

INTRODUCTION

The US 550 corridor is a significant commuter, local, and regional roadway operated by The New Mexico Department of Transportation (NMDOT). The east-west connector serves the Town of Bernalillo as well as the commuting needs of Rio Rancho, Santa Fe, and Albuquerque. It also provides regional connectivity to the Farmington Area. The NMDOT categorizes this roadway as a limited access principal urban arterial from Paseo del Volcan to NM 313. The corridor traverses several different governmental boundaries, including Sandoval County, Town of Bernalillo, City of Rio Rancho, and borders the Santa Ana Pueblo. **Figure 1** shows a vicinity map indicating area roadways, project study extents, and major study intersections.

The purpose of this report is to assess existing conditions from a vehicular traffic capacity, pedestrian and bicycle, transit, safety, and access management perspective. In addition to assessment of existing conditions, short term mitigation recommendations will be provided. Long term recommendations will be given for projected traffic demands of a 2035 horizon year. Potential mitigation measures developed in this study will be further evaluated and weighted against each other in the Phase 1A report.

EXISTING CONDITIONS

The following section briefly describes all major arterial roadways within the study area.

Major Area Roadways

US 550 – An NMDOT maintained principal urban arterial incorporating two through lanes in each direction and a 14-foot two-way left-turn lane (TWLTL) between NM 313 and Santa Ana Road with raised medians located at the Camino Don Tomas intersection and the east leg of the NM 313 intersection. The TWLTL is then replaced with a raised median from Santa Ana Road to Homestead Lane. TWLTL picks up again from Homestead Lane to Jemez Dam. The remainder of the corridor to Paseo del Volcan incorporates raised median. The corridor currently is signed for 40 mph from NM 313 to just west of Camino Don Tomas and is 45 mph for the remainder from Camino Don Tomas to Paseo del Volcan.

Since US 550 is categorized as a principal urban arterial, much of the study corridor incorporates limited access, essentially between Paseo del Volcan and NM 528. This particular section limits the number of direct driveways by incorporating raised medians, thereby limiting minor street left-out movements to signalized intersections. There are currently no bike lanes.

NM 313 (Camino del Pueblo) – This is a NMDOT maintained primary urban arterial incorporating two through lanes and a bike lane in each direction with a TWLTL. NM 313 is posted for a speed limit of 35 mph within the vicinity of the project boundaries. NM 313 connects US 550 with Santa Ana Pueblo to the north and the town center of Bernalillo to the south.

NM 528 (Pat D’Arco – south/Tamaya Boulevard – north) – This is a north-south NMDOT maintained limited access principal arterial incorporating two lanes in each direction and a TWLTL north of US 550, and three lanes in both directions with mostly median south of US 550.

NM 347 (Paseo del Volcan) – A NMDOT maintained limited access principal arterial incorporating one lane in each direction and undivided. NM 347 connects US 550 the City of Rio Rancho government offices and various residential properties. Paseo del Volcan currently terminates at Unser Boulevard to the south of US 550.

Study Intersections

Study intersections for this project have been identified and their locations, existing lane configurations, and traffic control are depicted in **Figure 3**. As indicated, there are a total of five fully signalized intersections and one intersection, under consideration for signalization, within the project area. Current signalized intersections are located at NM 313, Camino Don Tomas, Jemez Dam, NM 528, and Sprint Boulevard. The NMDOT has recently completed a signal warrant study indicating that Paseo del Volcan does warrant signal control at this time.

Several unsignalized intersections exist within the project boundaries, which include the following:

- Dimas Road – a three-legged intersection with stop control incorporated on the south leg approach. Intersection site distance for a Case B2 condition is provided for a design speed of 50 mph (480 feet). Access to and from Dimas Road is limited to right-in/right-out by a raised median on US 550 and a channelized right-turn island on the south leg.
- Homestead Lane – This intersection is a four-tersection with stop control on the north and south leg. Both legs provide direct access to adjacent commercial sites and both have limited throat depth for vehicle storage. Intersection site distance for both Case B1 and B2 conditions are provided for a design speed of 50 mph (555 feet and 480 feet respectively).
- Kuaua Road – A three-legged intersection with stop control on the north approach. The intersection provides access to the Coronado State Monument located approximately half a mile north of US 550. Kuaua Road currently forms an offset intersection with Sheriff’s Posse Road and is approximately 120 feet west of Sheriff’s Posse Road intersection with US 550. Intersection site distance for both Case B1 and B2 conditions are provided for a design speed of 50 mph (555 feet and 480 feet respectively).
- Sheriff’s Posse Road – Three-legged intersection with stop control incorporated at the south leg. Sheriff’s Posse Road provides access to and from US 550 for several residential properties to

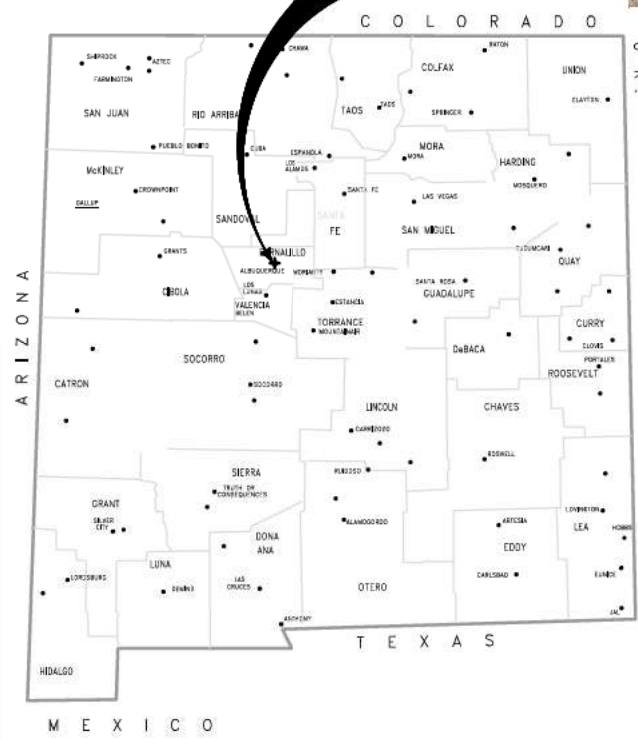


the south. Additionally, there appears to be an opportunity for cut-through traffic via an access provided at the end of a cul-de-sac at the east end of Ventana Plaza Drive. As mentioned in the previous description of the Kuaua Road intersection, Sheriff's Posse forms an offset intersection with Kuaua Road. Intersection site distance for both Case B1 and B2 conditions are provided for a design speed of 50 mph (555 feet and 480 feet respectively).

- Santa Ana Road is a three-legged intersection with stop control incorporated on the west leg approach. Intersection site distance for both Case B1 and B2 conditions are provided for a design speed of 50 mph (555 feet and 480 feet respectively).



US 550 - Bernalillo, NM



LEGEND

-  = SIGNALIZED STUDY INTERSECTION
-  = STOP SIGN STUDY INTERSECTION

KEY MAP

US 550 TRAFFIC OPERATIONS AND SAFETY DRAFT REPORT

Figure 1 Vicinity Map

Existing Pedestrian Facilities

Currently, there is a mixture of 4, 5, and 6-foot sidewalks located on both the north and south side of the corridor from the Rio Grande bridge to NM 313. There are no sidewalk facilities along US 550 from Paseo del Volcan to the Rio Grande bridge, along which, the corridor takes on a more rural characteristic incorporating a 10 to 14-foot wide shoulder on both sides of the road. **Figures 2a to 2c** depicts existing pedestrian facilities along US 550 within the study area. During the field survey, there were several locations (five) along the corridor where streetlights have been placed in the sidewalk thus significantly reducing the effective walking width. Effective sidewalk widths were reduced anywhere from 2.5 to 3.5 feet.



Additionally, pedestrian facilities at intersections were field-reviewed and assessed on July 8, 2012 to make sure that pedestrian ramps were in accordance with the latest Americans with Disabilities Act (ADA) and the more recent (PROWAG) requirements. The following deficiencies have been identified with photographs provided in **Appendix A** of this report:

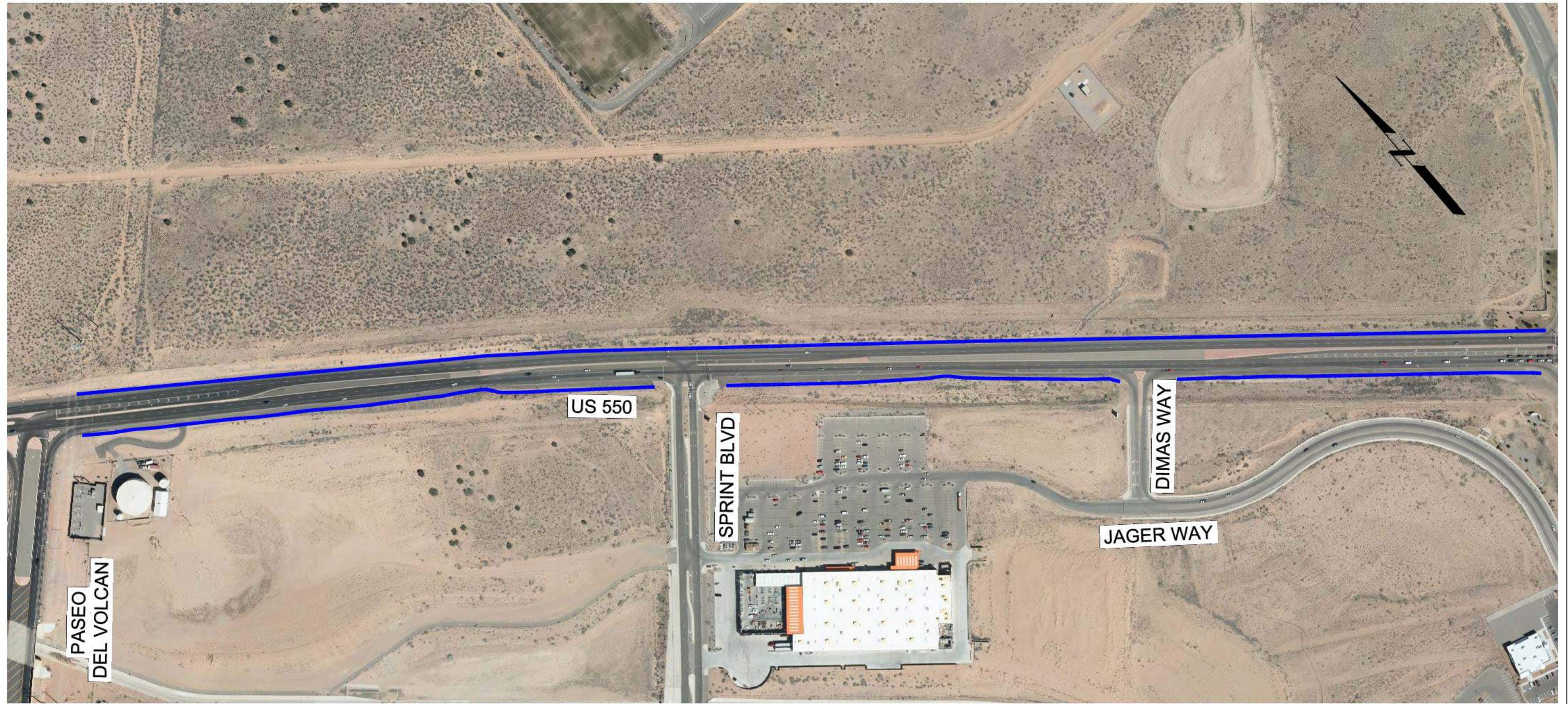
- In general, there are no detectable surfaces at existing pedestrian ramps except at Sprint Boulevard, although the detectable surface at Sprint Boulevard appears damaged.
- There are no true pedestrian ramps at all corners of the NM 528 intersection. Although pedestrian facilities will have been added since our field survey on the south leg as part of the NM 528 construction project that was recently completed. Facilities will have included pedestrian ramps and tactile detectable surfaces.
- There are no pedestrian ramps at the Jemez Dam intersection as there are no sidewalks at this location.
- There are some locations (SE corner of NM 528 and NE corner of Jemez Dam) where existing pedestrian buttons have been placed on the wrong side of the pole making them less accessible to users.
- Pedestrian ramps at the north corners of Camino Don Tomas do not have a landing area. The Town of Bernalillo has an ongoing project improving pedestrian facilities in the area.
- It is anticipated that detectable surfaces will be added at the east leg of the NM 313 intersection as part of the I-25/US 550 interchange reconstruction project.
- All existing pedestrian facilities do not comply with PROWAG requirements. Specifically, there are currently no audible or vibro-tactile pedestrian indications.



Existing Bicycle Facilities

Currently there are no specific facilities for bicycle traffic along the US 550 corridor. Vehicular counts collected for this project also collected bicycle data and found as many as 68 bicycles traveling eastbound during all peak hours along US 550 at NM 313. Much of the US 550 bicycle traffic was observed to be sourcing from/to NM 313 and NM 528. Additionally, the US 550 is identified as a bicycle corridor route on the NMDOT bicycle facilities map.





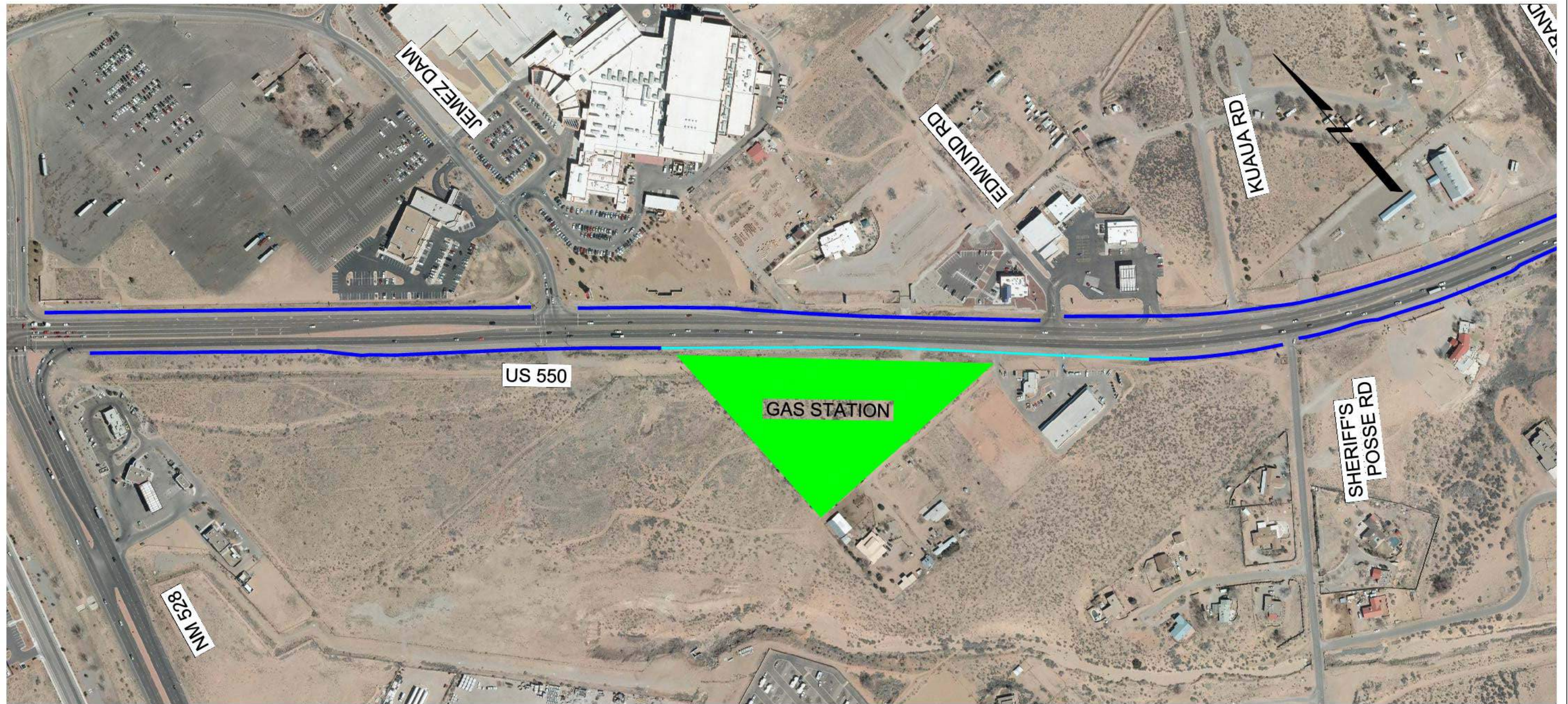
LEGEND

- = SHOULDER
- = 4' SIDEWALK
- = 5' SIDEWALK
- = 6' SIDEWALK
- = SIDE WALK OBSTRUCTION

KEY MAP

US 550 TRAFFIC OPERATIONS AND
SAFETY DRAFT REPORT

FIGURE 2a. EXISTING SIDEWALK



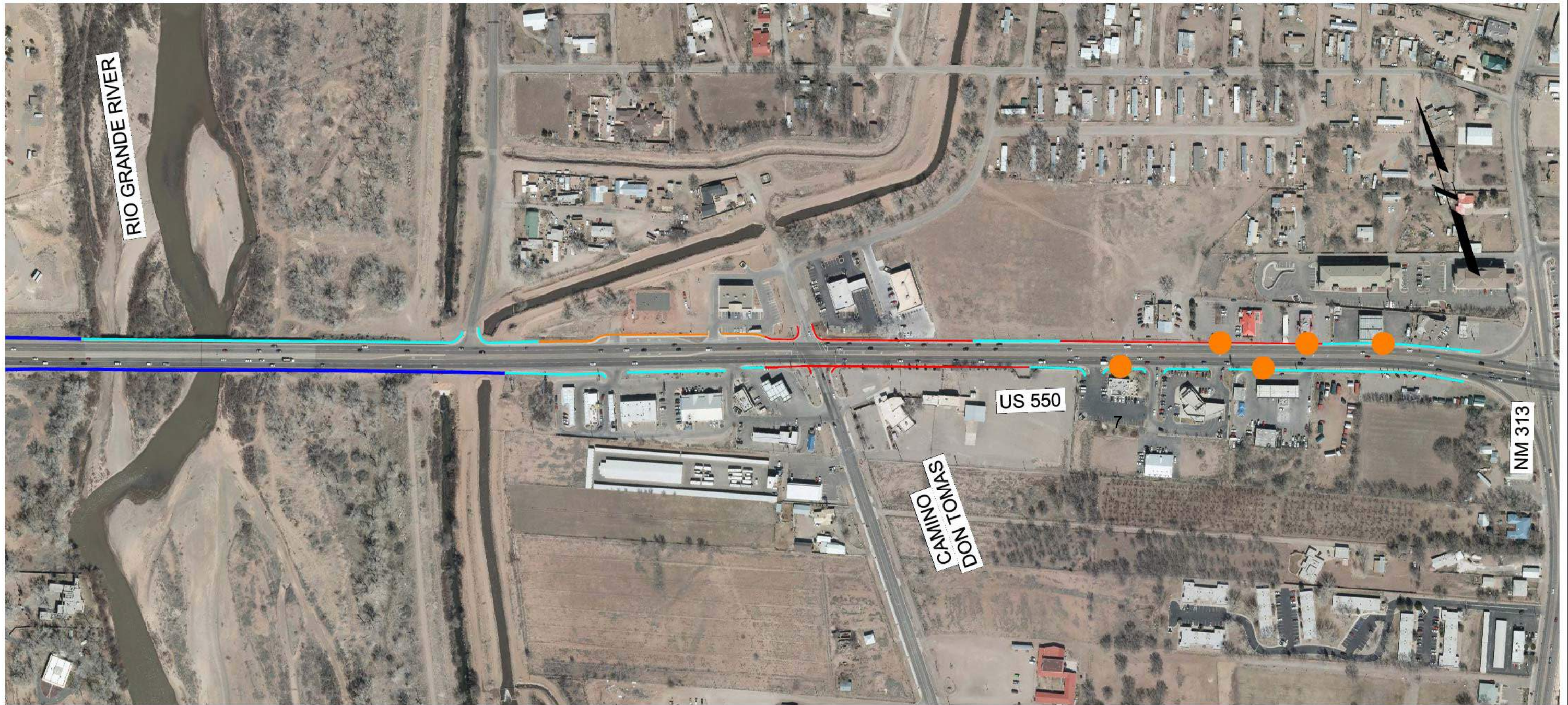
LEGEND

- = SHOULDER
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KEY MAP

US 550 TRAFFIC OPERATIONS AND
SAFETY DRAFT REPORT

FIGURE 2b. EXISTING SIDEWALK



LEGEND

- █ = SHOULDER
- █ = 4' SIDEWALK
- █ = 5' SIDEWALK
- █ = 6' SIDEWALK
- = SIDE WALK OBSTRUCTION

KEY MAP

US 550 TRAFFIC OPERATIONS AND
SAFETY DRAFT REPORT

FIGURE 2c. EXISTING SIDEWALK

Existing Access Management

Per NMDOT access standards (Table 18.C-1 in Appendix A), driveway spacing for an urban principal arterial ranges from 325 and 450 feet for speeds of 40 mph and 45 mph respectively. Full access driveways and major unsignalized intersections are recommended to incorporate 1,320 feet spacing, although in urban areas spacing for unsignalized intersections should be consistent with the established street spacing along the facility. Signalized intersection spacing is 2,640 feet for 40 to 50 mph.

Table 1 indicates existing average number of driveways and unsignalized intersections and their spacing along the study corridor. As indicated, the average spacing along two segments is well below NMDOT recommended practice.

Table 1. Summary of Existing Access Management Conditions

Direction	Segment	Segment Length (ft)	Number of Driveways	Average Length Between Driveways (ft)
WB	313-Don Tomas	2,181	12	182.0
WB	Don Tomas-Sheriff's Posse	3,129	6	521.0
WB	Sheriff's Posse-Jemez Dam	2,219	3	740.0
WB	Jemez Dam-Paseo Del Volcan	0	0	0.0
EB	Paseo Del Volcan-Jemez Dam	0	0	0.0
EB	Jemez Dam-Sheriff's Posse	2,219	2	1110.0
EB	Sheriff's Posse-Don Tomas	3,129	3	1043.0
EB	Don Tomas-313	2,181	7	312.0

Existing Signal and ITS Infrastructure

The NMDOT maintains a 144 single mode fiber optics (SMFO) trunk-line along US 550, connecting all signalized intersections from NM 313 to Paseo del Volcan. This existing fiber system is connected to the network via Code Division Multiple Access (CDMA). However, with the current I-25/US 550 interchange project, this fiber will be connected directly to the NMDOT network via I-25. There are existing CCTVs on the signal mast arm at the northwest corner of US 550/NM 528, at the US 550/NM 313 intersection, and at the I-25 interchange. Roadside dynamic message signs (DMS) are currently located westbound just west of the Paseo del Volcan intersection, eastbound just east of the Sprint Boulevard intersection, and on the south leg of NM 528. In cooperation with the City of Rio Rancho, signals on US 550 from I-25 to Sprint Boulevard are currently coordinated with AM,

midday, and PM peak hour plans. Currently, the ITS Bureau has no near term or short term projects planned from an ITS perspective on this corridor.

Existing Transit

Currently, the New Mexico Rail Runner operates a rail stop just off of US 550 at the southwest corner of the Hill Road intersection. The Rail Runner stop also serves as a connecting hub between regional Rio Metro Routes, the Santa Ana Star Casino shuttle, park and ride vehicles, and the New Mexico Rail Runner. The Rail Runner also operates a train stop in downtown Bernalillo approximately one mile south of the US 550 Rail Runner transit hub.



Additionally, Rio Metro operate four fixed regional routes including the following:

Route 8 – This route connects the town of Cuba to the US 550 corridor with one AM and PM run made during the weekdays. The only stop for this route within the project area is at the Home Depot located at the southeast corner of Sprint Boulevard, providing a connection to **Route 204**. The AM run begins in Cuba at 6:24 AM and ends in Cuba at 8:19 AM. The PM run begins in San Ysidro Village at 2:39 PM and ends at 4:55 PM at Home Depot on US 550.

Route 201 – A route that connects the Rail Runner transit hub on US 550 with various area residential developments along Enchanted Hills Boulevard, Jager Way, Fulcrum Way, Glen Hills Drive, Grayson Hills Drive, Turquoise Drive, Foxmoore Drive, Cibola Drive, and Chayote Road. Additionally, there are route stops located at the US 550 Home Depot, Walmart at NM 528, Bank of America, Albertsons and NM State Offices on Jager Way and Sandoval County Government Complex on NM 528. This particular route runs throughout the day starting at 5:57 AM and ending at 6:47 PM every weekday.

Route 202 – This route connects the communities of Cochiti Lake, Cochiti Pueblo, Santo Domingo Pueblo, Pena Blanca, with the US 550 corridor and adjacent employment and commercial land uses. Major stops in the study area include Bernalillo High School, Sprint, Walmart, Commerce Center, Sandoval County Government, and the NM Rail Runner transit hub. This route runs all day from 5:32 AM to 7:58 PM weekdays. The stop at Home Depot provides an opportunity to connect with **Route 204**.

Route 204 – This route connects the communities of Jemez Springs, San Ysidro Village, and Zia Pueblo with the US 550 corridor. Major stops within the study area include Home Depot, which provides connections to **Route 8** and **Route 202**, Sprint, NM State Offices, Walmart, Sandoval County Government and the US 550 Rail Runner transit hub.

Rio Metro route maps are provided in **Appendix A**.

Currently there are no plans to expand routes or infrastructure from Rio Metro within the near term due to budgetary constraints.

The Santa Ana Casino complex also operates a shuttle route between the casino and the Rail Runner transit hub weekdays from 4:25 AM to 10:00 PM and on weekends from 9:55 AM to 7:30 PM.

There are a few Bus Rapid Transit (BRT) projects in the Albuquerque area currently being considered for the entire Central Avenue corridor (ABQ Ride), University Boulevard from Menaul Boulevard to Gibson Boulevard then east on Gibson Boulevard to Yale Boulevard and then south to the airport (Rio Metro) as well as Coors Boulevard, if widened. However there are currently no plans for BRT along US 550.

Current or Near Term Construction

There are several construction projects either currently or soon to be underway within the project area, and include the following:

I-25/US 550 Interchange Project – This is an NMDOT project currently under construction and will provide an additional lane width on US 550 from the I-25 interchange to NM 313. Additionally, the I-25/US 550 interchange will be reconfigured as a single point urban interchange (SPUI). Access to Hill Road to and from US 550 will be limited to right-in/right-out. Back access roads north and south of US 550 will be constructed from the Rail Runner transit hub to Rail Runner Avenue on the south side and along the commercial sites on the north side between Rail Runner Avenue to NM 313. Raised medians with access control will be constructed on US 550 between the interchange and NM 313.

US 550/Camino Don Tomas Intersection Improvements – This is a Town of Bernalillo project which is still in the design process. This project is anticipated to add a right-turn lane on the west leg of this intersection, and the east leg left-turn lane will be lengthened. Pedestrian ramps will be upgraded to satisfy ADA requirements. Signal equipment upgrades will also be implemented as well. Construction is anticipated to begin in 2014.

Valero Truck Stop Development – A Valero truck stop is being planned for the southeast corner of the US 550/Camino Don Tomas intersection. Currently, this is still within the planning process and site plans have not been finalized.

NM 528 Widening Project – NM 528 was recently widened to carry three lanes in each direction starting at US 550 to Venada Plaza Drive. Curb, gutter, and sidewalk was added where there was none existing.