Chapter 3

Transportation

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The introduction of a new mode of transportation requires detailed analysis of roadway, transit, bicycle lane, and sidewalk conditions to ensure that all modes can be accommodated safely and with optimal flow. The analysis informs the design of roadway reconfigurations, access improvements, smart signaling, lane utilization strategies, and other traffic management measures that reduce congestion and delay and enhance safety.

The transportation analysis in this chapter complies with the guidelines in the City's Transportation Criteria Manual, including requirements for conducting traffic impact analyses and considerations for transit vehicles and operations (Section 10 and Section 6, respectively). ATP has coordinated, and will continue to coordinate, with the Austin Transportation and Public Works Department to address local, state, and federal guidelines to address effects on transportation facilities.

The Study Area and methodology for the analysis of the different transportation resources includes:

- CapMetro public transit service operating within a 1.5-mile radius of proposed Project station areas and park-and-rides, and a 0.5-mile buffer of the Project. The analysis incorporates public transit ridership, travel times, and pedestrian access for the existing conditions and No Build Alternative (i.e., the affected environment), and compares effects of the No Build and Build Alternatives.
- Existing and planned bicycle and pedestrian facilities within a 1.5-mile radius of proposed Project station areas, the OMF, and park-and-rides, and a 0.5-mile buffer of the Project. This analysis identifies opportunities and constraints associated with active transportation access to each proposed station area.
- Traffic intersections within a 0.5-mile buffer around the Project, including proposed Project station areas and park-and-rides, using the CAMPO travel demand model and Planung Transport Verkehr (PTV) Vissim traffic microsimulation models. Existing (2022) and future (2045) conditions models of the No Build and Build Alternatives provide vehicle miles traveled (VMT), intersection level of service (LOS), delay, and queue lengths.
- On-street parking within a 0.5-mile buffer of the Project, including proposed Project station areas and park-and-rides. Field reviews and desktop surveys inform an inventory of existing parking spaces and identify locations where the Project would remove on-street parking.

3.1 Affected Environment

3.1.1 Existing Public Transit

CapMetro currently operates one commuter rail line (Red Line), bus service on high-frequency routes (CapMetro Rapid and CapMetro Bus), bus service with limited-stop service (CapMetro Express), and bus service with local-stop service (CapMetro Bus). The existing bus network that serves the Study Area is shown in Error! Reference source not found..

CapMetro provides service to about 70,445 weekday riders. Most of the existing routes show increased ridership in 2045 in the no build condition, with many routes expected to more than double in daily ridership. This pattern is representative of the rapid population and economic growth Austin is experiencing, accompanied by increasing use of the regional transportation network. The existing public transit system is projected to exceed existing capacity due to the combined effect of projected population growth in Austin, planned development, and increased traffic congestion on roadways throughout the region. By 2045, in the no build condition, the transit demand is expected to increase 114 percent systemwide with increased demand of 60 and 78 percent on the CapMetro Rapid Route 801 and CapMetro Bus Route 20 services, respectively (see **Table 3-1**).

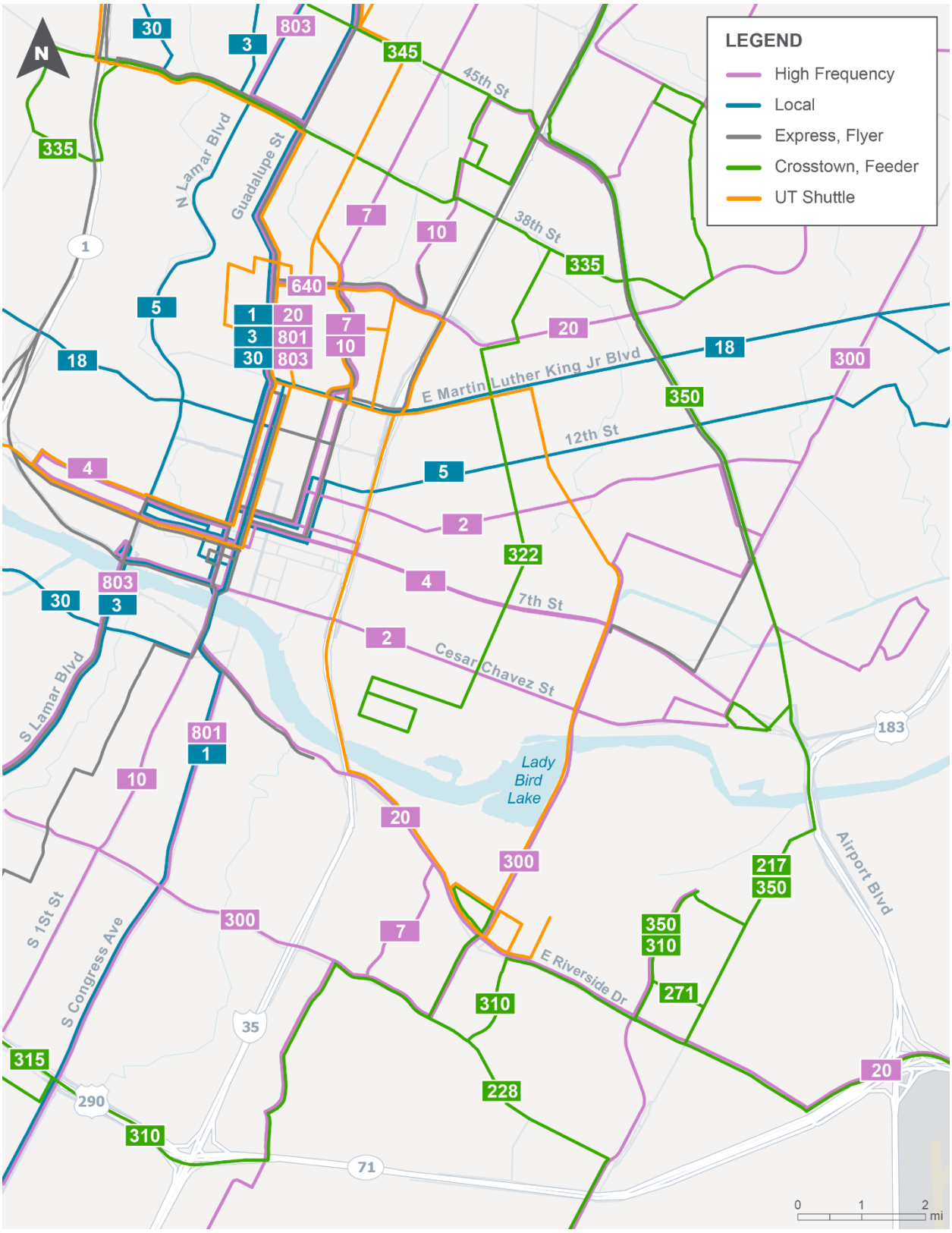
Table 3-1: CapMetro Bus Ridership – Existing and No Build Conditions

Route	Route Name	Average Weekday Daily Riders	
		Existing	2045 No Build
CapMetro Rapid Route 801	North Lamar/South Congress	7,303	11,298
CapMetro Bus Route 20	Manor/Riverside	5,044	8,988
CapMetro System	--	70,445	151,044

Source: CapMetro 2023; FTA 2024a.

Existing scheduled travel times are 33 minutes between 38th Street (Hyde Park Station) and Oltorf Street (Oltorf Station) on CapMetro Rapid Route 801 and 45 minutes between 38th Street (Hyde Park Station) and Yellow Jacket Lane (Riverside/Yellow Jacket Station) on the CapMetro Bus Route 20 service (transferring to CapMetro Rapid Route 801 at Capitol Station). The existing travel time between 38th Street and Yellow Jacket Lane is 45 minutes because it requires a transfer. Trips are highly dependent on time and day because the routes mostly operate in general traffic, with exceptions on segments of Guadalupe Street, Lavaca Street, and East Riverside Drive, which have transit priority lanes. Travel times will increase in the no build condition due to increased congestion in the Study Area.

Figure 3-1: Existing Bus Service



3.1.1.1 CapMetro Rapid Route 801

CapMetro Rapid Route 801 runs approximately 21 miles between Tech Ridge Park-and-Ride (approximately 9 miles north of 38th Street) and Southpark Meadows (approximately 5 miles south of Oltorf Street). It serves high-activity commercial and residential areas, including the Drag (i.e., the segment of Guadalupe Street that runs along the western edge of UT), Downtown Austin, and South Congress Avenue. Buses operate in general traffic lanes along most of the corridor, except for bus-only transit priority lanes on Guadalupe Street and Lavaca Street between MLK Boulevard and 3rd Street (approximately 1 mile).

Route 801 currently has 12 stations in the Study Area. Republic Square Station, located in central Downtown Austin, and UT Station, the primary transit station adjacent to UT, are two of Route 801's highest ridership stations and are major transfer hubs in the CapMetro system. Other stations with high average boarding activity in the Study Area include UT Dean Keeton Station (Northbound), Austin History Center, and Oltorf Station (Northbound). In spring 2023, the route averaged 7,303 daily riders and 23 passengers per revenue hour on weekdays.

3.1.1.2 CapMetro Bus Route 20 Manor Road/Riverside

CapMetro Bus Route 20 Manor Road/Riverside runs approximately 16 miles between Austin-Bergstrom International Airport and Lyndon Baines Johnson Early College High School (near the US 183 and 183 Toll and Manor Road interchange) via Downtown Austin. Buses operate in general traffic lanes in most of the Study Area, except for the bus-only transit priority lanes on Guadalupe and Lavaca Streets between MLK Boulevard and 3rd Street (approximately 1 mile) and on East Riverside Drive between Summit Street and Grove Boulevard (approximately 2.1 miles).

Route 20 currently has a total of 56 stops—27 northbound and 29 southbound—in the Study Area. Republic Square Station (Guadalupe Street/4th Street) in central Downtown Austin and 1971 Pleasant Valley/Riverside (westbound) are the two highest ridership bus stops along the route in the Study Area. Republic Square Station also serves all downtown routes and is a transfer hub in the CapMetro system. Other stops with high average boarding activity include 201 Dean Keeton/University, 2231 Guadalupe Street/West Mall UT, Lavaca Street/4th Street, 4522 Riverside/Wickersham, 6000 Riverside/Clubview, 6306 Riverside/Montopolis, UT Mall Station, and Vic Mathias/Auditorium. In spring 2023, the route averaged 5,044 daily riders and about 29 passengers per revenue hour on weekdays.

3.1.1.3 Future Public Transit Projects

New and expanded public transit service expected by 2045 includes:

- CapMetro Express bus service between park-and-rides and major employment hubs serving suburban Austin and neighboring communities;
- CapMetro Rapid bus service featuring frequent service, limited stops, priority lanes, transit signal priority, queue jumps, and enhanced and improved bus stations;
- CapMetro Rail Green Line commuter rail operating on CapMetro's existing freight line between Downtown Austin and Elgin; and
- CapMetro Rail Red Line commuter rail improvements.

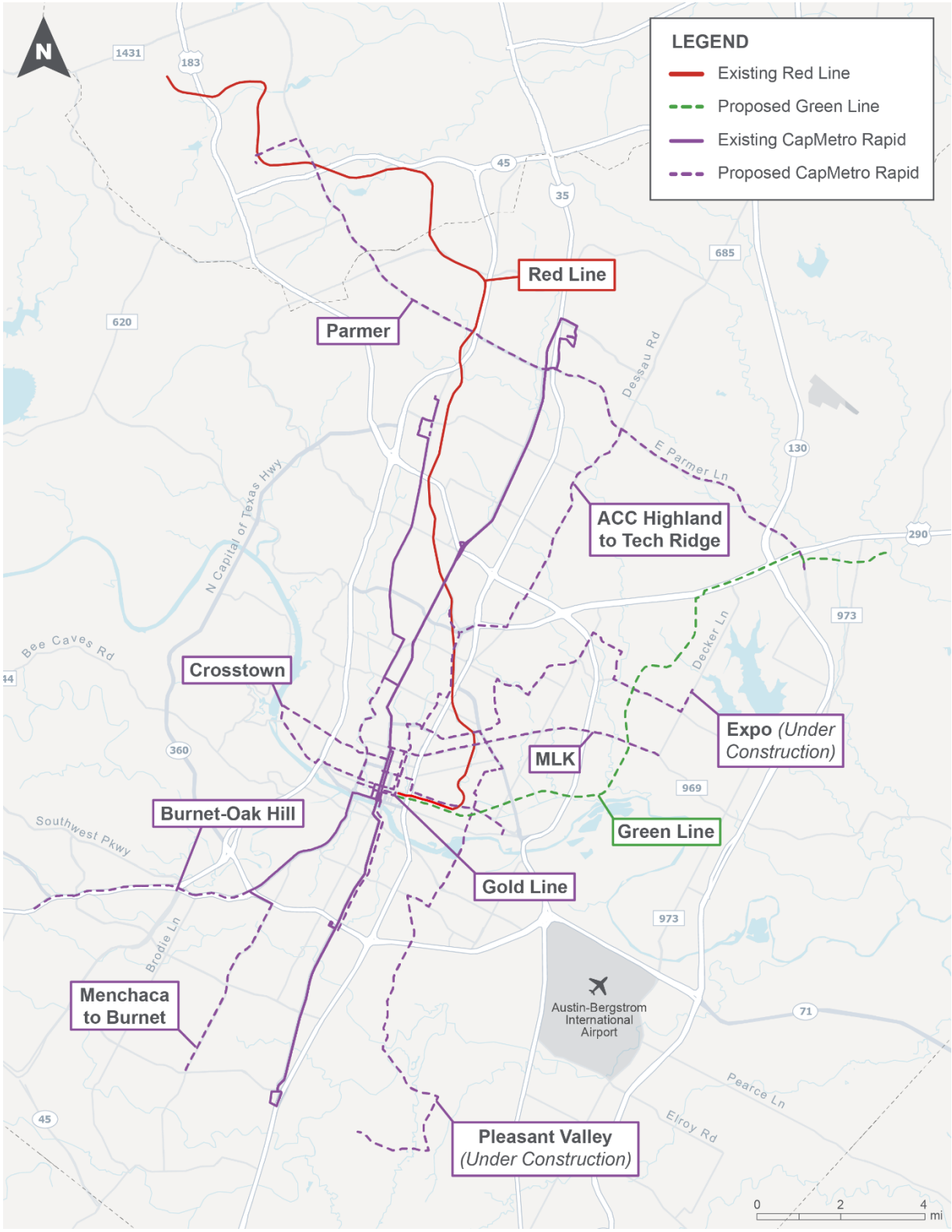
Table 3-2 provides additional details about these future committed public transit projects. **Figure 3-2** shows the proposed CapMetro Rapid routes, proposed CapMetro Rail Green Line, and the existing CapMetro Rail Red Line.

Table 3-2: No Build Alternative Transit Projects in CAMPO's *2045 Regional Transportation Plan*, Adopted 2020

Service	Planned Routes	
CapMetro Express Bus	Downtown Austin to: • San Marcos • Buda • Southpark Meadows • Georgetown • Round Rock • Howard Station • Elgin • Manor	 • Hutto • Pflugerville • Lockhart • Easton Park • South Mopac • Bastrop • Del Valle • Four Points
CapMetro Rapid Bus	• Pleasant Valley – Mueller to the Goodnight Ranch Park-and-Ride • Expo Center – East Austin to Republic Square • Austin Community College – Highland to Republic Square • Burnet – Menchaca and Oak Hill Road Rapid Extension • Parmer Lane – Wildhorse to Lakeline • Martin Luther King (MLK) – Decker to Redbud • Crosstown – CARTS East Bus Plaza to Redbud • ACC Highland to Tech Ridge	
CapMetro Rail (commuter rail)	• Proposed Green Line commuter rail service to Elgin on a 25-mile alignment with 10 stations and connections to light rail routes, CapMetro Rail, and CapMetro Rapid • Red Line commuter rail improvements, including a double-track segment to support expanded operations, platform extensions, and new stations	

Source: CAMPO 2024a.

Figure 3-2: Proposed CapMetro Rapid Routes, Proposed CapMetro Rail Green Line, and Existing CapMetro Rail Red Line



Source: CapMetro 2022.

3.1.2 Active Transportation

On average, sidewalk coverage within the Study Area is about 77 percent complete. Existing sidewalk facilities are less connected outside of the downtown area. Missing sidewalk coverage is approximately 50 percent near the proposed SoCo and Oltorf Stations, more than 40 percent north of 29th Street, and more than 20 percent along East Riverside Drive.

There are approximately 40 miles of urban trails and 63 miles of bicycle lanes in the Study Area. The area near the Wooldridge Square Station Design Option has the highest total miles of existing bicycle facilities in the vicinity, approximately 45 miles of facilities of all types. Approximately 6 of the 45 miles are protected facilities (i.e., separated from motor vehicle lanes and parking lanes with physical barriers) and approximately 20 miles are trail facilities. Yellow Jacket Station has the lowest total miles of existing facilities at approximately 5 miles. Station areas north of Lady Bird Lake have an average of about 38 miles of bicycle facilities, while station areas south of Lady Bird Lake have an average of about 19 miles. Stations along the eastern branch in particular have low numbers of bicycle facility miles.

The highest number of planned bicycle facilities are located in the 15th Street Station and Wooldridge Square Station areas, each with approximately 84 miles of planned bicycle facilities. The lowest number of planned bicycle facilities is approximately 29 miles and 28 miles in the proposed Yellow Jacket Station and OMF areas, respectively. Most of the planned facilities would be protected bicycle lanes and urban trails.

Approximately 49 percent of existing signalized crossing locations in the Study Area have a bicycle facility on the approach, while 69 percent of crossings have a sidewalk on at least one shared side of the approach. ATP calculated these percentages by finding the number of signalized crossings with bicycle and sidewalk facilities and dividing by the total number of signalized crossings. Existing signalized crossing locations with active transportation facilities are less prevalent in the southern and eastern portion of the Study Area compared to Downtown Austin and near UT.

3.1.3 Traffic

3.1.3.1 Roadway Characteristics

The roadway network in the Study Area includes local streets, arterial roadways, and major thoroughfares that move traffic among neighborhoods and through Austin. Guadalupe Street, Lavaca Street, and South Congress Avenue provide major north-south connectivity, and East Riverside Drive provides major east-west connectivity, as described below:

- **Guadalupe Street**, a primary arterial, has two travel lanes running in each direction for most of the Study Area and four one-way southbound lanes between MLK Boulevard and West Cesar Chavez Street, with one serving as a public transit priority lane. The roadway has a two-way left-turn lane (i.e., a center lane that allows vehicles to make left turns in either direction) between 38th Street and 29th Street and exclusive left-turn lanes at intersections north of Dean Keeton Street. Northbound left-turns are prohibited between 26th and 21st Streets, and southbound left-turns are prohibited between 25th and 22nd Streets. Guadalupe Street contains transit priority lanes through the

downtown area. Northbound and southbound bicycle lanes exist throughout most of the corridor, with typical sidewalk widths ranging from 7 to 15 feet. Parallel parking exists along most of the roadway from the Drag through Downtown Austin.

- **Lavaca Street** runs through Downtown Austin and forms a one-way northbound couplet with southbound Guadalupe Street between Cesar Chavez Street and MLK Boulevard. Lavaca Street has four northbound travel lanes, with one lane serving as a public transit priority lane. Northbound bicycle lanes exist on Lavaca Street throughout the Study Area, with typical sidewalk widths ranging from 7 to 15 feet. Parallel parking exists along most of the roadway through Downtown Austin.
- **South Congress Avenue**, a primary arterial, has two travel lanes running in each direction and a two-way left-turn lane in most of the Study Area. Exclusive left-turn lanes are present at all signalized intersections, and exclusive right-turn lanes are present at intersections with major roadways. South Congress Avenue has northbound and southbound bicycle lanes in most of the Study Area, with constrained sections shared with vehicle lanes. Sidewalks ranging from 7 to 15 feet wide and parallel and angled parking are adjacent to the roadway in the South Congress Business District.
- **East Riverside Drive**, a primary arterial, varies in ROW width and lane configuration by segment and includes exclusive left-turn lanes at most signalized intersections. West of I-35, the arterial has two travel lanes running in each direction and a landscaped center median that prevents left turns except at intersections and from the two-way left-turn lane between South Congress Avenue and Newning Avenue. East of I-35, the roadway has three lanes in each direction between I-35 and Summit Street. East of I-35 between Summit Street and Grove Boulevard, the arterial has three lanes in each direction, including a public transit priority lane, and exclusive left-turn lanes at most intersections. The center median of East Riverside Drive widens between Willow Creek Drive and Wickersham Lane, with both directions of traffic separated by as much as 225 feet at the intersection with Pleasant Valley Road. East of Grove Boulevard, East Riverside Drive is composed of three lanes in each direction. Between SH 71 and US 183 near Austin-Bergstrom International Airport, the roadway has two lanes in each direction and a two-way left-turn lane. Typical sidewalk widths range from 5 to 10 feet throughout the Study Area.

The following three highways with access control intersect the Study Area (defined as a 0.5-mile buffer around the Project):

- **I-35** crosses the Project alignment at East Riverside Drive. I-35 provides roadway users accessibility to several major east-west corridors that intersect the Study Area.
- **US 183** provides a direct connection to I-35 and intersects North Lamar Boulevard about 3 miles north of the proposed 38th Street Station at the northern end of the Project alignment. Toward the south, US 183 provides access to Yellow Jacket Station (located approximately 1 mile west) via SH 71 and the OMF at Airport Commerce Drive (located within 0.5 mile). US 183 provides connections to growing municipalities northwest of Austin as well as connectivity to East Austin and Austin-Bergstrom International Airport.

- **US 290/SH 71** intersects South Congress Avenue about 1.2 miles south of the proposed Oltorf Station at the southern end of the Project alignment. SH 71 also intersects East Riverside Drive about 0.2 mile east of the proposed Yellow Jacket Station at the eastern end of the Project alignment. This roadway provides regional highway access from locations east and west of Austin and provides connectivity to Austin-Bergstrom International Airport.

By 2045, a number of TxDOT and City infrastructure improvements are anticipated to be completed in the Study Area. **Table 3-3** summarizes the planned roadway projects (per the May 2024 update of the *2045 Regional Transportation Plan* [CAMPO 2024a]) that will affect the Study Area.

Table 3-3: Summary of Planned Roadway Projects

Roadway	Extent		Description
TxDOT Projects			
I-35 Capital Express Central Project	US 290 East	US 290 West / SH 71	Add northbound and southbound non-tolled managed lanes, reconstruct ramps, improve frontage road, add auxiliary lanes, and add shared use paths
SH 71	East of East Riverside Drive	US 183	Construct three-lane eastbound frontage road along SH 71 and one-lane direct connector from US 183 South to SH 71 East
SH 71	SH 71/US 183 Interchange	Presidential Blvd	Construct three-lane eastbound frontage road with shared use path, one-lane direct connector from US 183 South to SH 71 East and one-lane direct connector from US 183 North to SH 71 East
US 183	0.46 mile south of Thompson Lane	0.07 mile SW of Airport Commerce Drive	Construct one-lane southbound frontage road
US 183	SH 71	SH 130	Reconstruct existing four-lane roadway to four-lane divided roadway
City of Austin Projects			
Barton Springs Road	South Lamar Boulevard	South Congress Avenue	Construct bicycle/pedestrian and transit improvements

Roadway	Extent		Description
East Cesar Chavez Street	I-35	US 183	Reconstruct existing two-lane undivided roadway to add continuous left-turn lane and construct bicycle/pedestrian and transit improvements
East Oltorf Street	I-35	Grove Boulevard	Widen existing four-lane undivided roadway to four-lane divided roadway and construct bicycle/pedestrian and transit improvements
Guadalupe Street	W 29th Street	W MLK Boulevard	Rehabilitate West Campus sidewalk and add ADA-compliant curb ramps in some locations, upgrade existing bicycle/pedestrian infrastructure, and add new shared use paths
North Pleasant Valley Road	Cesar Chavez Street	East Riverside Drive	Widen existing two-lane undivided roadway to four-lane divided roadway and construct bicycle/pedestrian and transit improvements
South Pleasant Valley Road	Oltorf Street	South of River Plantation Drive	Widen existing two-lane undivided roadway, construct new four-lane divided roadway, and construct bicycle/pedestrian and transit improvements
West 35th Street / West 38th Street	Jefferson Street	Speedway	Widen existing four-lane undivided roadway to four-lane divided roadway and construct bicycle/pedestrian and transit improvements

Source: CAMPO 2024a.

3.1.3.2 Levels of Service and Traffic Flow

Traffic flow is based on the regional commuter patterns: (1) toward downtown during the AM peak period; and (2) away from downtown during the PM peak period. During the AM peak period, travelers experience heavy congestion and delays along the corridor south of downtown in the northbound direction, culminating in the peak flow over the South 1st Street Bridge entering downtown. Heavy pedestrian flows and transit volumes in the UT area slow vehicle traffic progression and create roadway congestion on Guadalupe Street. During the PM peak period, northbound Lavaca Street at MLK Boulevard and southbound Guadalupe Street at Cesar Chavez Street are the main downtown streets in the Study Area that experience high levels of vehicular congestion.

The traffic analysis included evaluation of peak-hour traffic operations for the 2045 no build condition at 83 intersections in the Study Area. By 2045, out of the 83 intersections analyzed, 26 intersections are expected to operate at reduced levels of service (i.e., LOS E or F) during

the weekday AM peak period, and 66 intersections are expected to operate at reduced levels of service during the weekday PM peak period in the no build condition.

3.1.4 Parking

The 2019 Downtown Austin Parking Strategy documented 71,504 parking spaces within the Downtown Austin planning area—including 65,099 off-street spaces and 6,405 on-street spaces (Downtown Austin Alliance 2019). Since the 2019 document was released, new development and street configuration changes have reduced the on-street parking supply downtown to approximately 5,300 spaces, and efforts are ongoing to manage existing parking better to create more shared parking in lieu of building new parking as Downtown Austin continues to develop with housing, retail, and office. The 2019 South Congress Parking Strategy found that there were 5,372 parking spaces within the South Congress study area (generally from 1st Street to Brackenridge Street and West Live Oak Street to West Riverside Drive) (City of Austin and Downtown Austin Alliance 2019).

ATP surveyed on-street parking supply and utilization rates along the Drag, Downtown Austin, and the South Congress Business District. There is no on-street parking on East Riverside Drive between South Congress Avenue and Airport Commerce Drive. The number of observed parking spaces and utilization rates are shown in **Table 3-4**.

Table 3-4: Parking Spaces and Utilization Rates

Location	Total Spaces	Peak Period[1]	Utilization Rate (%)
Guadalupe Street from 38th Street to 15th Street	86	Midday	91
		PM	69
Downtown Austin (Guadalupe/3rd/4th/Trinity Streets)	186	Midday	50
		PM	35
Downtown Austin (Lavaca Street)	111	Midday	77
		PM	43
South Congress Business District	358	Midday	56
		PM	68

[1] Midday = 11:00 a.m. – 2:00 p.m.; PM peak = 4:00–6:00 p.m.

3.2 Environmental Consequences

Effects of the Project on the different forms of transportation are summarized below for the No Build and Build Alternatives.

3.2.1 No Build Alternative

Under the No-Build Alternative, the high-frequency CapMetro Rapid Route 801 and CapMetro Bus Route 20 would continue to serve the Study Area. CapMetro Rapid Route 801 would

operate at 7.5- to 10-minute headways (the distance between buses) to accommodate increased demand. CapMetro Bus Route 20 would operate at 15-minute headways. Bus service travel times would be slower than today because of the increased traffic volumes resulting in increased roadway congestion and higher intersection delays. Today, end-to-end bus travel time is 45 minutes between 38th Street and Yellow Jacket (which requires a transfer between CapMetro Bus Route 20 and to CapMetro Rapid Route 801 at Capitol Station) and 33 minutes for 38th Street to Oltorf (using CapMetro Rapid Route 801). Trips are highly dependent on time and day because the routes mostly operate in general traffic, with exceptions on segments of Guadalupe Street, Lavaca Street, and East Riverside Drive, which have transit priority lanes. VMT in the region would be expected to increase 127 percent from 2022–2023 (about 62 million VMT) to 2045 (about 140 million VMT). Improvements to the bicycling and walking networks would occur incrementally to remove existing barriers to accessibility, fill in sidewalk network gaps, and improve intersection safety. Parking utilization rates would be expected to increase as a result of the increase in private vehicle use and planned property development. See **Appendix D** for additional analysis.

3.2.2 Build Alternative and Design Options

Under the Build Alternative and Design Options, ATP would implement light rail in a dedicated guideway, which would include the following changes (as shown in **Appendix C**) to roadways in the Study Area:

- **Guadalupe and Lavaca Streets Bidirectional Flow.** The downtown area would operate with one travel lane (northbound and southbound) on either side of the guideway on Guadalupe Street between MLK Boulevard and 3rd Street. Local traffic would be maintained along Guadalupe Street in this section, including use by buses and emergency vehicles, and for local delivery and garage access. General through-traffic would be relocated to Lavaca Street, which would be converted to bidirectional flow between MLK Boulevard and 2nd Street. The protected bicycle lanes on Guadalupe and Lavaca Streets would be relocated to Nueces Street in coordination with the City. Sidewalks will be included on both sides of Guadalupe and Lavaca Streets.
- **Guadalupe Street between 29th and 27th Streets.** Guadalupe Street between 29th and 27th Streets would function as a light rail and pedestrian corridor, with vehicular access restricted by signage, traffic control devices, and/or curbs. Emergency access would be accommodated.
- **The Drag.** This segment of Guadalupe Street between 27th and 21st Streets would include the light rail guideway, bicycle and pedestrian facilities, and one travel lane in each direction outside the guideway that is intended for bus and/or bicycle access but would not prevent local access and could be used by emergency vehicles. Buses would operate either in the shared bus/bicycle travel lane on either side of the light rail guideway or in a shared light rail / bus guideway with separated bicycle lanes in the travel lane on either side of the guideway. In both scenarios, pedestrians would use adjacent sidewalks. The current design would accommodate either scenario, and future design phases would analyze the operational effects on transit and active transportation under these scenarios.

- **3rd Street Conversion.** Due to ROW restrictions, ATP would convert 3rd Street between Colorado Street and Congress Avenue to a transit plaza, and vehicular traffic on 3rd Street between Guadalupe Street and Lavaca Street would be eastbound only. Left turns across the tracks, including at signalized intersections, would be prohibited on 3rd Street between Guadalupe and Trinity Streets. ATP would relocate the protected bicycle lanes currently on 3rd Street to 4th Street. ATP would reconstruct 4th Street between Nueces Street and Trinity Street (including the bicycle lanes) before closure of the 3rd Street protected bicycle lanes to mitigate effects on connectivity and safety.
- **Trinity Street.** ATP would provide for continuous bidirectional bicycle lanes on the east side of Trinity Street south of 4th Street. Between the cul-de-sac and Cesar Chavez, Trinity Street would have one vehicular travel lane in each direction separated by the light rail guideway. The cul-de-sac would be signalized and would provide vehicles the ability to turn around. The Cesar Chavez Station would be located on Trinity Street between Cesar Chavez Street and 2nd Street. Due to constrained ROW through the station area, Trinity Street would have one northbound lane north of Cesar Chavez and would have two northbound lanes north of 3rd Street.
- **South 1st Street Bridge Design.** ATP would add a bus-only northbound lane to the South 1st Street bridge to improve bus operations along Guadalupe Street into Downtown Austin. Southbound buses would continue to operate in general purpose traffic lanes; however, one southbound general traffic lane would be removed.
- **East Riverside Drive Bus-Only Lanes.** Due to ROW restrictions, ATP would remove existing bus-only lanes along East Riverside Drive between Summit Street and Grove Boulevard to accommodate the Project in the corridor, and buses would use the general vehicular travel lanes.
- **Bus Stops.** In compliance with the City's Transportation Criteria Manual and CapMetro Service Standards and Guidelines, ATP proposes that bus stops be relocated to signalized crossings, and many stops would have bicycle facilities behind the curb.

The effects of the light rail guideway, three new park-and-rides, OMF, and roadway changes on transportation in the Study Area are discussed below.

3.2.2.1 Operational (Long-Term) Effects

Public Transit

The Build Alternative would have a positive effect on the public transit network for the community, especially in tandem with the improvements in CAMPO's *2045 Regional Transportation Plan* (2024a). Analysis shows that implementing light rail along some of the key corridors in the CapMetro network would add capacity that would improve overall public transit use systemwide. The Project would offer improved connectivity, which would result in reduced travel times and may eliminate transfers for some existing and potential passengers, making public transit a more attractive alternative to driving. It may also open capacity on the routes that operate parallel to the Project, which would offer a new opportunity to enhance connectivity and reliability across the existing public transit system through the reduction of fleet requirements on parallel routes. Excess fleet can be redeployed to other routes that require increased capacity.

The Project would facilitate multimodal travel, making it easier for people to access public transit and improve their experience while using it. **Table 3-5** presents the ridership forecasts and the mode of access (bike/walk, passenger drop-off/pickup, park-and-ride, or transfer) for each station in the Build Alternative. Most would bike or walk to access transit stations under both the No Build and Build Alternatives.

Table 3-5: Build Alternative Average Weekday Station Boardings by Mode of Access (Analyzed July 2024)

Station (Base Design)	Build Alternative 2045				
	Bike/Walk	Passenger Drop Off	Park-and-Ride	Transfer	Total
38th Street	1,928	523	309	258	3,017
29th Street	1,440	32	0	32	1,504
UT	5,230	16	0	132	5,377
15th Street	1,511	37	0	132	1,679
Congress	2,026	24	0	654	2,705
Cesar Chavez	1,629	38	0	3,278	4,945
Waterfront	146	73	0	293	512
SoCo	253	2	0	1	255
Oltorf	1,225	435	103	85	1,848
Travis Heights	51	21	0	10	82
Lakeshore	955	7	0	104	1,067
Pleasant Valley	1,978	54	0	98	2,130
Faro	1,435	15	0	33	1,484
Montopolis	1,031	10	0	5	1,046
Yellow Jacket	129	651	150	387	1,317
Total	**20,967**	**1,938**	**562**	**5,502**	**28,968**[1]

Source: FTA 2024a.
[1] Ridership estimate as of August 2024.

Based on the ridership forecasts, nearly 29,000 trips would be made on the light rail each weekday. The bus routes that operate in a corridor parallel to and near the Project would be expected to decrease in ridership under the Build Alternative as some riders select light rail for their trip. The bus routes would still serve a critical function in the entire transit network for connectivity and coverage.

Estimated end-to-end light rail travel time would be approximately 20 minutes between the 38th Street and Oltorf Stations and 26 minutes between the 38th Street and Yellow Jacket Stations, offering a faster and more reliable trip compared to the No Build Alternative.

Each of the Design Options would have a negligible effect on travel times and ridership levels compared to the Build Alternative. The addition or reduction of a station would affect travel times by less than 1 minute. The Wooldridge Square Station Design Option would result in a net increase in ridership of approximately 10 percent and would attract some passengers who would otherwise use the 15th Street and Congress Stations. The Travis Heights Station Design Option would result in approximately 100 fewer daily boardings.

Active Transportation

General cycling and walking mobility would improve within and across the corridor with the Project because of improved bicycle and pedestrian facilities. Sidewalks and bicycle lanes or shared use paths would be installed Project-wide except in locations substantially constrained by existing adjacent structures. These facilities, designed with updated *Austin Strategic Mobility Plan* and Transportation Criteria Manual guidance, would provide a more comfortable and well-connected travel experience. The new bicycle and pedestrian facilities on the proposed bridge spanning Lady Bird Lake would provide access to Downtown Austin for those living in the South and East Sections of the Study Area.

Numerous new high-visibility pedestrian crossings are planned along the Project corridor. The sections of the Project on Guadalupe Street between 38th and 15th Streets and on East Riverside Drive would have six and seven new pedestrian crossings, respectively, improving bicycle/pedestrian connectivity and access. These additional crosswalks and network connections would decrease trip length and provide more direct paths for bicyclists and pedestrians. ATP would apply the latest design standards at intersections to improve active transportation safety for those accessing public transit or using the Project corridor for other trip choices.

Except for the Center-Running Bike/Pedestrian and Shade Tree Facilities on East Riverside Design Option, the difference between the Build Alternative and the Design Options would be negligible because each station area would be designed to connect to existing and planned active transportation facilities. Under the Center-Running Bike/Pedestrian and Shade Tree Facilities on East Riverside Design Option, additional active transportation benefits would occur for people biking and walking along this segment. Currently, East Riverside Drive has no bicycle facilities and many driveways on both sides of the roadway. Under the Build Alternative and all Design Options, ATP would add protected bicycle facilities to the length of East Riverside Drive, except in constrained areas where shared use paths would be installed instead. By placing active transportation facilities between the light rail and traffic lanes, users of the center-running facilities would avoid potential conflicts with automobiles entering or exiting driveways. Currently, East Riverside Drive has relatively few pedestrian crossing opportunities, particularly east of Tinnin Ford Road. Under the Build Alternative and all Design Options, ATP would mitigate long crossing pedestrian distances by providing two-phase crossings with a center median that provides an area of refuge.

Traffic

Overall, traffic volumes would decrease in the region with the addition of the Project compared to the No Build Alternative. In comparison to the No Build Alternative, the Build Alternative would result in a reduction of personal vehicle trips and 20.14 million VMT in the region annually. The light rail would increase the person capacity of the existing transportation network because light rail vehicles can transport a higher number of passengers than personal vehicles without the need for greater space.

ATP analyzed level of service and delay at intersections in the Study Area using the Vissim[1] traffic model. Of the 83 intersections in the Study Area, the results of the model indicate that under the Build Alternative, 35 intersections would operate at a reduced level of service (LOS E or F) during the AM peak period, and 51 intersections would operate at a reduced level of service during the PM peak period.

Compared to the No Build Alternative, 19 intersections during the AM peak period and 32 intersections during the PM peak period showed improved level of service with the addition of light rail. It should be noted that Guadalupe Street and Lavaca Street (between MLK Boulevard and Cesar Chavez Street) form a one-way couplet under the No Build Alternative, but are each bidirectional under the Build Alternative.

Adverse traffic effects that would occur under the Build Alternative, defined as the intersections where levels of service would degrade to a LOS E or F, are shown in **Table 3-6**. Adverse effects at 16 intersections would result during the AM peak period, and 1 intersection would be adversely affected during the PM peak period. The model results indicate that no substantial traffic effects occur at the intersections adjacent to the park-and-rides

Table 3-6: Summary of 2045 No Build Alternative and Build Alternative Peak Hour Level of Service

Intersection	AM Peak LOS		PM Peak LOS	
	No Build	Build	No Build	Build
Trinity St / E Riverside Dr	F	F	E	F
Trinity St / E Cesar Chavez St	D	F	C	F
Trinity St / W 3rd St	C	D	A	E
San Jacinto Blvd / W 3rd St	B	E	C	D
Congress Ave / W 3rd St	E	E	B	F
Colorado St / W 3rd St	D	C	D	C
San Antonio St / W 3rd St	A	B	F	D

[1] VISSIM is a microscopic, multi-modal traffic simulation software tool widely used for traffic modeling, analysis, and planning in urban and inter-urban traffic environments.

Intersection	AM Peak LOS		PM Peak LOS	
	No Build	Build	No Build	Build
Guadalupe St / 38th St	F	F	F	F
Guadalupe St / 34th St	D	D	F	F
Guadalupe St / 30th St	D	D	F	F
Guadalupe St / 29th St	E	C	F	F
Guadalupe St / 22nd St	E	A	E	B
Guadalupe St / 21st St	D	C	F	D
Guadalupe St / W MLK Blvd	F	F	C	F
Lavaca St / W MLK Blvd	B	F	E	F
Guadalupe St / W 18th St	A	D	C	C
Lavaca St / W 18th St	B	A	F	B
Guadalupe St / W 17th St	C	F	F	D
Lavaca St / W 17th St	B	C	F	C
Guadalupe St / W 16th St	A	C	C	D
Lavaca St / W 16th St	A	A	F	B
Guadalupe St / W 15th St	B	C	D	C
Lavaca St / W 15th St	B	E	F	D
Guadalupe St / W 14th St	A	C	F	B
Lavaca St / W 14th St	A	E	F	E
Guadalupe St / W 13th St	C	B	F	B
Lavaca St / W 13th St	A	E	F	F
Guadalupe St / W 12th St	C	C	E	F
Lavaca St / W 12th St	B	F	F	F
Guadalupe St / W 11th St	B	F	F	C
Lavaca St / W 11th St	C	F	F	F
Guadalupe St / W 10th St	B	C	F	B
Lavaca St / W 10th St	A	F	F	F

Intersection	AM Peak LOS		PM Peak LOS	
	No Build	Build	No Build	Build
Guadalupe St / W 9th St	A	B	F	F
Lavaca St / W 9th St	B	C	F	F
Lavaca St / W 8th St	B	C	F	F
Guadalupe St / W 7th St	A	C	F	F
Lavaca St / W 7th St	B	C	F	F
Guadalupe St / W 6th St	B	C	F	C
Lavaca St / W 6th St	D	F	F	F
Guadalupe St / W 5th St	C	F	F	F
Lavaca St / W 5th St	B	D	F	F
Guadalupe St / W 4th St	B	D	F	F
Lavaca St / W 4th St	B	D	F	F
Guadalupe St / W 3rd St	A	D	F	F
Lavaca St / W 3rd St	B	D	F	F
Guadalupe St / W 2nd St	B	B	F	E
Lavaca St / W 2nd St	C	E	F	F
Guadalupe St / W Cesar Chavez St	C	F	E	E
Lavaca St / W Cesar Chavez St	D	F	F	F
S 1st St / W Riverside Dr	F	F	F	F
S Congress Ave / Nellie St/Academy Dr	D	B	D	C
S Congress Ave / W James St/The Circle	E	A	A	A
S Congress Ave / Gibson St	D	A	D	B
S Congress Ave / Elizabeth St	D	A	E	C
S Congress Ave / Monroe St	D	A	E	B
S Congress Ave / Milton St	D	B	D	B
S Congress Ave / Annie St	E	C	D	C

Intersection	AM Peak LOS		PM Peak LOS	
	No Build	Build	No Build	Build
S Congress Ave / Mary St	F	D	D	C
S Congress Ave / Leland St	F	B	D	C
S Congress Ave / Live Oak St	F	C	B	C
S Congress Ave / Oltorf St	F	F	F	F
E Riverside Dr / SH 71 WB	F	F	F	F
E Riverside Dr / Airport Commerce[1]	C	F	F	B
E Riverside Dr / Coriander Dr	F	D	F	E
E Riverside Dr / Montague St / Anise Dr	F	F	F	C
E Riverside Dr / Maxwell Ln / Frontier Valley Dr	F	F	F	E
E Riverside Dr / Vargas Rd	F	F	F	D
E Riverside Dr / Montopolis Dr	F	F	F	F
E Riverside Dr / Grove Blvd	D	F	F	F
E Riverside Dr / Faro Dr	F	F	F	F
E Riverside Dr / Crossing Pl	F	F	F	F
E Riverside Dr / Wickersham Ln	E	F	F	F
E Riverside Dr / S Pleasant Valley Rd	F	F	F	F
E Riverside Dr / Willow Creek Dr	C	F	F	F
E Riverside Dr / Burton Dr / Tinnin Ford Rd	D	D	F	F
E Riverside Dr / Royal Crest Dr	C	C	F	E
E Riverside Dr / Parker Ln/Shore District Dr	C	C	F	F
E Riverside Dr / Lakeshore Blvd	C	C	F	F
E Riverside Dr / Summit St NB movements	F	A	F	C
E Riverside Dr / Summit St SB movements (SWBR/SWBL)	F	C	F	F

Intersection	AM Peak LOS		PM Peak LOS	
	No Build	Build	No Build	Build
E Riverside Dr / I-35	F	F	F	F
E Riverside Dr / Travis Heights Blvd/Park Pl	B	D	F	F

[1] Intersection is unsignalized under the No Build Alternative.

Regarding analysis of the section along Guadalupe Street that would divert vehicular through traffic to alternative north-south arterials and adjacent streets, the 2021 UT Network Options Traffic Analysis memo included the methodology, evaluation and results of potential traffic shifts, and relevant mitigation measures (AECOM 2021). ATP, in coordination with the Austin Transportation and Public Works Department, completed the analysis using TransModeler, a traffic simulation model. ATP found that the following three intersection clusters contribute to corridor congestion due to equally high east-west traffic demand:

- Guadalupe Street / 15th Street and Lavaca Street / 15th Street;
- Guadalupe Street / 5th Street, Guadalupe Street / 6th Street, Lavaca Street / 5th Street, and Lavaca Street / 6th Street; and
- Guadalupe Street / Cesar Chavez Street and Lavaca Street / Cesar Chavez Street.

At the intersection of Lavaca Street and 3rd Street, the light rail track-crossing creates a delay for north-south traffic.

Traffic performance at intersections generally improves in the southern portion of the Study Area, particularly during the AM peak period, with the implementation of light rail. This is likely attributed to the Project's role in regulating traffic accessing side streets and driveways along the South Congress Avenue corridor. However, the intersections of South Congress Avenue and Oltorf Street and South Congress Avenue and Riverside Drive remain congestion points, experiencing LOS F during both the AM and PM peak periods under both the No Build and Build Alternatives.

In the eastern portion of the Study Area, some intersections experience increased delays with the light rail implementation while others show improvement. Level of service during the PM peak period appears to benefit from the Project. Parallel streets to East Riverside Drive are available for shorter connections between cross streets, allowing users to choose alternative routes while longer westbound-eastbound movements are best routed through East Riverside Drive. This travel pattern shift, along with modal shift and lane drop / bottleneck elimination at Summit Street, factors toward the favorable level of service under the Build Alternative and Design Options.

Despite operational benefits at many intersections, bottlenecks identified under the No Build Alternative at I-35, South Pleasant Valley Road, and SH 71 remain as a result of high traffic volumes at intersection approaches.

Four Design Options would change the results of the traffic level of service analysis performed for the Build Alternative: Wooldridge Square Station, Cesar Chavez Station, Lady Bird Lake Bridge Extension, and Center-Running Bike/Pedestrian and Shade Tree Facilities on East Riverside (see **Table 3-7** through **Table 3-10**). The effects of the Design Options on traffic levels of service are summarized as follows:

- Under the Wooldridge Square Station Design Option, the east-west traffic at Guadalupe Street and 10th Street would be diverted through the 15th Street corridor, which would decrease the level of service at the Guadalupe Street / 15th Street and Lavaca Street / 15th Street intersections.
- Under the Cesar Chavez Station Design Option, levels of service would mostly be similar to the Build Alternative except at the intersection of Trinity Street and 3rd Street, which would benefit from the traffic diversion away from 3rd Street. Additionally, this Design Option would have bidirectional traffic flow on Trinity Street between Cesar Chavez Street and 2nd Street.
- Under the Lady Bird Lake Bridge Extension Design Option, levels of service would not change at the intersection of East Riverside Drive and South Congress Avenue (i.e., remains at LOS F), but traffic delays and queue lengths would improve in the eastbound direction compared to the Build Alternative. Reduced eastbound queue lengths would reduce the number of signal cycles motorists would experience before clearing the intersection. In addition, removal of the at-grade crossing would allow traffic to move through the intersection with more efficiency and less delay.
- Under the Center-Running Bike/Pedestrian and Shade Tree Facilities on East Riverside Design Option, the width of East Riverside Drive would increase, and the complete pedestrian movement would need to be accommodated across two signal cycles to avoid effects on east-west traffic. As a result, delay would increase for movements in all directions at the intersection of East Riverside Drive and Pleasant Valley Road. This effect is largely due to the need to create a dedicated pedestrian crossing phase for east-west bicycles and pedestrians within the median of East Riverside Drive during every signal cycle. As a result, east-west motorists would have less time to make left turns.

Table 3-7: Wooldridge Square Station Design Option – Intersection LOS Comparison

No.	Intersection	AM Peak			PM Peak		
		No Build	Build	Design Option	No Build	Build	Design Option
1	Guadalupe Street / 15th Street	B	C	C	D	C	F
2	Lavaca Street / 15th Street	B	E	E	F	D	F
1	Guadalupe Street / 10th Street	B	C	A	F	B	A
2	Lavaca Street / 10th Street	A	F	F	F	F	F

Table 3-8: Cesar Chavez Station Design Option – Intersection LOS Comparison

Intersection	AM Peak			PM Peak		
	No Build	Build	Design Option	No Build	Build	Design Option
Colorado Street / 5th Street	C	B	B	B	F	F
Congress Avenue / 5th Street	C	B	B	B	F	F
Brazos Street / 5th Street	D	B	B	C	E	F
San Jacinto Boulevard / 3rd Street	B	E	D	C	D	E
Trinity Street / 3rd Street	C	D	A	A	E	A
Trinity Street / Cesar Chavez Street	D	F	F	C	F	F

Table 3-9: Lady Bird Lake Bridge Extension Design Option – Intersection LOS Comparison

Intersection	AM Peak			PM Peak		
	No Build	Build	Design Option	No Build	Build	Design Option
Riverside Drive / Congress Avenue	F	E	E	F	F	F
East Riverside Drive / Trinity Street	F	F	F	E	F	F

Table 3-10: Center-Running Bike/Pedestrian and Shade Tree Facilities on East Riverside Design Option – Intersection LOS Comparison

Intersection	AM Peak		PM Peak	
	Build	Design Option	Build	Design Option
East Riverside Drive / Summit Street	A	A	C	C
East Riverside Drive / South Lakeshore Boulevard	C	C	F	D
East Riverside Drive / Shore District Drive (north) and Parker Lane (south)	C	C	F	F
East Riverside Drive / Royal Crest Drive	C	C	E	F
East Riverside Drive / Burton Drive	D	D	F	F
East Riverside Drive / Willow Creek Drive	F	D	F	F
East Riverside Drive / South Pleasant Valley Road	F	F	F	F
East Riverside Drive / Wickersham Lane	F	E	F	F
East Riverside Drive / Crossing Place	F	F	F	E
East Riverside Drive / Faro Drive	F	F	F	F
East Riverside Drive / Grove Boulevard	F	F	F	F
East Riverside Drive / Montopolis Drive	F	F	F	F
East Riverside Drive / Vargas Road	F	E	D	F
East Riverside Drive / Frontier Valley Drive (north) and Maxwell Lane (south)	F	F	E	E
East Riverside Drive / Anise Drive (north) and Montague St (south)	F	F	C	C
East Riverside Drive / Coriander Drive	D	E	E	D

Parking

The Project would result in an estimated loss of 607 on-street parking spaces in the Study Area. **Table 3-11** summarizes the Project's effects on parking in the Study Area by location. There would be no difference in effects on parking under the different Design Options.

Table 3-11: Build Alternative and Design Options – Parking Loss

Study Segment	Existing/No Build Alternative	Estimated Number of Spaces Removed
Guadalupe Street from 38th Street to 15th Street	Parking is primarily composed of off-street surface lots for private businesses and on-street parking. On-street parking is located on the west side of Guadalupe Street between Dean Keeton Street and MLK Boulevard. There is also some on-street parking on streets perpendicular to the Project corridor.	86
Central Business District 15th Street to Riverside Drive	This segment includes Downtown Austin. On-street parking spaces are found on the Project corridor and perpendicular streets.	163
South Congress Riverside Drive to Oltorf Street	This segment includes the South Congress commercial district, which provides back-in angle on-street parking on both sides of the roadway.	358

There is a substantial amount of off-street parking that would absorb the loss of parking on Guadalupe Street (from 38th Street to 15th Street) and in Downtown Austin. The loss of parking on South Congress Avenue could be partially alleviated by parking at the proposed Oltorf park-and-ride. Overall, the Project would serve nearly 29,000 trips each day; the majority of riders would bike or walk to light rail stations and would not occupy existing parking spaces.

Traffic Safety

The implementation of light rail has been shown to have overall positive effects on safety in communities (see **Chapter 4, Section 4.9, Safety and Security**). These effects are as follows:

- The Project would add new signals to existing unsignalized intersections, allowing for greater regulation of traffic flow and discouragement of undesirable movements that could lead to increased conflicts;
- With the increase in signalized intersections, bicycle and pedestrian crossings would be limited to signalized intersections. The intersections provide safe refuge and wayfinding locations for bicyclists and pedestrians;
- The construction of the Project would provide the opportunity to implement other intersection improvements to crossing roadways; and
- Ridership would increase on the light rail service. An increase in ridership would potentially reduce personal vehicle trips, resulting in a decrease in overall average daily traffic and anticipated vehicle conflicts along the corridor.

3.2.2.2 Construction-Related (Short-Term) Effects

Roadway capacity in the Study Area would be temporarily reduced during the Project construction period due to lane closures and detours that would divert traffic onto other

roadways. Temporary lane reductions and closures could cause delays and congestion, especially during peak travel hours. Construction work at intersections could slow traffic movement and increase travel times along key corridors.

Construction activities would cause temporary disruptions to public transit services along the construction corridor. Bus routes that run along streets affected by construction would be temporarily rerouted, potentially increasing travel time for public transit users. Bus stops in construction zones may need to be temporarily relocated or closed. Roadway congestion caused by construction may result in slower bus service and less predictable schedules.

Bicycle and pedestrian access would be temporarily impacted during construction. Temporary closures of bicycle facilities and sidewalks may be required for safety, which could create detours or increase biking and walking distances.

3.2.2.3 Mitigation

ATP has coordinated with the Austin Transportation and Public Works Department to address potential effects on traffic conditions in the Study Area as summarized in **Table 3-12** and as incorporated in the Project design to optimize traffic flow in the Study Area.

Table 3-12: Traffic Mitigation Measures

Location	Traffic Mitigation Measures
All intersections	Optimize signal timing (to be refined during final design)
All intersections	Implement transit signal priority for the light rail
Various intersections	Add dedicated left-turn lanes based on preliminary traffic analysis and feasibility of design
Various intersections	Optimize queue storage length to reflect the left-turn queue needs where feasible
Various intersections along E Riverside Dr	Separate the pedestrian phase into two phases when crossing E Riverside Dr to improve traffic operations
Lavaca St intersections between W 2nd St and W MLK Blvd	Convert Lavaca St from one-way northbound to two-way traffic with strategically located left-turn lanes
Guadalupe St / W 15th St intersection	Remove westbound left-turn movement to provide increased queue storage length for eastbound left turns at the Lavaca St / W 15th St intersection
W 2nd St between Guadalupe St and Lavaca St	Convert W 2nd St from two-way to one-way westbound traffic in the block between Guadalupe St and Lavaca St to increase capacity for traffic movement from southbound Lavaca St to shift to southbound Guadalupe St for access to the S 1st St bridge over Lady Bird Lake

Location	Traffic Mitigation Measures
S 1st St between W Riverside Dr and W Cesar Chavez St	Shift bicycle traffic to existing side paths to provide space for a northbound bus-only left-turn lane for buses to access northbound Guadalupe St at the Guadalupe St / W Cesar Chavez St intersection
Guadalupe St between W 3rd St and W MLK Blvd	Prohibit left turns for traffic along Guadalupe St to optimize traffic operations
Nueces St between W Cesar Chavez St and W MLK Blvd	Add continuous protected bicycle lanes along Nueces St to mitigate the removal of striped on-street bicycle lanes along Guadalupe St and Lavaca St
3rd St between Guadalupe St and Trinity St	Prohibit left turns for traffic along 3rd St to optimize traffic operations
4th St between Nueces St and Trinity St	Add protected bicycle lanes along 4th St to mitigate the removal of protected bicycle lanes along 3rd St

ATP has also coordinated with the Austin Transportation and Public Works Department to reduce the amount of on-street parking spaces that would be removed by the Project. ATP will continue this coordination as the Project design advances to evaluate and reduce the Project's traffic and parking effects. Additionally, the Project proposes park-and-rides at 38th Street, Oltorf, and Yellow Jacket that would provide an alternative to parking within the Study Area and would partially offset the number of spaces removed by the Project.

To mitigate potential construction effects, ATP will participate in a Construction Partnership Program with regional transportation agencies that will coordinate construction schedules, road closures, and detours for vehicles, bicyclists, and pedestrians in the Study Area. The program will implement public information platforms (such as a mobile app, website, and customer information call-in number) that keep the traveling public apprised of roadway conditions and allow them to plan ahead to meet their mobility needs. Additional mitigation measures are noted in **Table 3-13**.

Table 3-13: Additional Construction Mitigation Measures

Effect	Mitigation Measures
Temporary road closures and traffic detours	Provide safe and efficient connections to and around neighborhoods during construction for existing modes of transportation, including bicycles and pedestrians Provide advanced notice of temporary road closures and traffic detours Maintain access to properties during construction
Temporary trail closures and detours during construction	Provide safe and efficient connections to existing trails and allow for planned future urban trails Coordinate with the City to provide advanced notice of temporary trail closures and detours during construction
Potential temporary effects on emergency response travel time during construction	Coordinate with City and County officials to minimize disruptions to emergency services during construction
Temporary displacement of bus stops during construction	In cooperation with CapMetro, install temporary bus stops as close as possible to the original bus stop locations In cooperation with CapMetro, provide notice to riders in advance of temporary relocation or closure of bus stops
Bus stop displacements and relocations	In cooperation with CapMetro and the City, include new and re-established bus stops in accordance with ADA requirements