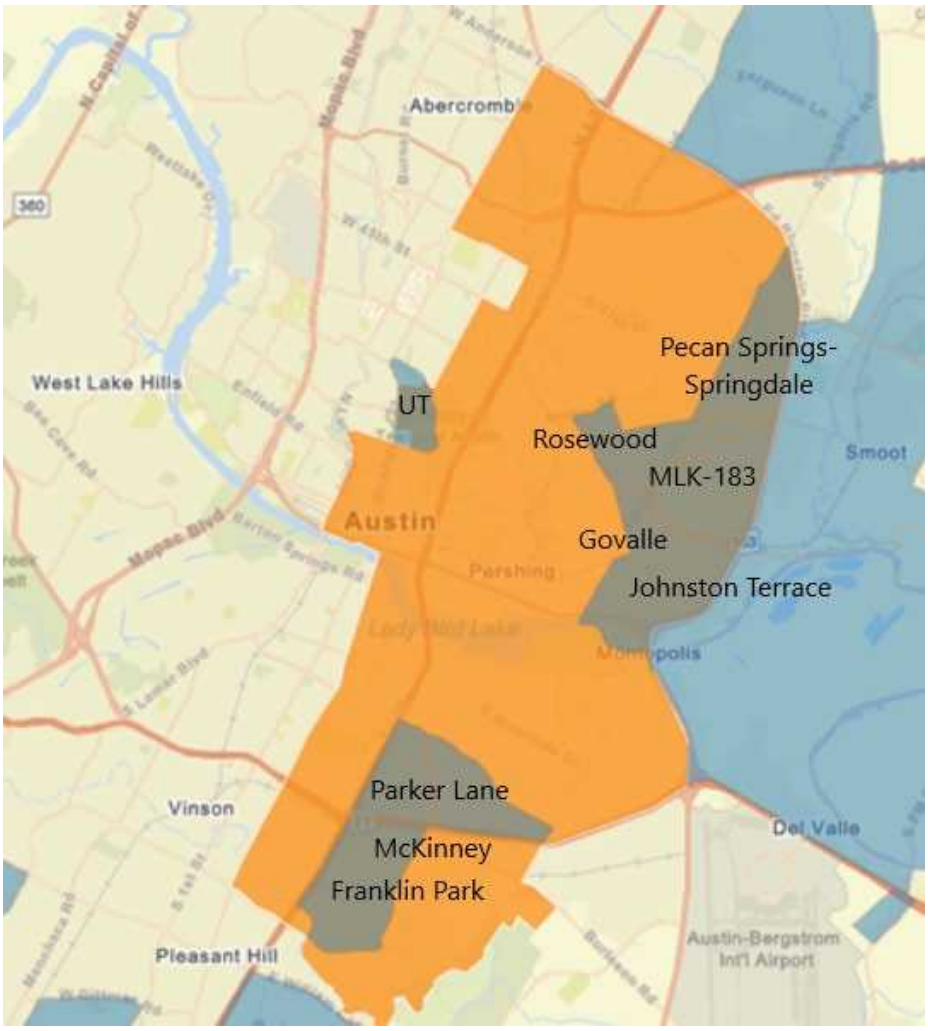
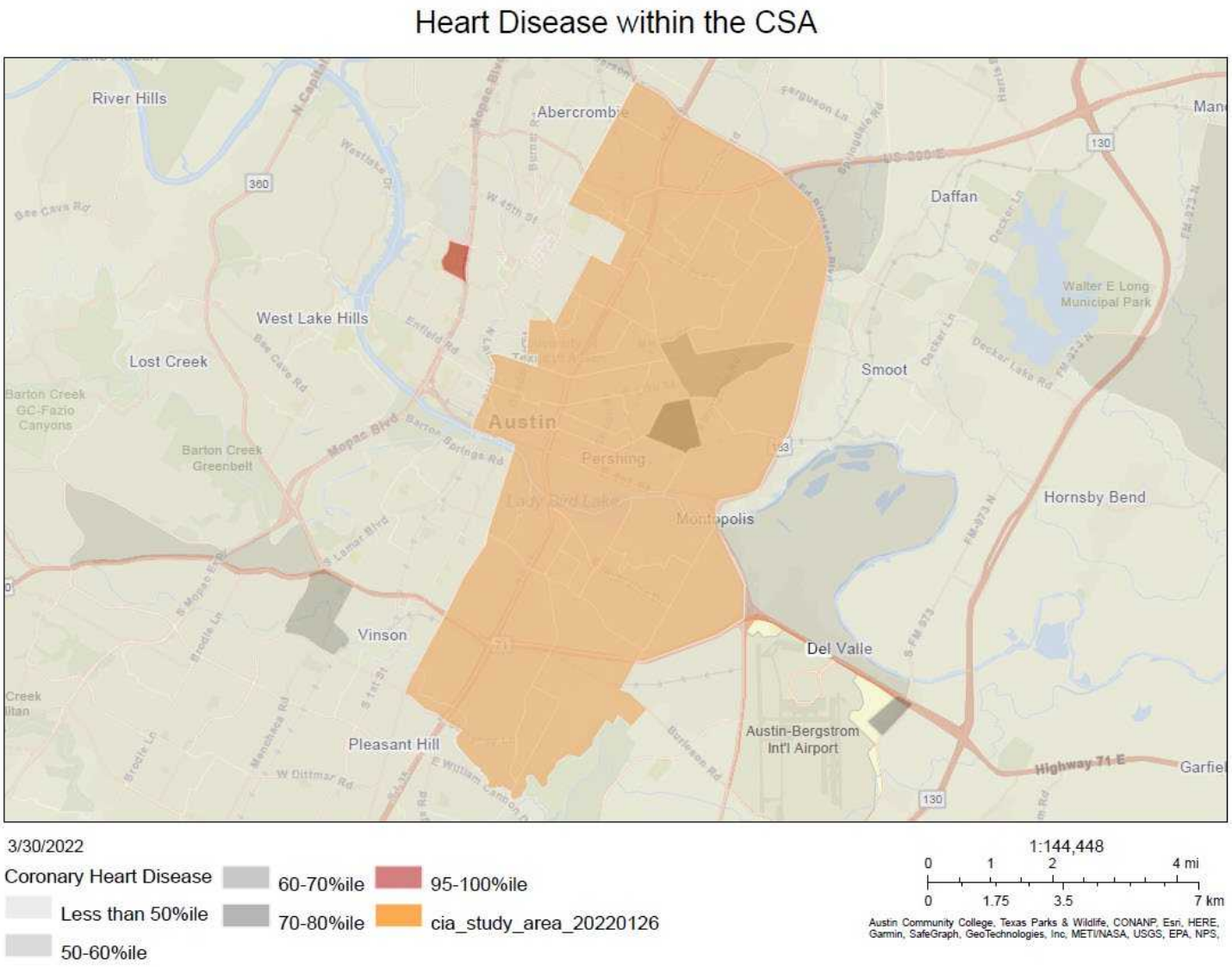


Figure 6. Food deserts in blue within the study area in orange.

[24] CDC, "Heart Disease | Cdc.Gov."
[25] US EPA, "EJScreen."

Figure 7. Percent with Heart Disease by Census Tract



Population with Asthma

Asthma is defined as a chronic respiratory disease that inhibits airways that carry oxygen into and out of the lungs. Individuals with asthma can suffer from shortness of breath, wheezing, coughing, and chest tightness.[26] In some cases, an asthma attack can occur, which is linked to environmental hazards like indoor and outdoor air pollution. In Texas, 7.1% of adults have asthma compared to the national average of 7.1%, along with 6.8% of children compared to 8.3%, respectively.[27]

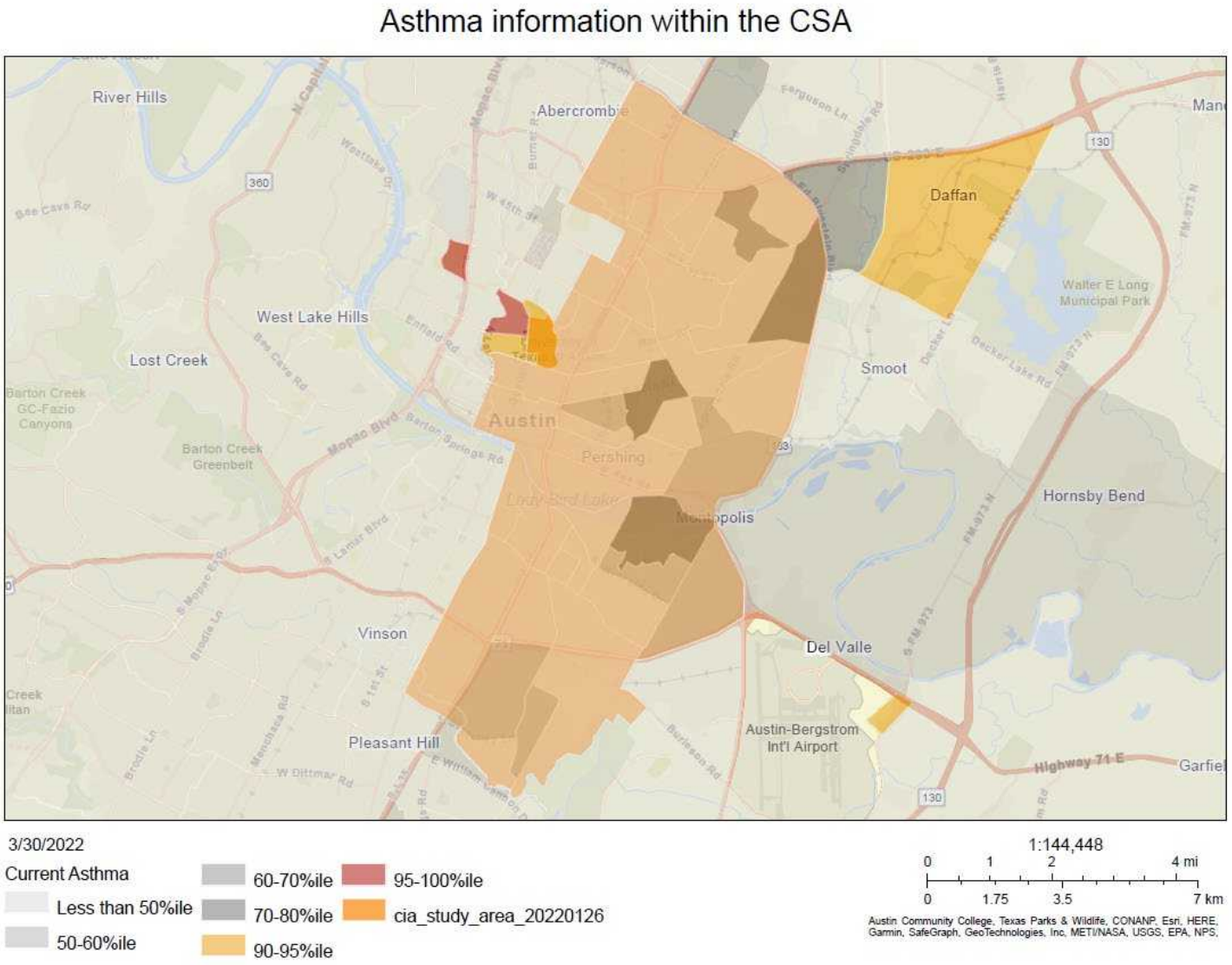
EJScreen measures the prevalence of asthma for adults aged 18 years and older. The highest concentrations of asthma sufferers was in the university area of UT and West Campus. Although this concentration is concerning, these areas are transient due to the predominance of student housing. Additional areas of concern include Pleasant Valley in South Austin; Central East Austin and Rosewood in East Austin; and University Hills, Pecan Springs-Springdale, and Windsor Park in Northeast Austin. All these neighborhoods had asthma populations at or above 10%.[28] Pleasant Valley, the neighborhood in between South Pleasant Valley Road and Montopolis Drive in Southeast Austin had the highest level of asthma at 10.5% of the population suffering from the chronic condition. Franklin Park and McKinney in the Dove Springs area of Southeast Austin had a population of 9% suffering from asthma. See **Figure 8**.

[26] CDC, “National Environmental Public Health Tracking Network - Info By Location.”

[27] CDC.

[28] US EPA.

Figure 8. Percent with Asthma by Census Tract



Conclusion

Physical activity has been scientifically proven to improve public health and improve general wellness. The built environment has a direct connection in facilitating physical activity. Although it is up to the individual to make the decision to exercise or commute using non-automobile methods, improvements to the built environment can "set the stage" for a healthier community. The implementation of pedestrian and bicycle facilities that improve user safety, accessibility, support utilization of transit, and connectivity can encourage physical activity. Many of the communities within the study area suffer from chronic illnesses that can be alleviated through exercise, as well as increased access to community facilities like grocery stores and healthcare. Investments made in constructing pedestrian and bicycle facilities, closing last mile gaps in infrastructure, and improving the aesthetic appearance of currently auto-centric areas would foster a more physically active Austin, especially in portions of the study area highlighted here.

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Memo

To:	Sonya Hernandez, Project Manager Texas Department of Transportation	From:	Ashley McLain, Senior Principal Ben Janik, GIS Program Manager Ami Parikh, Mobility Planner Haley Collins, Mobility Planner Holly Bagot, Environmental Planner
File:	IH-35 Capital Express Community Impacts Assessment: Supplemental Documentation, Task 7 StreetLight Data Analysis and Findings	Date:	July 27, 2022 *Revised November 18, 2022*

Reference: IH-35 Capital Express Community Impacts Assessment: Supplemental Documentation, Task 7 StreetLight Data Analysis and Findings

Project Description

Texas Department of Transportation (TxDOT) is proposing improvements to IH-35 from US-290 East to US-290/SH-71 in Travis County; also known as, the IH-35 Capitol Express (or "CapEx") Central project.

In general, the proposed improvements will add two non-tolled managed lanes in each direction, reconstruct intersections and bridges to increase bridge clearances and east/west mobility (as needed), and improve bicycle and pedestrian accommodations along IH-35 frontage roads and at east-west crossings.

Possible build alternatives include lowered sections of managed and main lanes. Each build alternative will include various operational and safety enhancements that optimize the roadway footprint, and will reconstruct ramps, bridges, and intersections; improve frontage roads; enhance bicycle and pedestrian accommodations; accommodate transit routes; and add direct connectors at IH-35/US-290 East. The project length is approximately eight miles.

Purpose of the Task

The purpose of the **Task 7 memo** is to utilize the StreetLight InSight (StreetLight), a location-based services data vendor, to analyze bicycle and pedestrian trip data for priority Neighborhood Planning Areas (NPAs) and for key IH-35 crossing locations. StreetLight offers information on multi-modal mobility patterns that includes origin-destination, traveler demographics and more. For this task, the focus is looking at average daily trips for the period of November 2020 to October 2021 as a representative snapshot of relatively current bicycle and pedestrian travel patterns. The analysis does not depend on the traveler demographic data available on the StreetLight platform. Rather, the previous tasks 4, 5, and 6, including socioeconomic information, were used as a screening tool to prioritize NPAs within the overall study area and to understand how they are similar or different from each other. The process for prioritizing the NPAs is described further in this memo. Separately, StreetLight data was used to analyze travel by bicycles and pedestrians across IH-35 to better understand how intersections compare with each other in terms of recent crossing activity. An overall question is to determine whether the current designs of IH-35 crossings correlate to bicycle and pedestrian activity. This analysis does not assess the current design of the crossings in terms of accessibility, signalization, width or other design improvements. Can TxDOT's efforts to respond to public comments by updating designs to improve connectivity across IH-35 for non-drivers be informed by this data? It is possible that attention to the design elements of the crossings in conjunction with the IH-35 CapEx project presents an opportunity to improve safety and connectivity for bicyclists and pedestrians with particular focus on equity NPAs in the wider Community Study Area.

Analysts propose that this is just the starting point of TxDOT utilizing the StreetLight data for community impact analysis under the National Environmental Policy Act (NEPA). Not only is it useful for very specific infrastructure improvement programs such as prioritizing sidewalk and bicycle systems in cities, but it can also shed light on where people are traveling so that resources can be directed to benefit those users in the future with some prioritization to meet equity goals.

Organization of this Memo

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Glossary of Terms (StreetLight)

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Representative Crossings – Bicycles
Representative Crossings – Pedestrians
Average Trip Length Around Crossings
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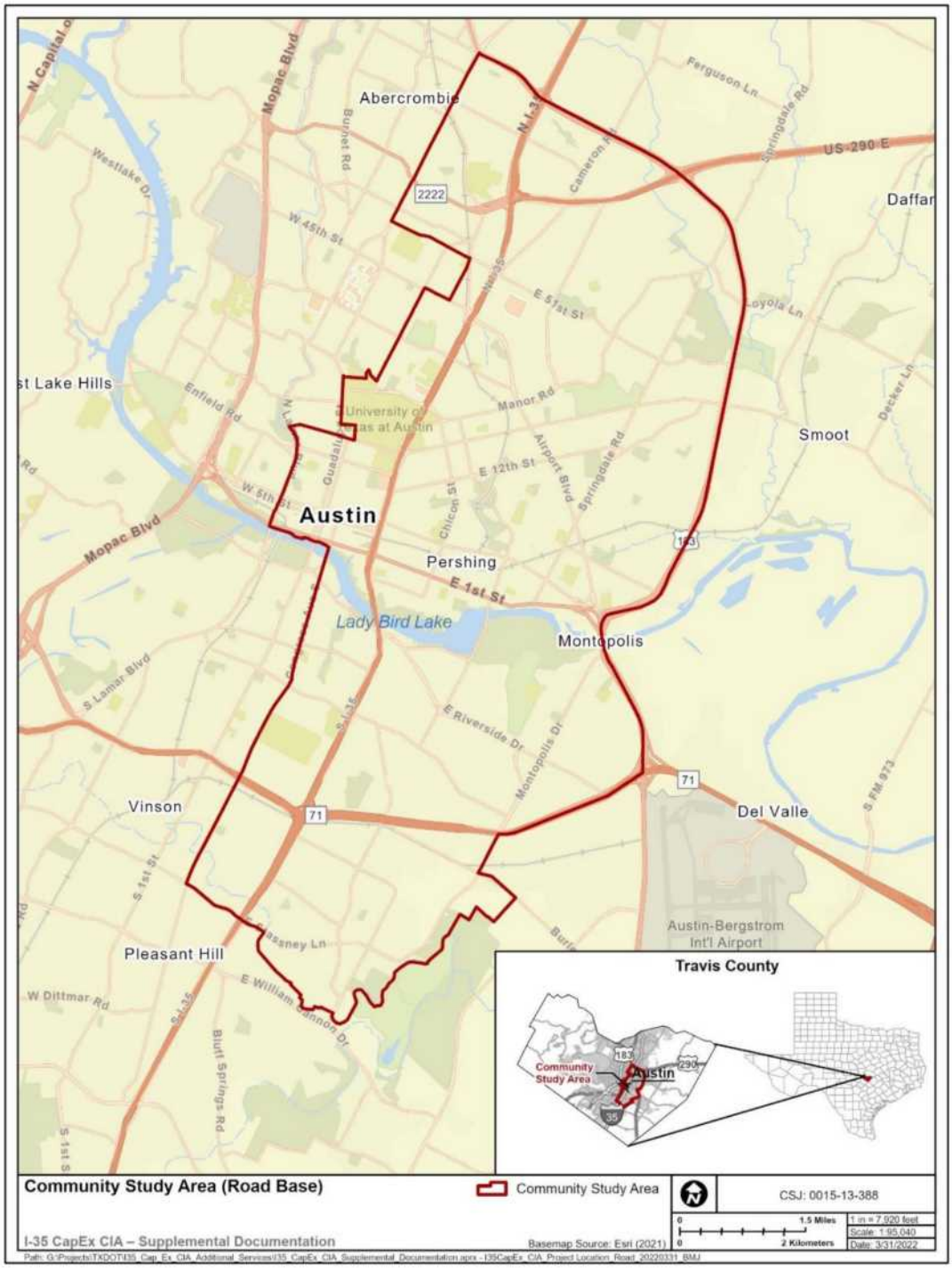
IDENTIFICATION OF PROJECT LOCATION

The size and location of the study area for this task is based on the Community Impact Assessment (CIA) study area established in the CIA Technical Report (HDR, April 2022), based on demographic data of NPAs along IH-35 and west of US-183, often referred to as the Eastern Crescent. **See Figure 1, Community Study Area**.



PRIORITIZATION OF NEIGHBORHOOD PLANNING AREAS FOR EQUITY FOCUS

The study area depicted above intersects a total of 30 NPAs which create a framework for the community to express their values, as well as prioritize and address issues of concern for their community. Note that subsequent versions of the CIA included Hyde Park neighborhood but this task does not. The neighborhoods within the study area vary based on demographics, social history, community facilities, affordable housing, and travel patterns.

U.S. Census data were used to identify potential focus areas based on specific socioeconomic metrics. To analyze the demographics of neighborhoods within the study area, demographic data was gathered at the census block group level and aggregated according to the neighborhoods in which those block groups were located. Geographic Information System (GIS) analysis was used to select census block groups if their centroid fell within a particular NPA. The Race/Ethnicity and percent minority data was collected at the block level due to the availability of 2020 census data. Because other demographic indicators were not yet available from the 2020 census at the time of data collection, 2015-2019 American Community Survey (ACS) 5-year estimates were used at the block group level.

As discussed in more detail under **Task 4**, **Task 5**, and **Task 6** these studies helped identify priority NPAs as discussed below.

Task 4: Composite Socioeconomic Data Graphic

Inputs for composite demographic include median household income, percent renters versus homeowners, percent seniors, percent children, percent disabled adults, zero car households, and minority populations. This data led to the prioritization of the following NPAs from an equity focus perspective:

- Windsor Park
- Coronado Hills
- Rosewood
- East Cesar Chavez
- Parker Lane
- Franklin Park

Task 5: Active Transportation and Environmental Protection Agency (EPA) Walkability Score

Poor walkability and poor bikeability across all mapped data were highest in the following NPAs:

- St. John
- Coronado Hills
- Pecan Springs-Springdale
- Martin Luther King (MLK)
- MLK-183
- Pleasant Valley
- McKinney
- East Congress

Task 6: Environmental Justice Screening

The EPA Environmental Justice Screen and Mapping Tool (EJScreen) provided information on how NPAs compare to each other. This screening process highlighted several NPAs for various health indicators.

Areas of concern for asthma:

- Pleasant Valley
- Central East Austin
- Rosewood
- University Hills
- Pecan Springs-Springdale
- Windsor Park
- Franklin Park
- McKinney

Areas of concern for heart disease:

- Govalle
- MLK
- MLK-183

Areas of concern for low life expectancy:

- Rosewood
- Chestnut
- MLK
- Govalle
- Johnson Terrace
- Parker Lane
- McKinney
- Franklin Park

To finalize the priority NPAs selected for more detailed StreetLight analysis from a transportation equity focus, the following table was developed. All NPAs with a score of at least two (meaning the NPA was a priority for at least two factors – composite socioeconomic data, lack of active transportation infrastructure, or health concerns) were carried forward for additional analysis with StreetLight data.

Table 1: Priority NPAs – Equity Focus Areas for StreetLight Analysis

NPAs prioritized through at least one screening task	Task 4: Composite Socioeconomic	Task 5: Active Transportation	Task 6: At least 1 health indicator	Total
Central East Austin			1	1
Chestnut			1	1
Coronado Hills	1	1	1	3
East Cesar Chavez	1		1	2
East Congress		1	1	2
Franklin Park	1		1	2
Govalle			1	1
Johnson Terrace			1	1
McKinney		1	1	2
MLK		1	1	2
MLK-183		1	1	2
Parker Lane	1		1	2
Pecan Springs-Springdale		1		1
Pleasant Valley		1	1	2
Rosewood	1		1	2
St. John		1		1
University Hills			1	1
Windsor Park	1		1	2
TOTAL	6	8	16	30

Note that the same StreetLight analysis could be conducted for additional NPAs in the Community Study Area. The selection of certain NPAs does not mean the other NPAs are without socioeconomic, active transportation, or health concerns or opportunities.

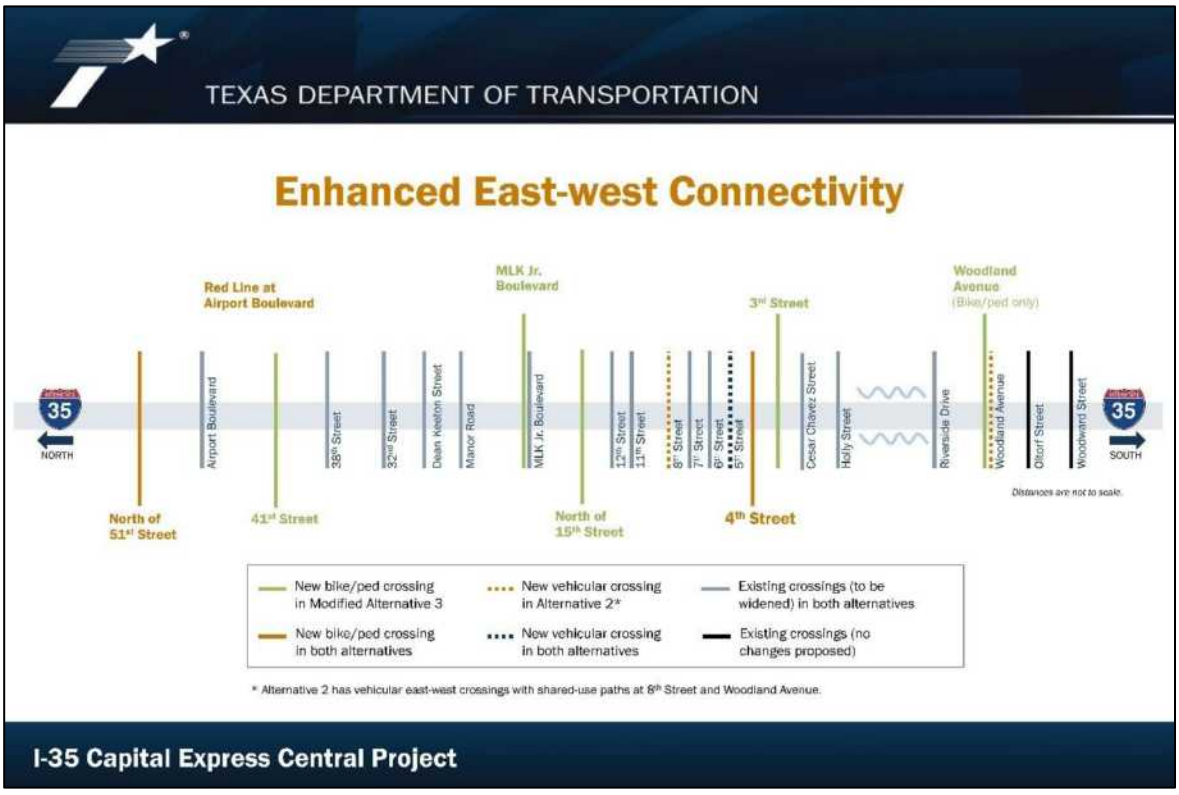
Priority NPAs

As discussed above, the NPAs listed here are a subset of NPAs in the Community Study Area after various screening tools were applied. The neighborhoods included in the StreetLight analysis are as follows, listed generally from north to south:

- Coronado Hills
- Windsor Park
- MLK
- MLK-183
- Rosewood
- East Cesar Chavez
- Pleasant Valley
- Parker Lane
- East Congress
- McKinney
- Franklin Park

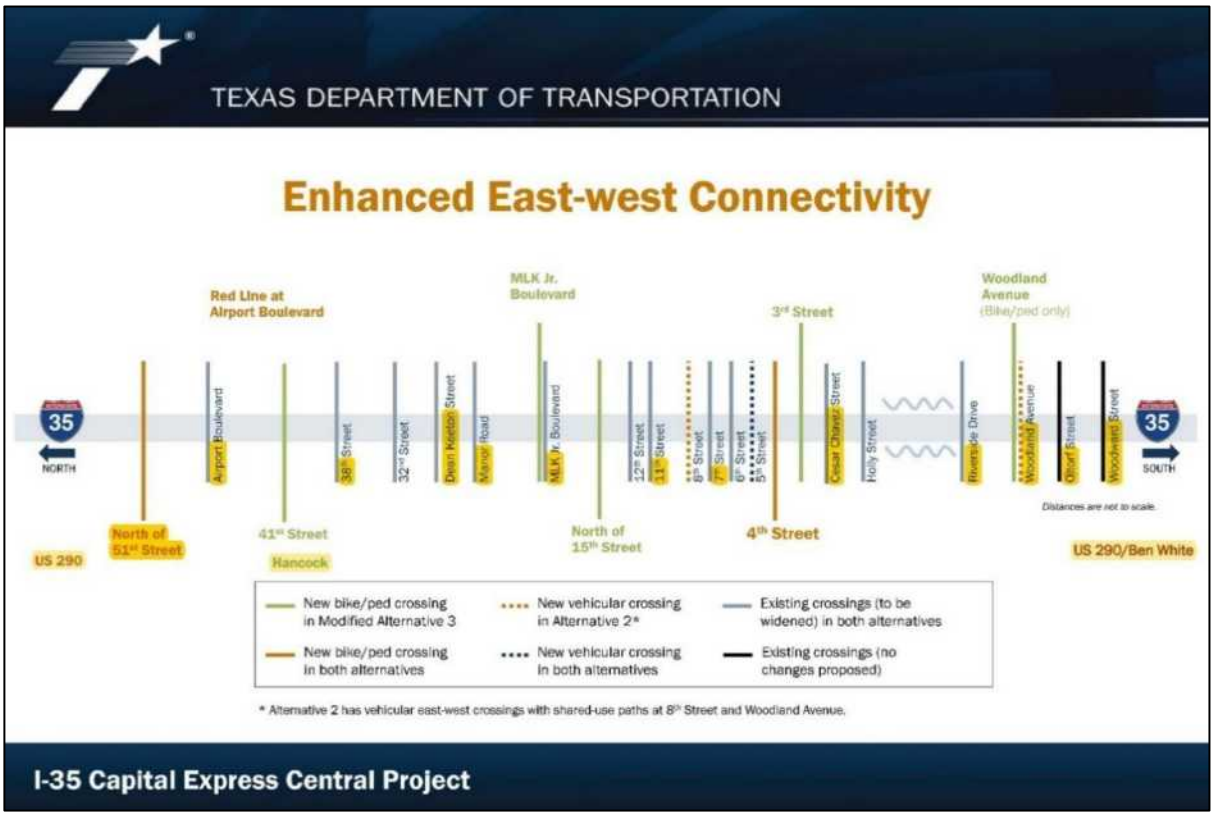
IDENTIFICATION OF KEY CROSSINGS FOR ANALYSIS

This graphic depicts key IH-35 intersections (crossings) and is from the public involvement process. The analysis that follows focuses on bicycle and pedestrian activity but does not analyze design elements. Please refer to the Draft Environmental Impact Statement (Draft EIS) for further analysis on the design elements.



Analysts selected geographically representative IH-35 crossing locations to run StreetLight queries for comparative Origin-Destination (O-D) trip indices. Average trip length was also collected to compare how far to or from IH-35 bicyclists and pedestrians were traveling during the data collection period.

Additional crossings were identified at US-290 North (East Koenig Lane), Hancock Drive, and US-290 South (East Ben White Boulevard/SH-71). It was subsequently determined that the StreetLight zone for US-290/SH-71 was "questionable" and so it was dropped from this analysis. Again, the StreetLight analysis could be utilized to investigate any of these crossing locations; the team made selections given the practical constraints of completing this analysis and the direction to identify areas for transportation equity focus. This analysis is not fully comprehensive or exhaustive, but highlights considerations in the Community Study Area in alignment with the goals of the Justice40 Initiative to collect data and enhance understanding.



The crossings selected for the StreetLight analysis are a subset of all the crossings along the IH-35 project corridor that represent various existing conditions. The crossings included in the StreetLight analysis are listed below generally from north to south:

- US-290/East Koenig Lane
- East 51st Street
- Airport Boulevard
- Hancock Drive
- East 38th ½ Street (also shown as East 38th Street)
- East Dean Keeton Street
- Manor Road
- East MLK Jr. Boulevard
- East 11th Street
- East 7th Street
- East 4th Street
- East Cesar Chavez Street
- East Riverside Drive
- Woodland Avenue
- East Oltorf Street
- Woodward Street

STREETLIGHT : ORIGIN-DESTINATION ZONE DATA APPROACH AND ANALYSIS

Stantec Transportation Planners with experience utilizing the StreetLight platform were added to the project team. The methodology developed for the purpose of this task was intended to help environmental planners better understand the study area from the neighborhood perspective, rather than to obtain specific granular detail about particular trips for neighborhood level infrastructure design. While the StreetLight data can be utilized for many different purposes, analysts decided to use it to prepare a snapshot of activity over one year within the Community Study Area. This analysis acknowledges platform bias. Specifically, location-based services (LBS) data will inherently not be reflective of all active transportation users. Utilitarian and recreational pedestrians and bicyclists alike may not bring cell phones with them (or may not own them). In particular, this study area contains populations of individuals experiencing homelessness who walk along and/or cross IH-35. These individuals may not be included in the StreetLight numbers.

Methodology for Understanding StreetLight Origin-Destination Analysis Data Outputs

StreetLight has extensive tutorial information for subscribers to its different types of analyses. One data set was for O-Ds indexed for pedestrian and bicycle activity for select neighborhood planning areas and for representative crossings of IH-35. This document does not replicate those steps but describes steps taken to analyze and understand the outputs from those queries.

This methodology was identical for bicycle and pedestrian for the NPAs as well as crossing locations.

- The analysis for NPA/crossing were performed using the following parameters:
  - 0: All Days (Monday - Sunday)
  - 0: All Day (12am-12am)
  - Confined to trips in the pre-set geography (within the study area)
  - All the NPAs/crossings shortlisted above
  - Time Frame: November 2020 to October 2021 (as noted previously)
- Calculated and ranked the share of total O-Ds for all NPA/crossings included in the analysis
- Calculated a weighted average trip length (in miles) for trips originating and ending (as destinations) for all NPAs/crossings (weighted by the total number of trip origins or destinations for that zone)
- Using the separate O-D shares, calculated the total O-D share for each location (NPA/crossing)
- Note that the numbers representing the daily O-Ds are StreetLight indices and do NOT represent actual volumes.

Overall observations from StreetLight analyses:

For NPAs:

- Windsor Park has highest share of bike O-Ds (21%) and the trip length is 2.65 miles, Cesar Chavez at 2nd place (15%) with (almost) lowest trip length at 2.30 miles
- Coronado Hills NPA & East Cesar Chavez NPA have lowest average bike trip length of about 2.30 miles
- McKinney NPA, Coronado Hills NPA and East Congress NPA have lowest average pedestrian trip length between 0.40-0.47-mile
- Bike trip length is between 2.28 – 3.82 miles
- Pedestrian trip length is between 0.40- to 0.67-mile

For IH-35 crossing locations:

- Riverside is a clear winner for bike share O-Ds (13%) and 3.5 miles of average trip length

- These locations have under 5% of bike share O-Ds: Airport Boulevard, Hancock Drive, East MLK Jr. Boulevard, US-290/East Koenig Lane, Woodland Avenue, and Woodward Street.
- These locations have under 5% of pedestrian share O-Ds: East 4th Street, Airport Boulevard, East Dean Keaton Street, Hancock Drive, US-290/East Koenig Lane, Woodland Avenue, and Woodward Street. Many similarities in locations with bike share data
- Manor Road has 5% of bike share O-Ds but 15% (highest) of pedestrian share
- Average bike trip length is between 1.5 – 3.5 miles (shorter than NPAs) and average pedestrian trip length is between 0.4 – 1 mile (slightly longer)

The tables and charts below show the output data from StreetLight. The columns with arrows above are the ones shown in the charts. The color coding in the table shows the longest weighted average trip in green and the shortest weighted average trip length in red.

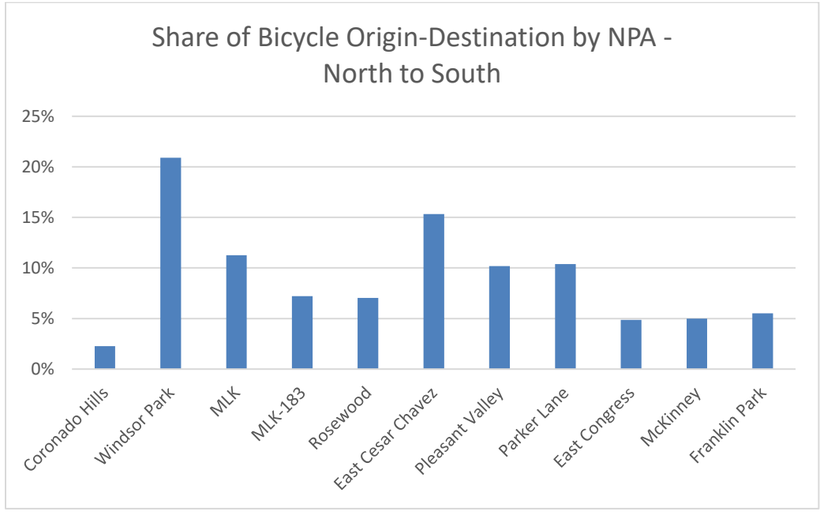
DATA TABLES, CHARTS AND OBSERVATIONS

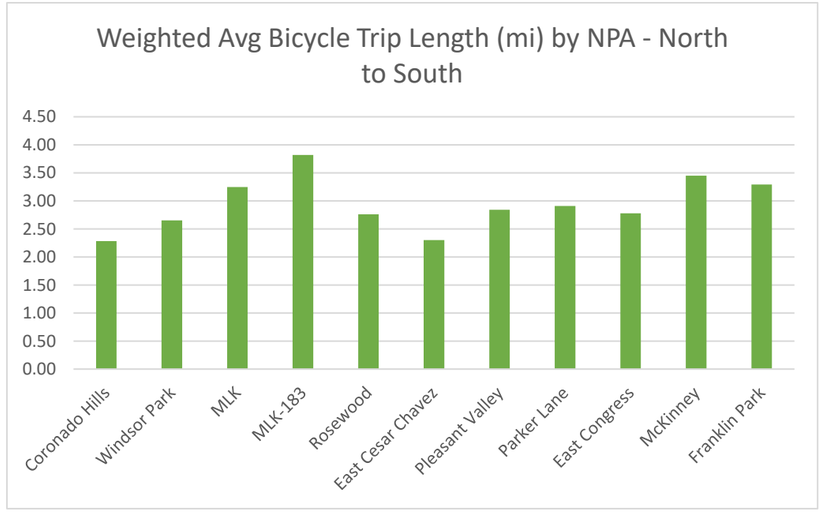
Table 2: Priority Neighborhood Planning Areas – Bicycle Origin-Destination: Share of Trips and Weighted Average Trip Length

Priority Neighborhood Planning Area	Daily Origins	Share of Trips	Origin Rank	Weighted Avg Trip Length (mi)	Daily Destinations	Share of Trips	Destination Rank	Weighted Avg Trip Length (mi)	Total O-D	**Share of Trips**	Total Rank	**Weighted Avg Trip Length (mi)**
Coronado Hills	154	2%	11	2.37	148	2%	11	2.19	302	**2%**	11	**2.28**
Windsor Park	1,423	21%	1	2.71	1,362	21%	1	2.60	2,785	**21%**	1	**2.65**
MLK	717	11%	3	3.22	784	12%	3	3.27	1,501	**11%**	3	**3.25**
MLK-183	509	8%	6	3.76	453	7%	7	3.89	962	**7%**	6	**3.82**
Rosewood	444	7%	7	2.68	495	8%	6	2.83	939	**7%**	7	**2.76**
East Cesar Chavez	1,055	16%	2	2.27	987	15%	2	2.34	2,042	**15%**	2	**2.30**
Pleasant Valley	677	10%	5	2.89	680	10%	4	2.79	1,357	**10%**	5	**2.84**
Parker Lane	714	11%	4	2.91	670	10%	5	2.91	1,384	**10%**	4	**2.91**
East Congress	323	5%	10	2.60	325	5%	10	2.96	648	**5%**	10	**2.78**
McKinney	325	5%	9	3.29	340	5%	9	3.60	665	**5%**	9	**3.45**
Franklin Park	384	6%	8	3.29	350	5%	8	3.30	734	**6%**	8	**3.29**

Source: StreetLight 2022; analysis by Stantec.

Note: Daily O-Ds are a StreetLight index and do NOT represent actual volumes.



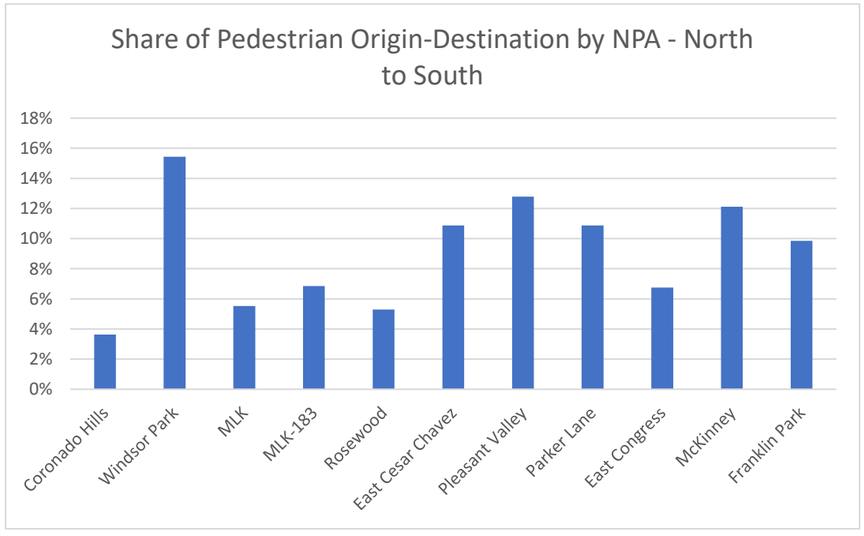


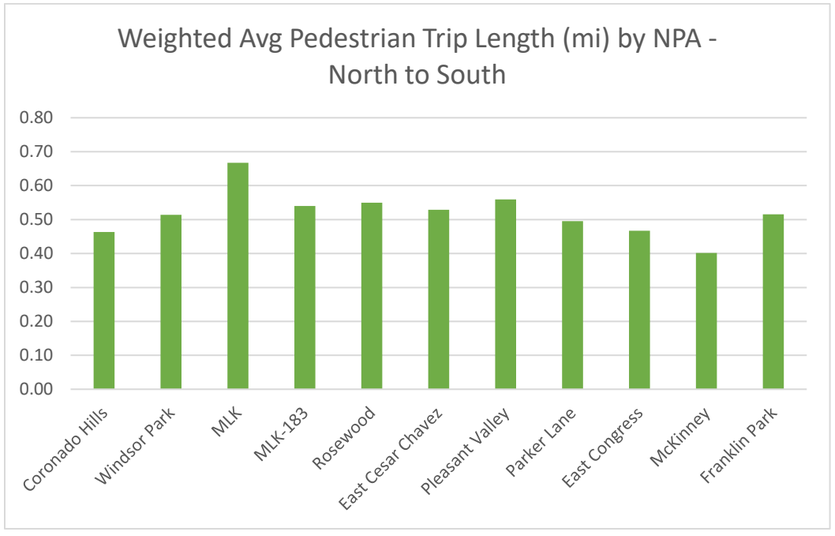
Observations:

- Windsor Park NPA has the highest share of bike O-Ds (21%) - followed by East Cesar Chavez (15%) and MLK (11%)
- Coronado Hills has the lowest share of bicycle O-Ds (2%)
- Weighted average bike trip length for all NPAs is 2.9 miles
- MLK-183 NPA has the highest weighted average trip lengths (3.8 miles)
- Coronado Hills NPA has the lowest weighted average trip lengths (2.3 miles)

Table 3: Priority Neighborhood Planning Areas – Pedestrian Origin-Destination: Share of Trips and Weighted Average Trip Length

Priority Neighborhood Planning Area	Daily Origins	Share of Trips	Origin Rank	Weighted Avg Trip Length (mi)	Daily Destinations	Share of Trips	Destination Rank	Weighted Avg Trip Length (mi)	Total O-D	**Share of Trips**	Total Rank	**Weighted Avg Trip Length (mi)**
Coronado Hills	8,235	4%	11	0.46	8,116	4%	11	0.46	16,351	**4%**	11	**0.46**
Windsor Park	34,621	15%	1	0.51	34,790	15%	1	0.51	69,411	**15%**	1	**0.51**
MLK	12,255	5%	9	0.67	12,591	6%	9	0.67	24,846	**6%**	9	**0.67**
MLK-183	15,370	7%	8	0.54	15,426	7%	7	0.54	30,796	**7%**	7	**0.54**
Rosewood	11,853	5%	10	0.55	11,919	5%	10	0.55	23,772	**5%**	10	**0.55**
East Cesar Chavez	24,581	11%	4	0.53	24,340	11%	4	0.53	48,921	**11%**	4	**0.53**
Pleasant Valley	28,582	13%	2	0.56	28,928	13%	2	0.56	57,510	**13%**	2	**0.56**
Parker Lane	24,572	11%	5	0.49	24,337	11%	5	0.50	48,909	**11%**	5	**0.50**
East Congress	15,396	7%	7	0.47	14,943	7%	8	0.46	30,339	**7%**	8	**0.47**
McKinney	27,312	12%	3	0.40	27,174	12%	3	0.40	54,486	**12%**	3	**0.40**
Franklin Park	22,130	10%	6	0.52	22,128	10%	6	0.51	44,258	**10%**	6	**0.52**



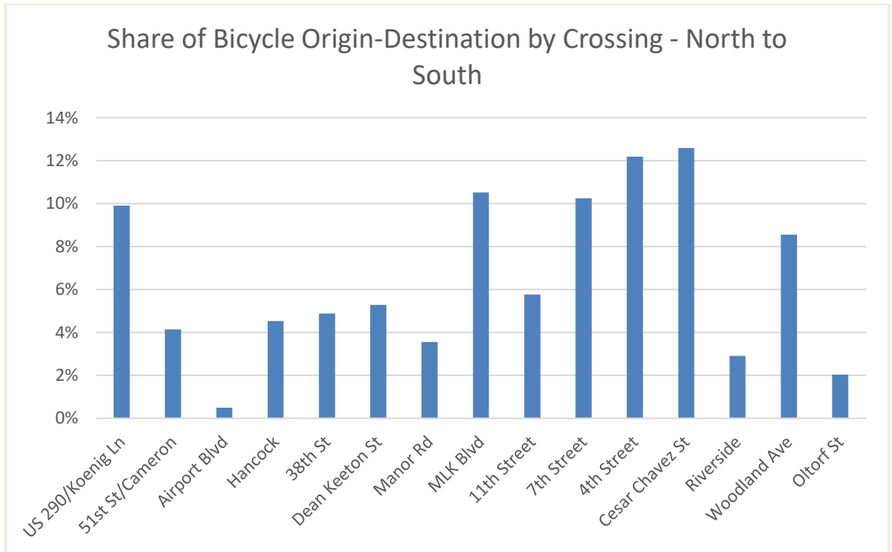


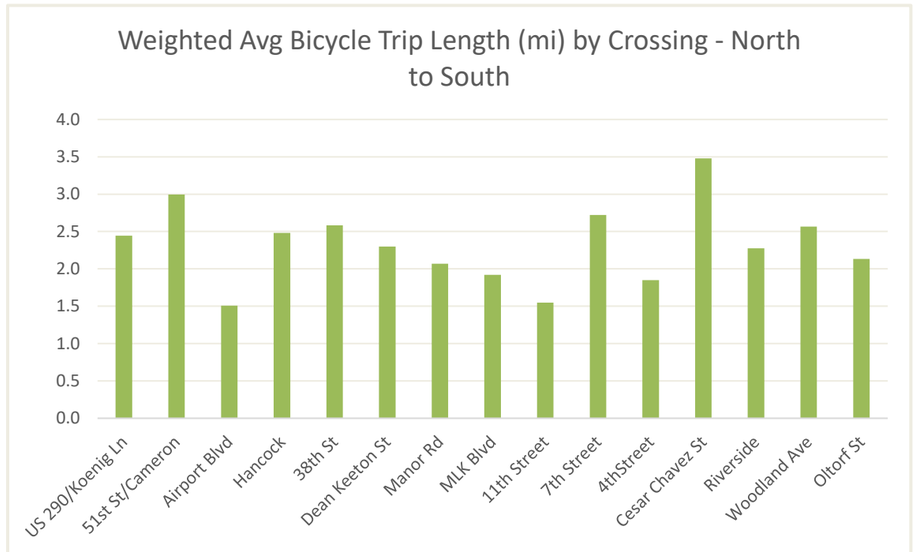
Observations:

- Windsor Park NPA has the highest share of pedestrian O-Ds (15% - may be related to large geography and population) - followed by Pleasant Valley (13%) and McKinney (12%);
- Coronado Hills has the lowest share of pedestrian O-Ds (4%); also highest disabled population, highest seniors
- Average pedestrian trip length for all NPAs is 0.5-mile
- MLK NPA has the highest average trip lengths (0.7-mile)
- McKinney NPA has the lowest average trip lengths (0.4-mile); much of the neighborhood is industrial; relatively small portion of residential near McKinney Falls State Park; closest crossing is US-290; highest percentage of minorities (out of small number)
- Pleasant Valley – University of Texas at Austin (UT), Roy G. Guerrero Colorado River Metro Park, Morris Williams Golf Course, Austin Community College

Table 4: Representative Crossings – Bicycle Origin-Destination: Share of Trips and Weighted Average Trip Length

Representative Crossing Name	Daily Origins	Share of Trips	Origin Rank	Weighted Avg Trip Length (mi)	Daily Destinations	Share of Trips	Destination Rank	Weighted Avg Trip Length (mi)	Total O-D	**Share of Trips**	Total Rank	**Weighted Avg Trip Length (mi)**
US-290/East Koenig Lane	85	3%	14	2.4	79	2%	14	2.3	164	**2%**	14	**2.3**
East 51st Street/Cameron Road	334	10%	5	2.4	332	10%	5	2.5	666	**10%**	5	**2.4**
Airport Boulevard	141	4%	11	3.0	137	4%	11	3.0	278	**4%**	11	**3.0**
Hancock Drive	15	0%	16	1.5	18	1%	16	1.5	33	**0%**	16	**1.5**
East 38th Street	147	4%	10	2.5	157	5%	10	2.5	304	**5%**	10	**2.5**
East Dean Keeton Street	167	5%	9	2.6	161	5%	9	2.5	328	**5%**	9	**2.6**
Manor Road	173	5%	8	2.6	182	5%	8	2.0	355	**5%**	8	**2.3**
East MLK Jr. Boulevard	119	4%	12	2.3	120	4%	12	1.8	239	**4%**	12	**2.1**
East 11th Street	357	11%	3	2.0	350	10%	3	1.9	707	**11%**	3	**1.9**
East 7th Street	195	6%	7	1.5	192	6%	7	1.6	387	**6%**	7	**1.5**
East 4th Street	342	10%	4	2.6	347	10%	4	2.9	689	**10%**	4	**2.7**
East Cesar Chavez Street	411	12%	2	1.8	408	12%	2	1.9	819	**12%**	2	**1.9**
East Riverside Drive	423	13%	1	3.4	423	13%	1	3.5	846	**13%**	1	**3.5**
Woodland Avenue	96	3%	13	2.2	99	3%	13	2.4	195	**3%**	13	**2.3**
East Oltorf Street	293	9%	6	2.7	282	8%	6	2.4	575	**9%**	6	**2.6**
Woodward Street	66	2%	15	2.1	71	2%	15	2.1	137	**2%**	15	**2.1**



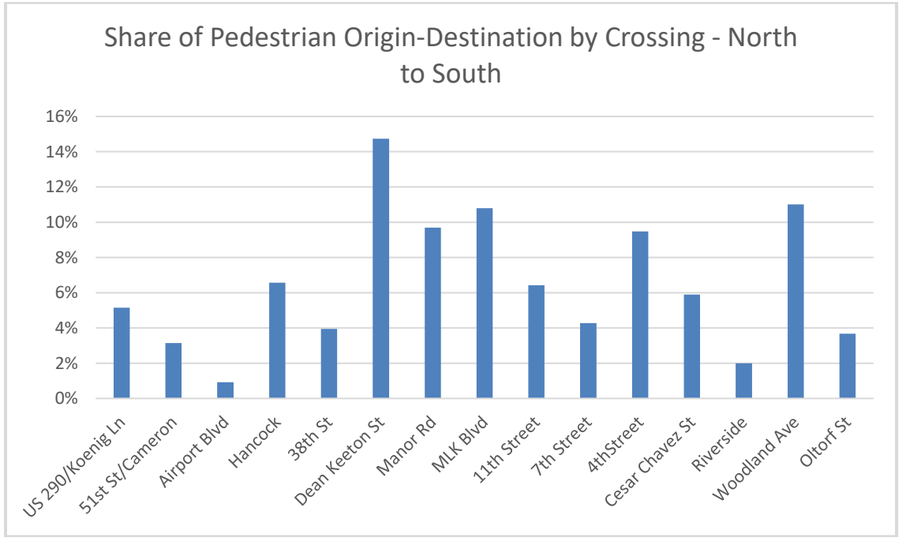


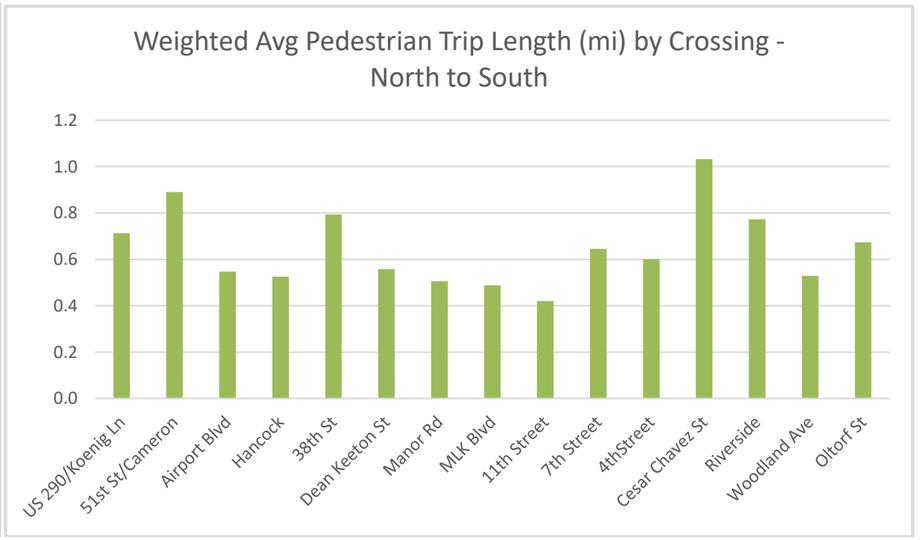
Observations:

- East Riverside Drive has the highest share of bike crossings (13%) - Lady Bird Lake and boardwalk
- Riverside is followed by Cesar Chavez (12%) – north side of Ladybird Lake
- East 11th Street is third (11%) – location of Texas State Capitol
- Hancock Drive has the lowest share of bicycle crossings (<1%) – unsafe existing conditions under elevated structure adjacent to railroad
- Average bike trip length for all crossings is 2.4 miles
- East Riverside Drive crossing has the highest average trip lengths (3.5 miles) – Lady Bird Lake and access to trails
- Hancock Drive and East 7th Street have the lowest average trip lengths (1.5 miles)

Table 5: Representative Crossings – Pedestrian Origin-Destination: Share of Trips and Weighted Average Trip Length

Representative Crossing Name	Daily Origins	Share of Trips	Origin Rank	Weighted Avg Trip Length (mi)	Daily Destinations	Share of Trips	Destination Rank	Weighted Avg Trip Length (mi)	Total O-D	**Share of Trips**	Total Rank	**Weighted Avg Trip Length (mi)**
US-290/East Koenig Lane	395	2%	14	0.7	394	2%	14	0.7	789	2%	14	0.7
East 51st Street/Cameron Road	882	5%	9	0.7	882	5%	9	0.7	1,764	5%	9	0.7
Airport Boulevard	538	3%	13	0.9	538	3%	13	0.8	1,076	3%	13	0.9
Hancock Drive	159	1%	16	0.6	158	1%	16	0.5	317	1%	16	0.5
East 38th Street	1,125	7%	6	0.5	1,124	7%	6	0.6	2,249	7%	6	0.5
East Dean Keeton Street	675	4%	11	0.8	676	4%	11	0.8	1,351	4%	11	0.8
Manor Road	2,525	15%	1	0.6	2,523	15%	1	0.5	5,048	15%	1	0.6
East MLK Jr. Boulevard	1,663	10%	4	0.5	1,660	10%	4	0.5	3,323	10%	4	0.5
East 11th Street	1,850	11%	3	0.5	1,848	11%	3	0.5	3,698	11%	3	0.5
East 7th Street	1,103	6%	7	0.4	1,099	6%	7	0.4	2,202	6%	7	0.4
East 4th Street	732	4%	10	0.7	732	4%	10	0.6	1,464	4%	10	0.6
East Cesar Chavez Street	1,625	9%	5	0.6	1,625	9%	5	0.6	3,250	9%	5	0.6
East Riverside Drive	1,007	6%	8	1.1	1,013	6%	8	1.0	2,020	6%	8	1.0
Woodland Avenue	342	2%	15	0.9	341	2%	15	0.6	683	2%	15	0.8
East Oltorf Street	1,888	11%	2	0.6	1,886	11%	2	0.5	3,774	11%	2	0.5
Woodward Street	631	4%	12	0.7	630	4%	12	0.6	1,261	4%	12	0.7





Observations:

- Manor Road has the highest share of pedestrian crossings (15%) – UT has major sports facilities on both sides of IH-35
- Second is East Oltorf Street (11%) - Newly improved pedestrian accommodations; Travis High School in the southwest quadrant of East Oltorf Street and IH-35
- Third is East 11th Street (11%) – Texas State Capitol street
- Hancock Drive has the lowest share of pedestrian crossings (<1%) – note short street under elevated section of highway near Hancock Center
- Average pedestrian trip length for all crossings is 0.6-mile
- East Riverside Drive crossing has the highest average trip lengths (1 mile) – may be attributable to Lady Bird Lake, Ann and Roy Butler Hike and Bike trail ("Town Lake trail"), and Boardwalk
- East 7th Street has the lowest average trip lengths (0.4-mile) – closest to 6th Street entertainment district; city of Austin police office

GIS GRAPHICS FOR REPRESENTATIVE CROSSINGS

In addition to the information above, GIS analysts have provided a graphic depiction of bicycle and pedestrian crossings of IH-35. See **Appendix B: Representative Crossings – Bicycles** and **Representative Crossings – Pedestrians.** The share of trips are shown in comparison to each other. The heaviest line widths show higher shares of trips, while the narrow line widths show the lowest percentage share of trips for either bicycles or pedestrians. To some degree, these illustrations are logical such as where access is provided to the Ann and Roy Butler Hike and Bike Trail (also locally known as the Lady Bird Lake Hike and Bike Trail) from East Riverside Drive. Other areas where the activity is very low may indicate a very bicycle or pedestrian unfriendly area, such as on Hancock Drive. These graphics both illustrate data from StreetLight and possible opportunities to provide improved bicycle and pedestrian accommodations, which is a central goal of the overall proposed project.

An additional GIS graphic has been created depicting average trip length by bicycles and pedestrians at each crossing. Note that these distances are “as the crow flies” and do not represent actual routes. However, they do show the approximate distance with respect to geography and the location of the NPAs. They can help analysts see if bicycle and pedestrian improvements are particular locations could potentially benefit NPAs that are not located adjacent to IH-35. See **Appendix B: Average Trip Length Around Crossings**.

STREETLIGHT: BICYCLE AND PEDESTRIAN HEAT MAP DATA

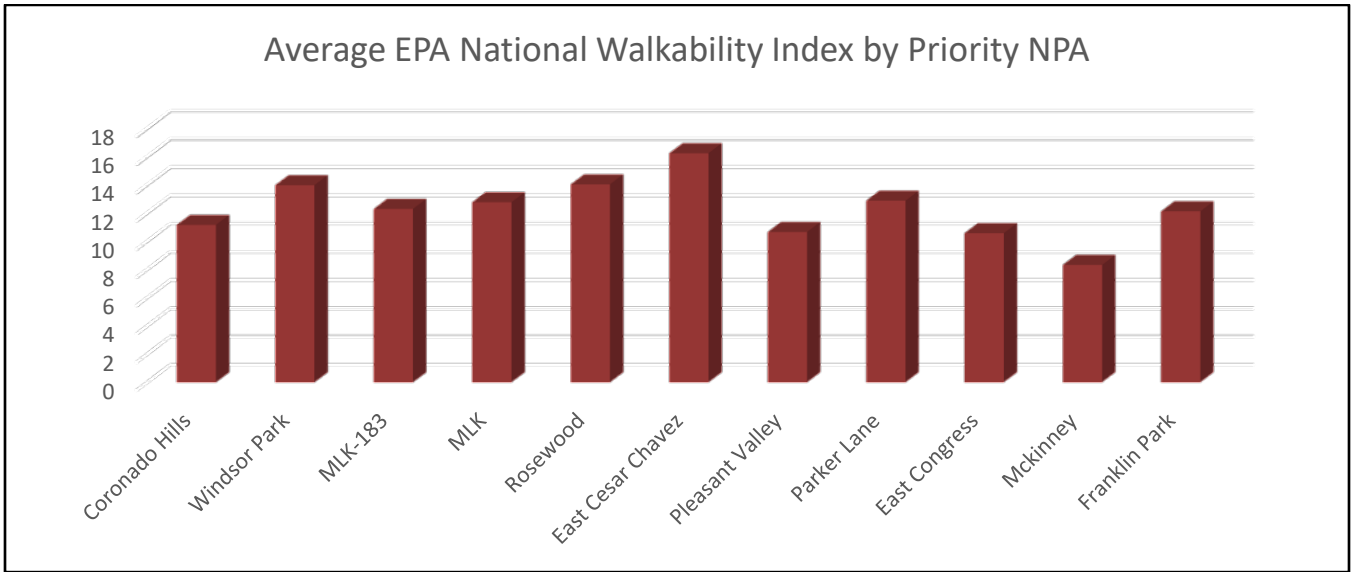
Methodology for Analyzing StreetLight Heat Map Data Outputs

Whereas the O-D analysis focused on select NPAs and the index of trips occurring through those NPAs relative to each other, the heat map prepared by StreetLight gathered all bicycle and pedestrian O-D for the full Community Study Area. To illustrate activity within each equity focus NPA, GIS analysts zoomed in to each NPA to show both average daily zone traffic (StreetLight Index) along with city of Austin data on existing infrastructure.

Bicycle and Pedestrian Heat Map Data and City of Austin Infrastructure – by Priority NPA

A brief discussion of each NPA from the pedestrian and bicycle perspective follows. The heat map GIS graphics by NPA are included in **Appendix B: Priority Neighborhood Planning Areas – Bicycle and Pedestrian Heat Maps with City of Austin Infrastructure.** This section includes some of the information from the Task 5 memo on Active Transportation, including the EPA National Walkability Index score for each NPA. The priority NPAs are shown below.

NEIGHBORHOOD PLANNING AREAS



Coronado Hills

Coronado Hills' National Walkability Index scores range from 9.1 to 13.1 (EPA 2022). While this neighborhood has nearby amenities, including schools and stores, it has a *weak network of bike and pedestrian infrastructure*. The bike lanes are limited to a couple busy roads including along frontage roads. There are more sidewalks, but in many areas the sidewalks start and end abruptly, forcing pedestrians to walk on and off the main roadway intermittently. St. John and Coronado Hills are isolated from the rest of the city in a triangle made up of three highways: IH-35, US-183, and US-290. Both neighborhoods have poor accessibility for pedestrians and cyclists trying to cross in or out of this triangle. Coronado Hills also has very few transit options, with most routes and stops located in the southwest corner of the neighborhood. This is inconvenient for neighborhood residents, as most of the residential areas are on the north side of the neighborhood along US-183. Only one improvement, a short segment of St. John's road bike lane, is planned for 2022.

Reviewing the heat map data, average daily zone traffic is in the first index level (1 – 553 average daily zone traffic), and some streets show 554 – 1862 average daily zone traffic. For the whole Community Study Area, the highest increments of average daily zone traffic are close to 18,000. In Coronado Hills, only Reagan Hills Drive, Berkman Drive, and Cameron Road show higher pedestrian activity. On the bicycle map, only Athletic Drive, Coronado Hills Drive, Berkman Drive, and St. John's Avenue show bicycle facilities within the neighborhood which show some bike activity as well. The other designated bicycle lanes and sidewalks are on larger roadways such as Cameron Road and even US-183 and US-290.

Windsor Park

Windsor Park's National Walkability Index scores range from 11.6 to 18.5 (EPA 2022). Windsor Park has a higher density of intersections in its residential streets than other neighborhoods in northeast Austin. This allows pedestrians and cyclists to move throughout the area without relying on more heavily trafficked thoroughfares. However, Windsor Park incorporates a larger geography than most other neighborhoods in the study area, and much of the neighborhood lacks both sidewalks, bike lanes, and transit.

Reviewing the heat map data, Windsor Park appears to have decent coverage of city and neighborhood sidewalks and the pedestrian average daily zone traffic includes the 1863 – 4783 trip index along Cameron Road, Berkman Drive, and portions of a few other roadways. This is a large NPA and there are areas that show a lack of city sidewalk infrastructure. Bicycling facilities are only shown on some east-west thoroughfares and surrounding larger arterials.

MLK

MLK's National Walkability Index scores range from 9.5 to 17 (EPA 2022). This is a large range that reflects a lack of connectivity across the neighborhood whole. The least walkable neighborhood according to the National Walkability Index is in fact the one that borders Mueller, which is the most walkable neighborhood in the city. That block group has only one section of sidewalk and zero bike lanes within its interior. Throughout the MLK neighborhood, bike, pedestrian and transit infrastructure is focused on east-west corridors such as East MLK Jr. Boulevard, East 12th Street, and Oak Springs Drive. In 2022, East 12th Street and Springdale Road will be improved with new sidewalks and bike lanes.

The heat map for pedestrian activity shows very disconnected and incomplete segments of sidewalks. Mueller is visible just to the north and provides a strong visual contrast to MLK's lack of sidewalk infrastructure. Pedestrian activity levels are mainly in the 1-553 range with short, limited segments showing more activity. Bicycle routes are shown on East MLK JR. Blvd., Berkman Drive, East 12th Street and one or two additional roads. The bicycle and pedestrian networks are *weak* in the MLK NPA.

MLK-183

MLK-183's National Walkability Index scores range from 10.5 to 14 (EPA 2022). While this neighborhood is very hilly and has few nearby amenities, it has a relatively strong network of sidewalks in some areas. In contrast, residents in the southern half of the study area would in many cases need to walk or bike a half-mile to get to the nearest bus stop. The major arterial in the neighborhood is Springdale Road. Most other streets in the neighborhood feed into this road. Springdale Road has continuous sidewalks and bike lanes. There are no projects planned for the neighborhood interiors in 2022.

Sidewalk infrastructure is more prevalent along Springdale Road than many other routes in the NPA. US-183 separates the eastern part of the NPA from the central and southern part. Bicycle lanes are just shown on larger arterials and on the east side of US-183. This NPA overall has moderate bicycle and pedestrian facilities.

Rosewood

Rosewood's National Walkability Index scores range from 13.5 to 15.3 (EPA 2022). Many streets in Rosewood have sidewalks, however the density of intersections is smaller than in adjacent neighborhoods because the street-grid is less prevalent here with more cul-de-sacs and dead-ends. Rosewood has a few large parks including the Boggy Creek Greenbelt, which adds to the active transportation infrastructure. This neighborhood may benefit from the Red Line station which is located in the adjacent Chestnut neighborhood. Similar to Chestnut, Rosewood will benefit from a good number of active transportation projects in 2022, including several new sidewalks and improvements to existing bike lanes.

The heat map shows most pedestrian activity on Rosewood Avenue and Thompson Street and sidewalks are fairly prevalent. Bicycle facilities in Rosewood include the Bobby Creek Greenbelt which runs north-south through most of the length of the NPA. Rosewood is just east of Kealing Middle School and includes community facilities such as the Millennium Youth Complex and schools such as Austin Community College. Though not adjacent, Rosewood is in relatively close proximity to IH-35 with its western boundary at Chicon Street.

East Cesar Chavez

East Cesar Chavez's National Walkability Index scores range from 14.5 to 19.3 (EPA 2022). East Cesar Chavez is one of the most walkable neighborhoods in the study area. This can be partially attributed to the absence of major thoroughfares and the presence of sidewalks on both sides of every street. East Cesar Chavez is very bike friendly. This neighborhood is flat, has many nearby amenities, and has a strong network of bike infrastructure, including the Lady Bird Lake Hike and Bike Trail. The neighborhood is serviced by one high-frequency MetroBus Local route and one regular-frequency MetroBus Local route. As mentioned previously, the Red Line runs through the East Cesar Chavez neighborhood. East Cesar Chavez has several planned active transportation projects for 2022, including two crossing points under IH-35.

As shown on the heat map, pedestrian activity and sidewalks are laid out in a traditional grid. Some of the most pedestrian activity occurs on east-west running 5th and 6th Streets, which are part of cultural destinations popular with tourists and locals, and to some degree north-south roads including Comal Street and Chicon Street. Pedestrian activity also appears higher close to Lady Bird Lake and Fiesta Gardens. Bicycle facilities run along the larger roadways including Holly Street, East 1st Street, and East 4th Street (also the Lance Armstrong Bikeway (Crosstown Greenway) trail). The bicycle and pedestrian connectivity in this NPA are due in part to its adjacency to IH-35 and downtown.

Pleasant Valley

Pleasant Valley's National Walkability Index scores range from 6.6 to 13.8 (EPA 2022). While this neighborhood is very flat and has nearby amenities, it has a *weak network of bike infrastructure* outside of the shared-use paths located in Roy G. Guerrero Colorado River Metro Park. The three major arterials of Pleasant Valley are East Riverside Drive, Grove Boulevard, and South Pleasant Valley Road. All other streets in the neighborhood feed into one of these three roads. All three of these roads have continuous sidewalks on each side; however, there are no bike lanes on these roads. It is possible that the mediocre walkability scores are due to the long distances between intersections which correlates with fewer walking trips. Pleasant Valley is serviced by two regular service MetroBus Local routes, three high-frequency MetroBus Local routes, and the UT shuttle bus. The area has many bus stops, but it is largely car oriented with many driveways and cross streets tying into the major arterials. Bike lane improvements are proposed for Pleasant Valley Road, Oltorf Street, and Grove Boulevard; however, these streets are all on the borders with other neighborhoods.

The heat map shows that the majority of Pleasant Valley NPA consists of Roy G. Guerrero Colorado River Metro Park and other undeveloped land uses. Sidewalk facilities are very limited within the neighborhood, and most pedestrian activity is along Riverside Drive, Pleasant Valley, and Wickersham Lane. The bicycle facilities are primarily located within Roy G. Guerrero Colorado River Metro Park near Lady Bird Lake and along East Riverside Drive.

Parker Lane

Parker Lane's National Walkability Index scores range from 10.3 to 15.8 (EPA 2022). These scores are higher than those of its surrounding neighborhoods in the southeastern section of the study area. This is possibly due to the relatively higher density of intersections and the tighter mix of housing and commerce throughout the neighborhood. While the neighborhood has decent bike lane connectivity, the bikeability of the neighborhood is reduced by the combined factors of its hills and lack of amenities. Parker Lane is serviced by two high-frequency MetroBus Local routes, and two regular service MetroBus Local routes. Active transportation improvements are proposed for Burleson Road in 2022.

The StreetLight heat map shows sidewalks along the main roadways and a few within neighborhoods, but also shows neighborhoods that do not connect with each other within the NPA. Mabel Davis District Park is within the NPA. Country Club Creek Greenbelt includes a bike lane that traverses nearly the whole NPA. Other than Burleson Road and Parker Lane, which run north-south, and East Oltorf Street and Woodward Street which run east-west, there are few additional bicycle facilities in this NPA.

East Congress

East Congress' National Walkability Index scores range from 7.5 to 13.6 (EPA 2022). East Congress can be divided into the more industrial and commercial northern section and more residential southern section. There are very few mapped sidewalks in the northern section, but the section actually has a much higher walkability score than the southern section. This is probably due to the mix of land uses and tighter grid of streets. East Congress has bike lanes and bus routes along the arterials that define its northern, western, and southern boundaries. However, there is not any transit or bike infrastructure elsewhere in the neighborhood. East Congress also does not have any planned active transportation improvements for 2022.

The StreetLight heat map shows sidewalks concentrated in the interior of this NPA along Battle Bend Road and Colonial Park Boulevard and the short roadways in between. Overall, there appears to be low pedestrian activity. Williamson Creek runs across the southern portion of this NPA. The heat map shows no bike lanes within the NPA except along its border roadways.

McKinney

McKinney's National Walkability Index score is 8.3 (EPA 2022). This means that it is the *least walkable* neighborhood in the study area, according to this metric. McKinney is also split into a commercial and industrial northern section and a single-family residential southern section. While the residential section has a more complete network of sidewalks than in East Congress, they are isolated from non-residential zones as all the residential streets feed into just a couple arterials. One of these arterials, East Stassney Lane, also has bike infrastructure and transit service. A few bike and transit options are also present in the commercial northern section. Only one active transportation improvement is planned for McKinney in 2022; a segment of sidewalk along Burleson Road.

The pedestrian activity on the heat map is mainly located in the residential area near East Stassney Lane in the southern portion of the NPA. Much of the northern portion near SH-71 is industrial but there are some sidewalks. The heat map for McKinney shows very little bicycle activity. East Stassney Lane, Todd Lane, and Burleson Road are shown as having bicycle facilities. SH-71 shows a bike lane but this is a fast-moving roadway and toll lane generally considered to be unfriendly from a bicycling perspective. A short section of McKinney abuts IH-35 in addition to SH-71. Any proposed improvements to the IH-35 and SH-71 interchange could potentially improve connections to the bicycle and pedestrian network, to the limited extent that it exists in this area.

Franklin Park

Franklin Park's National Walkability Index scores range from 10.1 to 13.6 (EPA 2022). Nearly every street in Franklin Park has sidewalks on both sides. This is *unique to only this neighborhood* and Mueller. Franklin Park's streets are laid out much more similar to car-centric suburbs than Mueller's however, with many cul-de-sacs. This and the lack of land-use mix, results in lower scores. Franklin Park has transit service along three streets; East Stassney Lane, South Pleasant Valley Road, and Teri Road. Bike lanes are present on these same three roads. In 2022, improvements are proposed for the bike lanes along South Pleasant Valley Road.

The StreetLight heat map shows a strong network of sidewalks and cul-de-sacs along Teri Road and south to Williamson Creek. Pedestrian activity is still relatively low in this NPA, with only a small area on Teri Road showing the second highest activity level of 554 – 1862 average daily traffic. In contrast, the bicycle network is weak in Franklin Park with just Teri Road, East Stassney Lane, Freidrich Lane, South Pleasant Valley Road, and Dove Springs Drive having bike lanes. There does not appear to be a bike lane on IH-35 South on the east side of the highway which borders are large section of Franklin Park. Bicycle activity is low in this NPA, with the only roadway having higher activity being Todd Lane at the north part of the NPA.

SUMMARY

This Task 7 discussion presented the StreetLight output data using the O-D zone analysis, and the StreetLight output data using the overall Community Study Area heat map for bicycle and pedestrian activity. Taken together, this information helps paint a picture of bicycle and pedestrian activity within the priority NPAs and at the various representative IH-35 crossings.

The next task looks at all of the information from Tasks 4 through 7 and asks what do we understand from this analysis that meets the goal of improving bicycle and pedestrian transportation equity and access in the focus area? The proposed designs for Alternative 2 and Alternative 3 Modified will be compared to make observations about how the Alternatives could serve the priority NPAs, and what those alternatives propose at the representative crossings. The tasks completed so far help analysts gain a better understanding of NPAs that are in need from a transportation equity perspective. Therefore, analysts will identify where priority NPAs might

benefit from the bicycle/pedestrian friendly infrastructure such as benches, shading, and wider lanes, as well as proposed caps and stitches that appear to be closest to priority NPAs. Also, analysts will identify where priority NPAs do not appear to have much access to bicycle/pedestrian friendly infrastructure so that opportunities for future improvements that could specifically benefit priority NPAs might be identified.

APPENDIX A

Glossary of Terms (StreetLight)

GLOSSARY OF TERMS (StreetLight)

This folder contains the "Trip Attributes" metrics for the Zone Activity zones within the named analysis.

The "Trip Attributes" include Travel Time, Trip Length, Trip Speed and Trip Circuity. For Zone Activity analyses, these attributes apply to the entire trip. For each attribute, the average value and a distribution are provided. Distribution bins are customizable.

DEFINITIONS

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Travel Time: This is the trip time in seconds for the full length of trips starting at an origin zone and ending at a destination zone. While the travel time is calculated in seconds, the distribution bins are in minutes.

Trip Length: This is the trip length delivered in the chosen unit of measurement (miles or kilometers) starting at an origin zone and ending at a destination zone. It is dependent on the Trip Type (Unlocked or Locked to Route). Locked to Route trips are generally longer than Unlocked trips.

Trip Speed: This is the average speed delivered in the chosen unit of measurement (mph or kph) for the full length of trips starting at an origin zone and ending at a destination zone. It is dependent on the Trip Type (Unlocked or Locked to Route). Locked to Route trips generally have a slower average speed than Unlocked trips because they are longer.

Trip Circuity: This is the average ratio of the length of the trip to the crows' flight (or direct) distance between the end points of the trips starting at an origin zone and ending at a destination zone.

TERMS

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Pass-Through: A zone setting indicating how to analyze how trips interact with the zone. Zones marked as pass-through use trips that pass through the zone but do not start or stop in it. Zones not marked as pass-through use trips that start or stop in the zone.

Zone Direction: A pass-through zone can have applied direction which limits the trips analyzed for the zone: only trips that pass through the zone within -20/+20 degrees of the direction will be analyzed for the zone. Values are provided in degrees from 0 to 359, where 0 is due north, 90 is east, 180 is due south, etc. A value of "Null" refers to zones with no applied direction therefore all trips that pass through the zone will be used.

Vehicle Weight: The weight of the vehicles analyzed. Weight values can either be “Medium” or “Heavy”. This column is present only if the commercial analysis is segmented by weight class.

OUTPUT UNIT TERMS

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StreetLight Volume: The estimated trip counts as calculated by StreetLight Data's machine learning algorithm.

StreetLight Index: The relative trip activity. The StreetLight Index does not indicate the actual number of trips or vehicles. Trip Index values for different modes of travel (All Vehicles, Trucks, Bicycle, Pedestrian, etc.) weight classes (such as Trucks Heavy-Duty/Medium-Duty), and countries are based on different sample populations and therefore cannot be compared with each other.

StreetLight Calibrated Index: The estimated number of trips or vehicles derived from StreetLight Index calibrated with StreetLight AADT or user-input counts.

StreetLight Sample Trip Counts: StreetLight sample trip counts for the zone (or set of zones) for all days in the entire data period.

*Note that, while most output units are represented as an average day per its day type definition, Trip Counts are not converted to an average day. For example, a Trip Count value of 100 for O-D pair A and B for average weekday in March 2017 means that the sum of all trips used from StreetLight data set from all the weekdays in March 2017 is 100.

*More information of the output unit methodology can be found in StreetLight Data's Support Center (https://support.streetlightdata.com).

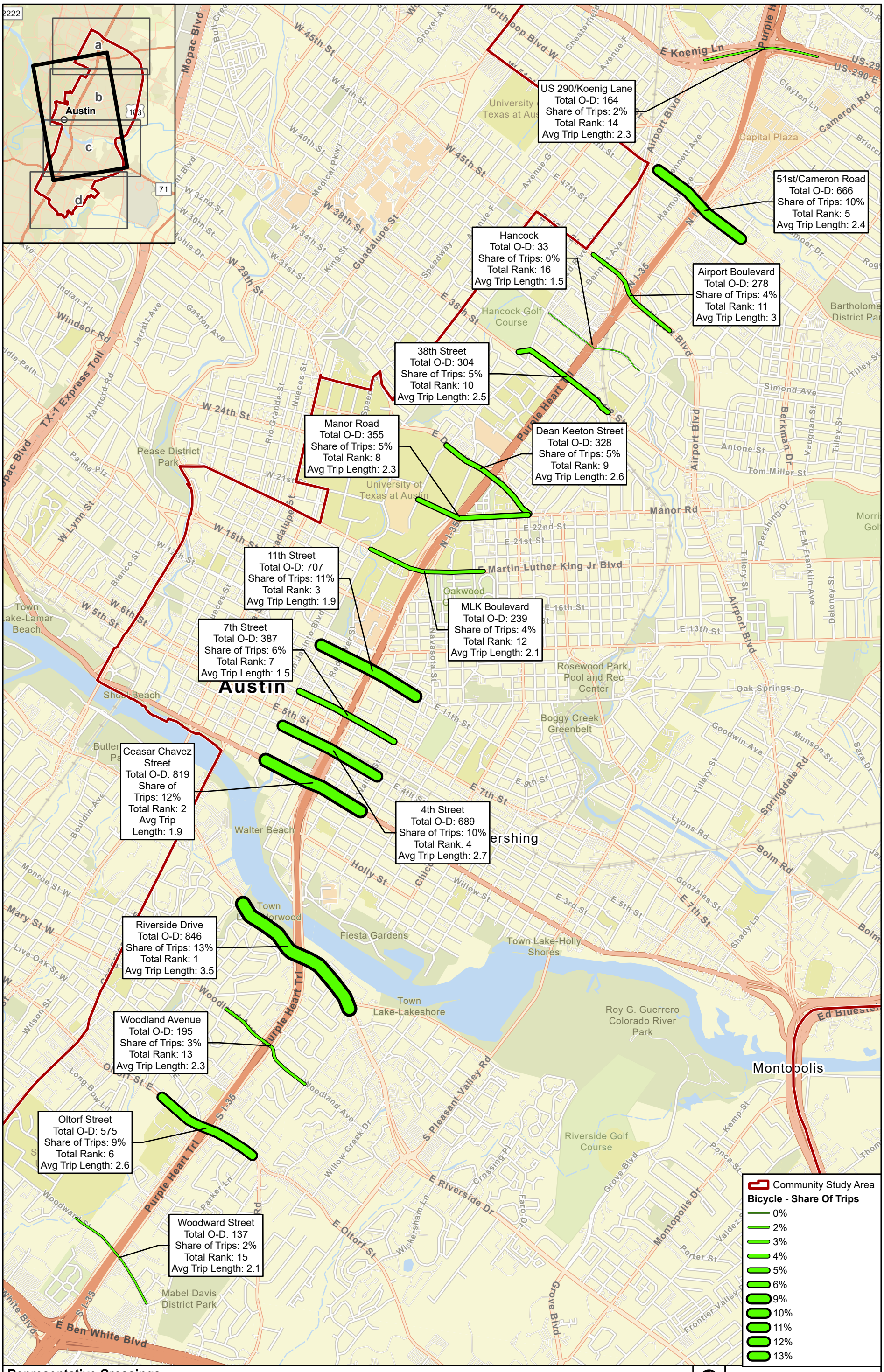
APPENDIX B

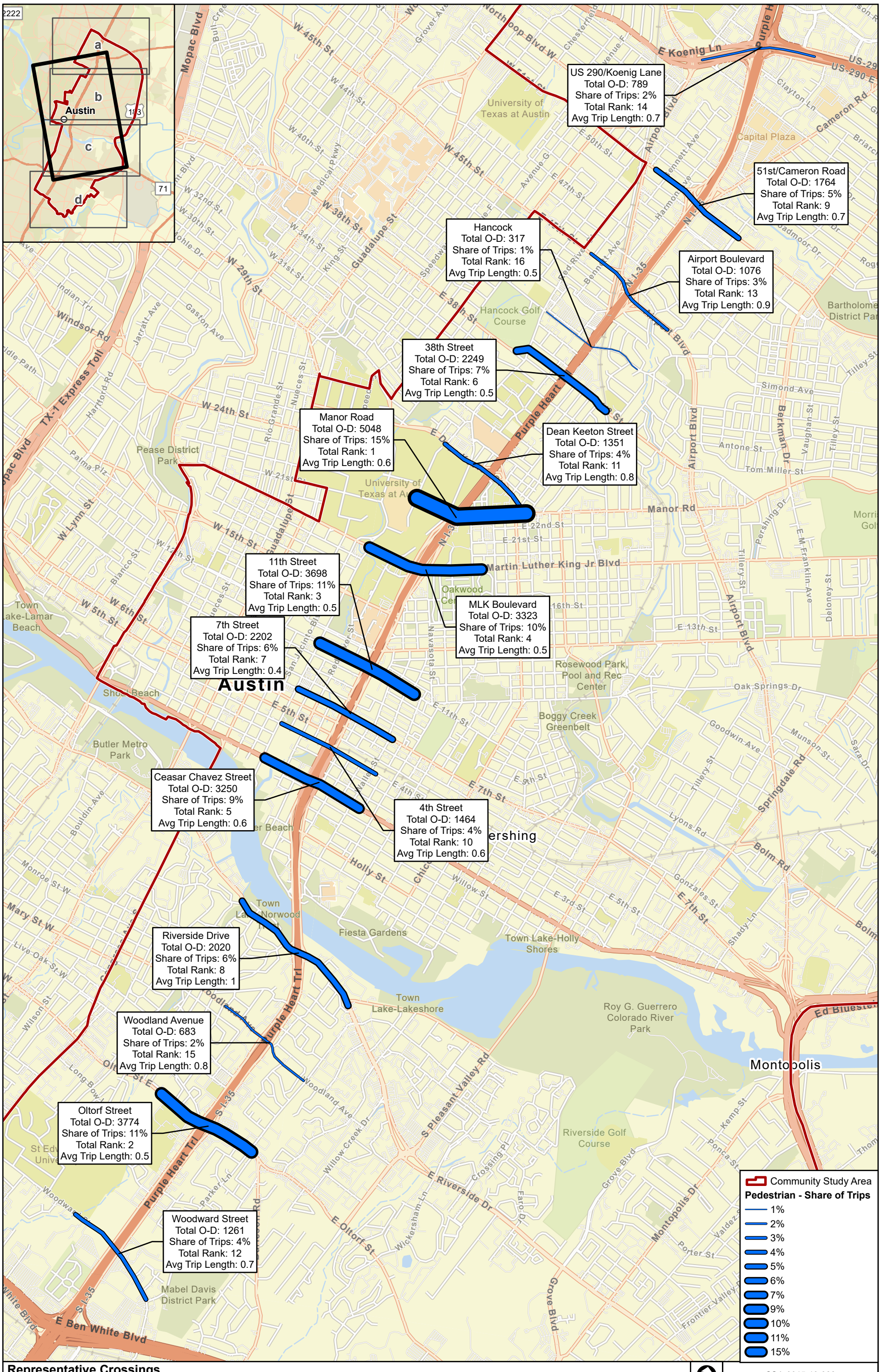
Representative Crossings – Bicycles

Representative Crossings – Pedestrians

Average Trip Length Around Crossings

Priority Neighborhood Planning Areas – Bicycle and Pedestrian Heat Maps with City of Austin Infrastructure


a
b
c
d
Austin
US 290/Koenig Lane
Total O-D: 164
Share of Trips: 2%
Total Rank: 14
Avg Trip Length: 2.3
51st/Cameron Road
Total O-D: 666
Share of Trips: 10%
Total Rank: 5
Avg Trip Length: 2.4
Hancock
Total O-D: 33
Share of Trips: 0%
Total Rank: 16
Avg Trip Length: 1.5
Airport Boulevard
Total O-D: 278
Share of Trips: 4%
Total Rank: 11
Avg Trip Length: 3
38th Street
Total O-D: 304
Share of Trips: 5%
Total Rank: 10
Avg Trip Length: 2.5
Manor Road
Total O-D: 355
Share of Trips: 5%
Total Rank: 8
Avg Trip Length: 2.3
Dean Keeton Street
Total O-D: 328
Share of Trips: 5%
Total Rank: 9
Avg Trip Length: 2.6
11th Street
Total O-D: 707
Share of Trips: 11%
Total Rank: 3
Avg Trip Length: 1.9
MLK Boulevard
Total O-D: 239
Share of Trips: 4%
Total Rank: 12
Avg Trip Length: 2.1
7th Street
Total O-D: 387
Share of Trips: 6%
Total Rank: 7
Avg Trip Length: 1.5
Ceasar Chavez Street
Total O-D: 819
Share of Trips: 12%
Total Rank: 2
Avg Trip Length: 1.9
4th Street
Total O-D: 689
Share of Trips: 10%
Total Rank: 4
Avg Trip Length: 2.7
Riverside Drive
Total O-D: 846
Share of Trips: 13%
Total Rank: 1
Avg Trip Length: 3.5
Woodland Avenue
Total O-D: 195
Share of Trips: 3%
Total Rank: 13
Avg Trip Length: 2.3
Oltorf Street
Total O-D: 575
Share of Trips: 9%
Total Rank: 6
Avg Trip Length: 2.6
Woodward Street
Total O-D: 137
Share of Trips: 2%
Total Rank: 15
Avg Trip Length: 2.1
Community Study Area
Bicycle - Share Of Trips
0%
2%
3%
4%
5%
6%
9%
10%
11%
12%
13%
Representative Crossings
Bicycle Origins and Destinations: Share of Trips and Weighted Average Trip Length
I-35 CapEx CIA – Supplemental Documentation
Data Source: StreetLight (2022)
Basemap Source: Esri (2022)
CSJ: 0015-13-388
0 2,500 Feet
0 700 Meters
1 in = 2,500 feet
Scale: 1:30,000
Date: 7/27/2022
U:\235300166\03_data\gis_cad\gis\I35_Cap_Ex_CIA_Pro_Working.aprx



Representative Crossings
Pedestrian Origins and Destinations: Share of Trips and Weighted Average Trip Length

CSJ: 0015-13-388

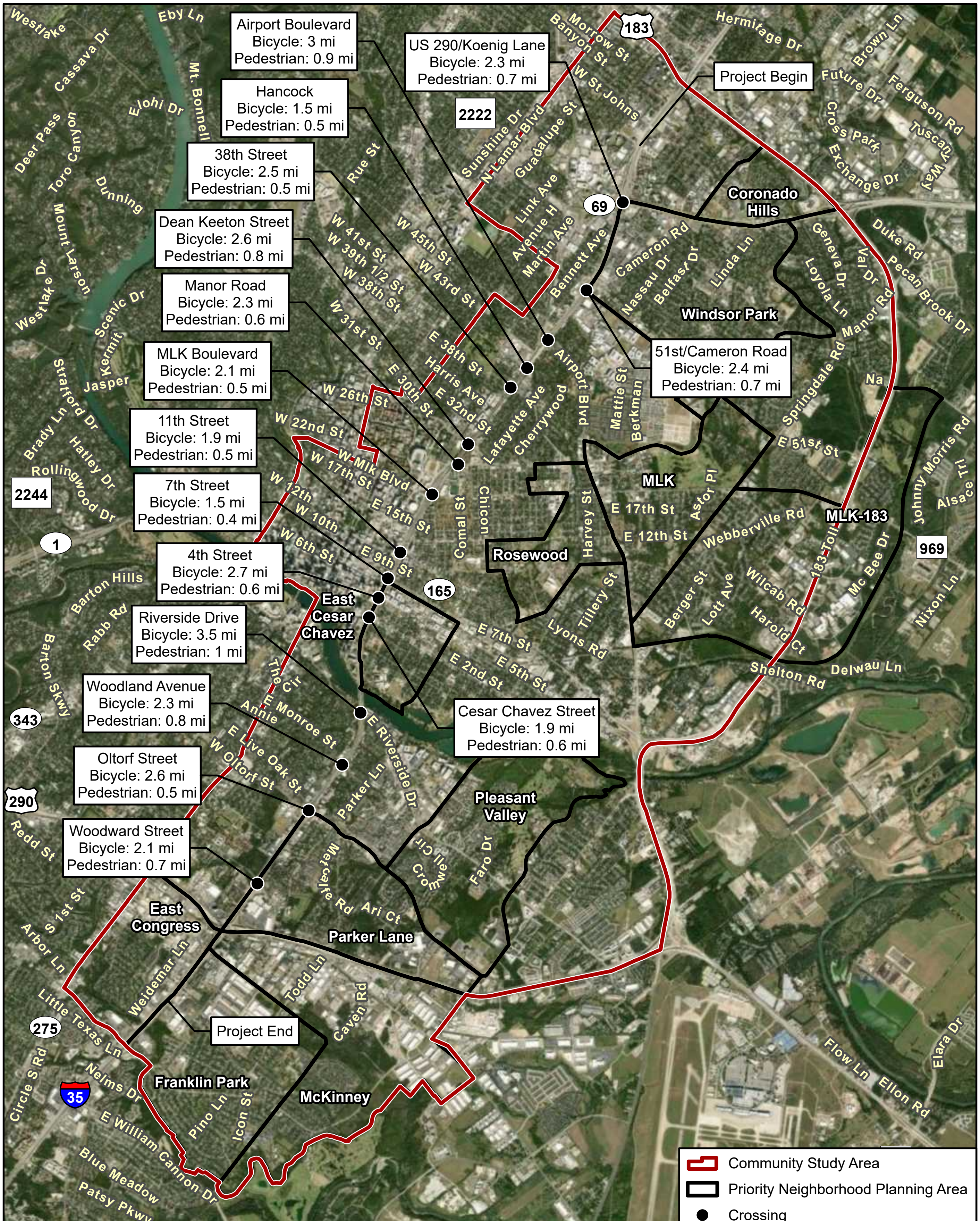
I-35 CapEx CIA – Supplemental Documentation

Data Source: StreetLight (2022)
Basemap Source: Esri (2022)

0 2,500 Feet
0 700 Meters

1 in = 2,500 feet
Scale: 1:30,000
Date: 7/27/2022

U:\235300166\03_data\gis_cad\gis\I35_Cap_Ex_CIA_Pro_Working.aprx


Airport Boulevard
Bicycle: 3 mi
Pedestrian: 0.9 mi
US 290/Koenig Lane
Bicycle: 2.3 mi
Pedestrian: 0.7 mi
Hancock
Bicycle: 1.5 mi
Pedestrian: 0.5 mi
38th Street
Bicycle: 2.5 mi
Pedestrian: 0.5 mi
Dean Keeton Street
Bicycle: 2.6 mi
Pedestrian: 0.8 mi
Manor Road
Bicycle: 2.3 mi
Pedestrian: 0.6 mi
MLK Boulevard
Bicycle: 2.1 mi
Pedestrian: 0.5 mi
11th Street
Bicycle: 1.9 mi
Pedestrian: 0.5 mi
7th Street
Bicycle: 1.5 mi
Pedestrian: 0.4 mi
4th Street
Bicycle: 2.7 mi
Pedestrian: 0.6 mi
Riverside Drive
Bicycle: 3.5 mi
Pedestrian: 1 mi
Woodland Avenue
Bicycle: 2.3 mi
Pedestrian: 0.8 mi
Oltorf Street
Bicycle: 2.6 mi
Pedestrian: 0.5 mi
Woodward Street
Bicycle: 2.1 mi
Pedestrian: 0.7 mi
51st/Cameron Road
Bicycle: 2.4 mi
Pedestrian: 0.7 mi
Cesar Chavez Street
Bicycle: 1.9 mi
Pedestrian: 0.6 mi
Project Begin
Project End
Coronado Hills
Windsor Park
MLK
MLK-183
Rosewood
East Cesar Chavez
Pleasant Valley
Parker Lane
East Congress
Franklin Park
McKinney
183
2222
69
2244
1
165
969
343
290
275
35
Community Study Area
Priority Neighborhood Planning Area
Crossing

Overview
Weighted Average Trip Length

I-35 CapEx CIA – Supplemental Documentation

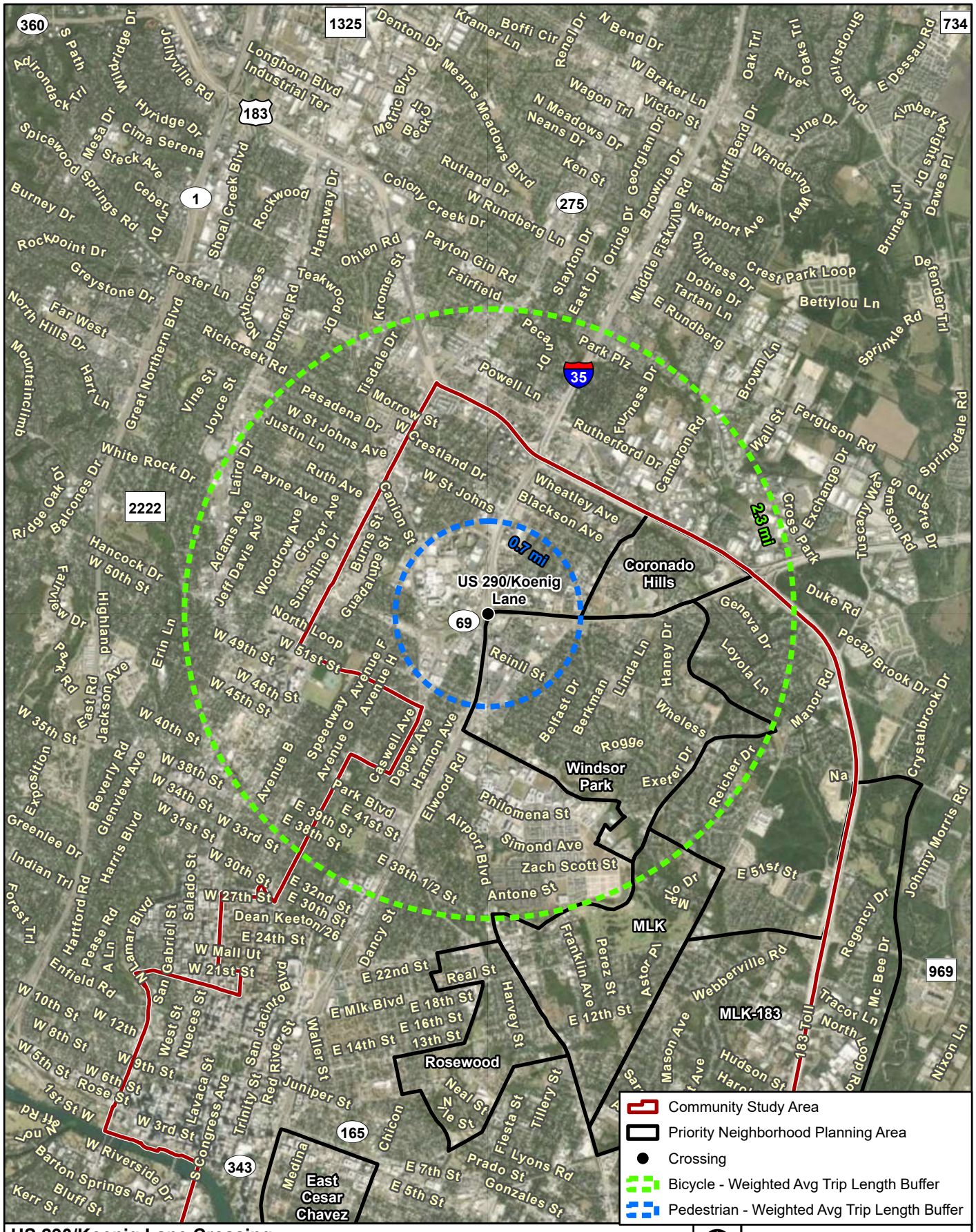
Data Source: StreetLight (2022)
Basemap Source: Maxar (2020)

CSJ: 0015-13-388

0 1.25 Mile
0 2 Km

1 in = 1.25 mile
Scale: 1:79,200
Date: 7/27/2022

Path: U:\235300166\03_data\gis_cad\gis\I35_Cap_Ex_CIA_Pro_Working.aprx - I35CapEx_CIA_AvgTripLength_Overview_20220719_BMJ 1



US 290/Koenig Lane Crossing
Weighted Average Trip Length

I-35 CapEx CIA – Supplemental Documentation

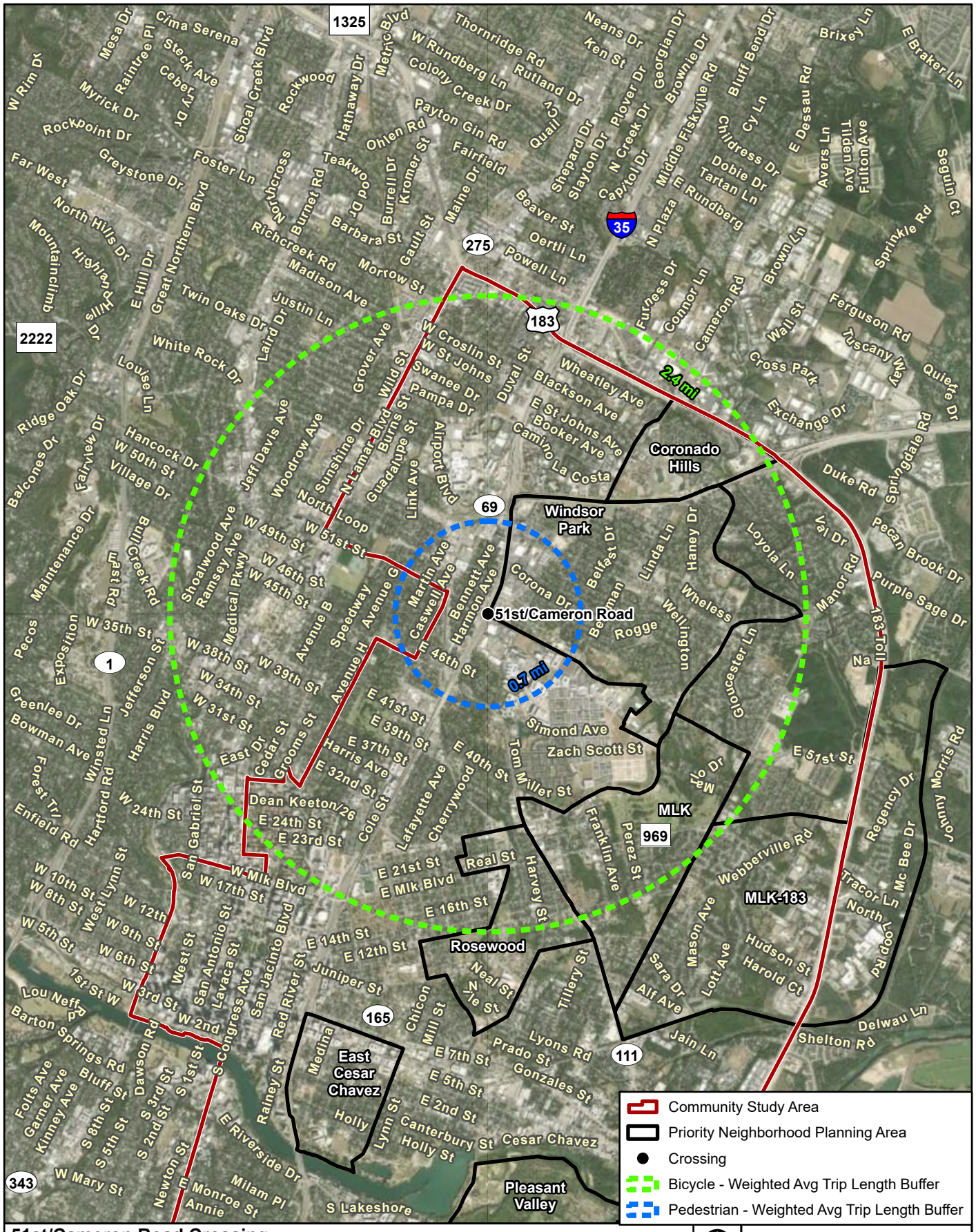
CSJ: 0015-13-388

Data Source: StreetLight (2022)
Basemap Source: Maxar (2020)

0 1 Mile
0 1.5 Km

1 in = 1 mile
Scale: 1:63,360
Date: 7/25/2022

Path: U:\235300166\03_data\gis_cad\gis\I35_Cap_Ex_CIA_Pro_Working.aprx - I35CapEx_CIA_AvgTripLength_20220719_BMJ



51st/Cameron Road Crossing
Weighted Average Trip Length

I-35 CapEx CIA – Supplemental Documentation

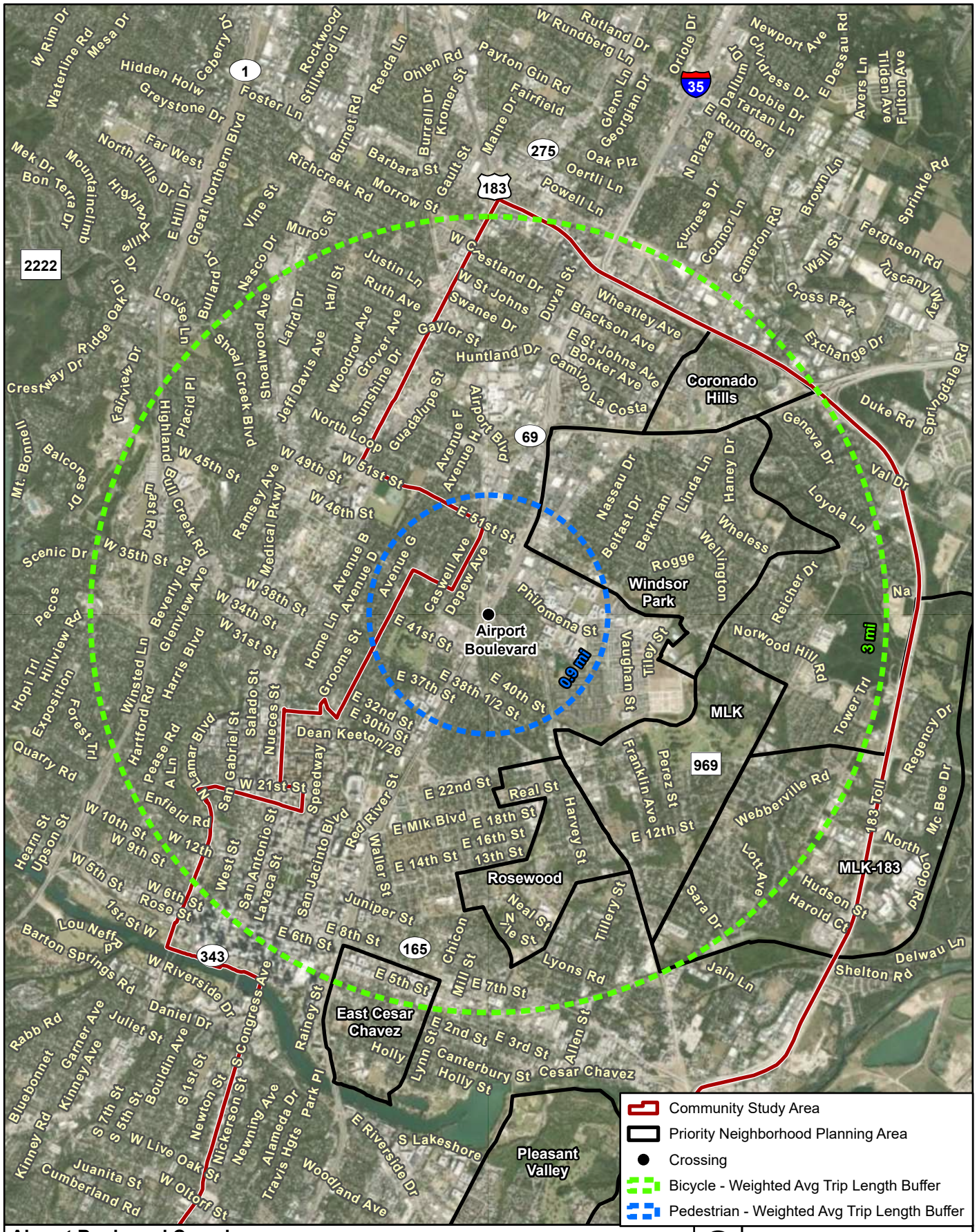
CSJ: 0015-13-388

Data Source: StreetLight (2022)
Basemap Source: Maxar (2020)

0 1 Mile
0 1.5 Km

1 in = 1 mile
Scale: 1:63,360
Date: 7/25/2022

Path: U:\235300166\03_data\gis_cad\gis\I35_Cap_Ex_CIA_Pro_Working.aprx - I35CapEx_CIA_AvgTripLength_20220719_BMJ



Airport Boulevard Crossing
Weighted Average Trip Length

I-35 CapEx CIA – Supplemental Documentation

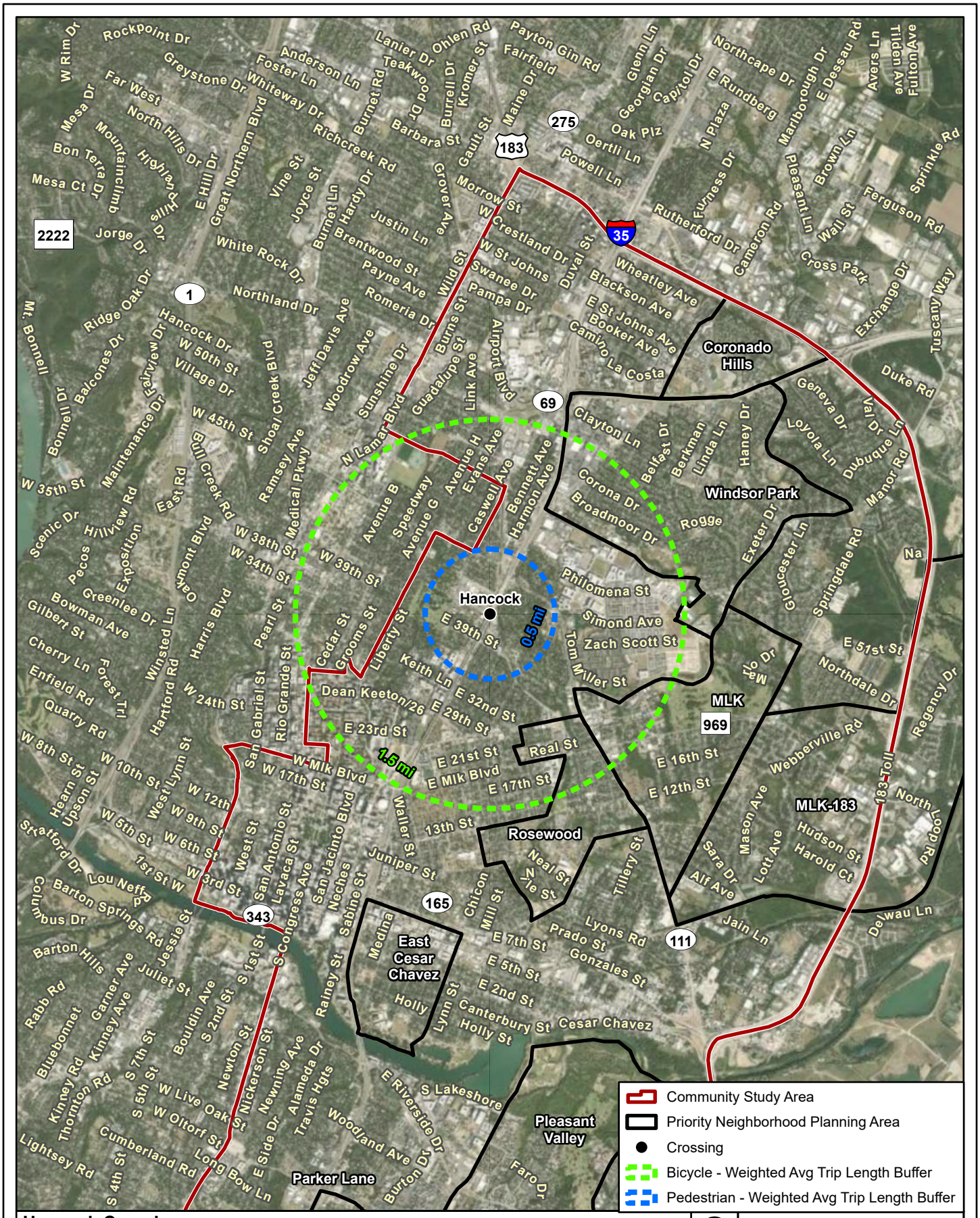
Data Source: StreetLight (2022)
Basemap Source: Maxar (2020)

CSJ: 0015-13-388

0 1 Mile
0 1.5 Km

1 in = 1 mile
Scale: 1:63,360
Date: 7/25/2022

Path: U:\235300166\03_data\gis_cad\gis\I35_Cap_Ex_CIA_Pro_Working.aprx - I35CapEx_CIA_AvgTripLength_20220719_BMJ



Hancock Crossing
Weighted Average Trip Length

I-35 CapEx CIA – Supplemental Documentation

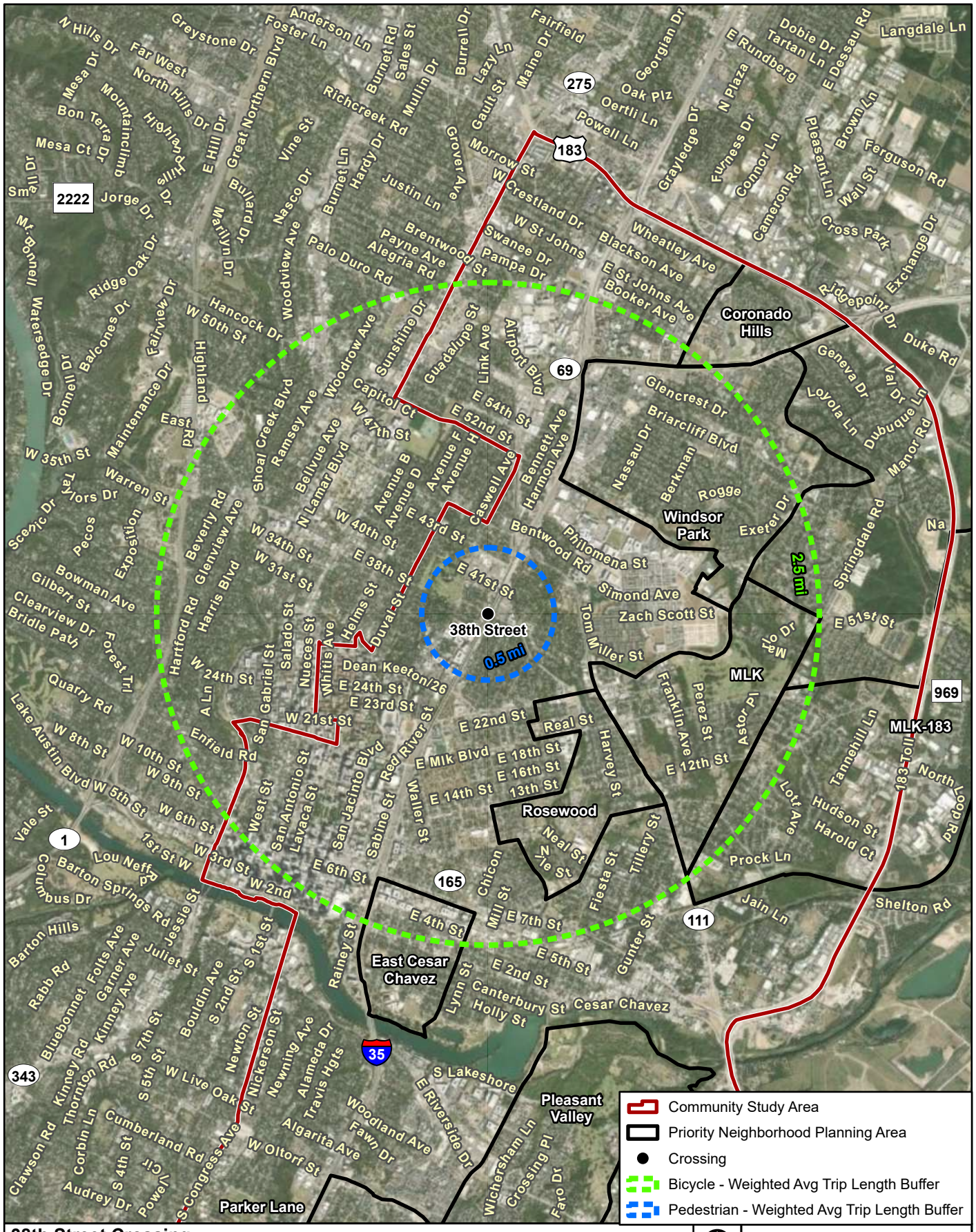
Data Source: StreetLight (2022)
Basemap Source: Maxar (2020)

CSJ: 0015-13-388

0 1 Mile
0 1.5 Km

1 in = 1 mile
Scale: 1:63,360
Date: 7/25/2022

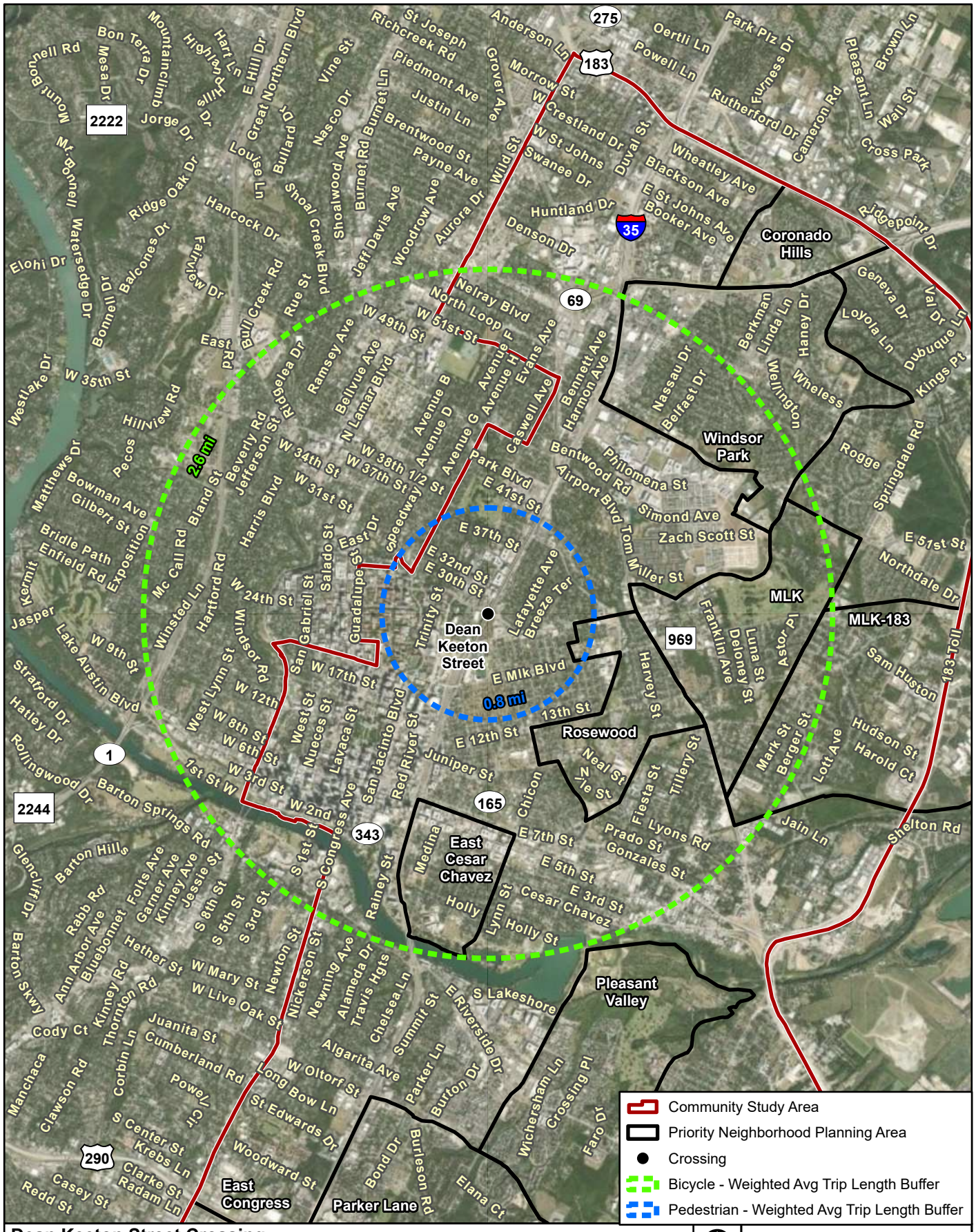
Path: U:\235300166\03_data\gis_cad\gis\I35_Cap_Ex_CIA_Pro_Working.aprx - I35CapEx_CIA_AvgTripLength_20220719_BMJ



38th Street Crossing
Weighted Average Trip Length

I-35 CapEx CIA – Supplemental Documentation

Path: U:\235300166\03_data\gis_cad\gis\I35_Cap_Ex_CIA_Pro_Working.aprx - I35CapEx_CIA_AvgTripLength_20220719_BMJ



Dean Keeton Street Crossing
Weighted Average Trip Length

I-35 CapEx CIA – Supplemental Documentation

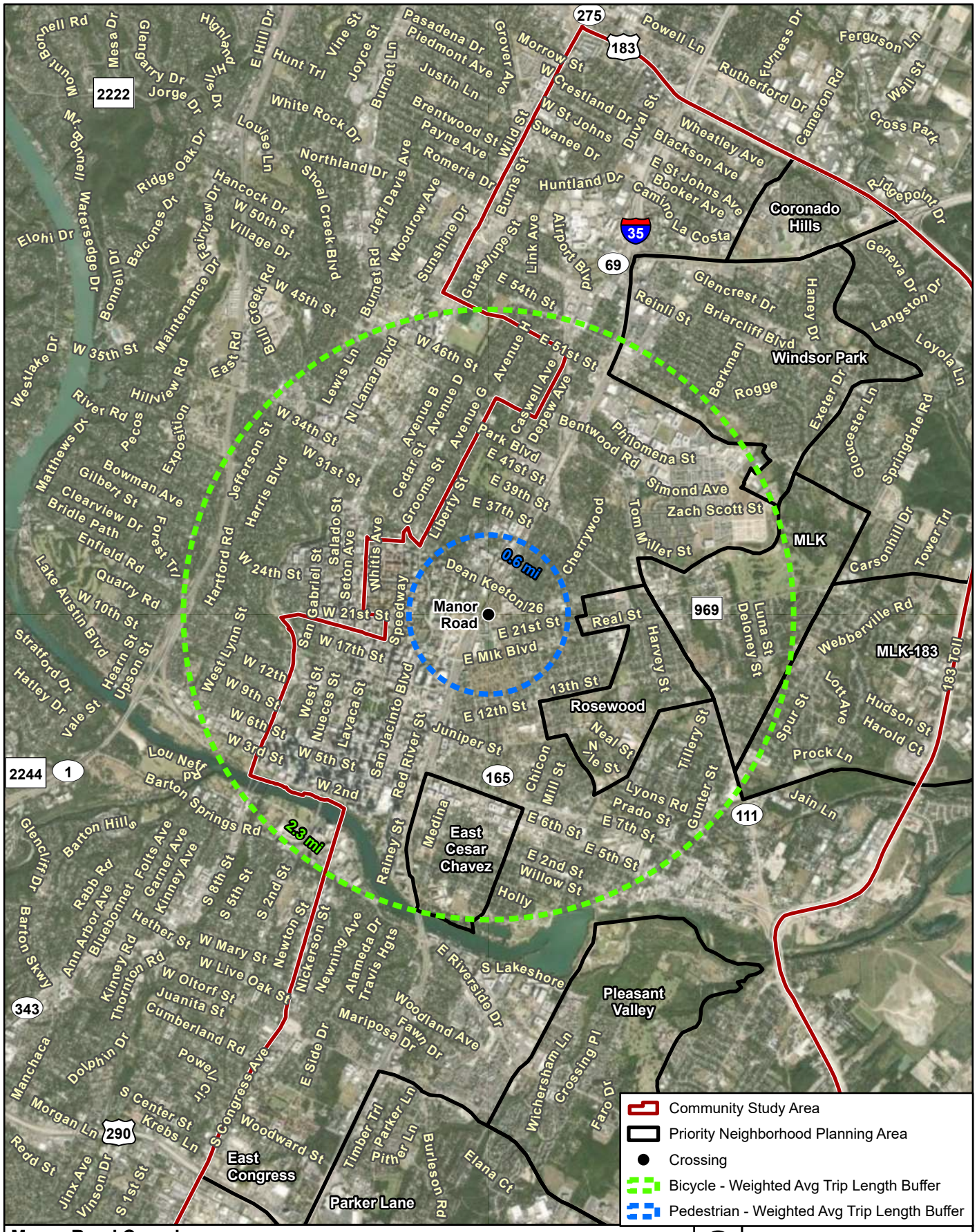
Data Source: StreetLight (2022)
Basemap Source: Maxar (2020)

CSJ: 0015-13-388

0 1 Mile
0 1.5 Km

1 in = 1 mile
Scale: 1:63,360
Date: 7/25/2022

Path: U:\235300166\03_data\gis_cad\gis\I35_Cap_Ex_CIA_Pro_Working.aprx - I35CapEx_CIA_AvgTripLength_20220719_BMJ



Manor Road Crossing
Weighted Average Trip Length

I-35 CapEx CIA – Supplemental Documentation

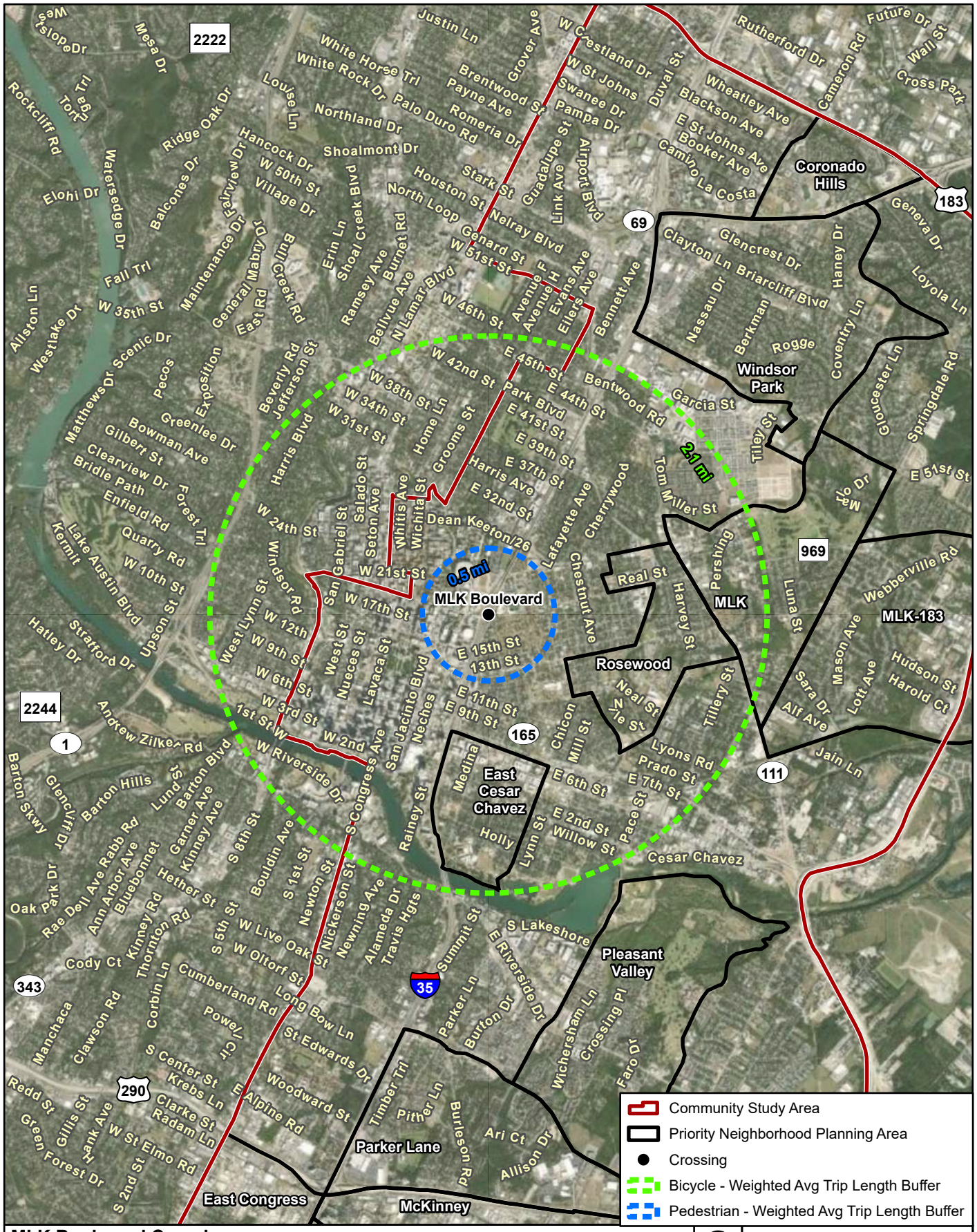
Data Source: StreetLight (2022)
Basemap Source: Maxar (2020)

CSJ: 0015-13-388

0 1 Mile
0 1.5 Km

1 in = 1 mile
Scale: 1:63,360
Date: 7/25/2022

Path: U:\235300166\03_data\gis_cad\gis\I35_Cap_Ex_CIA_Pro_Working.aprx - I35CapEx_CIA_AvgTripLength_20220719_BMJ



MLK Boulevard Crossing
Weighted Average Trip Length

I-35 CapEx CIA – Supplemental Documentation

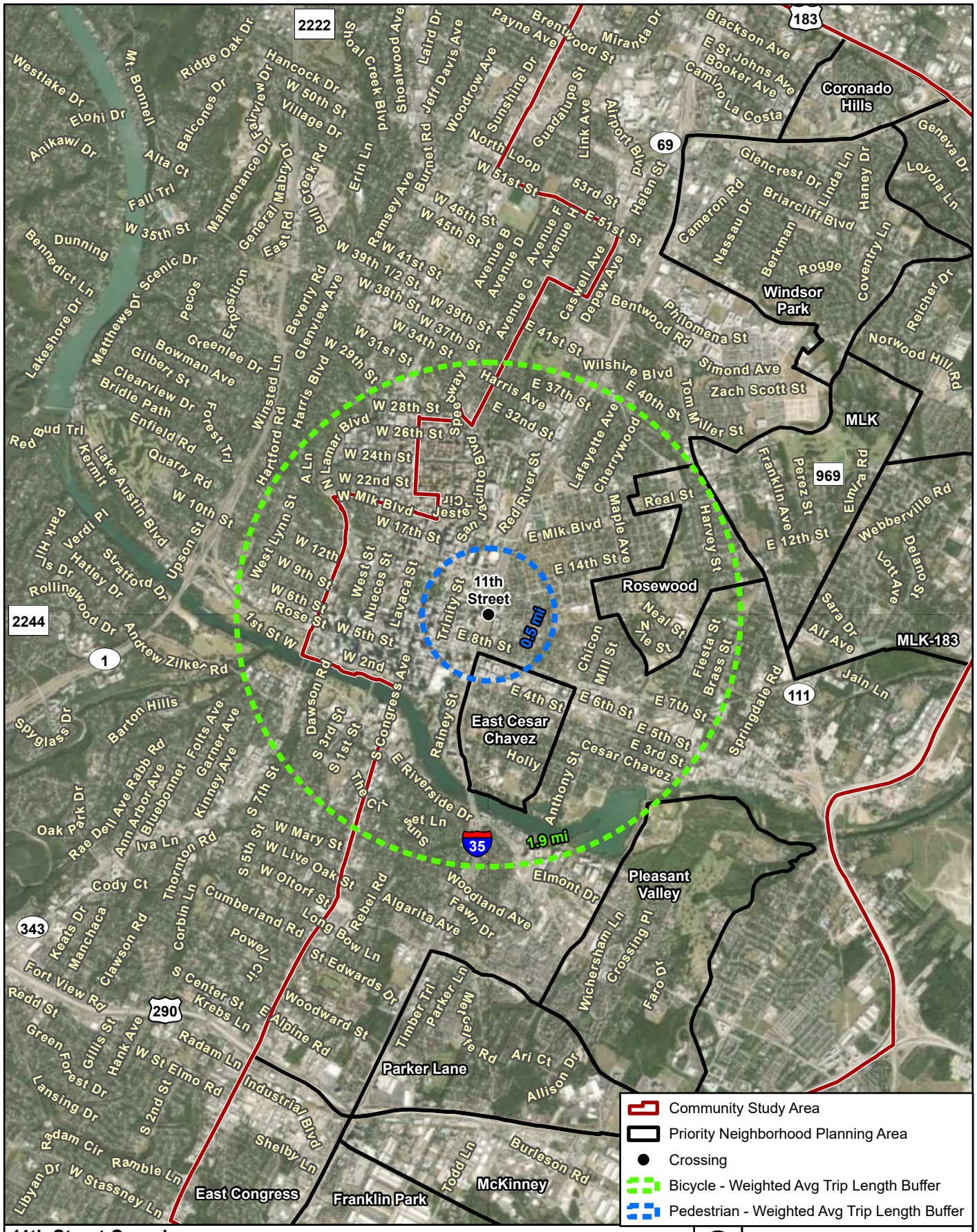
Data Source: StreetLight (2022)
Basemap Source: Maxar (2020)

CSJ: 0015-13-388

0 1 Mile
0 1.5 Km

1 in = 1 mile
Scale: 1:63,360
Date: 7/25/2022

Path: U:\235300166\03_data\gis_cad\gis\I35_Cap_Ex_CIA_Pro_Working.aprx - I35CapEx_CIA_AvgTripLength_20220719_BMJ



11th Street Crossing
Weighted Average Trip Length

I-35 CapEx CIA – Supplemental Documentation

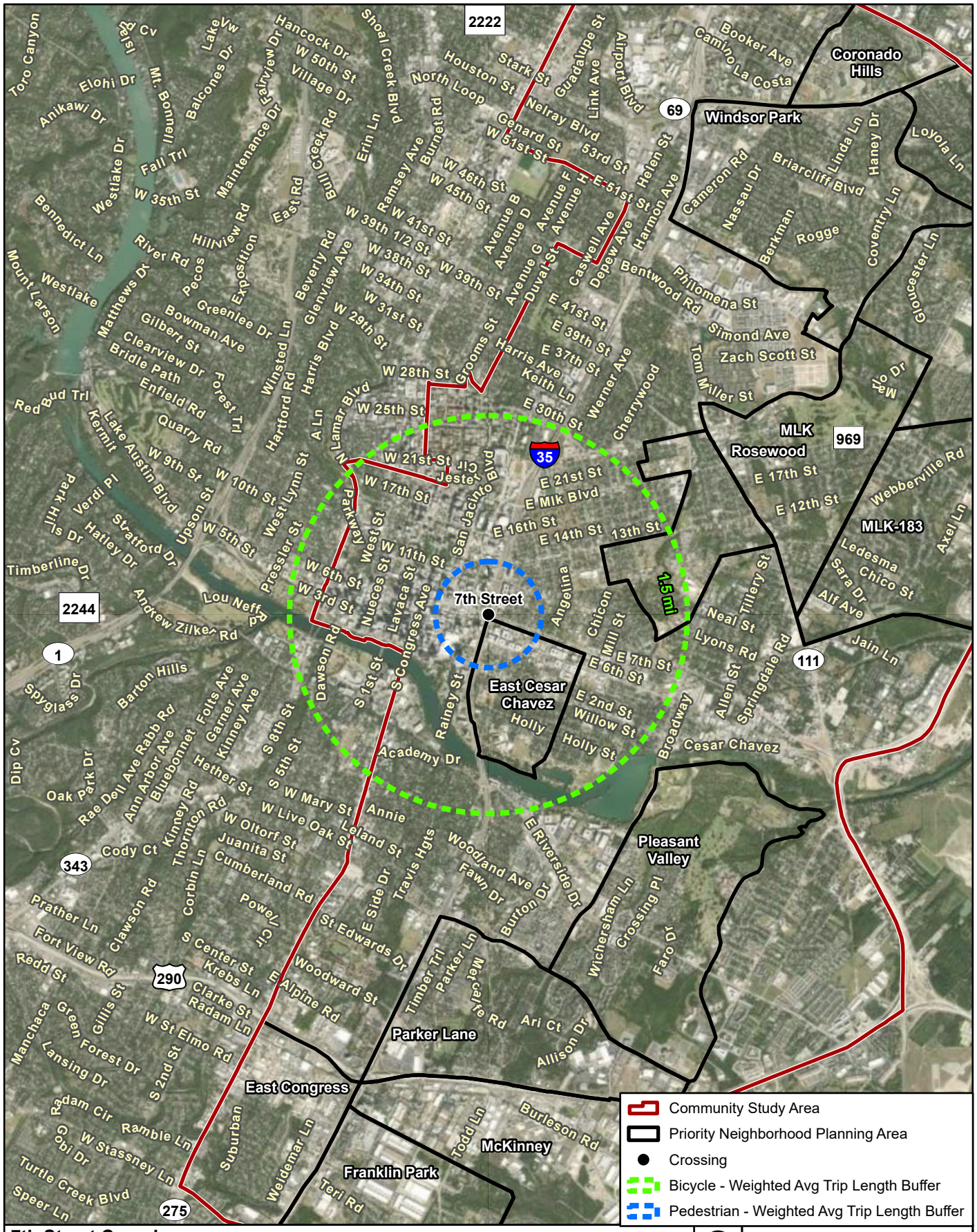
Data Source: StreetLight (2022)
Basemap Source: Maxar (2020)

CSJ: 0015-13-388

0 1 Mile
0 1.5 Km

1 in = 1 mile
Scale: 1:63,360
Date: 7/25/2022

Path: U:\235300166\03_data\gis_cad\gis\I35_Cap_Ex_CIA_Pro_Working.aprx - I35CapEx_CIA_AvgTripLength_20220719_BMJ



7th Street Crossing
Weighted Average Trip Length

I-35 CapEx CIA – Supplemental Documentation

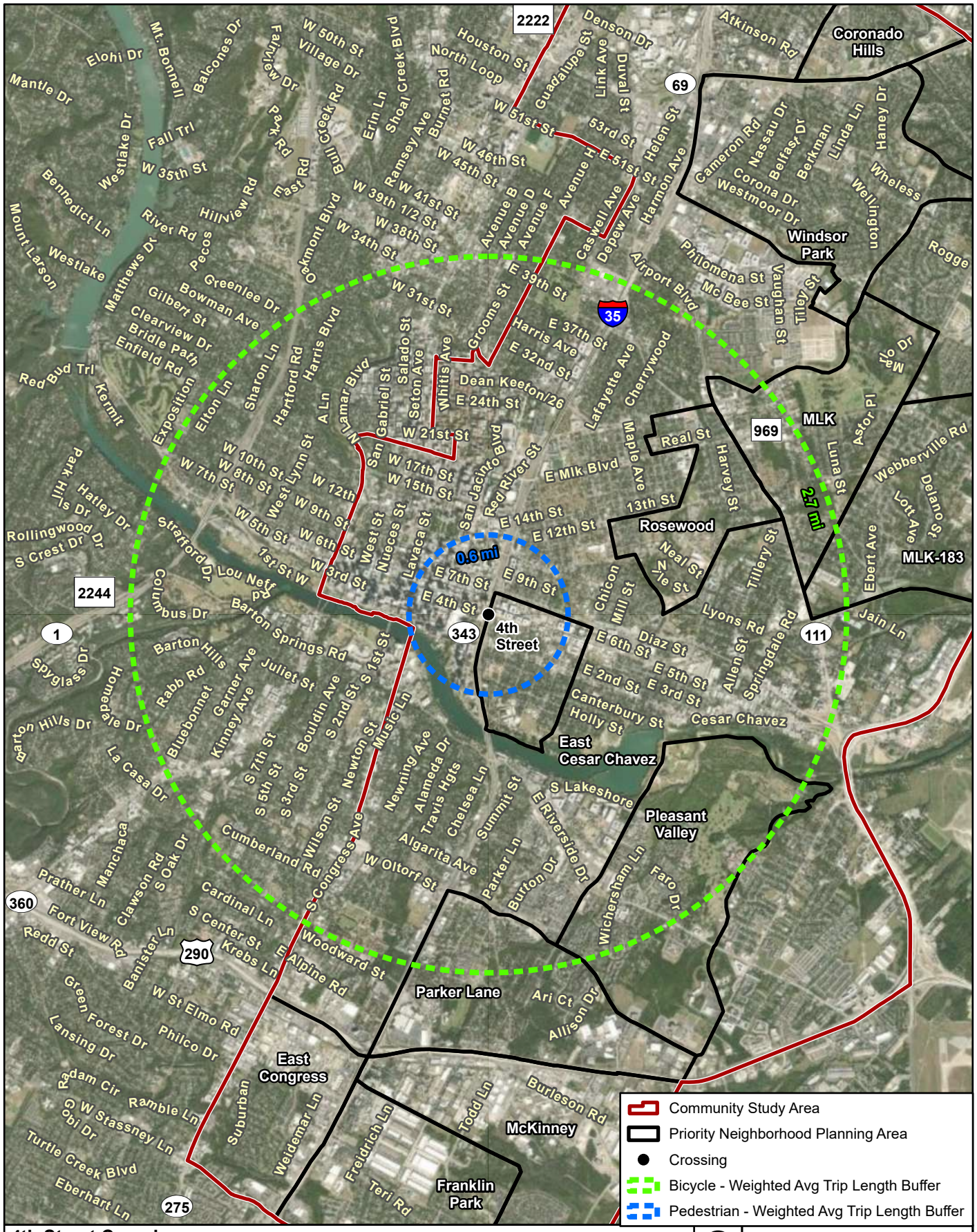
Data Source: StreetLight (2022)
Basemap Source: Maxar (2020)

CSJ: 0015-13-388

0 1 Mile
0 1.5 Km

1 in = 1 mile
Scale: 1:63,360
Date: 7/25/2022

Path: U:\235300166\03_data\gis_cad\gis\I35_Cap_Ex_CIA_Pro_Working.aprx - I35CapEx_CIA_AvgTripLength_20220719_BMJ



4th Street Crossing
Weighted Average Trip Length

I-35 CapEx CIA – Supplemental Documentation

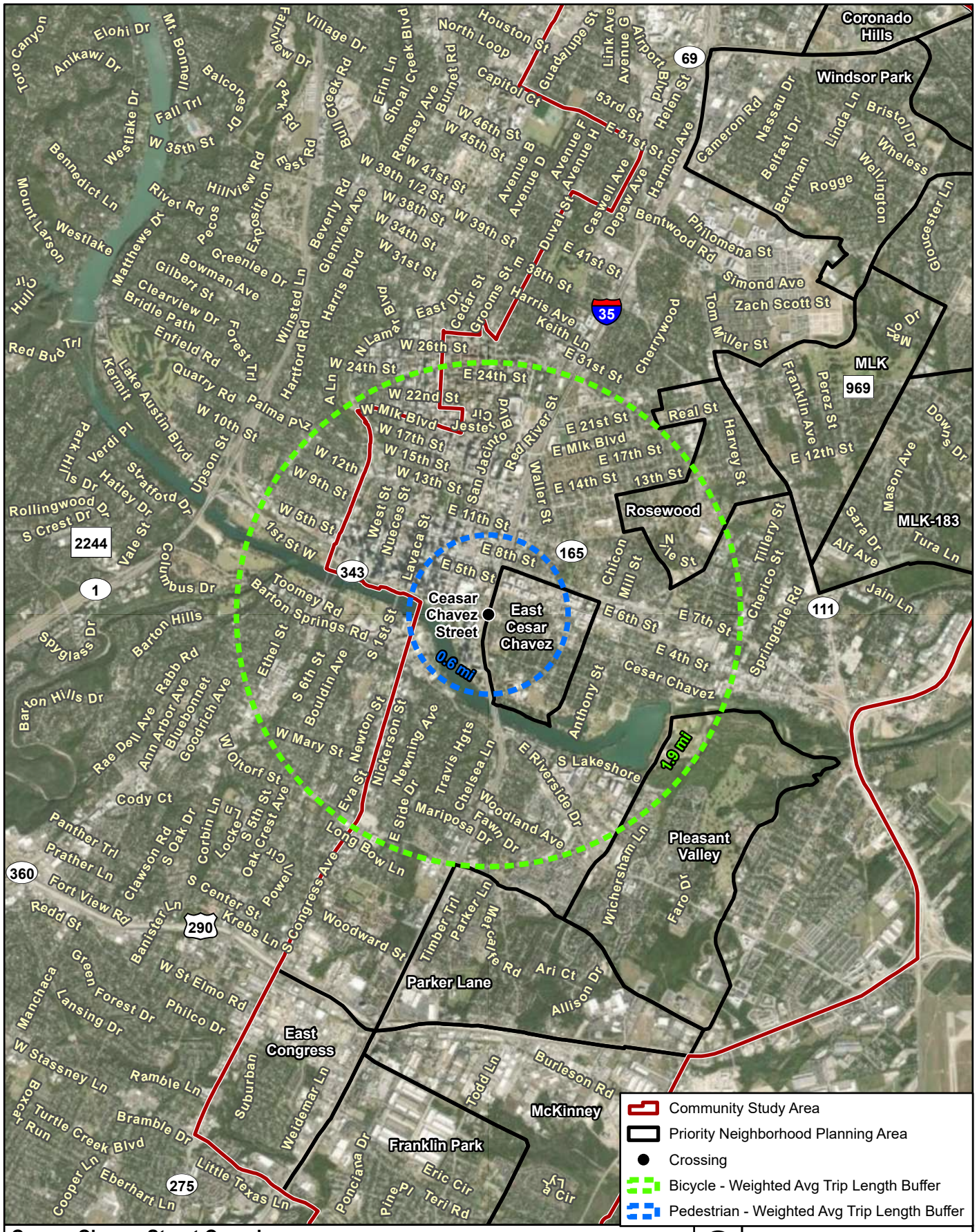
Data Source: StreetLight (2022)
Basemap Source: Maxar (2020)

CSJ: 0015-13-388

0 1 Mile
0 1.5 Km

1 in = 1 mile
Scale: 1:63,360
Date: 7/25/2022

Path: U:\235300166\03_data\gis_cad\gis\I35_Cap_Ex_CIA_Pro_Working.aprx - I35CapEx_CIA_AvgTripLength_20220719_BMJ



Ceasar Chavez Street Crossing
Weighted Average Trip Length

I-35 CapEx CIA – Supplemental Documentation

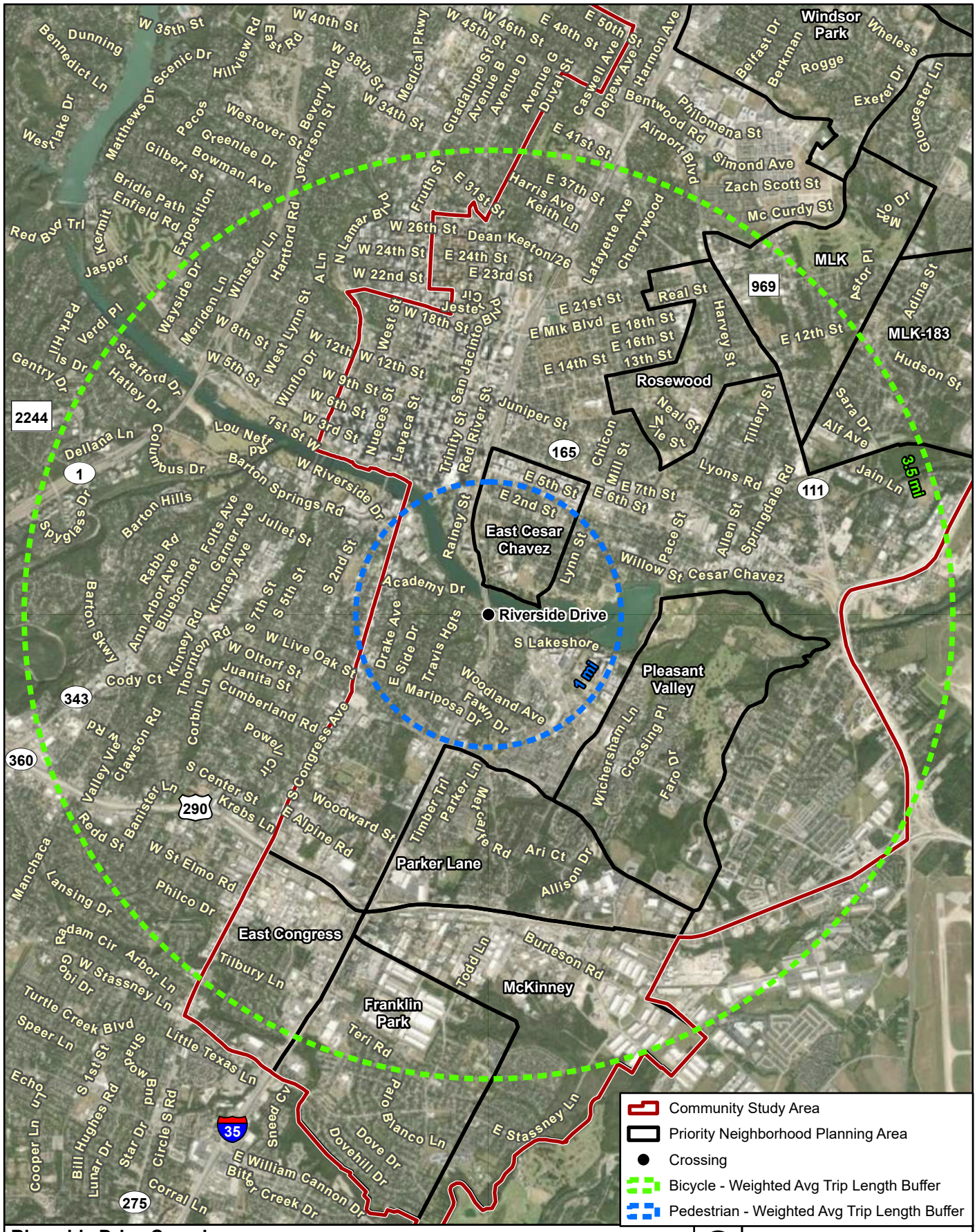
Data Source: StreetLight (2022)
Basemap Source: Maxar (2020)

CSJ: 0015-13-388

0 1 Mile
0 1.5 Km

1 in = 1 mile
Scale: 1:63,360
Date: 7/25/2022

Path: U:\235300166\03_data\gis_cad\gis\I35_Cap_Ex_CIA_Pro_Working.aprx - I35CapEx_CIA_AvgTripLength_20220719_BMJ



Riverside Drive Crossing
Weighted Average Trip Length

I-35 CapEx CIA – Supplemental Documentation

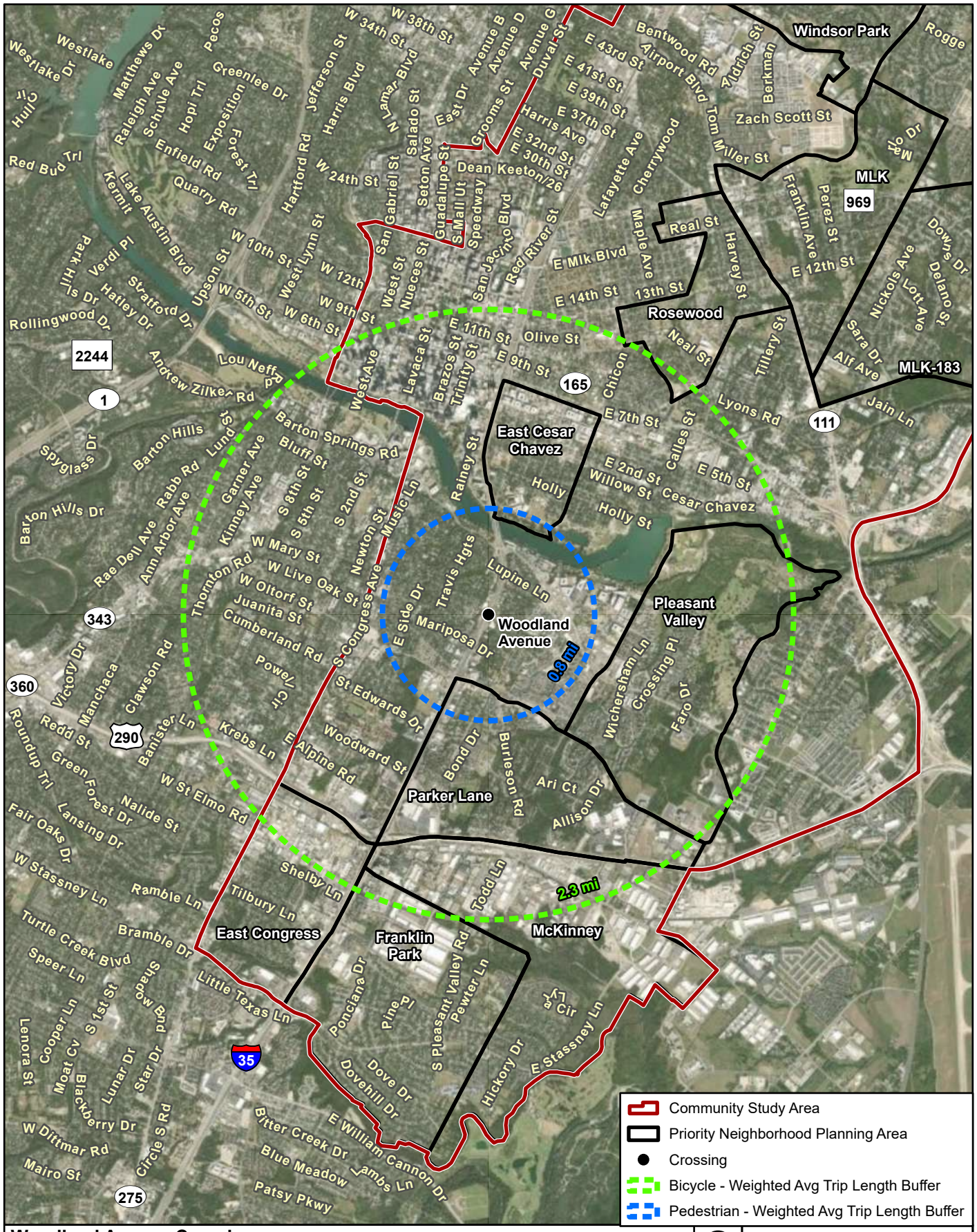
Data Source: StreetLight (2022)
Basemap Source: Maxar (2020)

CSJ: 0015-13-388

0 1 Mile
0 1.5 Km

1 in = 1 mile
Scale: 1:63,360
Date: 7/25/2022

Path: U:\235300166\03_data\gis_cad\gis\I35_Cap_Ex_CIA_Pro_Working.aprx - I35CapEx_CIA_AvgTripLength_20220719_BMJ



Woodland Avenue Crossing
Weighted Average Trip Length

I-35 CapEx CIA – Supplemental Documentation

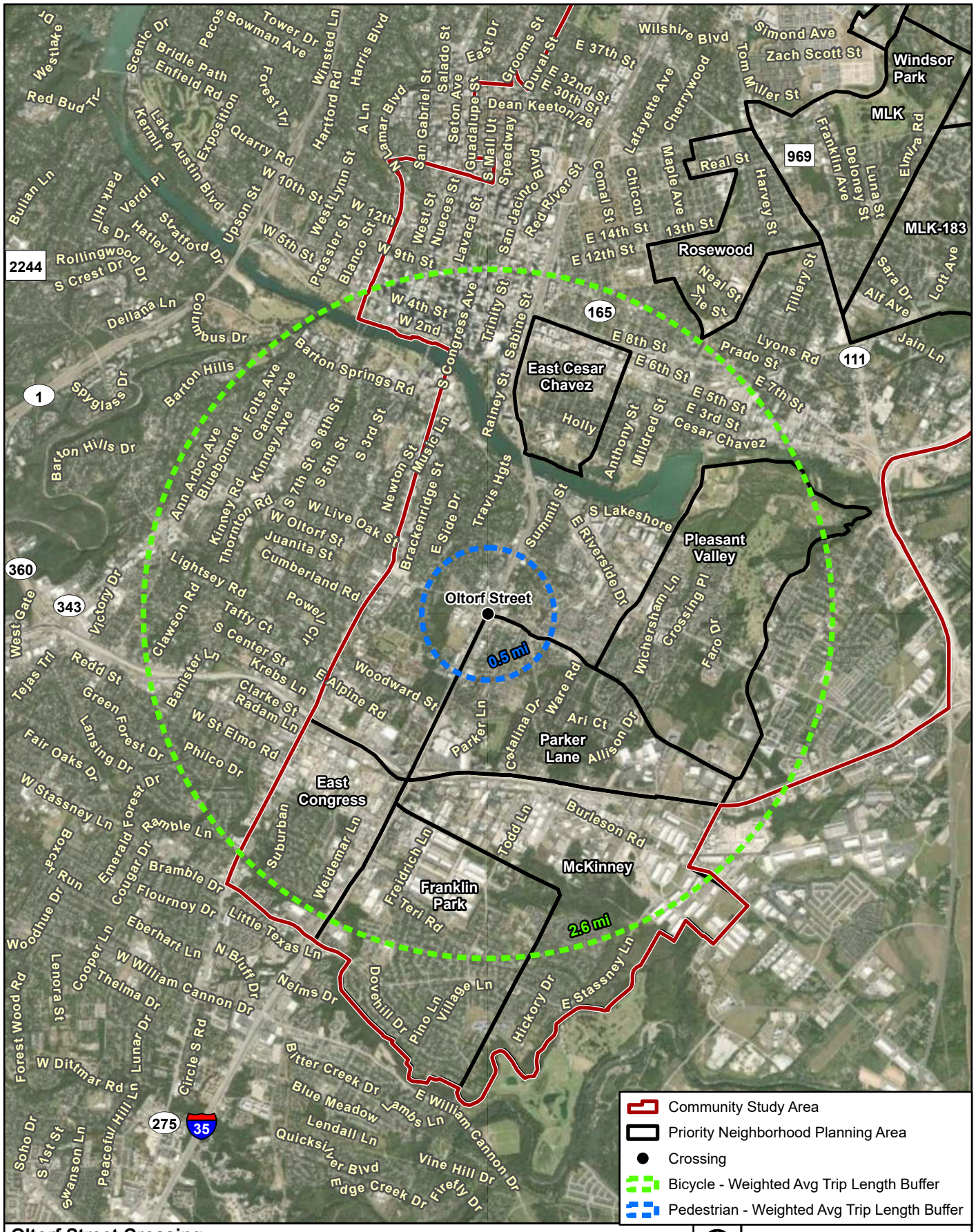
CSJ: 0015-13-388

Data Source: StreetLight (2022)
Basemap Source: Maxar (2020)

0 1 Mile
0 1.5 Km

1 in = 1 mile
Scale: 1:63,360
Date: 7/25/2022

Path: U:\235300166\03_data\gis_cad\gis\I35_Cap_Ex_CIA_Pro_Working.aprx - I35CapEx_CIA_AvgTripLength_20220719_BMJ



Oltorf Street Crossing
Weighted Average Trip Length

I-35 CapEx CIA – Supplemental Documentation

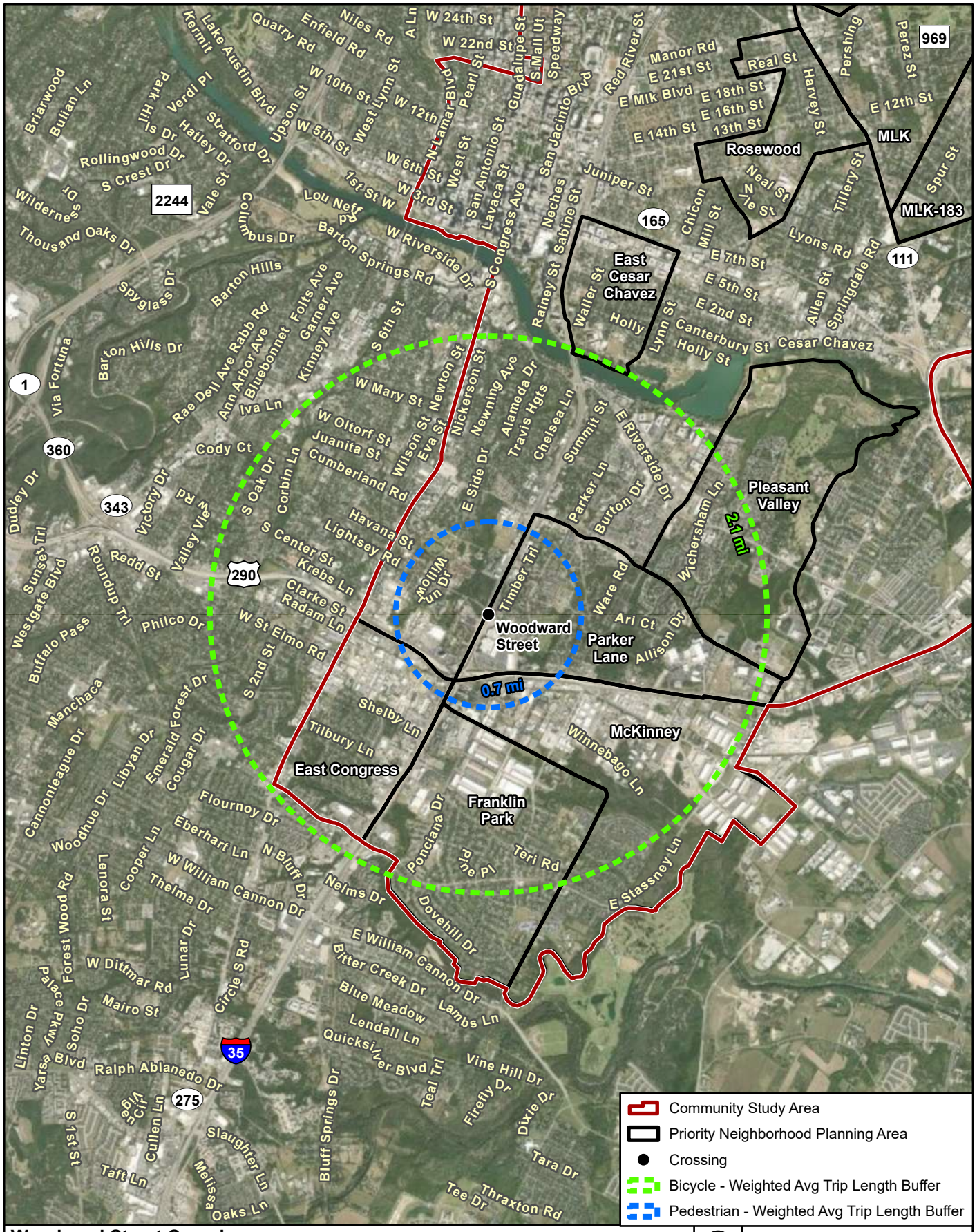
CSJ: 0015-13-388

Data Source: StreetLight (2022)
Basemap Source: Maxar (2020)

0 1 Mile
0 1.5 Km

1 in = 1 mile
Scale: 1:63,360
Date: 7/25/2022

Path: U:\235300166\03_data\gis_cad\gis\I35_Cap_Ex_CIA_Pro_Working.aprx - I35CapEx_CIA_AvgTripLength_20220719_BMJ



Woodward Street Crossing
Weighted Average Trip Length

I-35 CapEx CIA – Supplemental Documentation

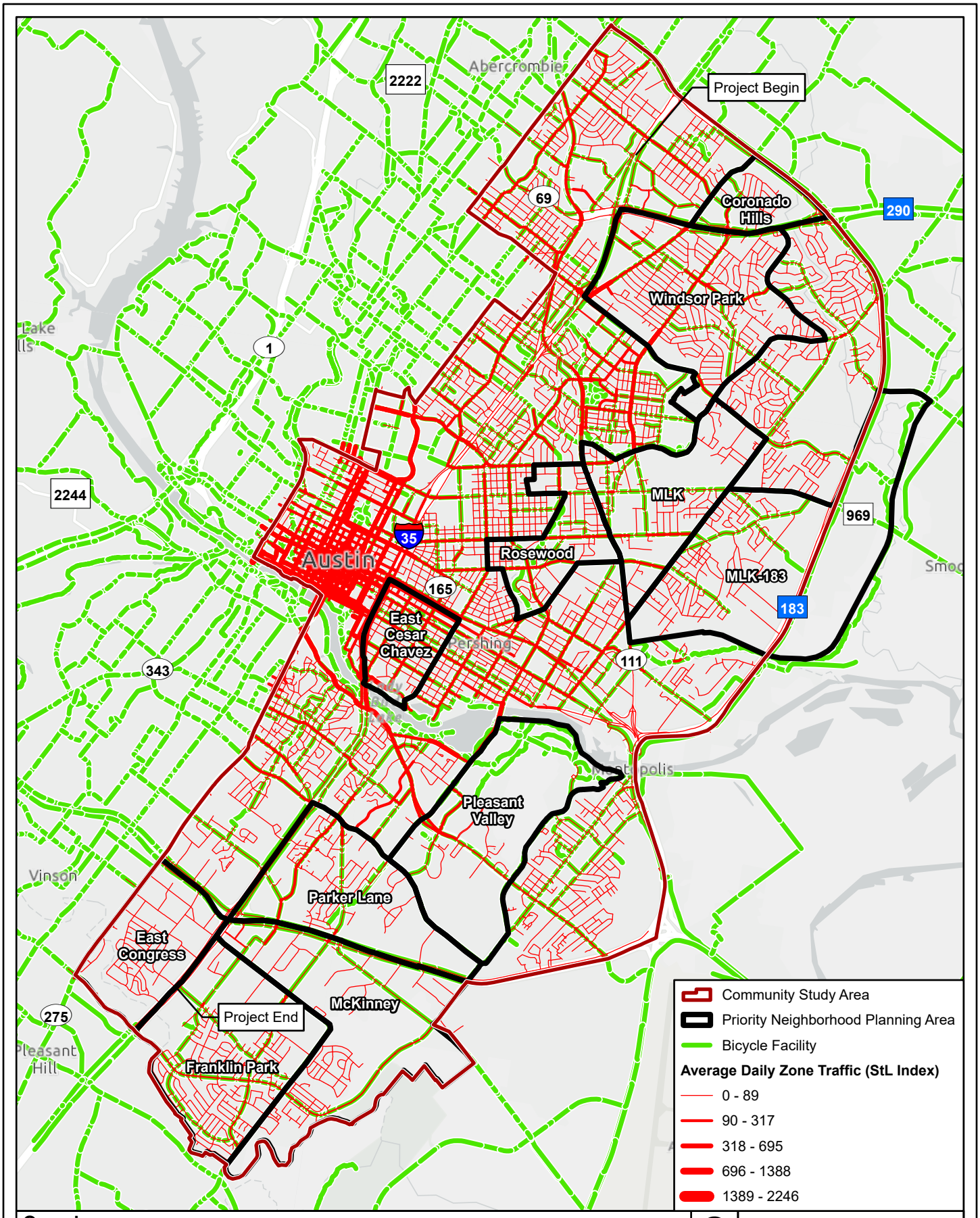
CSJ: 0015-13-388

Data Source: StreetLight (2022)
Basemap Source: Maxar (2020)

0 1 Mile
0 1.5 Km

1 in = 1 mile
Scale: 1:63,360
Date: 7/25/2022

Path: U:\235300166\03_data\gis_cad\gis\I35_Cap_Ex_CIA_Pro_Working.aprx - I35CapEx_CIA_AvgTripLength_20220719_BMJ



Overview
Average Daily Bicycle Traffic and Bicycle Facilities

I-35 CapEx CIA – Supplemental Documentation

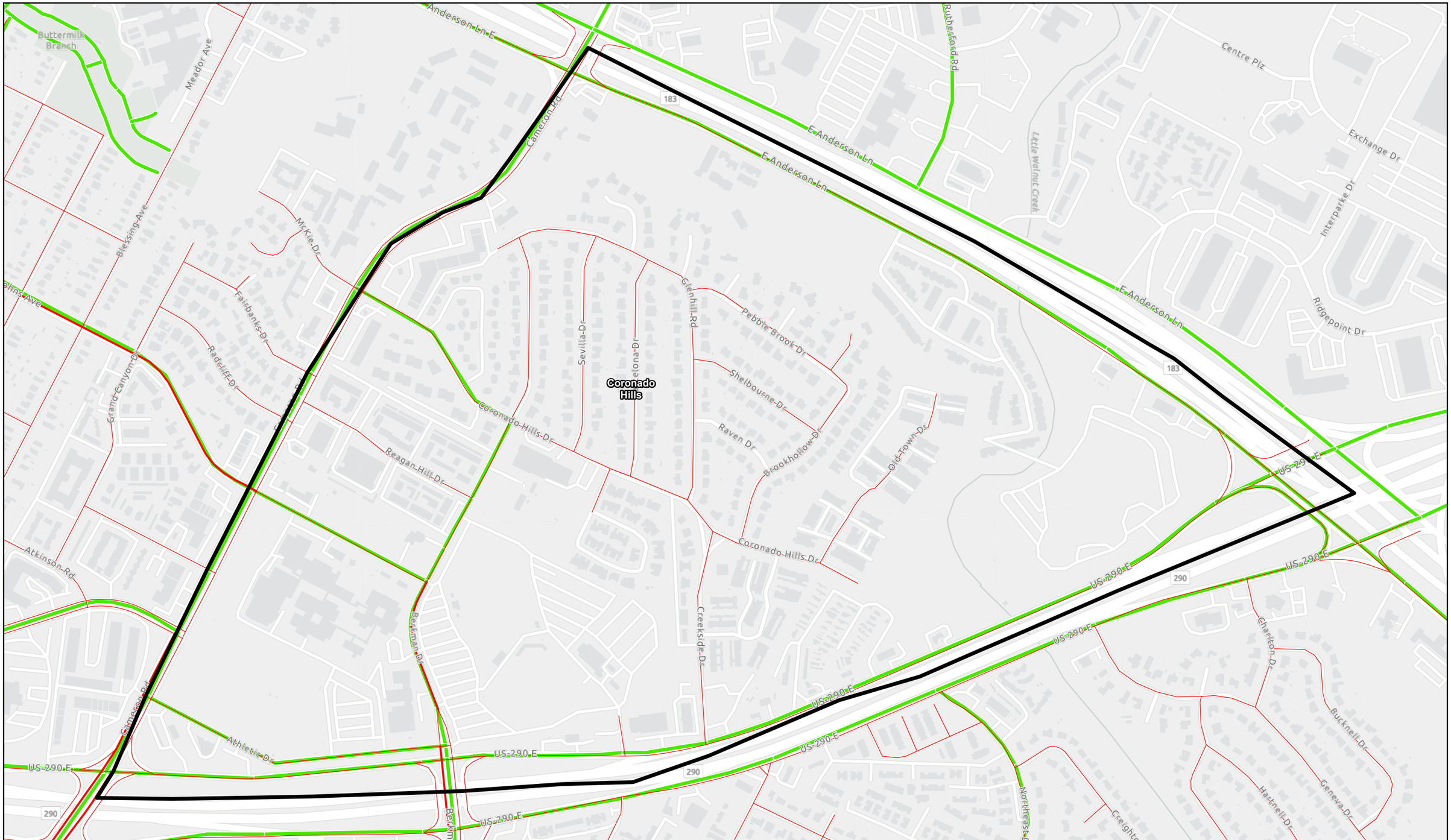
Data Source: City of Austin (2022), StreetLight (2022)
Aerial Source: Esri (2022)

CSJ: 0015-13-388

0 1.25 Mile
0 2 Km

1 in = 1.25 mile
Scale: 1:79,200
Date: 7/27/2022

Path: U:\235300166\03_data\gis_cad\gis\I35_Cap_Ex_CIA_Pro_Working.aprx - I35CapEx_NPA_Bike_Overview_20220719_BMJ



Coronado Hills Average Daily Bicycle Traffic and Bicycle Facilities

I-35 CapEx CIA – Supplemental Documentation

U:\235300166\03_data\gis_cad\gis\I35_Cap_Ex_CIA_Pro_Working.aprx

Neighborhood Planning Area

Bicycle Facility

Average Daily Zone Traffic (StL Index)

0 - 89

90 - 317

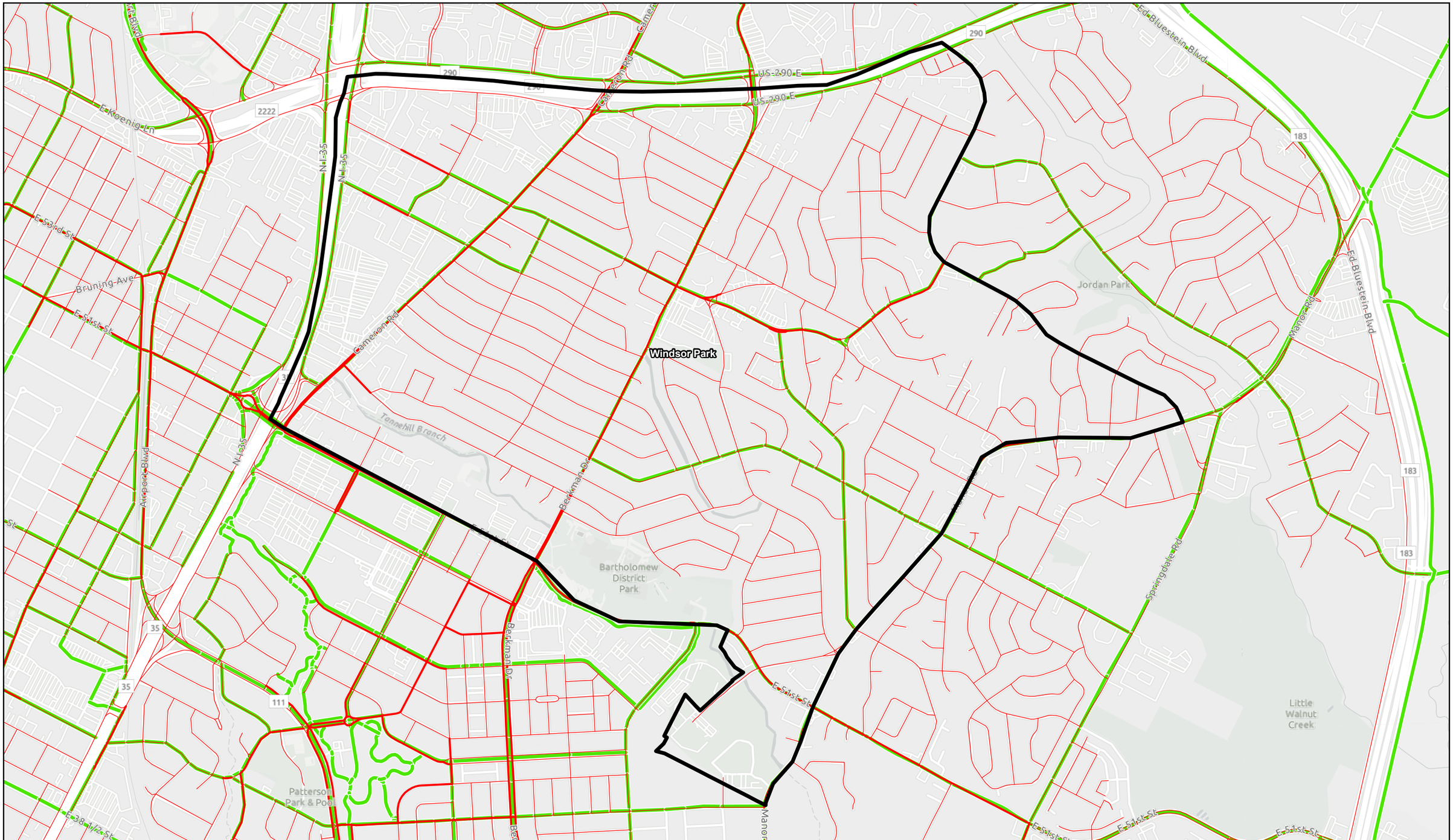
Data Source: City of Austin (2022), StreetLight (2022)
Aerial Source: Esri (2022)

CSJ: 0015-13-388

0 500 Feet — 1 in = 500 feet

0 150 Meters — Scale: 1:6,000

Date: 7/27/2022



Windsor Park Average Daily Bicycle Traffic and Bicycle Facilities

I-35 CapEx CIA – Supplemental Documentation

Neighborhood Planning Area
Bicycle Facility

Average Daily Zone Traffic (StL Index)
0 - 89
90 - 317
318 - 695

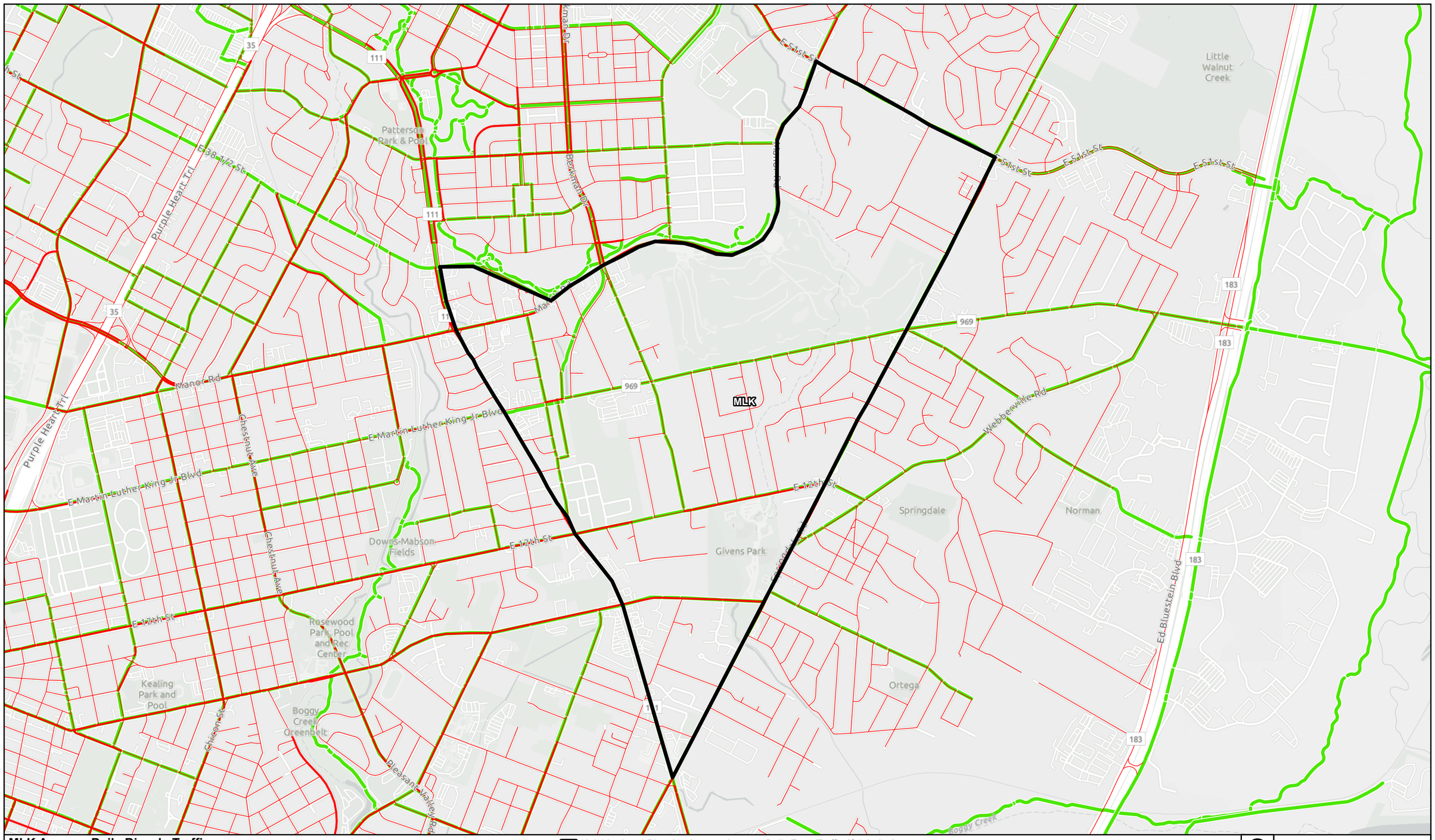
Data Source: City of Austin (2022), StreetLight (2022)
Aerial Source: Esri (2022)

CSJ: 0015-13-388

0 1,250 Feet
0 380 Meters

1 in = 1,250 feet
Scale: 1:15,000
Date: 7/27/2022

U:\235300166\03_data\gis_cad\gis\I35_Cap_Ex_CIA_Pro_Working.aprx



MLK Average Daily Bicycle Traffic and Bicycle Facilities

I-35 CapEx CIA – Supplemental Documentation

Neighborhood Planning Area
Bicycle Facility

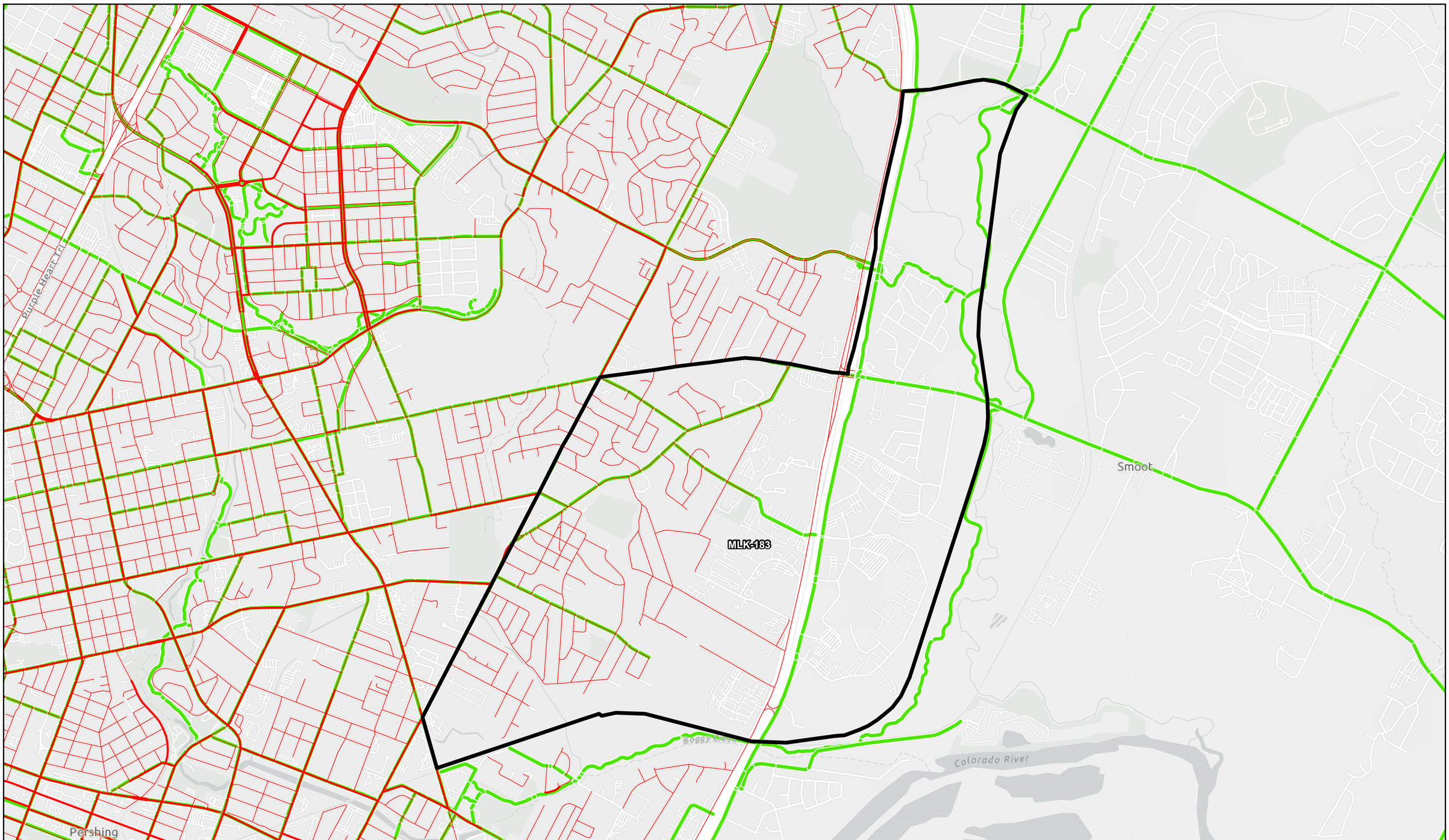
Average Daily Zone Traffic (StL Index)
0 - 89
90 - 317

Data Source: City of Austin (2022), StreetLight (2022)
Aerial Source: Esri (2022)

CSJ: 0015-13-388

0 1,500 Feet — 1 in = 1,500 feet
0 450 Meters — Scale: 1:18,000
Date: 7/27/2022

U:\235300166\03_data\gis_cad\gis\I35_Cap_Ex_CIA_Pro_Working.aprx



MLK-183 Average Daily Bicycle Traffic and Bicycle Facilities

I-35 CapEx CIA – Supplemental Documentation

Neighborhood Planning Area
Bicycle Facility

Average Daily Zone Traffic (StL Index)
0 - 89
90 - 317
318 - 695

CSJ: 0015-13-388

Data Source: City of Austin (2022), StreetLight (2022)
Aerial Source: Esri (2022)

0 2,000 Feet
0 600 Meters

1 in = 2,000 feet
Scale: 1:24,000
Date: 7/27/2022

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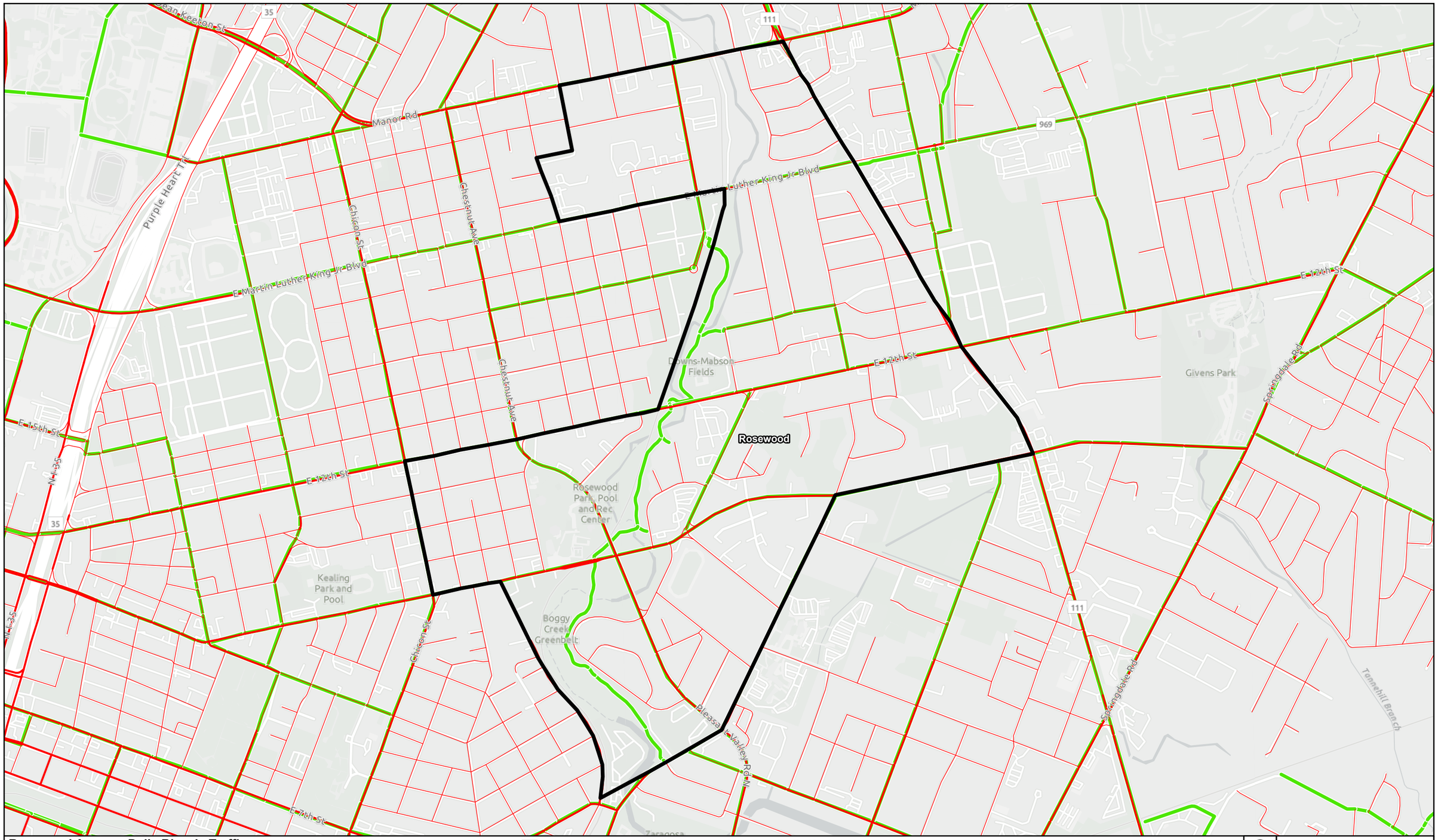

Rosewood Average Daily Bicycle Traffic and Bicycle Facilities

I-35 CapEx CIA – Supplemental Documentation

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Neighborhood Planning Area
Bicycle Facility

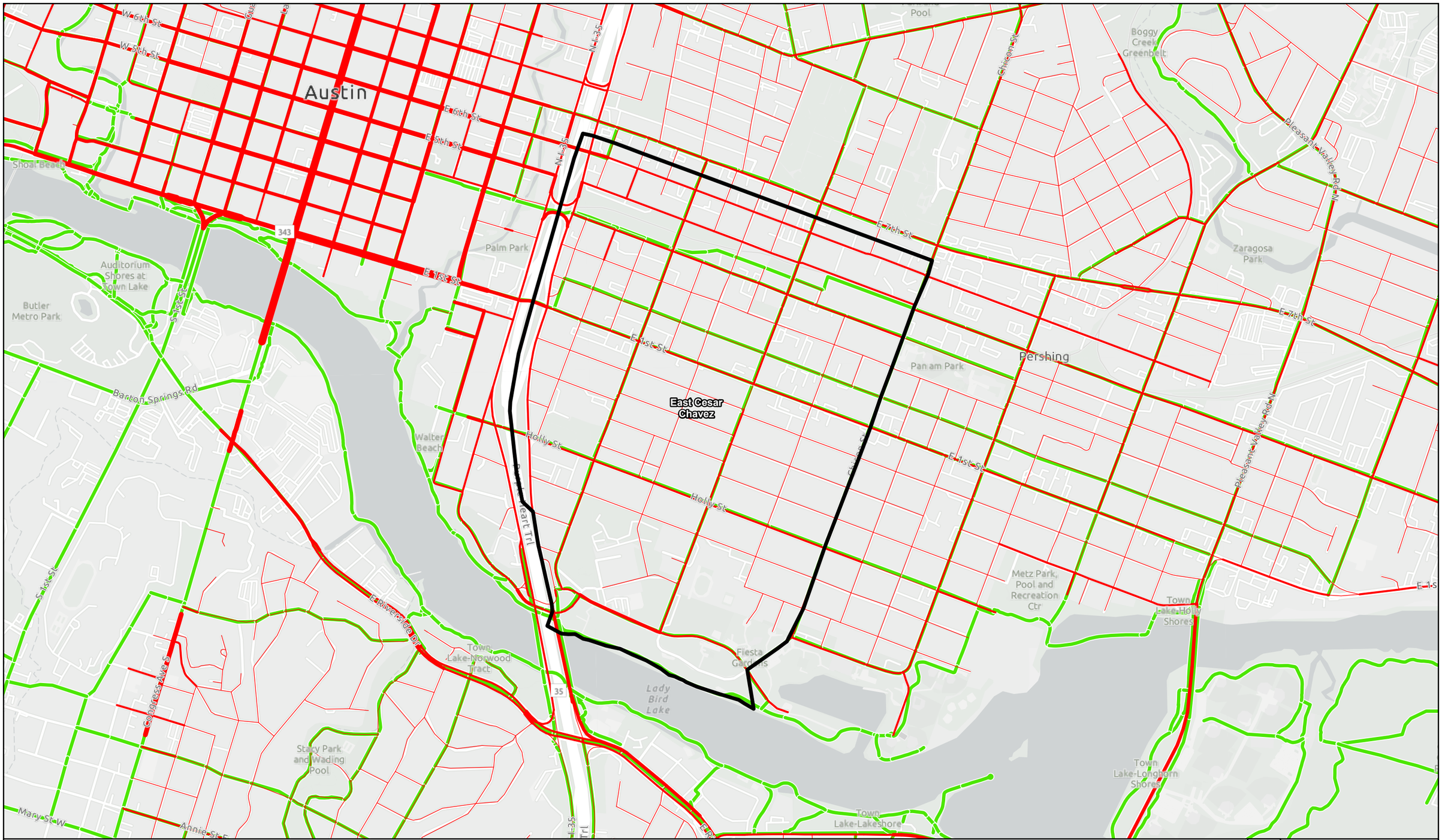
Average Daily Zone Traffic (StL Index)
0 - 89
90 - 317
318 - 695

CSJ: 0015-13-388

Data Source: City of Austin (2022), StreetLight (2022)
Aerial Source: Esri (2022)

0 1,000 Feet
0 300 Meters

1 in = 1,000 feet
Scale: 1:12,000
Date: 7/27/2022



East Cesar Chavez Average Daily Bicycle Traffic and Bicycle Facilities

I-35 CapEx CIA – Supplemental Documentation

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Neighborhood Planning Area

Bicycle Facility

Average Daily Zone Traffic (StL Index)

0 - 89

90 - 317

318 - 695

696 - 1388

1389 - 2246

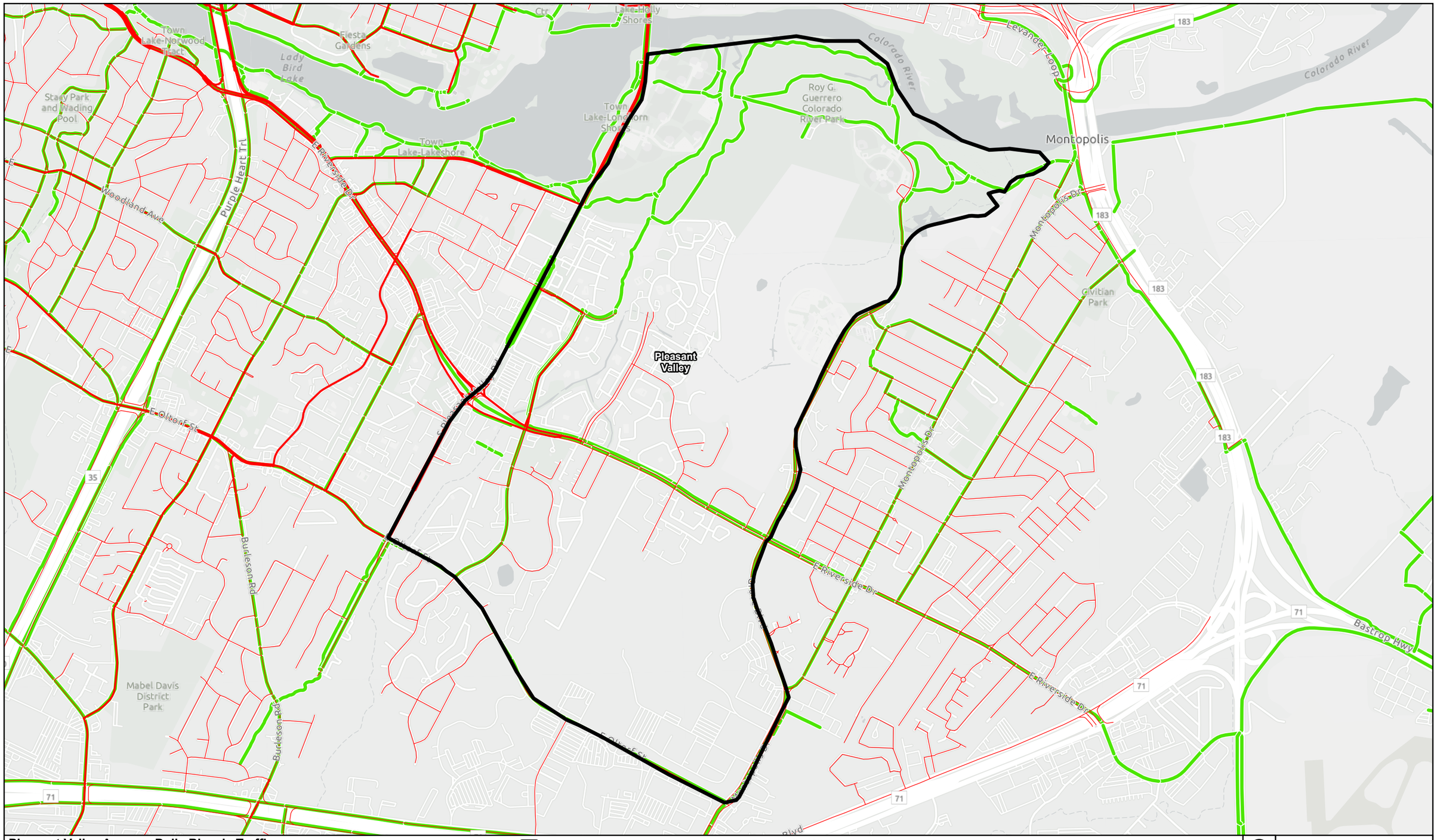
CSJ: 0015-13-388

Data Source: City of Austin (2022), StreetLight (2022)
Aerial Source: Esri (2022)

0 1,000 Feet — 1 in = 1,000 feet

0 300 Meters — Scale: 1:12,000

Date: 7/27/2022



Pleasant Valley Average Daily Bicycle Traffic and Bicycle Facilities

I-35 CapEx CIA – Supplemental Documentation

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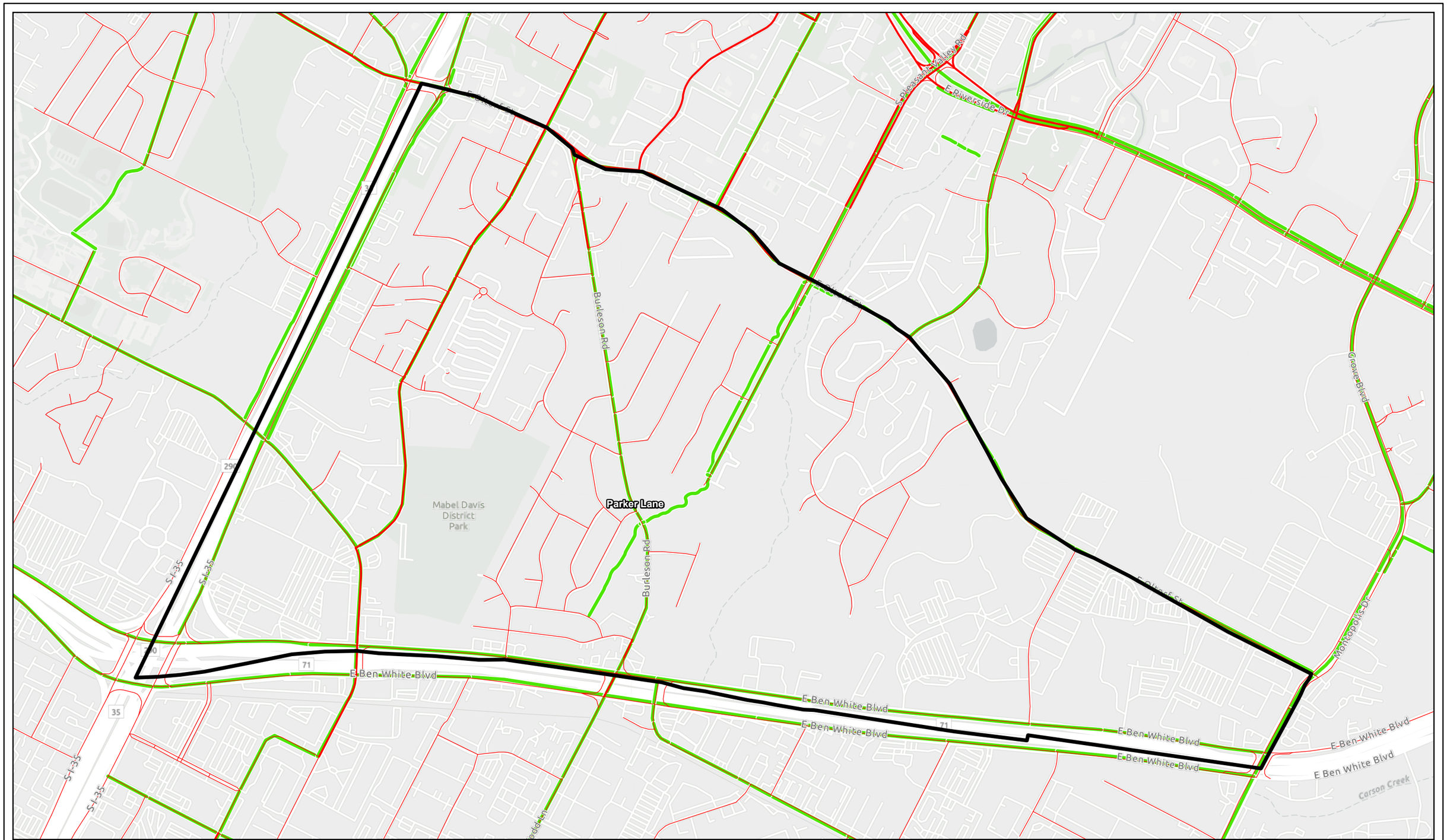
Neighborhood Planning Area
Bicycle Facility

Average Daily Zone Traffic (StL Index)
0 - 89
90 - 317
318 - 695

Data Source: City of Austin (2022), StreetLight (2022)
Aerial Source: Esri (2022)

CSJ: 0015-13-388

0 1,500 Feet — 1 in = 1,500 feet
0 450 Meters — Scale: 1:18,000
Date: 7/27/2022



Parker Lane Average Daily Bicycle Traffic and Bicycle Facilities

I-35 CapEx CIA – Supplemental Documentation

U:\23530016\03_data\gis_cad\gis\I35_Cap_Ex_CIA_Pro_Working.aprx

Neighborhood Planning Area
Bicycle Facility

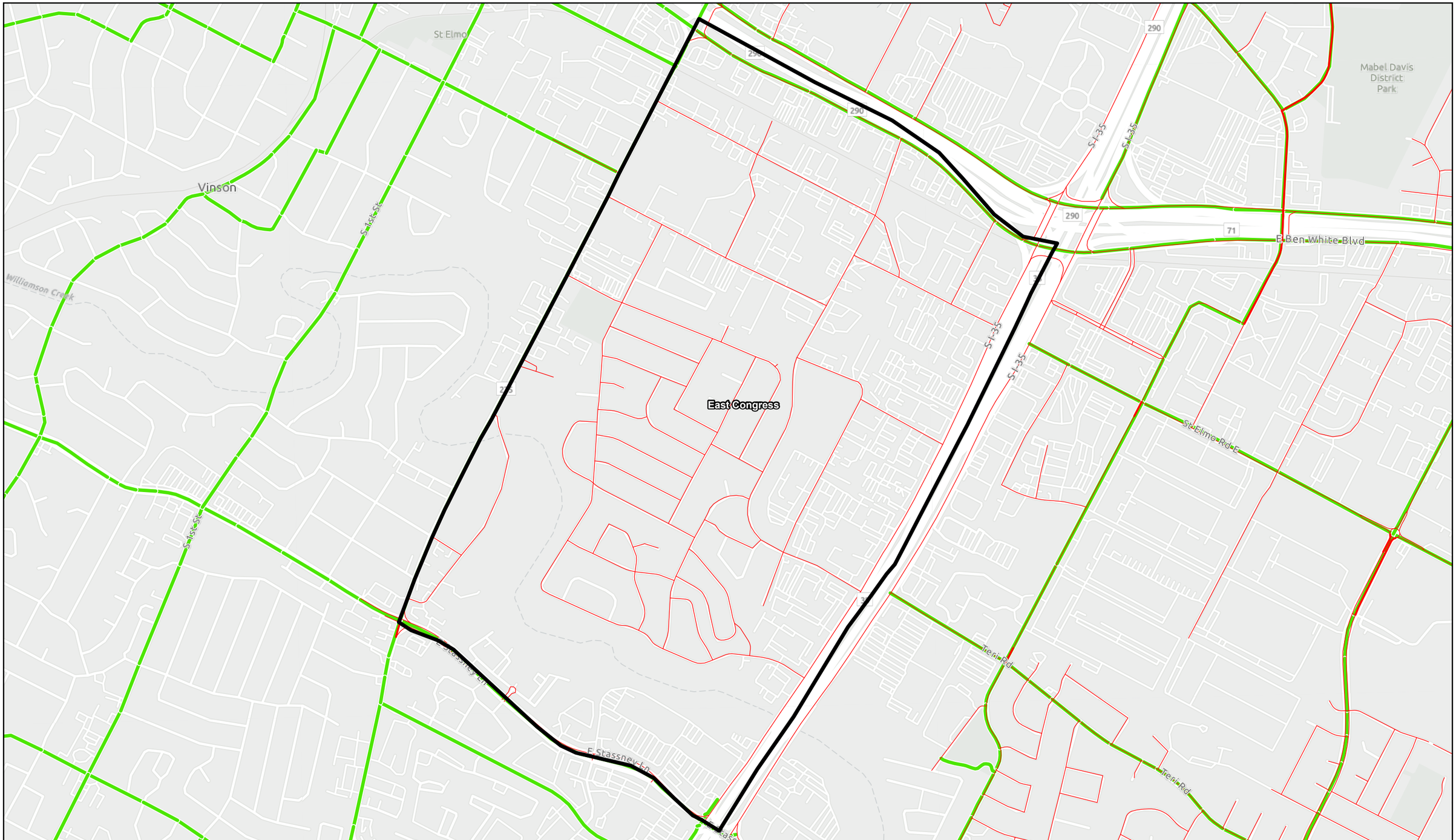
Average Daily Zone Traffic (StL Index)
0 - 89
90 - 317
318 - 695

CSJ: 0015-13-388

Data Source: City of Austin (2022), StreetLight (2022)
Aerial Source: Esri (2022)

0 1,000 Feet
0 300 Meters

1 in = 1,000 feet
Scale: 1:12,000
Date: 7/27/2022



East Congress Average Daily Bicycle Traffic and Bicycle Facilities

I-35 CapEx CIA – Supplemental Documentation

Neighborhood Planning Area
Bicycle Facility

Average Daily Zone Traffic (StL Index)
0 - 89
90 - 317

CSJ: 0015-13-388

Data Source: City of Austin (2022), StreetLight (2022)
Aerial Source: Esri (2022)

0 1,000 Feet
0 300 Meters

1 in = 1,000 feet
Scale: 1:12,000
Date: 7/27/2022

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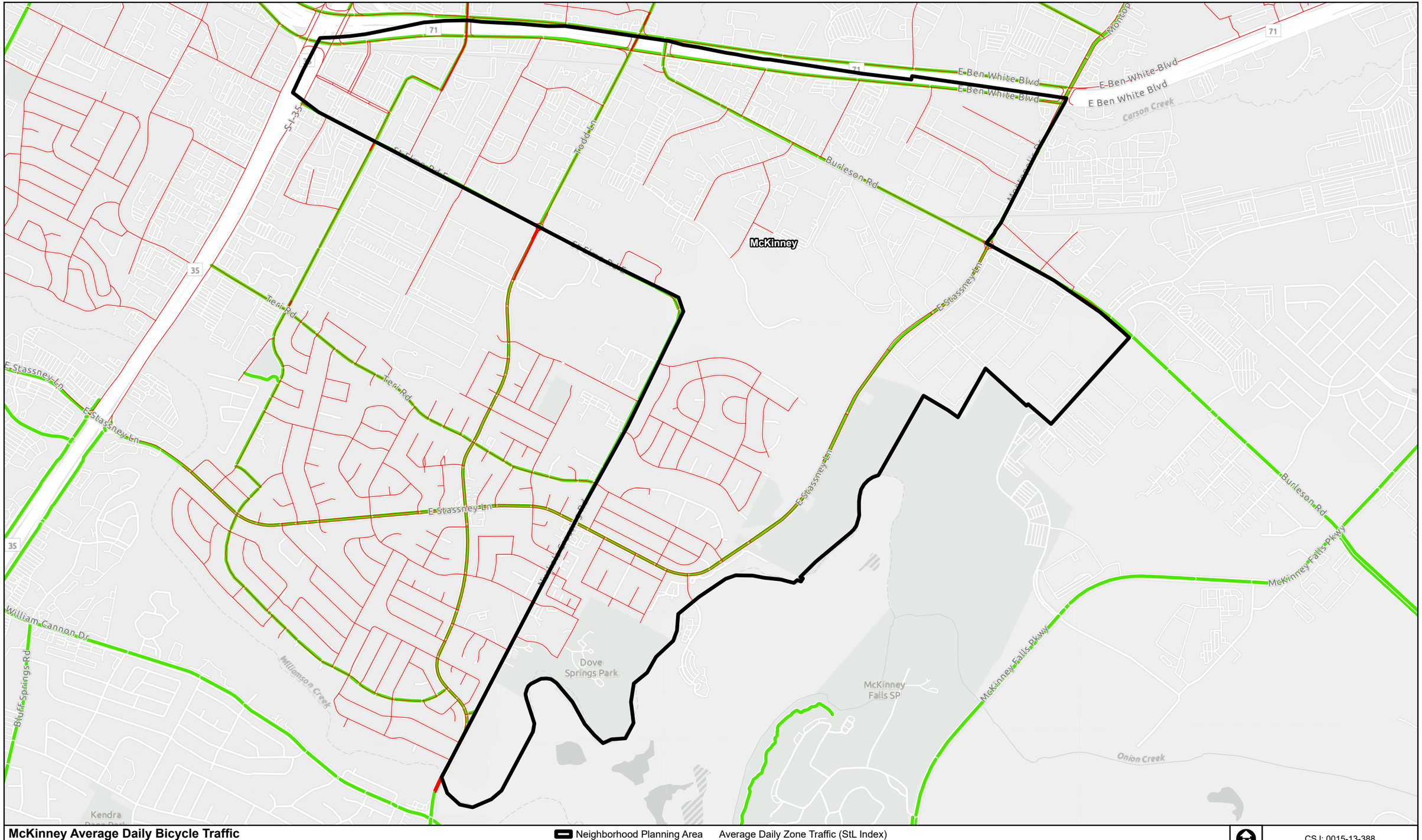

McKinney Average Daily Bicycle Traffic and Bicycle Facilities

I-35 CapEx CIA – Supplemental Documentation

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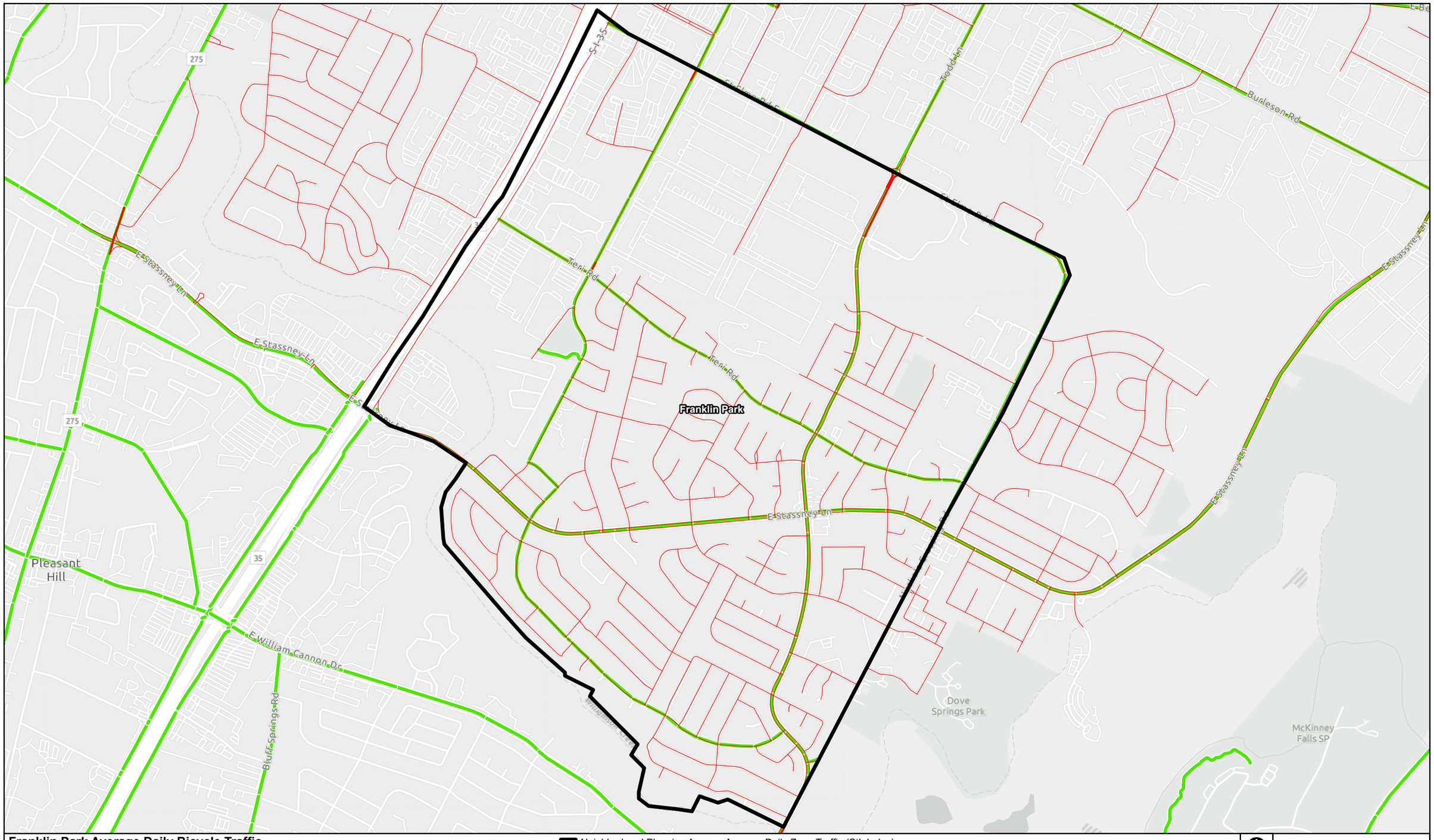
Neighborhood Planning Area
Bicycle Facility

Average Daily Zone Traffic (StL Index)
0 - 89
90 - 317

Data Source: City of Austin (2022), StreetLight (2022)
Aerial Source: Esri (2022)

CSJ: 0015-13-388

0 1,500 Feet — 1 in = 1,500 feet
0 450 Meters — Scale: 1:18,000
Date: 7/27/2022



Franklin Park Average Daily Bicycle Traffic and Bicycle Facilities

I-35 CapEx CIA – Supplemental Documentation

Neighborhood Planning Area
Bicycle Facility

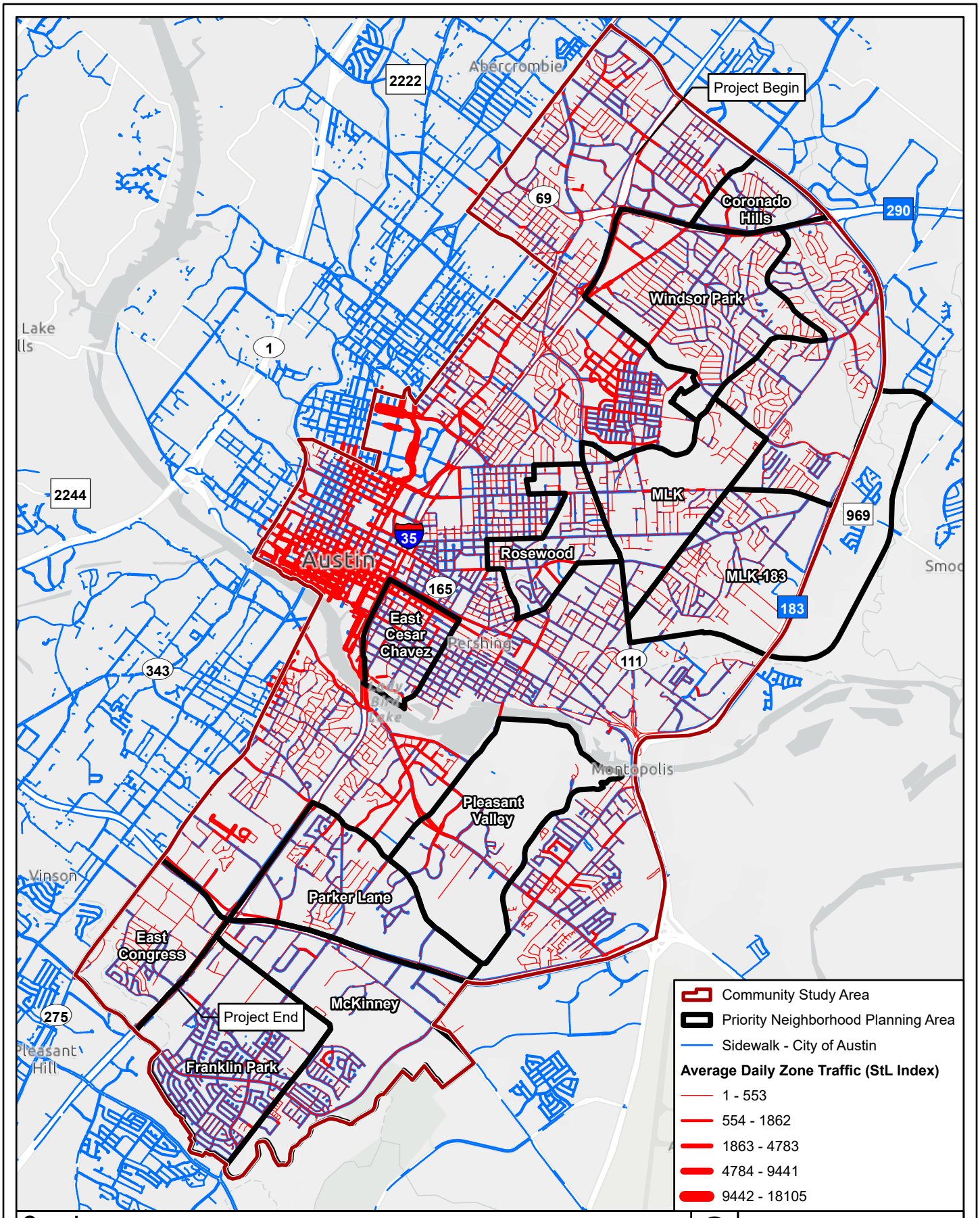
Average Daily Zone Traffic (StL Index)
0 - 89
90 - 317

CSJ: 0015-13-388

Data Source: City of Austin (2022), StreetLight (2022)
Aerial Source: Esri (2022)

0 1,250 Feet — 1 in = 1,250 feet
0 380 Meters — Scale: 1:15,000
Date: 7/27/2022

U:\235300166\03_data\gis_cad\gis\I35_Cap_Ex_CIA_Pro_Working.aprx



Overview
Average Daily Pedestrian Traffic and Sidewalk Facilities

I-35 CapEx CIA – Supplemental Documentation

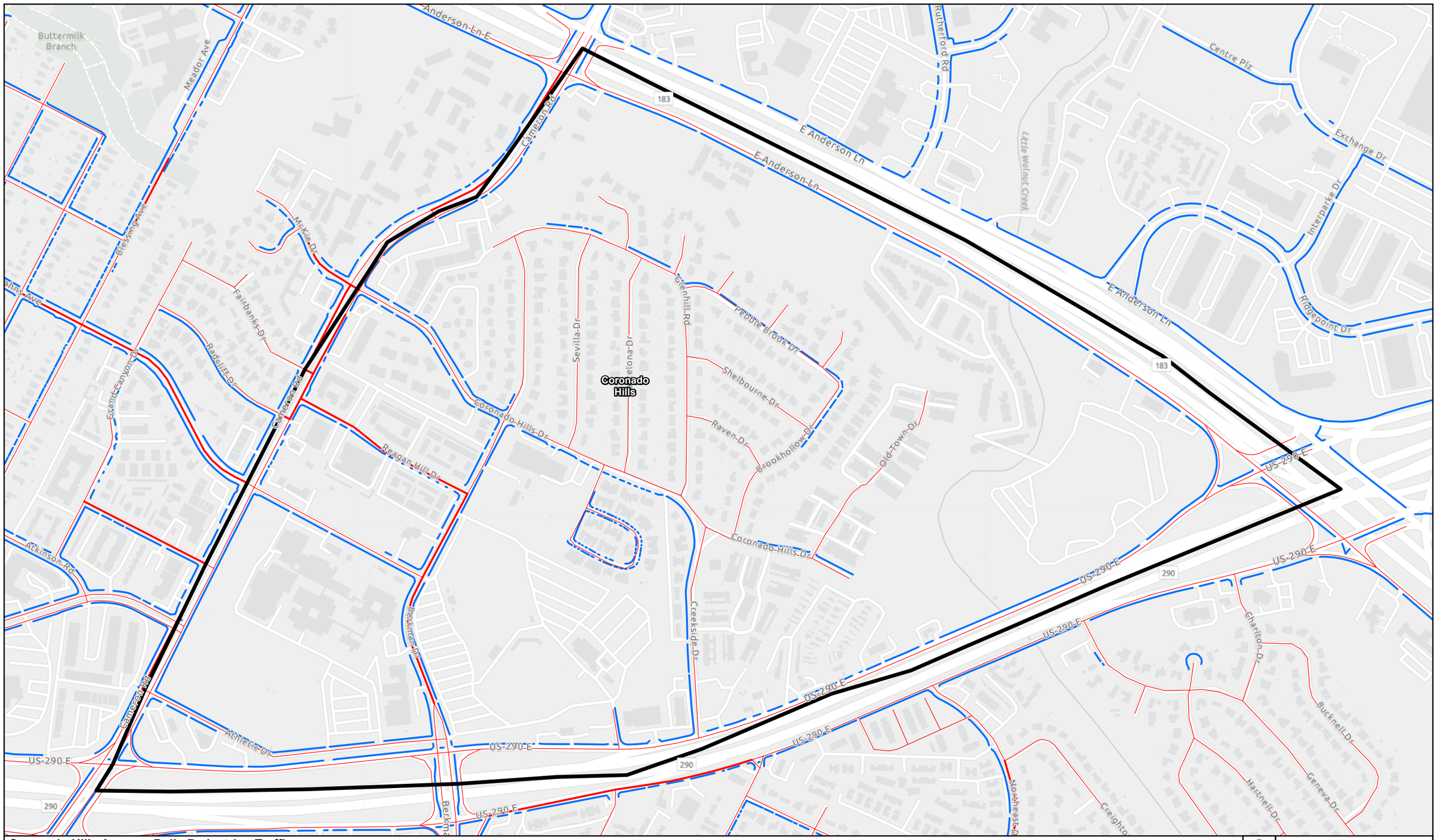
Data Source: City of Austin (2022), StreetLight (2022)
Aerial Source: Esri (2022)

CSJ: 0015-13-388

0 1.25 Mile
0 2 Km

1 in = 1.25 mile
Scale: 1:79,200
Date: 7/27/2022

Path: U:\235300166\03_data\gis_cad\gis\I35_Cap_Ex_CIA_Pro_Working.aprx - I35CapEx_NPA_PedSidewalk_Overview_20220727_BMJ



Coronado Hills Average Daily Pedestrian Traffic and Sidewalk Facilities

I-35 CapEx CIA – Supplemental Documentation

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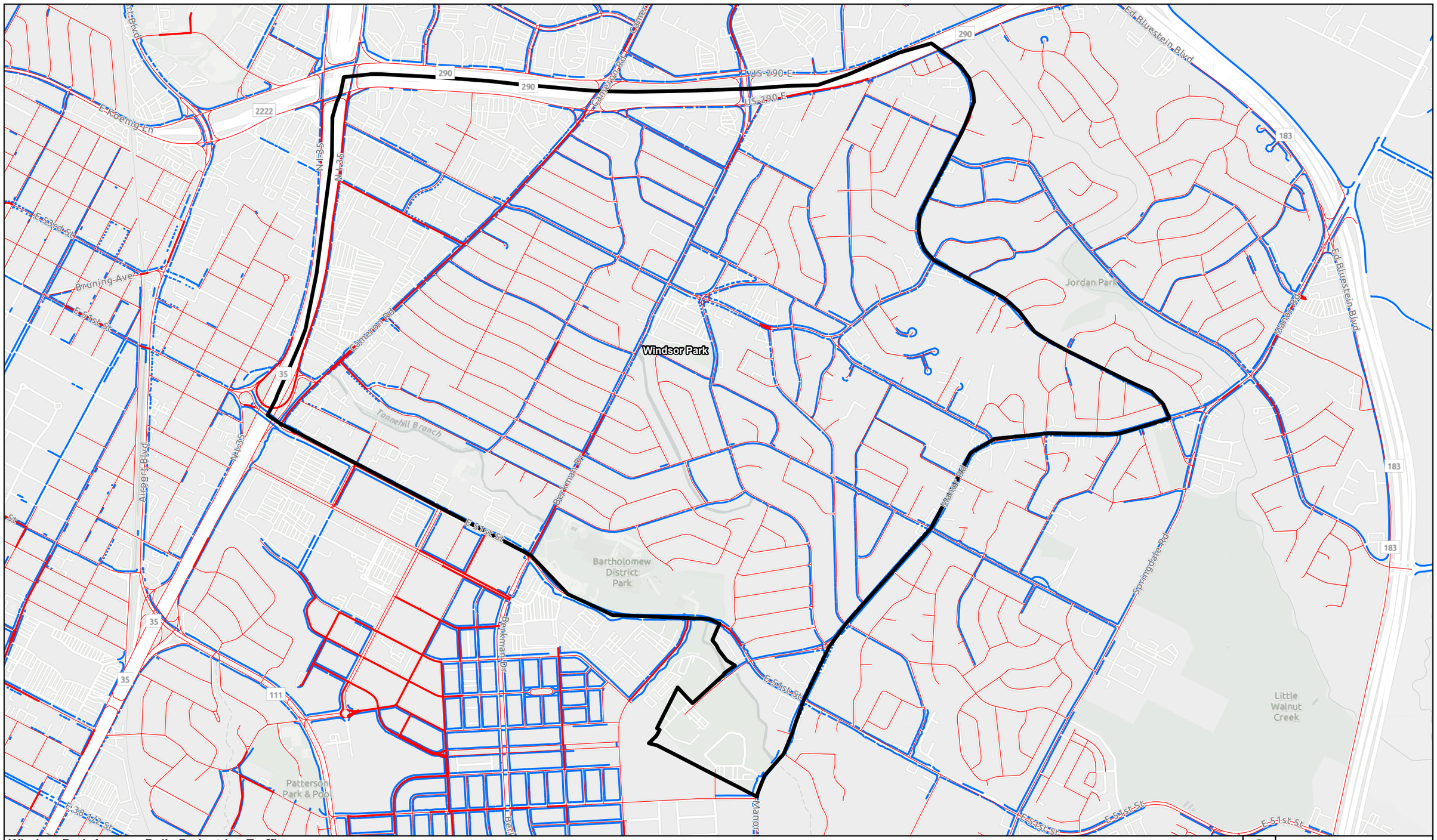
Neighborhood Planning Area
Sidewalk - City of Austin

Average Daily Zone Traffic (StL Index)
1 - 553
554 - 1862

Data Source: City of Austin (2022), Streetlight (2022)
Aerial Source: Maxar (2020)

CSJ: 0015-13-388

0 500 Feet | 1 in = 500 feet
0 150 Meters | Scale: 1:6,000
Date: 7/27/2022



Windsor Park Average Daily Pedestrian Traffic and Sidewalk Facilities

I-35 CapEx CIA – Supplemental Documentation

U:\23530166\03_data\gis_cad\gis\I35_Cap_Ex_CIA_Pro_Working.aprx

Neighborhood Planning Area
Sidewalk - City of Austin

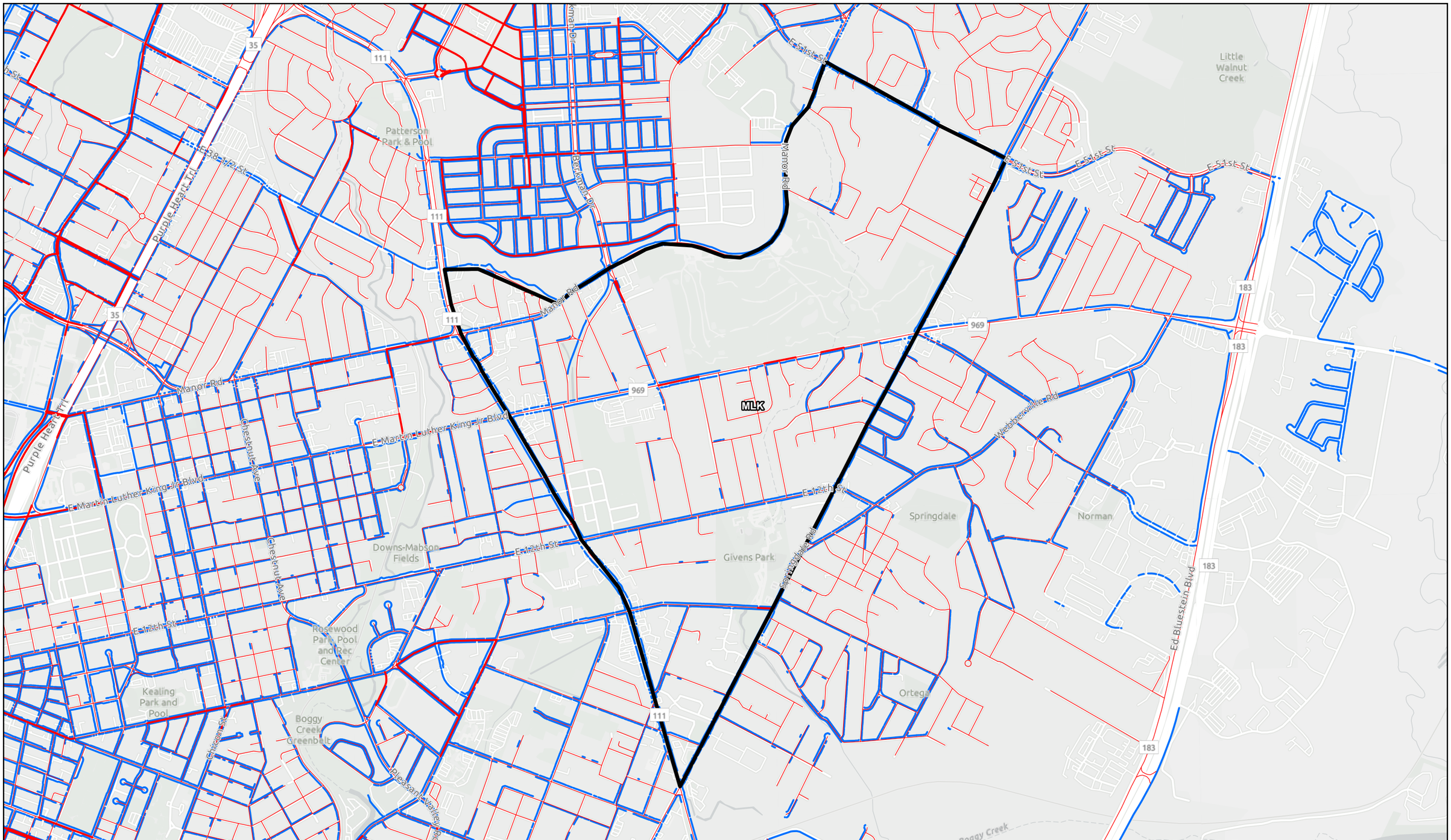
Average Daily Zone Traffic (StL Index)
1 - 553
554 - 1862
1863 - 4783

CSJ: 0015-13-388

Data Source: City of Austin (2022), Streetlight (2022)
Aerial Source: Maxar (2020)

0 1,250 Feet
0 350 Meters

1 in = 1,250 feet
Scale: 1:15,000
Date: 7/27/2022



MLK Average Daily Pedestrian Traffic and Sidewalk Facilities

I-35 CapEx CIA – Supplemental Documentation

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Neighborhood Planning Area

Sidewalk - City of Austin

Average Daily Zone Traffic (StL Index)

1 - 553

554 - 1862

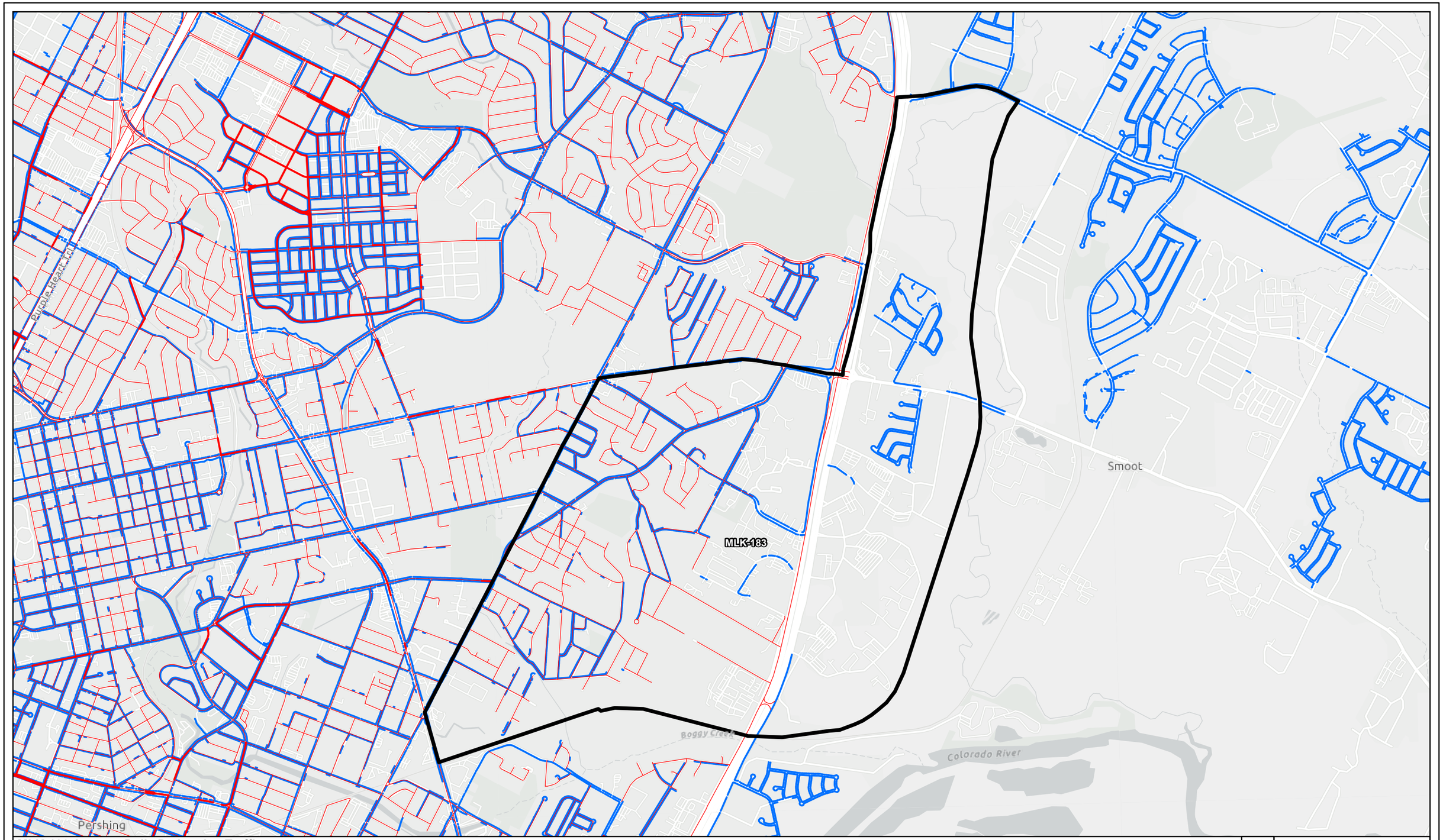
1863 - 4783

CSJ: 0015-13-388

Data Source: City of Austin (2022), Streetlight (2022)
Aerial Source: Maxar (2020)

0 1,500 Feet
0 450 Meters

1 in = 1,500 feet
Scale: 1:18,000
Date: 7/27/2022



MLK-183 Average Daily Pedestrian Traffic and Sidewalk Facilities

I-35 CapEx CIA – Supplemental Documentation

Neighborhood Planning Area
Sidewalk - City of Austin

Average Daily Zone Traffic (StL Index)
1 - 553
554 - 1862
1863 - 4783

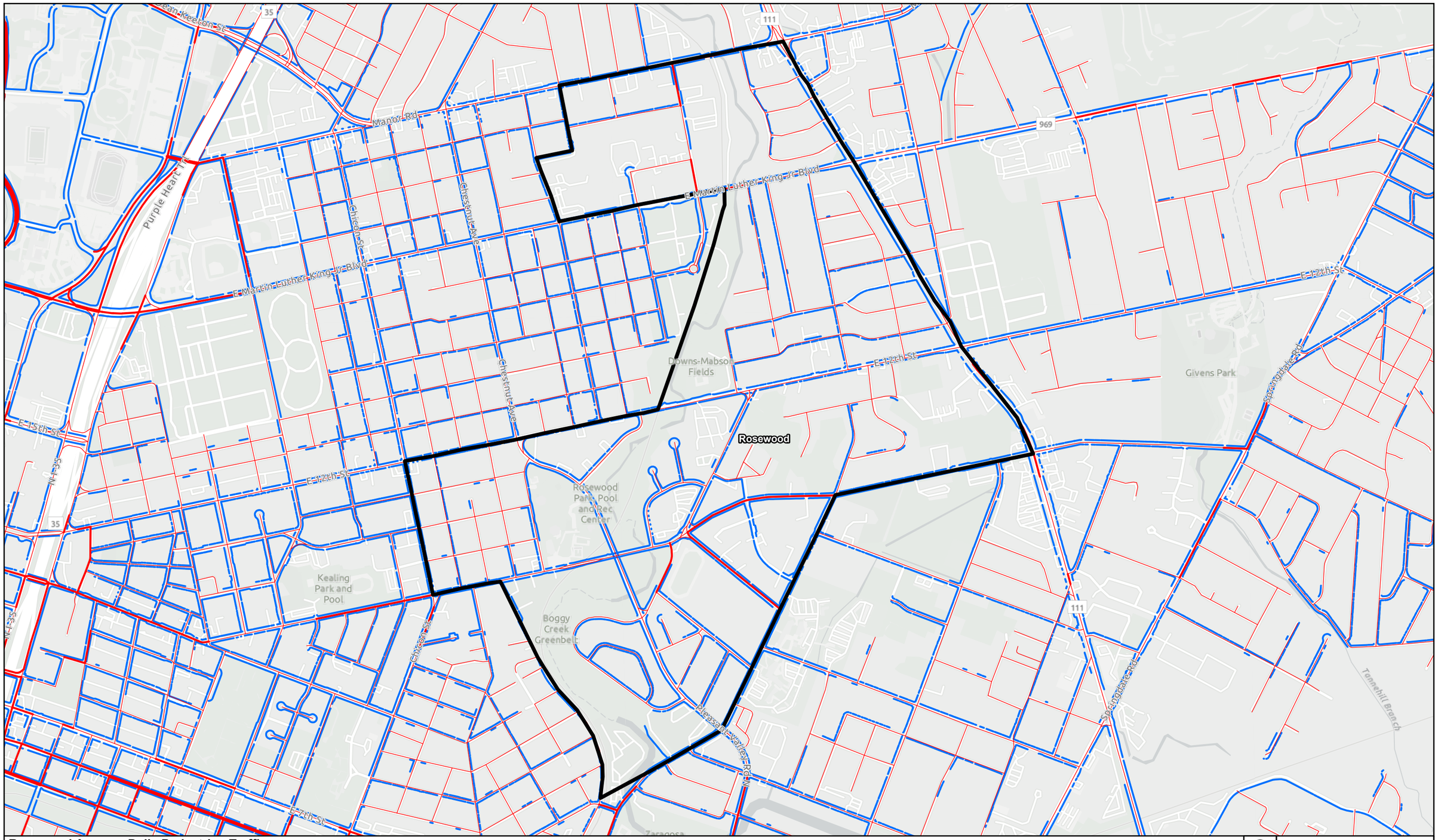
CSJ: 0015-13-388

Data Source: City of Austin (2022), Streetlight (2022)
Aerial Source: Maxar (2020)

0 2,000 Feet
0 600 Meters

1 in = 2,000 feet
Scale: 1:24,000
Date: 7/27/2022

U:\235300166\03_data\gis_cad\gis\I35_Cap_Ex_CIA_Pro_Working.aprx



Rosewood Average Daily Pedestrian Traffic and Sidewalk Facilities

I-35 CapEx CIA – Supplemental Documentation

U:\235300166\03_data\gis_cad\gis\I35_Cap_Ex_CIA_Pro_Working.aprx

Neighborhood Planning Area
Sidewalk - City of Austin

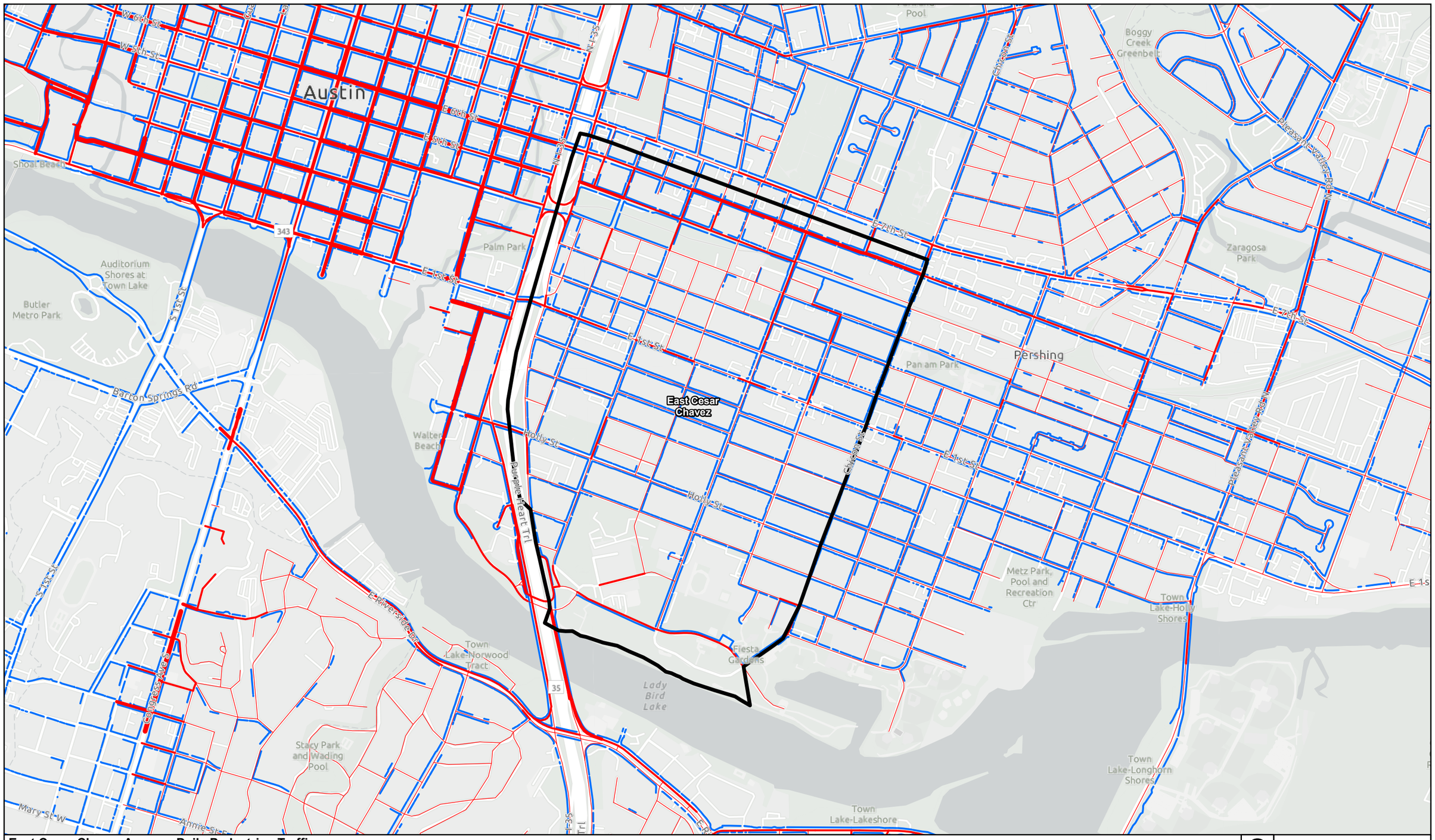
Average Daily Zone Traffic (StL Index)
1 - 553
554 - 1862
1863 - 4783
4784 - 9441
9442 - 18105

Data Source: City of Austin (2022), Streetlight (2022)
Aerial Source: Maxar (2020)

CSJ: 0015-13-388

0 1,000 Feet
0 300 Meters

1 in = 1,000 feet
Scale: 1:12,000
Date: 7/27/2022



East Cesar Chavez Average Daily Pedestrian Traffic and Sidewalk Facilities

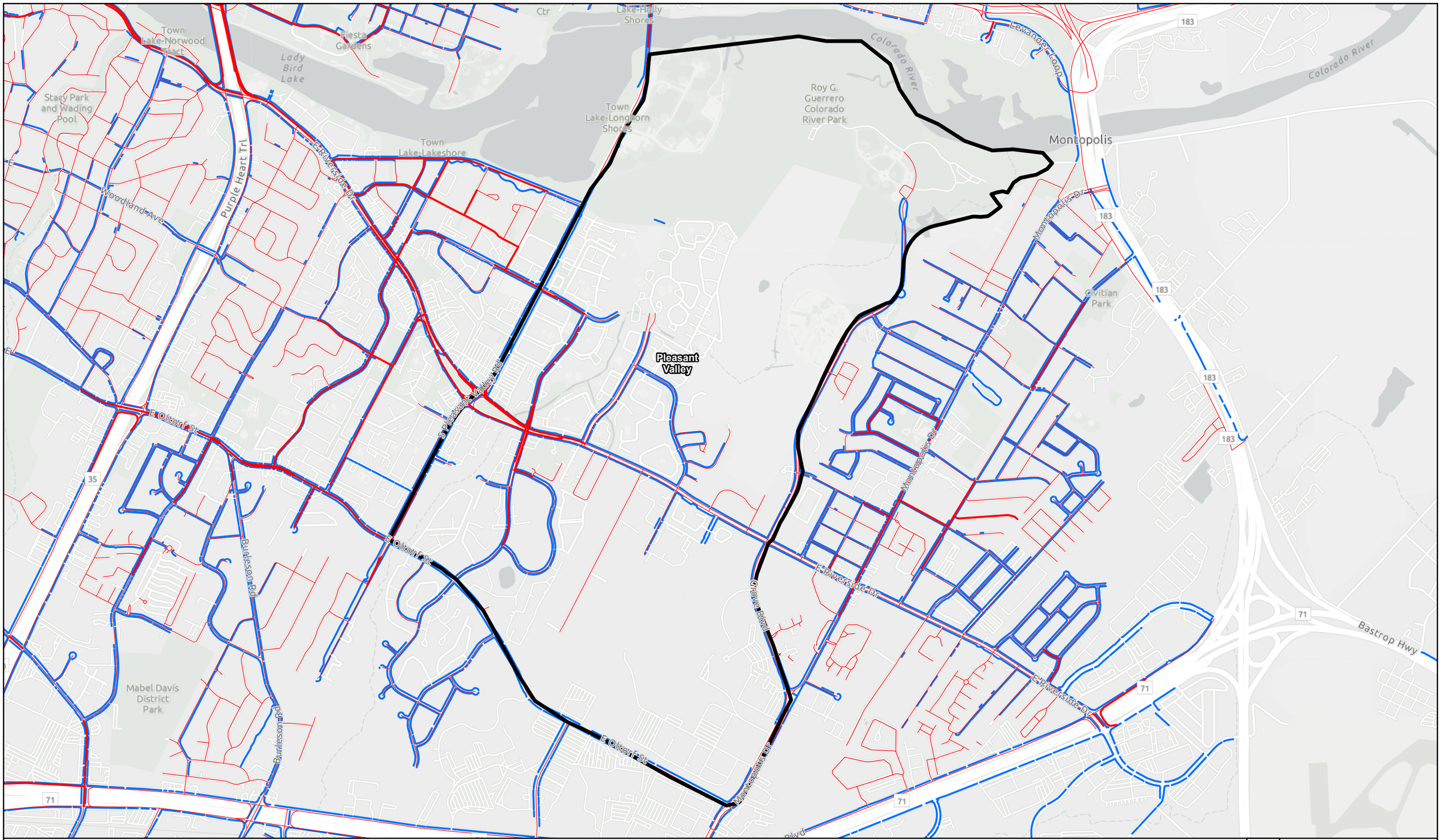
I-35 CapEx CIA – Supplemental Documentation

U:\23530166\03_data\gis_cad\gis\I35_Cap_Ex_CIA_Pro_Working.aprx

CSJ: 0015-13-388

Data Source: City of Austin (2022), Streetlight (2022)
Aerial Source: Maxar (2020)

0 1,000 Feet — 1 in = 1,000 feet
0 300 Meters — Scale: 1:12,000
Date: 7/27/2022



Pleasant Valley Average Daily Pedestrian Traffic and Sidewalk Facilities

I-35 CapEx CIA – Supplemental Documentation

Neighborhood Planning Area
Sidewalk - City of Austin

Average Daily Zone Traffic (StL Index)
1 - 553
554 - 1862
1863 - 4783

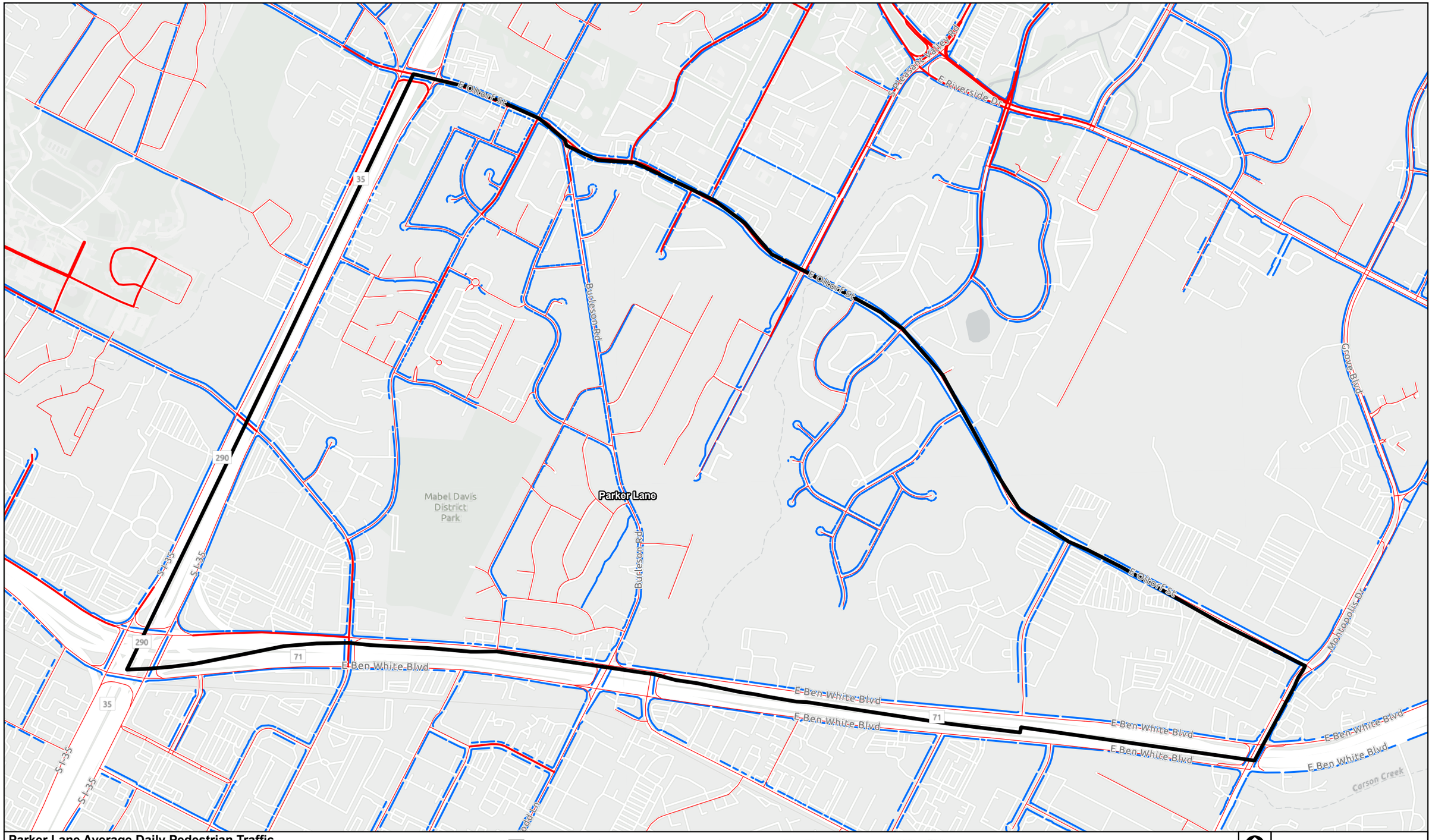
CSJ: 0015-13-388

Data Source: City of Austin (2022), Streetlight (2022)
Aerial Source: Maxar (2020)

0 1,500 Feet
0 450 Meters

1 in = 1,500 feet
Scale: 1:18,000
Date: 7/27/2022

U:\23530166\03_data\gis_cad\gis\I35_Cap_Ex_CIA_Pro_Working.aprx



Parker Lane Average Daily Pedestrian Traffic and Sidewalk Facilities

I-35 CapEx CIA – Supplemental Documentation

U:\235300166\03_data\gis_cad\gis\I35_Cap_Ex_CIA_Pro_Working.aprx

Neighborhood Planning Area

Sidewalk - City of Austin

Average Daily Zone Traffic (StL Index)

1 - 553

554 - 1862

1863 - 4783

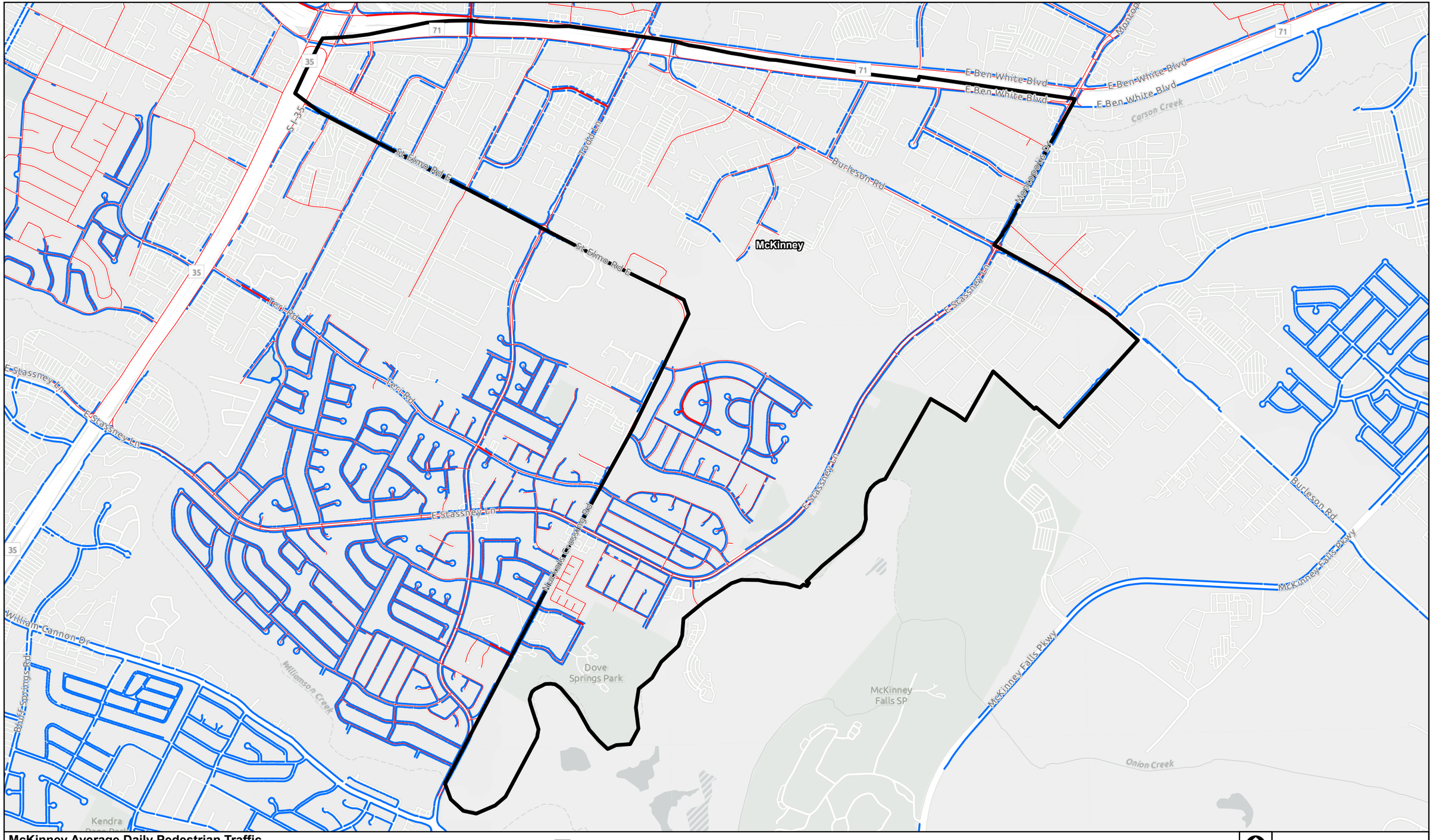
Data Source: City of Austin (2022), Streetlight (2022)
Aerial Source: Maxar (2020)

CSJ: 0015-13-388

0 1,000 Feet — 1 in = 1,000 feet

0 300 Meters — Scale: 1:12,000

Date: 7/27/2022



McKinney Average Daily Pedestrian Traffic and Sidewalk Facilities

I-35 CapEx CIA – Supplemental Documentation

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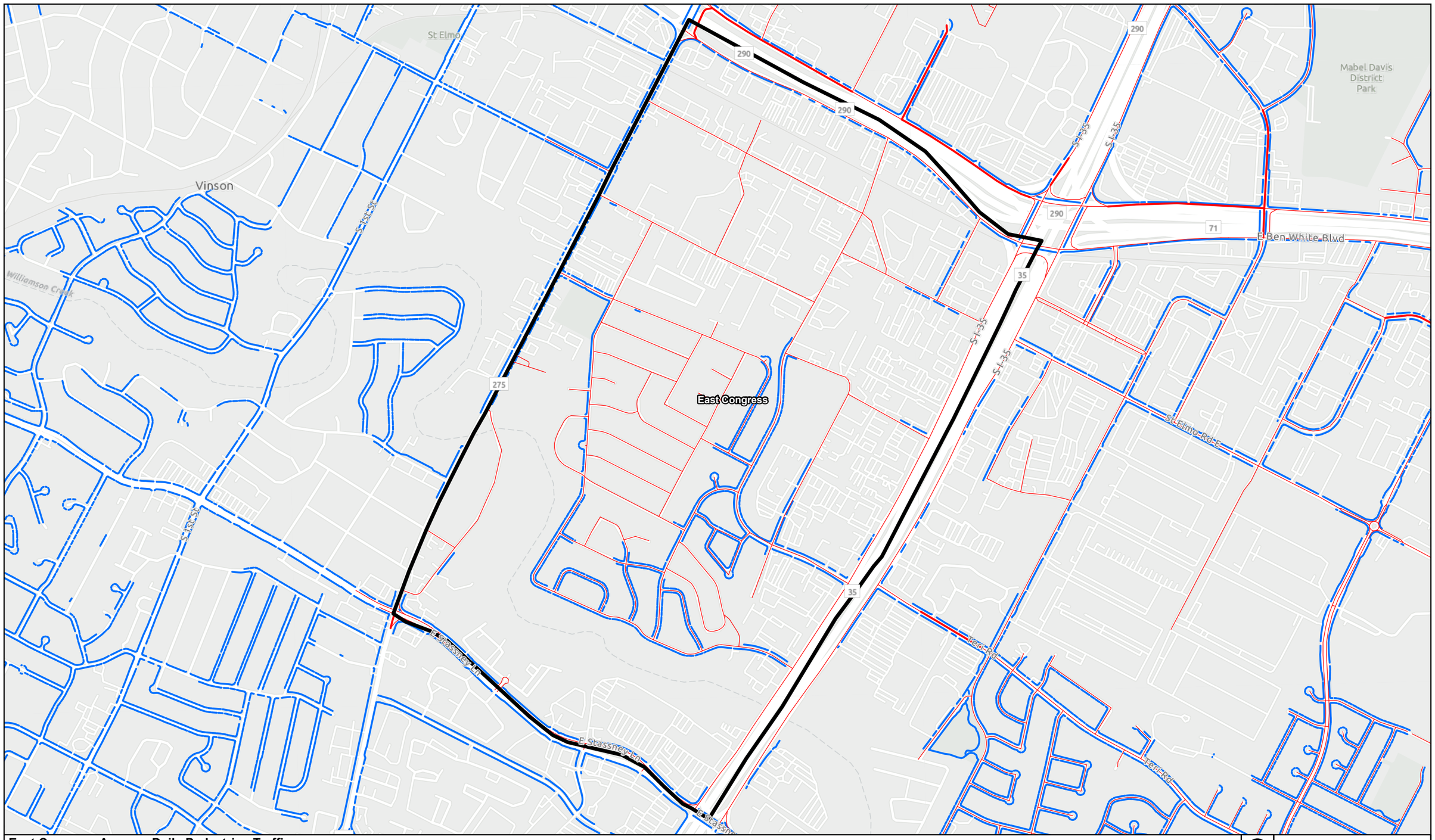
Neighborhood Planning Area
Sidewalk - City of Austin

Average Daily Zone Traffic (StL Index)
1 - 553
554 - 1862

Data Source: City of Austin (2022), Streetlight (2022)
Aerial Source: Maxar (2020)

CSJ: 0015-13-388

0 1,500 Feet — 1 in = 1,500 feet
0 450 Meters — Scale: 1:18,000
Date: 7/27/2022



East Congress Average Daily Pedestrian Traffic and Sidewalk Facilities

I-35 CapEx CIA – Supplemental Documentation

U:\23530166\03_data\gis_cad\gis\I35_Cap_Ex_CIA_Pro_Working.aprx

Neighborhood Planning Area
Sidewalk - City of Austin

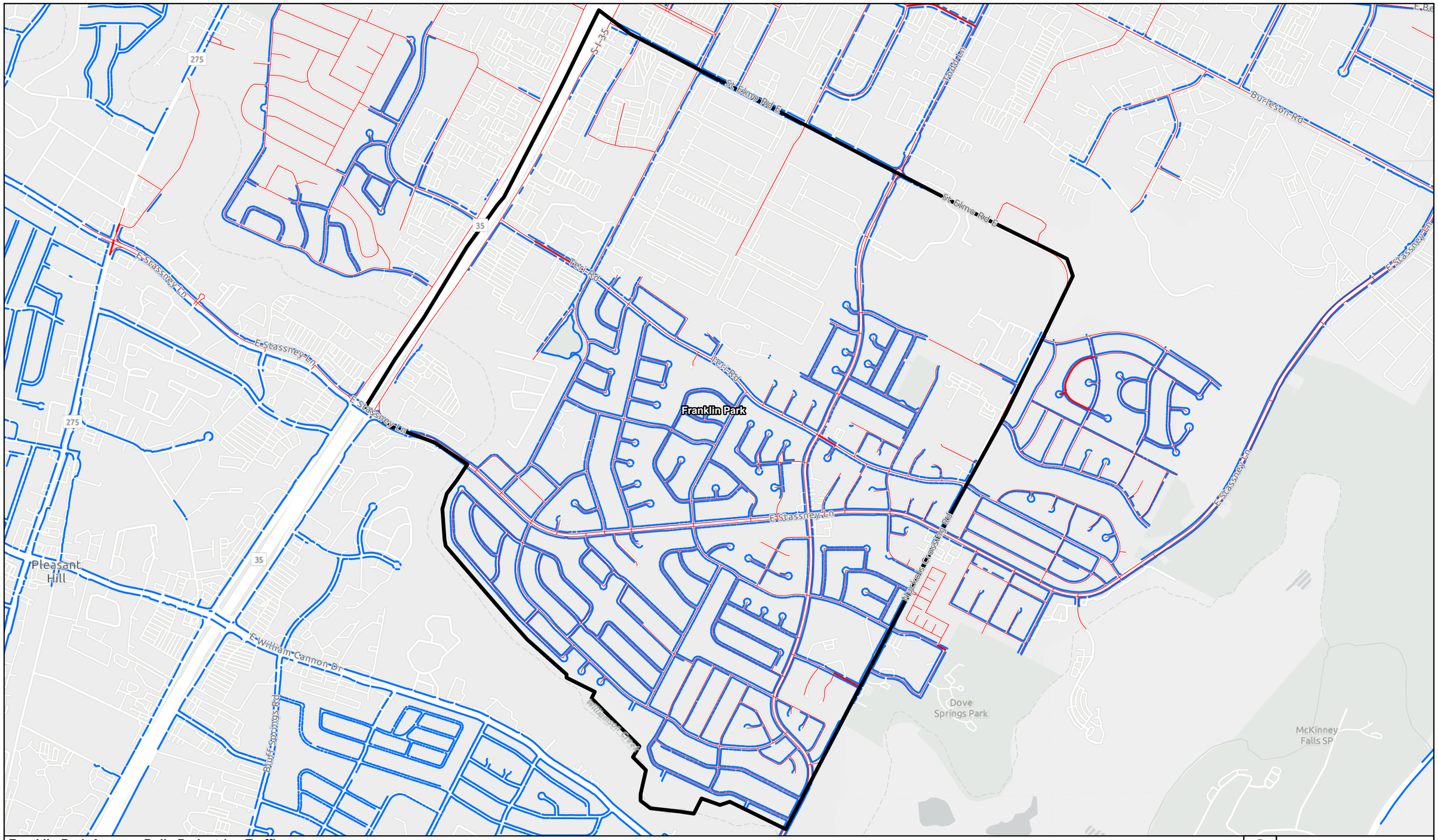
Average Daily Zone Traffic (StL Index)
1 - 553
554 - 1862

Data Source: City of Austin (2022), Streetlight (2022)
Aerial Source: Maxar (2020)

CSJ: 0015-13-388

0 1,000 Feet
0 300 Meters

1 in = 1,000 feet
Scale: 1:12,000
Date: 7/27/2022



Franklin Park Average Daily Pedestrian Traffic and Sidewalk Facilities

I-35 CapEx CIA – Supplemental Documentation

U:\23530016\03_data\gis_cad\gis\I35_Cap_Ex_CIA_Pro_Working.aprx

Neighborhood Planning Area
Sidewalk - City of Austin

Average Daily Zone Traffic (StL Index)
1 - 553
554 - 1862

Data Source: City of Austin (2022), Streetlight (2022)
Aerial Source: Maxar (2020)

CSJ: 0015-13-388

0 1,250 Feet — 1 in = 1,250 feet
0 350 Meters — Scale: 1:15,000
Date: 7/27/2022