Introduction and Study Area Background Information:

A. Brief History of Montaño Road:

In the 1950's the Bernalillo County Commission acquired land at the west end of Montaño Road for a future Rio Grande river crossing. Design and other preparations for the Montaño Bridge began in the 1980's. After many years of debate, construction of Montaño Road and the Montaño Bridge began and were opened to the public in 1997. In 1998, 20,500 vehicles per day (vpd) were using it and by 2004 the number had grown to 26,600 (vpd). It is a critical link serving area residents, commuters, and the general traveling public.

B. Study Purpose:

The City of Albuquerque (COA) began this study to determine ways to better utilize the existing infrastructure to better serve the public in a cost-effective manner.

Following the first public meeting in January 2005, a series of events took place that has made this study a joint effort by the City of Albuquerque's Department of Municipal Development and Department of City Council Services with the consulting firms Wilson & Company, Inc. (W&C) and Hall Planning & Engineering, Inc. (HPE). These events are summarized below:

- *December 2004* – City of Albuquerque and Wilson & Company began preliminary study.
- *January 13, 2005* – Public Information Meeting, Albuquerque Convention Center.
- *February 7, 2005* – Resolution R-216 passed City Council (enacted February 19th by Mayor Chavez) requiring expanded scope and second consultant.
- *March 20, 2005* – HPE selected as second consultant.
- *May 2, 2005* – Resolution R-204 authorized the use of up to four (4) driving lanes on all or a portion of Montaño Road (Coors Boulevard to 2nd Street) shall not occur until the earlier of:

  1) The Study authorized by R-216 is complete or,
  2) September 25, 2005.

- *August 9, 2005* – Public Information Meeting at St. Michael & All Angels Church, review of alternatives from January 2005 meeting and presentation of HPE progress.
- *August 30, 2005* – Public Information Meeting at Taylor Ranch Community Center, presentation of completed modeling and refinement of alternatives, presentation of new alternative by HPE.
- Completion of Draft Report with Recommendation – Shall be submitted prior to *September 19, 2005* City Council Meeting. Due to a separate transit study implemented by council for the HPE, Inc. portion of the study, the new submittal date is October 14, 2005.

Introduction and Study Area Background Information *continued*:

C. Study Area

The study area includes Montaño Road from Coors Boulevard to 2nd Street as shown in Exhibit 1 Study Area Location Map.

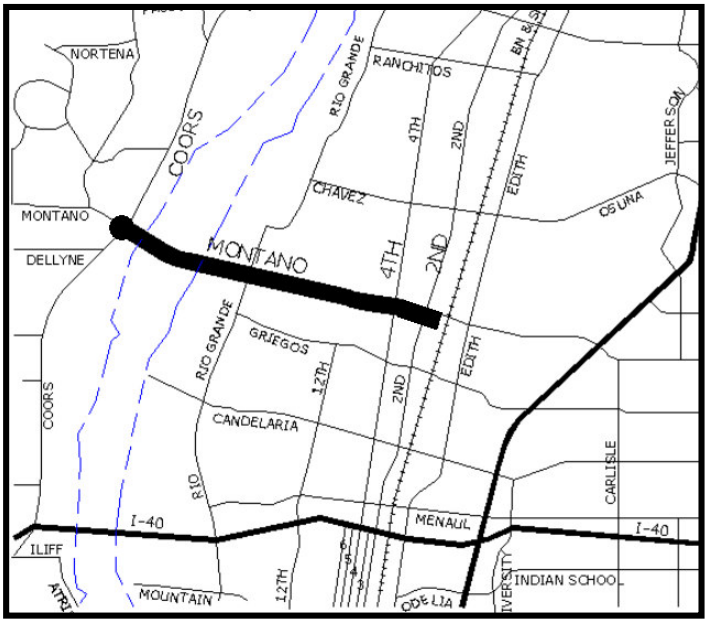


Exhibit 1
Study Area Location Map

Public Information Meetings and Public Involvement Data:

The City of Albuquerque has held three (3) Public Information Meetings this year to discuss the Montaño Road study area and gather public input. The following summarizes each meeting.

A. January Public Information Meeting:

On January 13, 2005 a Public Information Meeting was held at the Albuquerque Convention Center. The meeting began with the public reviewing maps of the corridor and lane use alternatives with representatives from the City of Albuquerque and Wilson & Company on hand to discuss the alternatives and answer questions from the public. After the meeting was called to order and introductions were made, a presentation was given by representatives from the City of Albuquerque and Wilson & Company followed by a presentation by Councilor O'Malley and the 4th Street Coalition. Public comment followed the presentations for approximately one hour. Citizens were also given comment sheets to offer their written comments if they so chose.

B. August 9th Public Information Meeting:

On August 9, 2005 a second Public Information Meeting was held at the St. Michael & All Angels Church on Montaño Road. A presentation was given by the City of Albuquerque to

Public Information Meetings and Public Involvement Data:

review the work completed to date and to introduce the second consultant (Rick Hall, HPE, Inc.) brought into the project after Resolution R-216 was enacted. Mr. Hall presented information on basic traffic engineering and walkability for the study area. Questions from the public were allowed during the presentation and a question and answer session was held following the presentations.

C. August 30th Public Information Meeting:

On August 30, 2005 a third Public Information Meeting was held at the Taylor Ranch Community Center. A joint presentation was given by Wilson & Company and HPE detailing the analysis of the alternatives that W&C had developed previously and the new alternative that HPE had developed. The four alternatives prepared by W&C were narrowed down to two candidate alternatives, Four (4) General Purpose Lanes and Two (2) HOV Lanes (Outside) with two (2) General Purpose Lanes (inside). The traffic micro-simulation modeling of the existing conditions of Montaño Road and for these two alternatives was shown to the public. HPE's alternative is described as Center HOV Lane(s) with 2 General Purpose Lanes and Roundabouts. General technical observations were described for these three specific alternatives. A question and answer session followed the presentation, with approximately 30 minutes of public comment to finish the evening.

D. Key Public Comments:

The following summarizes the public comments gathered from these three Public Information Meetings:

- Limited river crossings – Montaño Road is a key corridor
- Ingress to and egress from Montaño Road from driveways and side streets
- Pedestrian crossing locations
- Bicyclist safety and use of bicycle lane
- Retain character of corridor
- Desire for a transit/HOV system
- Air quality
- Intersection capacity and congestion
- Desire for safer and faster commute

Inventory of Existing Roadway Characteristics:

A. Character of Minor Arterials:

From Unser Boulevard to 2nd Street, Montaño Road is classified as a minor arterial by the Mid-Region Council of Governments (MRCOG). East of 2nd Street it is classified as a principal arterial. An arterial's primary function is to serve major traffic movements and it is expected to provide a high degree of mobility for the longer trip length (AASHTO 2004). However, they should also provide access to abutting commercial and residential land uses. Arterials should provide effective travel speeds and minimal interference to through traffic.

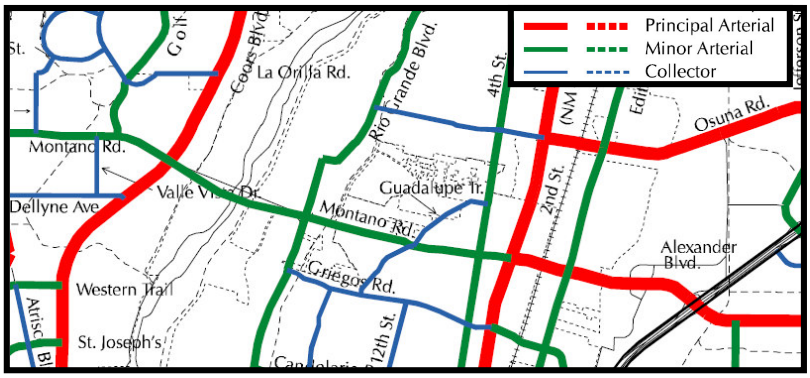


Exhibit 2
MRCOG Roadway Functional Classification System Map

According to the City of Albuquerque Development Process Manual, Chapter 23 Transportation Design, the required pavement width (flowline to flowline) for a minor arterial is 66 feet to 74 feet including gutter and median/center turn lane. The typical section for an arterial roadway does not require a shoulder.

The portion of Montaño Road from Coors Boulevard to 4th Street is the only section of the entire Montaño Road/Montgomery Boulevard Corridor that has less than four driving lanes. Montaño Road from Unser Boulevard to Coors Boulevard is a four-lane facility, east of Coors Boulevard to 4th Street it is a two-lane facility, and from 4th Street to 2nd Street it is a four-lane facility. Montaño Road from 2nd Street to Interstate 25 is a four-lane facility with plans to be expanded to six lanes in the near future and Montgomery Boulevard from Interstate 25 to Tramway Boulevard is a six-lane facility.

Montaño Road
Just west of Unser Blvd.

Other minor arterials in the Albuquerque such as Academy Boulevard, San Antonio Drive, Golf Course Road, and Irving Boulevard (Golf Course Rd. to Coors Blvd.) are four-lane facilities with bicycle lanes adjacent to the outside driving lane.

Inventory of Existing Roadway Characteristics *continued*:

B. Typical Existing Roadway Sections:

Coors Boulevard to Rio Grande Boulevard:

Coors Boulevard to Montaño Bridge: The typical section in this area varies in width as it includes the dual left turn bays for the westbound to southbound movement at the Coors Boulevard and Montaño Road intersection, westbound right turn bay to the commercial development at the northeast quadrant of this intersection, and an eastbound left turn bay to Winter Haven Drive. The main aspects of the typical section are consistent with standard curb & gutter, a raised median with median curb & gutter, and sidewalk on either side. It is in this section, approximately 800 feet east of Coors Boulevard, that the typical section merges to two lanes from four lanes.

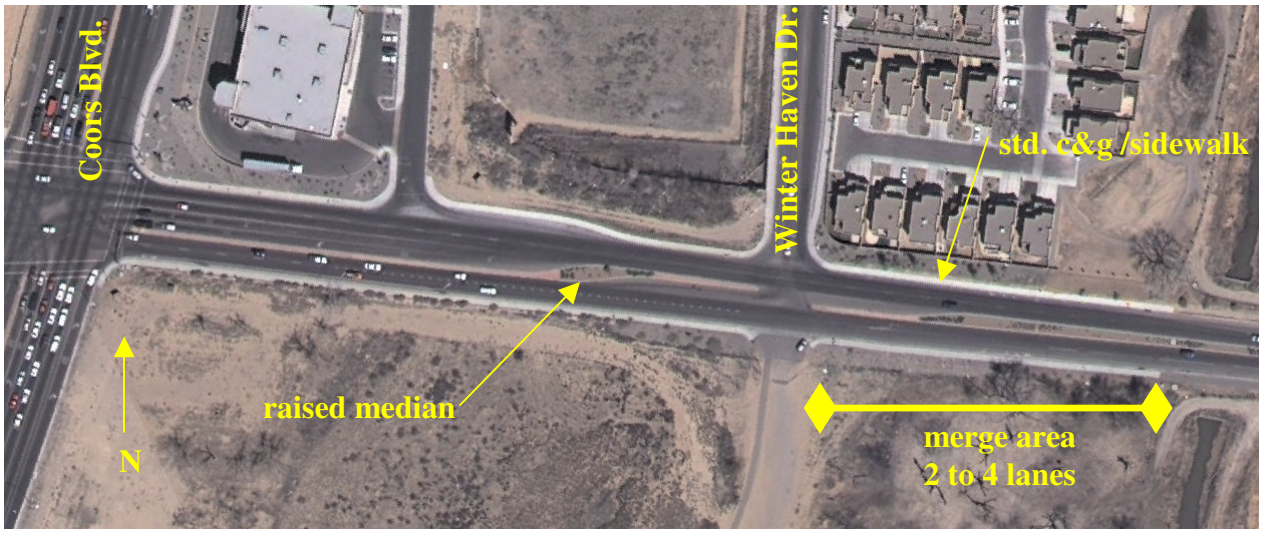


Exhibit 5 – *Montaño Road East of Coors Blvd.*

Montaño Bridge: The typical section, as shown in Exhibit 6, along the bridge is consistent throughout the length of the bridge. Its main features are the concrete wall barrier located on either side and in the middle to separate the opposing traffic. Also, the concrete wall barrier on the south side separates the pedestrian walkway from the vehicular traffic.

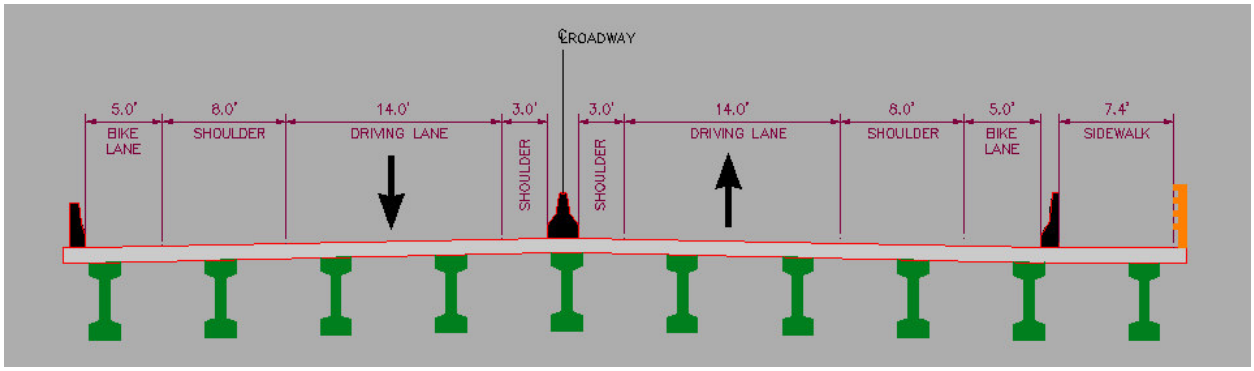


Exhibit 6 – *Roadway Typical Section on Montaño Bridge*

Inventory of Existing Roadway Characteristics *continued*:

Montaño Bridge to Rio Grande Boulevard: The typical section, as shown in Exhibit 7, from the bridge to Rio Grande Boulevard is consistent with 4:1 taper slopes and recreational trails. The width of the raised median decreases as the section nears the Rio Grande Overpass with driving lanes/shoulders/bike lane width remaining consistent. The typical section includes a concrete wall barrier to protect vehicular traffic from the bridge pier located in the median.

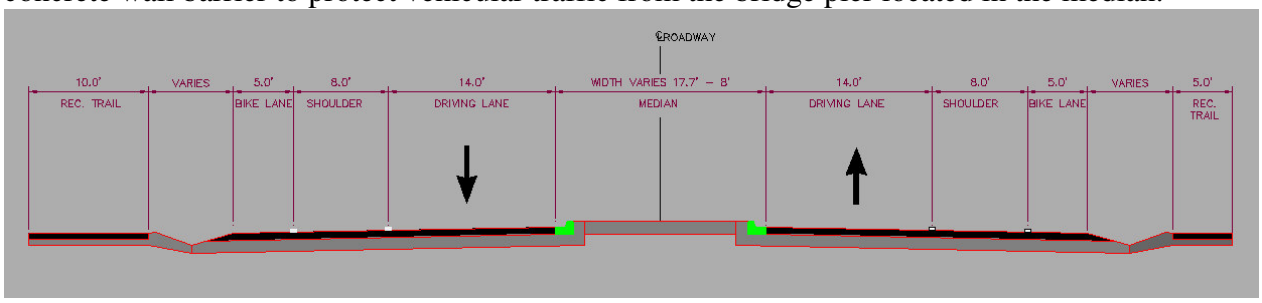


Exhibit 7 – *Roadway Typical Section East of Montaño Bridge*

Rio Grande Boulevard to Guadalupe Trail:

Rio Grande Boulevard to Rancho Caballero: The typical section from Rio Grande Boulevard to Rancho Caballero is consistent with 4:1 taper slopes and recreational trails. The width of the raised median increases as the section departs from the Rio Grande Overpass with the driving lanes/shoulders/bike lane width remaining consistent. The raised median width varies, as left turn bays are present along this section.

Montaño Road
Just East of Rio Grande Blvd.

Rancho Caballero to Guadalupe Trail: The typical section from Rancho Caballero to Guadalupe Trail is consistent with standard curb & gutter, and recreational trails while the raised median ends just east of Rancho Caballero. This section has a striped continuous center left turn median.

Guadalupe Trail to 4th Street: The typical section, as shown in Exhibit 8, is consistent with standard curb & gutter, and sidewalk on either side with a striped continuous center left turn median. There are three areas with raised median at Guadalupe Trail, 9th Street, and at 4th Street. It is in this section, approximately 650 feet west of 4th Street, that the typical section transitions between two lanes and four lanes.

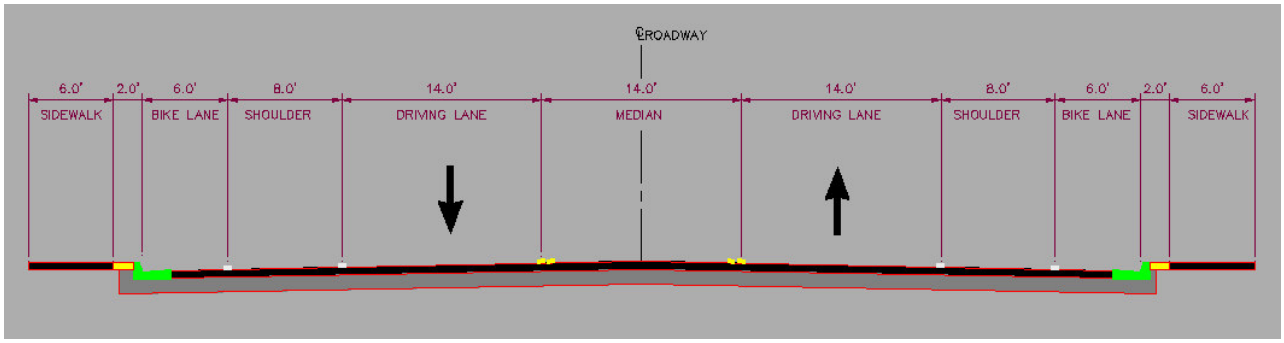


Exhibit 8 – *Roadway Typical Section East of Guadalupe Trail*

Inventory of Existing Roadway Characteristics *continued*:

4th Street to 2nd Street: The typical section is consistent with standard curb & gutter, median curb & gutter, and sidewalk on either side. The width of the raised median varies, as left turn bays are present along this section, while the width of the four driving lanes remains consistent.

C. Existing Signalized Intersection Layouts:

The following diagrams show the current layouts of the signalized intersections along this study corridor.

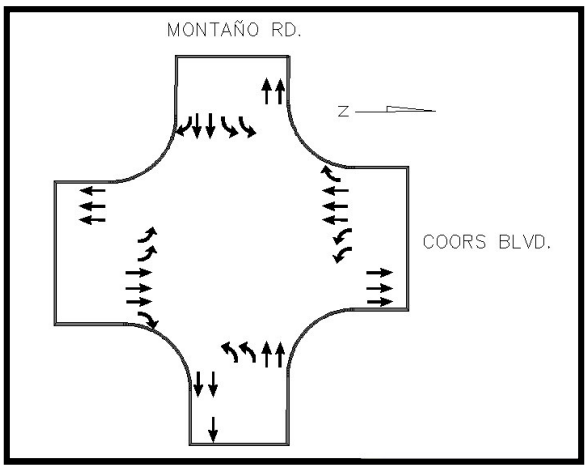


Exhibit 9A
Coors Blvd. & Montaño Rd.

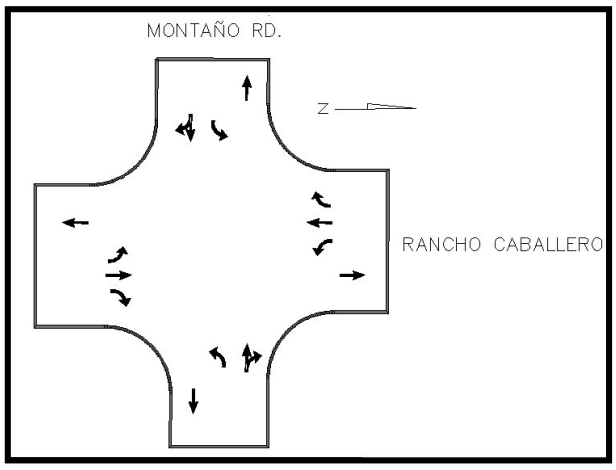


Exhibit 9B
Rancho Caballero & Montaño Rd.

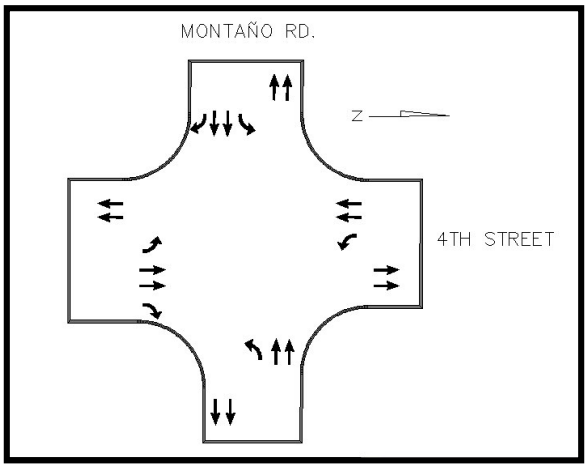


Exhibit 9C
4th Street & Montaño Rd.

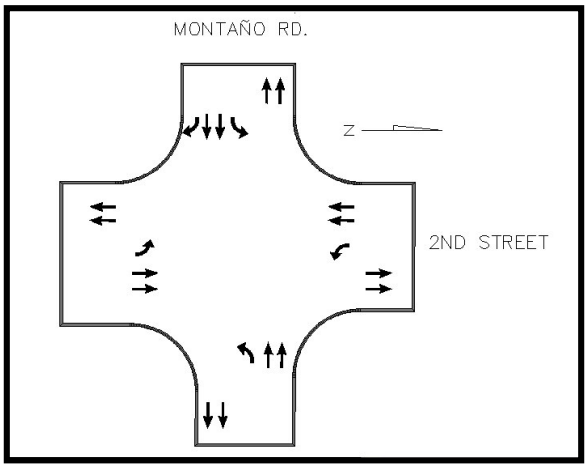


Exhibit 9D
2nd Street & Montaño Rd.

Inventory of Existing Roadway Characteristics *continued*:

D. Access points (Unsignalized):

An inventory of the access points along the corridor was collected, documenting the characteristics of each major unsignalized side street and driveway. Each driveway was given an identifier, while the side streets are identified by their actual name. The characteristics documented included location, type of use (street, business, or residential), and intersection characteristics (full access, right in/right out only, etc.). All driveways appear to have turnaround capabilities within the property or by dual driveways, i.e. they do not have to reverse into the Montaño Road driving lanes to exit the property. On-street parking (on Montaño Road) was observed at one property, where vehicles parked on the bicycle lane.

After this inventory, the streets or driveways that would be included in the model analysis of the corridor were determined by the number of trips during the AM and PM peak hour. Streets or driveways with at least 10 trips per hour were included and are as follows:

Major Unsignalized Side Streets:

- Winter Haven Drive
- Tierra Viva Place
- 12th Street
- 9th Street
- 5th Street

Inventory of Existing Roadway Characteristics *continued*:

The following Tables – *Summary of Driveways and Unsignalized Side Streets* describe the characteristics of each.

Summary of Driveway, Side Streets, and Parking Lot Entrances

Table 1A

Coors Boulevard to Rio Grande Boulevard						
				Type of Service		**To Be Used In**
Name	**North**	**South**	**Description**	**North**	**South**	**Model**
Coors Boulevard			Signalized Intersection			Y
Winterhaven Road	X	X	Full access intersection with stop control on Winterhaven Road.			Y

Montaño Bridge to Rio Grande Boulevard: There are no regularly used driveways between the Montaño Bridge to Rio Grande Boulevard. Driveways for the access road to the Albuquerque Drain are located just east of the bridge on the north and south side of Mo

Table 1B

Rio Grande Boulevard to Rancho Cabellero						
				Type of Service		**To Be Used In**
Name	**North**	**South**	**Description**	**North**	**South**	**Model**
1		X	Full access driveway - Not in use, gated.		Single Residence	N
2	X	X	Full access driveways	West Entrance for Church	Driveway	N
3 - Poblanos Court	X	X	Full access street (Poblanos Court with 15 single family residences), Right In/Right Out Only driveway (Shepard of the Valley Church)	East Entrance for Church	City Street	N
4	X	X	Right In/Right Out ONLY driveways, Shepard of the Valley (north), Rio Grande Tech Center (south)	2nd East Entrance for Church	West Entrance for property	N
5 - Tierra Viva Place	X	X	Full access street (Tierra Viva Place), Full access driveway (RG Tech Center)	City Street	East Entrance for property	Y
6		X	Right In/Right Out Only driveway for RG Tech Center		Driveway	N
7 - Adobe Road	X		Right In/Right Out Only driveway for single residence	Single Residence		N
Rancho Caballero			Signalized Intersection			Y

Table 1C

Rancho Caballero to Guadalupe Trail						
				Type of Service		**To Be Used In**
Name	**North**	**South**	**Description**	**North**	**South**	**Model**
8 - Adobe Rd. Driveways	X		Six (6) full access driveways, one (1) for each property. Note: Properties also have access onto Adobe Road.	Driveway		N
9		X	Full access driveway for Rancho Caballero subdivision - Not in use, gated.		Driveway	N
10 A & B		X	Full access driveways for Church of Jesus Christ LDS.		Driveway	N

Source: Wilson & Company – 2005

Inventory of Existing Roadway Characteristics *continued*:

Summary of Driveway, Side Streets, and Parking Lot Entrances *continued*

Table 1D

Guadalupe Trail to 9th Street						
				Type of Service		**To Be Used In**
Name	**North**	**South**	**Description**	**North**	**South**	**Model**
11	X	X	Right In/Right Out Only Driveways. South driveway not in use, gated.	Driveway	Driveway	N
12	X		Full access driveway for insurance agency	Driveway		N
12th Street		X	Full access street (30 single family residences)		City Street	Y
13 A - D	X		Four (4) full access driveways, one for each property. Note: Driveway 13D utilizes Montano Road for on-street parking, may not have enough parking spaces available on property.	Driveway		N
14 A, B, C		X	Three (3) full access driveways, one for each property.		Driveway	N
15 A, B, C	X		Full access driveways for vacant commercial property.	Driveway		N
9th Street		X	Right Out Only with a raised median.		City Street	Y

Table 1E

9th Street to 5th Street						
				Type of Service		**To Be Used In**
Name	**North**	**South**	**Description**	**North**	**South**	**Model**
16 A - E	X		Five (5) full access driveways.	Driveway		N
19 A, B, C	X		Three (3) full access driveways for St. Michael & All Angels Church. Two (2) west driveways for west parking lot. One (1) east driveway is for east parking lot and access to the rear of the church.	Driveway		N
17		X	Full access driveway. Note: Property also has access to 9th Street.		Driveway	N
18 A & B		X	Full access driveways		Driveway	N
Villa Canela Ct.		X	Full access street (approx. 10 single family residences)		City Street	N
20 A - D		X	Full access driveways		Driveway	N
Harwood Lateral		X	Access road for maintenance			N
21 A - E		X	Full access driveways		Driveway	N
22 A - D		X			Driveway	N
5th Street		X	Full access street		City Street	Y

Table 1F

5th Street to 4th Street						
				Type of Service		**To Be Used In**
Name	**North**	**South**	**Description**	**North**	**South**	**Model**
23 A & B	X		Driveways for commercial business	Driveway		N
24		X	Driveway with full access for single residence. Residence also has access to 5th Street.		Driveway	N
26		X	Montaño Road driveway for gas station with Right In/Right Out ONLY access. Gas station also has full access from 4th Street.		Driveway	N
25	X		Montaño Road driveway for gas station with Right In/Right Out ONLY access. Gas station also has Right In/Right Out Only from 4th Street.	Driveway		N
4th Street			Signalized Intersection			Y

Source: Wilson & Company – 2005

Inventory of Existing Roadway Characteristics *continued*:

E. Bicycle and Pedestrian Facilities:

On-Street Bicycle Facilities:
Montaño Road is currently designated as a minor arterial with on-street bicycle lanes. These bicycle lanes are in-place from Unser Boulevard to 4th Street. Between 4th Street and 2nd Street bicyclists share the outside driving lane in each direction. In the remaining portion of Montaño Road from 2nd Street to the Interstate 25 Southbound Frontage Road, the on-street bicycle lanes are proposed and plan to be constructed with the 2nd Street Intersection Improvements Project and the Montaño Road Widening Project from 2nd Street to I-25.

In areas where the roadway typical section has standard curb & gutter, mainly from Coors Boulevard to the Montaño Bridge and Rancho Caballero to 4th Street, the bicycle lane width is 6 feet (4 feet of pavement with 2 feet wide gutter pan). In the remaining areas the roadway typical section has 4:1 asphalt taper and the bicycle lane width is 5 feet. Along the Montaño Bridge, the bicycle lanes are 5 feet wide. **According to the American Association of State Highway and Transportation Officials (AASHTO) Guide for the Development of Bicycle Facilities, the recommended width of a bicycle lane is 5 feet from the face of a curb or guardrail to the bike lane stripe.**

The 6-ft (standard curb & gutter section) and 5-ft (4:1 taper section) bicycle lane width meets the City of Albuquerque Transportation Design technical standards and the guidelines of the AASHTO Guide for the Development of Bicycle Facilities.

Multi-Use Facilities:
The Montaño Road Corridor has a wealth of multi-use facilities as compared to other minor arterials throughout the city. It currently has multi-use trails on either side of the roadway from the Albuquerque Drain to approximately 870 feet east of Rancho Caballero (sidewalk continues east from where the trail ends). The meandering trail on the north side is made of crusher fines and varies in width from 5' to 8' wide. At the Rio Grande Boulevard/Montaño Pump Station, the trail comes to a fork as pedestrians can continue north and up to Rio Grande Boulevard or continue west to the Albuquerque Drain. At the Albuquerque Drain, the trail connects with the Bosque/Riverside Bikepath.

The 10-ft wide asphalt trail on the south side continues from the Montaño Road Bridge to approximately 870 feet east of Rancho Caballero (sidewalk continues east). The trail connects to the Bosque Riverside Bikepath. The width of the trail is 10 feet and meets the guidelines of the AASHTO Guide for the Development of Bicycle Facilities.

Pedestrian Facilities:
Six (6) feet wide sidewalk is in-place along the Montaño Road Corridor from Coors Boulevard to the Montaño Bridge and 870 feet east of Rancho Caballero to 2nd Street. Pedestrian access is provided on the south side of the bridge. A 42-inch tall concrete wall barrier separates the pedestrians from the vehicular traffic.

Inventory of Existing Roadway Characteristics *continued*:

Currently, the signalized intersections at Coors Boulevard, Rancho Caballero, 4th Street and 2nd Street, the Rio Grande Boulevard Overpass, and the Albuquerque Drain Underpass (Bosque/Riverside Bikepath) are the ideal places to cross Montaño Road. A mid-block crossing at Guadalupe Trail also exists with a raised median pedestrian refuge. Exhibit 10 shows each type of crossing and the distances to each. The longest trip required to reach one of the safer crossings is approximately 1,650 feet.

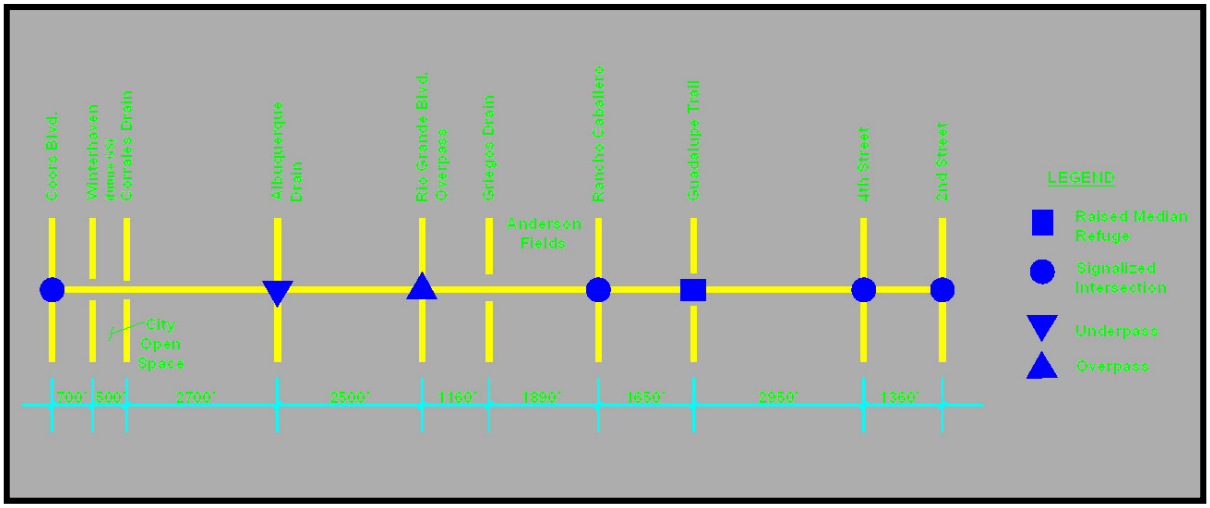


Exhibit 10 – *Distance to Popular Crossing Locations*

F. Miscellaneous Existing Characteristics:

Bus Routes:
Currently, bus routes do not exist along this portion of Montaño Road and heavy commercial vehicles over 5 tons are not allowed in the area.

Noise Walls:
Noise walls are currently in place along the north and south side of Montaño Road from the Albuquerque Riverside Drain to the Griegos Lateral. They are constructed of adobe block with pilasters and vary in height from 4 feet to 8 feet.

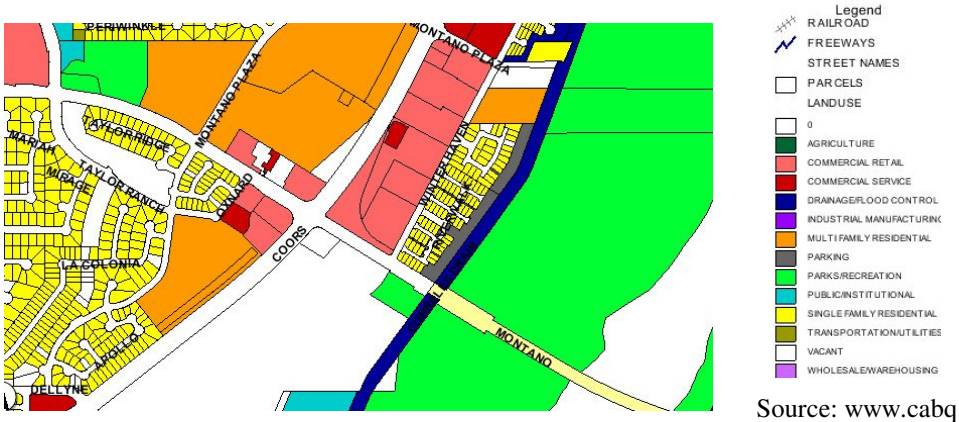
Landscaping:
Extensive landscaping was installed when the roadway was first constructed. The plantings are established and well maintained. The plantings are within the raised median and along the edges of the roadway in the buffer zone.

Land Uses, Economic Activities and Travel Patterns:

A. Land Use & Economic Activities:
As shown in Exhibit 11 the northeast, northwest, and southwest quadrants of the intersection of Coors Boulevard and Montaño Road the land is zoned commercial service and commercial retail.

Land Uses, Economic Activities and Travel Patterns *continued*:

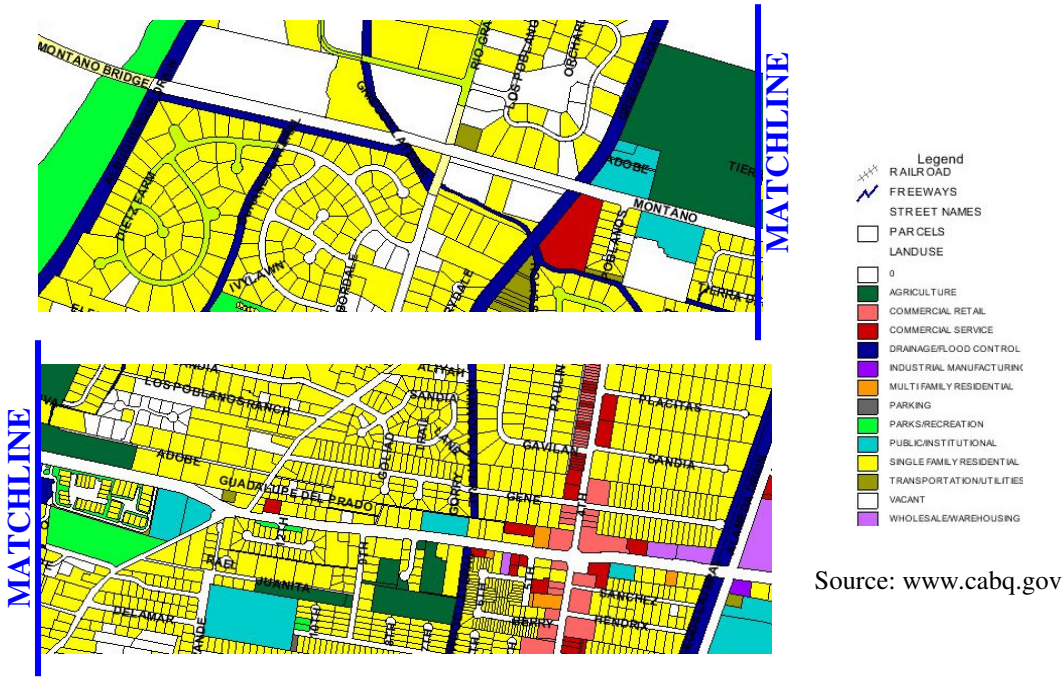
The southeast quadrant of the intersection is currently vacant. Between Coors Boulevard and the Rio Grande River, an area of single-family residential property exists on the north side of Montaño Road.



Source: www.cabq.gov

Exhibit 11 – *Land Use (Coors Blvd. to Montaño Bridge)*

The majority of the corridor between the Rio Grande and 4th Street is single family residential with pockets of agriculture areas such as Anderson Field. Also along the corridor are three churches (public/institutional zoning): St. Michael & All Angels Church (601 Montaño Road NW), Church of Jesus Christ of LDS (1100 Montaño Road NW), and the Shepherd of the Valley Presbyterian Church (1801 Montaño Road NW). At the intersection of 4th Street and Montaño Road a concentration of commercial service and commercial retail properties exist.



Source: www.cabq.gov

Exhibit 12 – *Land Use (Montaño Bridge to 4th Street)*

Land Uses, Economic Activities and Travel Patterns *continued*:

B. Travel Patterns and Growth:

Historical traffic growth:

From 1984 to 2004, the average annual growth rate for Albuquerque urban area river crossing traffic volumes over the last 20 years is 7.3%. This is an extremely significant increase compared with a 2% growth rate for normal arterial roadways. If this growth pattern continues a significant level of demand will require additional capacity enhancements.

Table 2 – *Albuquerque Urban Area River Crossing Traffic Volumes*
Average Weekday Traffic (1984 to 2004)

Year	US 550	Alameda Bd.	Paseo del Norte	Montaño Rd.	I-40	Central Ave.	Bridge Bd.	Rio Bravo Bd.	Total	Index (1984 = 100)
1984	6,000	23,600	---	---	56,900	35,200	30,400	20,700	172,800	100
1986	6,600	28,300	---	---	67,000	44,100	33,200	24,900	204,100	118
1988	8,000	24,200	28,000	---	76,600	43,800	44,500	27,000	252,100	146
1990	9,700	24,400	38,400	---	68,300	39,700	39,800	27,200	247,500	143
1992	11,500	25,000	42,900	---	75,100	39,100	40,000	27,400	261,000	151
1994	15,200	24,800	58,500	---	76,400	45,800	41,300	31,600	293,600	170
1996	20,000	35,700	57,300	---	97,300	43,000	40,400	30,800	324,500	188
1998	23,000	35,300	60,100	20,500	87,800	40,300	39,400	30,400	336,800	195
2000	26,500	37,600	66,500	24,700	94,200	41,900	41,000	32,300	364,700	211
2002	31,400	39,100	73,100	25,600	109,000	41,700	42,500	31,600	394,000	228
2004	35,700	43,600	77,800	26,600	130,000	34,900	41,500	33,500	423,600	245
2004 vs 1984	*29,700*	*20,000*	*77,800*	*26,600*	*73,100*	*-300*	*11,100*	*12,800*	*250,800*	
average annual change over 20-year period									*12,540*	

Source: MRCOG – August 18, 2005

The circulation system includes interstate, principal arterial, minor arterial, collector, and local streets with the river crossings being the most critical of the system. Currently, there are eight Rio Grande river crossings in use in the Albuquerque urban area.

Table 3 – *Albuquerque Urban Area River Crossing Roadway Typical Sections*

		Roadway Typical Section				
Roadway	**Classification**	**Shoulder**	**Driving Lane(s)**	**Median**	**Driving Lanes**	**Shoulder**
US 550	Principal Arterial	10'	2 - 12' LANES	20'	2 - 12' LANES	10'
Alameda Blvd.	Principal Arterial	12' BIKE LANE & SHOULDER	2 - 12' LANES	16'	2 - 12' LANES	12' BIKE LANE & SHOULDER
Paseo del Norte	Principal Arterial	12'	3 - 12' LANES	10'	3 - 12' LANES	12'
Montaño Rd.	Minor Arterial	5' BIKE LANE/ 10' SHOULDER	1 - 12' LANE	10'	1 - 12' LANE	10' SHOULDER/ 5' BIKE LANE
I-40	Interstate	24'	4 - 12' LANES	24'	5 - 12' LANES	12'
Central Ave.	Principal Arterial	4'	3 - 12' LANES	10'	3 - 12' LANES	4'
Bridge Blvd.	Principal Arterial	4'	2 - 12' LANES	10'	2 - 12' LANES	4'
Rio Bravo Blvd.	Principal Arterial	12'	2 - 12' LANES	10'	2 - 12' LANES	12'

Source: Wilson & Co. - October 2005

Land Uses, Economic Activities and Travel Patterns *continued*:

Local Area Traffic Patterns:
Aside from Interstate 40, Montaño Road serves as the first opportunity for the public to cross the Rio Grande River north of the Albuquerque downtown business district. During the negotiations with stakeholders to allow the Montaño Bridge construction, several conditions were placed on the corridor that affected the traffic circulation in and around Montaño Road especially in the area between the Rio Grande Boulevard Overpass and 4th Street. This included reconstructing Rio Grande Boulevard as an overpass, constructing cul-de-sacs at Guadalupe Trail (no access onto Montaño Road), and limiting 9th Street to right-in/right-out only (no access from Montaño Road). With this, the traffic between the Rio Grande and 4th Street north and south of Montaño Road must utilize 4th Street to leave the area.

Future Conditions:

Currently, West Side residents make up 25 percent of the city's population, according to data from the MRCOG. The region has grown in population 27 percent over a four-year period since the 2000 Census, the data shows, compared with an 8 percent growth citywide.

The 2025 MTP projects that the MRCOG region will experience a 46% increase in population by 2025 with the Albuquerque Metropolitan Planning Area (AMPA) expected to increase by 39%. With this growth in population, employment will increase by 41% for the MRCOG region and 38% for the AMPA. The amount of land used for residential, commercial, industrial, and institutional is expected to grow by 47% in the AMPA. The most growth will occur to the west of the Rio Grande River.

According to MRCOG, the Transportation Conformity Technical Committee (TCTC) determined in August 2005 that a four lane Montaño Road conforms with the State Implementation Plan's (SIP) Carbon Monoxide regional mobile sources emissions budgets for each interim and horizon year forecast (MRCOG, September 14, 2005).

Programmed Major Improvements:
The following are several major improvement project programmed for the next 5 years:

- **Paseo del Norte Extension** – Extension of Paseo del Norte from Golf Course Road to Kimmick Road with a four-lane section from Golf Course Road to through the escarpment, and a two-lane section continuing on to Kimmick Road at the west end.
- **2nd Street Intersection Improvements** – Widening of intersection to accommodate dual left turn lanes and two through lanes with right turn bays at each approach. The right turn bays on 2nd Street will become the third through lane when the 2nd Street Corridor is widened to six lanes.
- **4th Street Intersection Improvements** – Widening of intersection to accommodate longer dual left turn lanes for the southern approach, longer single left turn bay for the northern approach, and right turn bays for the southern and eastern approaches.
- **Montaño Road Widening (2nd Street to I-25)** – Widening of Montaño Road from four lanes to six lanes with bicycle lanes.

Noise Analysis, Vibration Monitoring, and Biology Survey:

Noise Analysis:
A noise analysis was completed in December of 2004, with a supplemental analysis completed in October 2005, to review any effects a four lane Montaño Road would have on noise levels in the corridor. This report is included in Appendix F. Noise levels at all receivers evaluated, in both the year 2005 and the year 2025 for a four lane Montaño Road are expected to remain below the FHWA's 67 dBA noise abatement criteria. Therefore, traffic noise impacts are not expected as a consequence of implementing a four-lane roadway section on Montaño Road, and additional noise abatement measures are not warranted for the area.

Vibration Monitoring:
A vibration monitoring analysis report was completed in November of 2004 to determine if the vibration caused by vehicular traffic would be damaging. The report is included in Appendix F. The study found that a four-lane section, the vibration levels are too low to be felt by persons living outside the right-of-way and the potential for damage to structures along Montaño Road due to vehicular traffic is unlikely.

Biology Survey:
A biology survey letter report was completed in January 2005 to identify biological resources that may be impacted including general vegetation, wildlife, migratory birds, wetlands, noxious weeds, and protected plant and wildlife species. This report is included in Appendix F. Based on the current condition of the habitat immediately adjacent to the bridge it is not anticipated that the noise increase of approximately 3 decibels is likely to affect any wildlife species that currently inhabit or use the areas adjacent to the roadway or bridge.

Existing Traffic Data:

An extensive amount of data had to be collected to correctly model the actual traffic conditions and operations of the roadway. This effort began in January 2005 and continued until August of 2005. The timeframes in which data was collected was always during the school year when the amount of traffic utilizing the roadway is at it's greatest.

Traffic Signal Timing:
The current traffic signal timing for each signalized intersections were requested and received from the City of Albuquerque Traffic Engineering Division in January 2005. Recently, the geometry at the Rancho Caballero intersection was modified with the construction of the north leg of the intersection and a left turn bay for the eastbound to northbound movement. A request for any new signal timing was requested from the City and we were informed that the timing did not change with the modifications. This data is located in the Appendix A.

Auto Occupancy Survey Data Collection:
On Monday January 10, 2005 and Tuesday January 11, 2005 a representative from Wilson & Company was stationed on Montaño Road just west of 4th Street for the peak period of the

Existing Traffic Data *continued*:

morning and evening commute. A count was taken of the total number of vehicles and with each categorized as Single Occupant Vehicle, Double Occupant Vehicle, and Three Plus Occupant Vehicle for the eastbound direction in the AM peak period and the westbound direction in the PM peak period. The following Table 4 details the results of the survey.

Table 4 – *Auto Occupancy Survey, January 2005*

Monday, 01/10/05

Time	Single Occupant Vehicles		Double Occupant Vehicles		Three Plus Occupant Vehicles	
	Number	Percent	Number	Percent	Number	Percent
4:30 - 4:45 PM	295	79.3	66	17.7	11	3.0
4:45 - 5:00 PM	300	79.6	68	18.0	9	2.4
5:00 - 5:15 PM	328	85.4	51	13.3	5	1.3
5:15 - 5:30 PM	318	86.2	45	12.2	6	1.6
TOTAL	1241	**82.6**	230	**15.3**	31	**2.1**
			2+ Occupant Vehicles: Total = 17.4%			

Tuesday, 01/11/05

Time	Single Occupant Vehicles		Double Occupant Vehicles		Three Plus Occupant	
	Number	Percent	Number	Percent	Number	Percent
7:00 - 7:15 AM	309	85.4	43	11.9	10	2.8
7:15 - 7:30 AM	290	80.1	61	16.9	11	3.0
7:30 - 7:45 AM	311	81.2	55	14.4	17	4.4
7:45 - 8:00 AM	364	87.7	42	10.1	9	2.2
TOTAL	1274	**83.7**	201	**13.2**	47	**3.1**
			2+ Occupant Vehicles: Total = 16.3%			

Tuesday, 01/11/05

Time	Single Occupant Vehicles		Double Occupant Vehicles		Three Plus Occupant	
	Number	Percent	Number	Percent	Number	Percent
4:30 - 4:45 PM	331	79.4	69	16.5	17	4.1
4:45 - 5:00 PM	331	80.0	71	17.1	12	2.9
5:00 - 5:15 PM	311	83.2	57	15.2	6	1.6
5:15 - 5:30 PM	350	85.0	59	14.3	3	0.7
TOTAL	1323	**81.8**	256	**15.8**	38	**2.4**
			2+ Occupant Vehicles: Total = 18.2%			

2+ Occupant Vehicles Average = 17.3%

This survey concludes that an average of 17.3% of the vehicles currently have the potential to utilize a high occupancy vehicle restricted lane.

Existing Traffic Data *continued*:

Traffic Counts and Data:
From March 8, 2005 to March 9, 2005 48-hour roadway counts were collected on Montaño Road just west of Guadalupe Trail by Digital Traffic Systems, Inc (DTS). DTS also counted the vehicle movements at the major signalized intersections of Montaño Road with Coors Boulevard, Rancho Caballero, 4th Street and 2nd Street. This data is located in Appendix B.

The City of Albuquerque requested 2005 current and 2025 future traffic data for this study from MRCOG. This data is located in Appendix C.

Field Observations:
Two major components of the calibration of the model involved the existing vehicle queue lengths at each intersection and the current travel time required to traverse the corridor between Coors Boulevard and 2nd Street. Vehicle queue lengths were recorded by Wilson & Company representatives at the signalized intersections of Montaño Road with Coors Boulevard, Rancho Caballero, 4th Street, and 2nd Street; and the nonsignalized side streets of Winter Haven Drive, Tierra Viva Place, 12th Street, 9th Street, and 5th Street. Multiple vehicle travel time measurements were recorded during the AM and PM peak periods. The queue length and travel time data is located in Appendix D.

Accident Data:
Accident data for the corridor was requested from the New Mexico Department of Transportation and data reports from their consolidated highway database was provided for the intersection of Montaño Road with 4th Street, 5th Street, 9th Street, 12th Street, and Coors Boulevard. Accident data for the intersections of Montaño Road at Winter Haven Drive, Poblanos Court, and Tierra Viva Place was requested but it is unavailable as they are not in the NMDOT accident database. Adobe Road did not have any reported crashes. The accident data diagrams are located in Appendix E. The following table summarizes the number accidents for each intersection for the years 2001 – 2003.

Table 5 – *Accident Data for Montaño Road (2001 – 2003)*

Intersection	***2001***	***2002***	***2003***	***Total***
4th Street	40	41	42	123
5th Street	0	1	2	3
9th Street	0	2	0	2
12th Street	4	4	1	9
Coors Blvd.	65	57	41	163

Source: NMDOT – February 2005

4th Street/Montaño Road
The intersection of Montaño Road and 4th Street had a total of 123 accidents in the three-year period from year 2001 through year 2003. There were 40 accidents in the first year, 41 accidents in the second year and 42 accidents in the last year of the study. The overall number of accidents throughout the study period remained constant, but the number of rear end accidents increased slightly in 2003. The majority of accidents types were rear end (56%), right angle (24%),

Existing Traffic Data *continued*:

driveway maneuver (18%) and same direction sideswipe (14%). The rear end accidents that are typical at a signalized intersection occurred in all four directions of traffic. A high percentage of driveway maneuvers along 4th Street could be attributed to the proximity of business and driveways close to the intersection. 4th Street is a four lane undivided roadway that is classified as a collector street and has numerous business and driveways along the roadway. The accident severity was mostly property damage (67%), some injury (33%) and one fatality that occurred during the PM hours with the driver being under the influence of alcohol. The road conditions for the accidents were mainly dry and clear and mostly during daylight hours. The probable cause of the majority of the accidents was driver inattention and failure to yield right-of-way.

5th Street/Montaño Road

The intersection of Montaño Road and 5th Street had a total of three accidents in the three-year period from year 2001 through year 2003. There were no accidents in the first year, one accident in the second year and two accidents in the last year of the study. The accident types were rear end, fixed object and left turn. The accident severity was injury (67%) and property damage (33%). All the accidents occurred during daylight hours with road conditions clear and dry and none of the drivers had been under the influence of alcohol. The probable causes were following too close, driver inattention and failure to yield right-of-way. 5th Street is a residential street that carries minimal volume of traffic.

9th Street/Montaño Road

The intersection of Montaño Road and 9th Street had one fatal accident listed during the year of 2002. This accident involved running off road at night and alcohol use. It was probably not related to intersection conditions.

12th Street/Montaño Road

The intersection of Montaño Road and 12th Street had a total of four recorded accidents within each of the years 2001 and 2002, and one in 2003. Of the total of nine accidents in the three years, three were identified as fixed object and four as rear end type accidents. These accidents were probably not directly attributed to the intersection, but most likely related to the conditions and factors related to the through traffic movement. The major identified probable causes were following too close, driver inattention and improper driving. A lone accident in 2002 involved an entering vehicle from 12th Street and a resulting right angle collision with a probable cause of failure to yield.

Coors Boulevard/Montaño Road

The intersection of Montaño Road and Coors Boulevard had a total of 163 accidents in the three-year period from year 2001 through year 2003. The number of accidents appears consistent with what would be expected at a very high volume intersection of two arterials. Data from the NMDOT consolidated database identifies 65 reported accidents in 2001, 57 accidents in 2002, and 41 in 2003. The reason for the annual decline is unknown.

The predominant accident type was rear end collisions, which represented 75% of the total accidents during the three years recorded. No other identified accident type exceeded 10% of the

Existing Traffic Data *continued*:

total. The high rear end collision rate is most likely the result of a signalized intersection with near-saturation peak hour traffic conditions and significant queuing (back-up). There was one right angle accident and each in the years of 2001 and 2002, and two in 2003 indicating running the red is not a significant problem at the intersection. The identified probably cause for the majority (71%) of the accidents was driver inattention or following too close.

In reviewing the traffic growth and the number of accidents per year at the Coors Blvd. and Montaño Rd. intersection, it can be shown that the number of accidents does not necessarily coincide with the traffic growth. Table 6 shows that while the traffic entering the intersection grew over time, the number of accidents has fluctuated. From the table it is clear that a direct comparison between the number of accidents and volumes is not accurate.

Coors Blvd. & Montaño Rd. Intersection Accident Rate (AR (per mvm))			
Year	**# Crashes**	**ADT**	**AR (per mvm)**
1996	40	47,000	2.33
1997	54	46,100	3.21
1998	86	60,350	3.90
1999	61	63,700	2.62
2000	90	67,850	3.63
2001	65	71,850	2.48
2002	57	70,900	2.20
2003	41	71,300	1.58
2004	78	72,650	2.94

Table 6 – *Coors & Montaño Intersection Accident Rate*

Methodology and Standards:

A. Methodology:

The study area includes the segment of Montaño Road from Coors Boulevard to 2nd Street. There are four (4) signalized intersections within the study area at Coors Boulevard, Rancho Caballero, 4th Street, and 2nd Street. The existing conditions of the corridor were fully analyzed and a traffic micro-simulation model was prepared and calibrated to the existing conditions. The traffic model was then used to simulate the future conditions of the corridor based on the forecast provided by the MRCOG for the design year 2025.

The traffic volume growth rate was determined from the MRCOG forecasts and were applied to the 2005 peak hour volumes and turning movements. The model was coded for the candidate alternatives and a performance analysis was completed for each. The results of the performance analysis were then used to compare each alternative.

Simulation Modeling Software:

CORSIM was selected as the computerized traffic simulation modeling software for this study. The benefits demonstrated by the CORSIM software in evaluating traffic operations for arterial street networks are as follows:

- Models the interaction of closely spaced signalized intersections and their relationship to each other
- Models the impacts of intersection spillback from deficient intersections to adjacent intersections

Methodology and Standards *continued*:

- Accounts for the benefits of signal coordination by modeling individual vehicles and the formation of vehicle platoons
- Assists in the determination of the necessary vehicle storage lane lengths by quantifying average and maximum vehicle queues by lane for the analyzed time period
- Allows visual review of improvement strategies and associated benefits
- Useful in managing various analysis scenarios, since all intersections are included in one file for each alternative, rather than files for individual intersections

CORridor SIMulation (CORSIM) was developed by the Federal Highway Administration (FHWA) as a tool to examine traffic operation on a microscopic level where individual vehicles are modeled with respect to driver characteristics. After each CORSIM simulation run, an output file is generated to express the performance of the system. Average speed, delay, travel time, vehicle-hours, vehicle-miles, fuel consumption, and emissions are among the output data.

SYNCHRO software analyses were used to supplement CORSIM simulation outputs for intersection level of service to further validate of the existing and proposed traffic micro-simulation model's effectiveness.

B. Standards:

Intersection Level of Service (LOS) Signalized Locations:
The LOS for a signalized intersection is evaluated on the basis of control delay per vehicle (in seconds per vehicle). Control delay is the portion of the total vehicle delay attributed to traffic signal operation for a signalized intersection. It includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay (HCM 2000).

Table 7 – *LOS Criteria for Signalized Intersections*

LOS	Control Delay per Vehicle (s/veh)
A	≤ 10
B	> 10-20
C	> 20-35
D	> 35-55
E	> 55-80
F	> 80

Source: *Highway Capacity Manual 2000*

Intersection Performance/Delay for Unsignalized Locations:
The performance for a two-way-stop-controlled (TWSC) intersection is determined by the computed or measured control delay and is defined for each minor movement (HCM 2000).

Analysis of 2005 Existing Traffic Data and Conditions:

A. Model development and calibration:

Corridor/Facility specific traffic modeling:
A CORSIM traffic micro-simulation model was prepared and calibrated to field observed traffic conditions (travel times, vehicle queue lengths and delay) to evaluate traffic operations along the Montaño Road for the existing weekday AM and PM peak hours. SYNCHRO software was utilized to supplement the signalized intersection traffic operation analysis.

CORSIM traffic micro-simulation modeling software was used to identify the location and cause of existing traffic congestion, evaluate conceptual intersection and roadway geometric alternatives, and provide before-and-after traffic operations comparison from a microscopic level. The CORSIM simulation roadway network covers the entire study corridor extending from 2nd Street to Coors Boulevard. The traffic model incorporated all signalized intersections on Montaño Road within the study area: Coors Boulevard, Rancho Caballero, 4th Street, and 2nd Street. In addition, the model contains five primary minor streets accesses (unsignalized intersections): Winter Haven Drive, Tierra Viva Place, 12th Street, 9th Street, and 5th Street.

Output from the model was compared to the existing field data (travel time, queue length, and delay) to make sure the model was representing existing conditions. Multiple simulation runs were created for each peak hour and completed with different random number seeds to simulate operational variations that occur under present day conditions. Average travel time and traffic volumes from the multiple simulation runs was compared to the same data collected in the field. Model parameters were modified such that the simulated traffic conditions were consistent to the observed field data.

General Modeling Results:
The CORSIM existing Year 2005 model was calibrated to approximate the observed travel times based on actual travel time runs conducted in March, 2005. The overall model generated travel time estimates from 2nd Street to Coors Boulevard for the AM peak period and the PM peak period are within a six percent (6%) margin in comparison to the date collected in the field. The differences are considered to be in the acceptable range. The total travel time in the eastbound direction during the AM peak hour is approximately 11.5 minutes, and in the westbound direction during the PM peak hour is approximately 12 minutes. The times shown in the table do include the effect of the intersection control delay for both the observed field and estimated model travel times.

Table 8 – *Comparison of Field Travel Time vs. Model Travel Time (Current Conditions)*

Segment	Field *Travel Time (min)*	Model *Travel Time (min)*	Segment	Field *Travel Time (min)*	Model *Travel Time (min)*
Eastbound (AM) 2nd Street	1.7	1.6	Westbound (PM) 2nd Street	2.2	2.2
4th Street	2.7	2.8	4th Street	3.2	3.0
Rancho Caballero	7.1	7.2	Rancho Caballero	6.3	7.1
Coors Blvd.			Coors Blvd.		
Total Travel Time	11.5	11.6	***Total Travel Time***	11.7	12.3

Source: Wilson & Co. – March 2005

Analysis of 2005 Existing Traffic Data and Conditions *continued*:

B. Year 2005 Traffic Analysis:

Table 9 provides a summary of intersection levels of service (LOS) under existing Year 2005 conditions. The control delay and LOS estimates are based on the results of Synchro analysis

Table 9 – *Existing Year 2005 Signalized Intersection Levels of Service*

Intersection	AM Peak Hour		PM Peak Hour	
	Control Delay (Sec./Veh.)	LOS	Control Delay (Sec./Veh.)	LOS
Coors Blvd. / Montaño Road	40.5	D	107.8	F
4th Street / Montaño Road	31.6	C	67.1	E
2nd Street / Montaño Road	41.8	D	53.2	D

Source: Wilson & Co. – 2005

The analysis results indicate that Coors Blvd intersection and 4th Street intersection are currently operating at LOS F and LOS E respectively during the PM peak hour. During the morning peak hour period, all signalized intersections are operating at LOS D or better.

Table 10 provides additional detail related to the capacity and level of service at each of the three study area signalized intersections under existing year 2005 conditions. This table presents individual control delay and level of service estimates for each approach for all analyzed intersections.

Table 10 – *Existing Year 2005 Signalized Intersection Levels of Service by Approach*

	AM Peak Hour				PM Peak Hour			
	Approach							
	Eastbound	Westbound	Northbound	Southbound	Eastbound	Westbound	Northbound	Southbound
Coors Blvd./ Montaño Rd.	50.4/D	46.2/D	38.2/D	36.4/D	100.1/F	115.9/F	101.1/F	113.3/F
4th St./ Montaño Rd.	33/C	26.4/C	29.7/C	33.6/C	48.1/D	74.6/E	72.6/E	69.2/E
2nd St./ Montaño Rd.	51.5/D	32.9/C	39/D	37.4/D	69.6/E	50.5/D	45.4/D	49.9/D

Source: Wilson & Co. - 2005

Analysis of 2005 Existing Traffic Data and Conditions *continued*:

The analysis results indicate that all four approaches at Coors Boulevard and Montaño Road intersection operate at LOS F during the PM peak hour under the existing condition. The approach LOS for remaining intersections are at LOS E or better for the AM and PM peak hours. Delay estimates for each of the analyzed two-way stop controlled intersections are summarized in Table 11.

Table 11 – *Existing Year 2005 Unsignalized Intersection Side Street Access Delay*

Intersection	AM Peak Hour Delay (Sec./Veh.)	PM Peak Hour Delay (Sec./Veh.)
Winter Haven Drive (SB)	565	51
Tierra Viva Place (SB)	16	67
12th Street (NB)	12	25
9th Street (NB)	29	18
5th Street (NB)	9	16

Source: Wilson & Co. – 2005

The delay estimates reflect the average seconds of delay experienced by drivers utilizing the minor street stop controlled approach at each location under either AM or PM peak hour conditions. As shown on the table, vehicles traveling on the southbound approach at Winter Haven Drive during the AM peak hour experience the greatest amount of delay, approximately 565 seconds or 9 minutes and 25 seconds of delay for each vehicle exiting this driveway and accessing Montaño Road. **According to the MRCOG Long Range Roadway System for the Albuquerque Metropolitan Planning Area, Winter Haven Drive is proposed as a future grade separation.** All other delay estimates reflect wait times of approximately one minute or less for the average vehicle at all other minor street approach along Montaño Road. The estimated average vehicle delay at each access along Montaño Road was field verified for a general level of accuracy during the AM and PM peak hours.

C. Key Findings - 2005:

General Technical Observations/Operational Deficiencies:

- Excess intersection capacity currently exists at 4th Street & Montaño Road during the AM peak hour.
- AM and PM peak hour segment volumes in the peak travel directions are limited by the capacity and operational characteristics of key signalized intersections along Montaño Road including, Coors Boulevard and 4th Street.
- The lane drop on Montaño Road in the eastbound direction just east of Coors Boulevard creates a queue that extends back to the Coors Boulevard intersection. Southbound left turn and eastbound through movements at Coors Boulevard are significantly impacted by the queue. This lane drop condition also limits the amount of traffic accessing eastbound Montaño Road during the AM peak hour.

Analysis of 2005 Existing Traffic Data and Conditions *continued*:

- Intersection improvements at 4th Street & Coors Boulevard along with the elimination of existing lane drop condition would enhance segment capacity.
- The arterial segment of Montaño Road between Coors Boulevard and 4th Street currently operates "at capacity" in the eastbound direction during the AM peak hour and in the westbound direction during the PM peak hour period. Based on the simulation modeling of existing condition, approximately 1600 vehicles per hour (vph) travel the mid-section of Montaño Road in the peak direction during both peak hours. This level of travel demand on a single lane facility results in a travel speed of 20 miles per hour (mph) excluding the impact of intersection control delay. This 20 mph peak hour speed condition is compared to the off-peak or free flow speed of 35-40 mph on a minor arterial facility such as Montaño Road.
- Delays occur for vehicles executing the southbound to eastbound movement at Winter Haven Drive during the AM peak hour as a result of heavy eastbound traffic on Montaño Road and the lane drop condition east of Coors Boulevard. According to the MRCOG Long Range Roadway System for the Albuquerque Metropolitan Planning Area, Winter Haven Drive is proposed as a future grade separation.
- Higher volumes & longer peak period delays are expected in the future under the No-Build Alternative.

Alternative Development:

A. Development of Corridor Alternatives:

During the development of the corridor alternatives the following key guidelines were used:

- Maintain access to all driveways and streets
- Address safety issues
- Increase facility capacity
- Maintain current bicycle lane width & location
- Bicycle lanes will continue to meet AASHTO Guidelines
- Existing recreational trail network shall not be negatively affected
- No conflict with City planning efforts on 4th St. (Lomas – Solar)
- Preservation of mature landscaped medians
- Integration with existing bridge and overpass structure
- Sensible use of local funds and existing infrastructure

B. Alternatives:

- 4 General Purpose Lanes
- 2 Outside HOV Lanes with 2 Inside General Purpose Lanes
- 2 Inside HOV Lanes with 2 Outside General Purpose Lanes
- 1 Outside HOV Lane (AM/PM Peak Only) with 2 Inside General Purpose Lanes
- 1 Center (Median) HOV Lane with 2 General Purpose Lanes

Alternative Development *continued*:

The following exhibits show each of these alternative typical sections for the Montaño Road Corridor. Please note all typical sections are drawn as the view looking east:

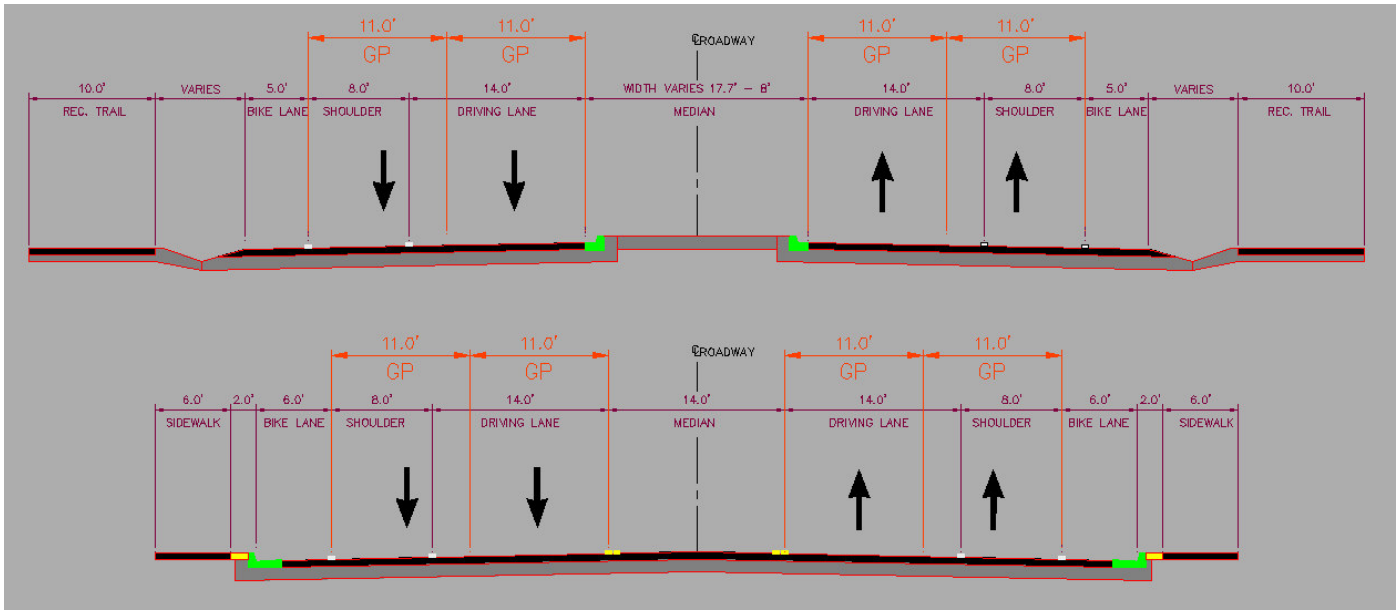


Exhibit 14A – *Montaño Road Typical Roadway Section with 4 General Purpose Lanes*

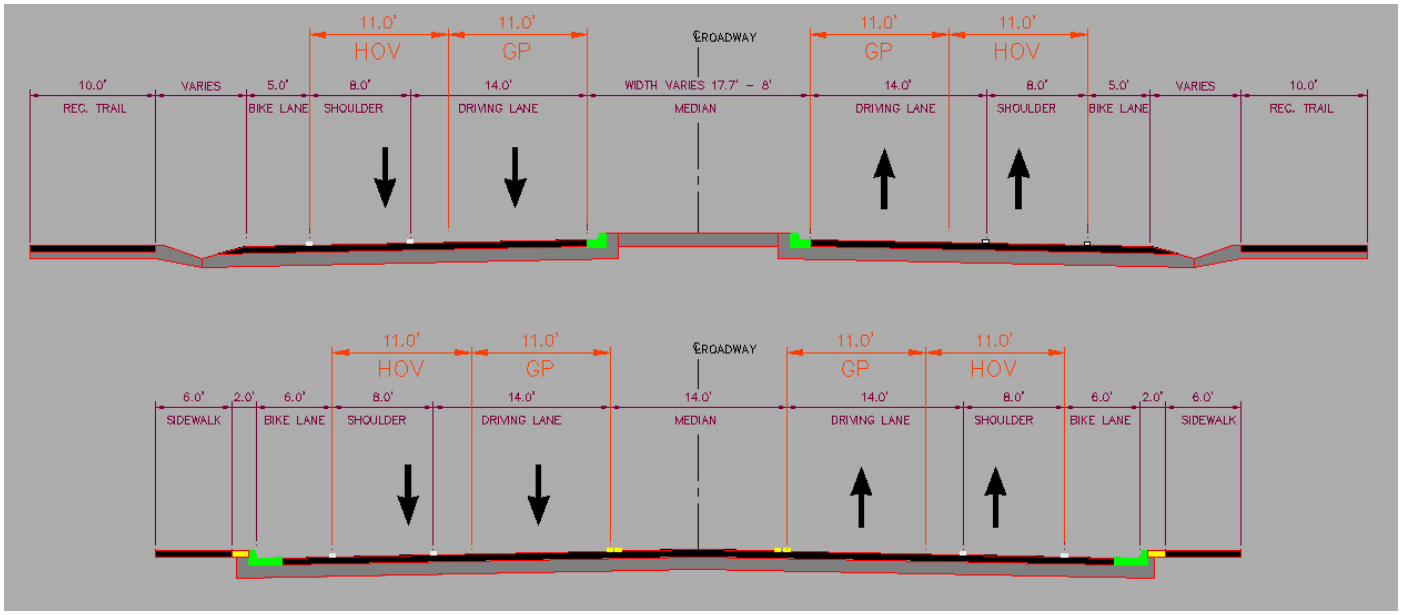


Exhibit 14B – *Montaño Road Typical Roadway Section with 2 Outside HOV Lanes with 2 Inside General Purpose Lanes*

Alternative Development *continued*:

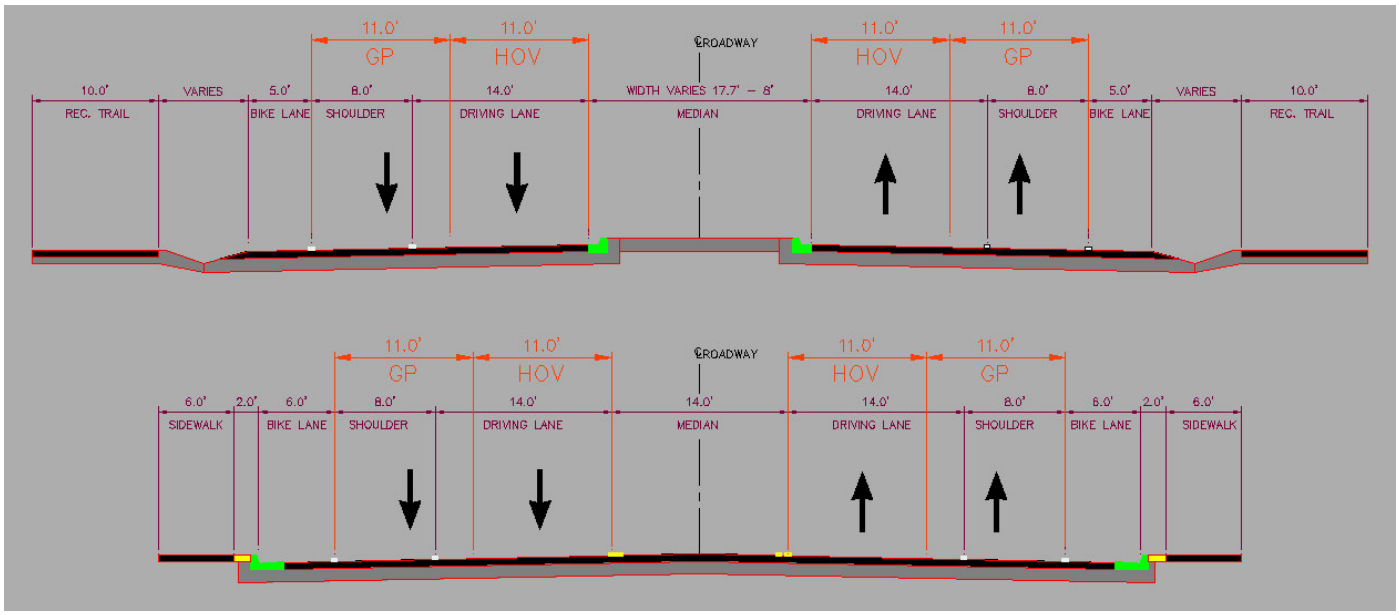


Exhibit 14C – *Montaño Road Typical Roadway Section with 2 Inside HOV Lanes with 2 Outside General Purpose Lanes*

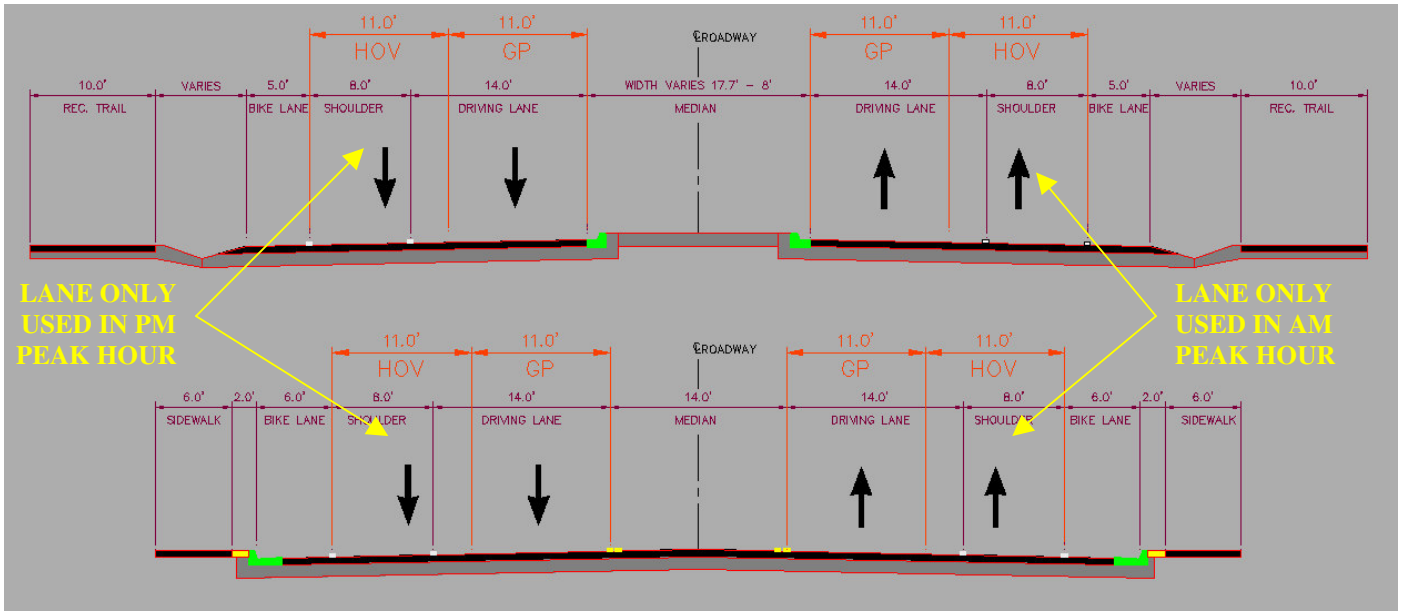


Exhibit 14D – *Montaño Road Typical Roadway Section with 1 Outside HOV Lane (AM/PM Peak Only) with 2 Inside General Purpose Lanes*

Alternative Development *continued*:

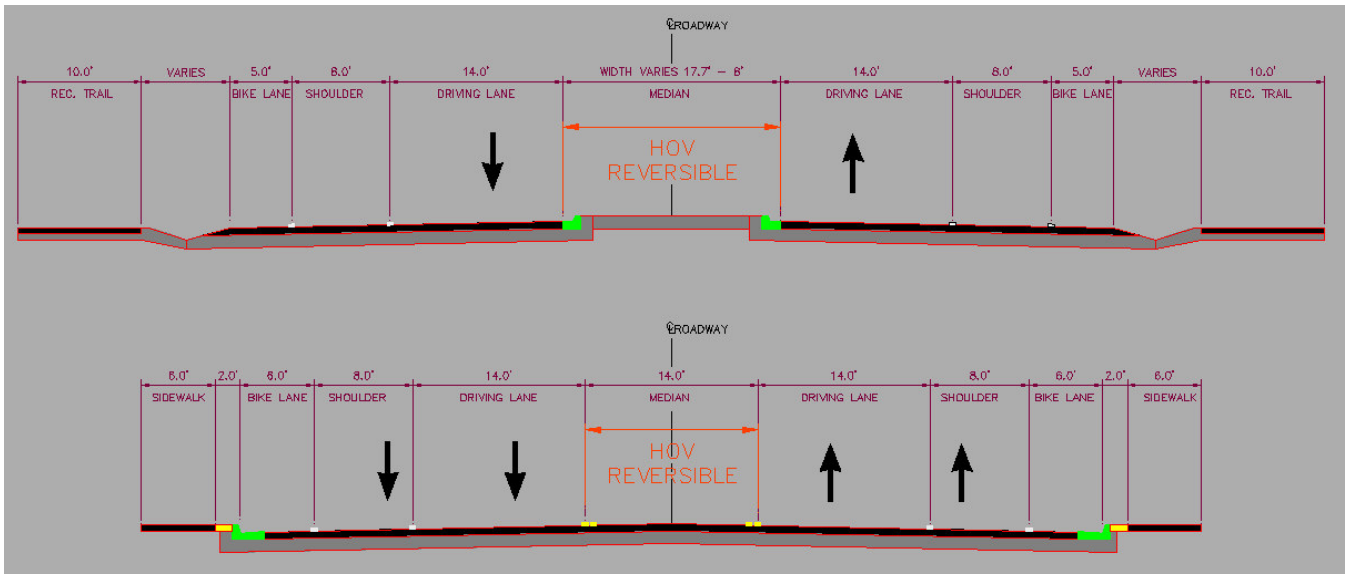


Exhibit 14E – *Montaño Road Typical Roadway Section with 1 Center (Median) HOV Lane with 2 General Purpose Lanes*

HPE, Inc.
Following the August 9, 2005 Public Meeting, a new alternative was introduced by Rick Hall of HPE, Inc.:

> *Center HOV Lane (East of Rio Grande Blvd.) / 2 Inside HOV Lanes (West of Rio Grande Blvd.) and 2 General Purpose Lanes*
> *and Roundabouts at Rancho Caballero and Guadalupe Trail*

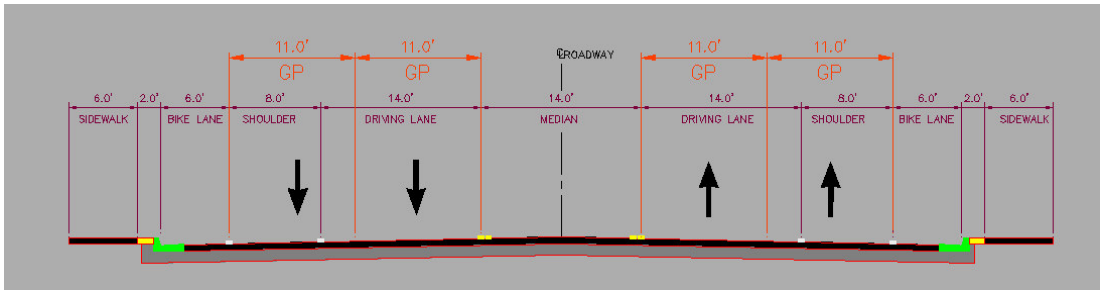
C. Narrowing of Developed Alternatives to Candidate Alternatives:

Based on the operational characteristics of the HOV lane on the inside and as it does not address driveway access, the *2 Inside HOV Lanes with 2 Outside General Purpose Lanes* alternative was undesirable and removed from the set of candidate alternatives.

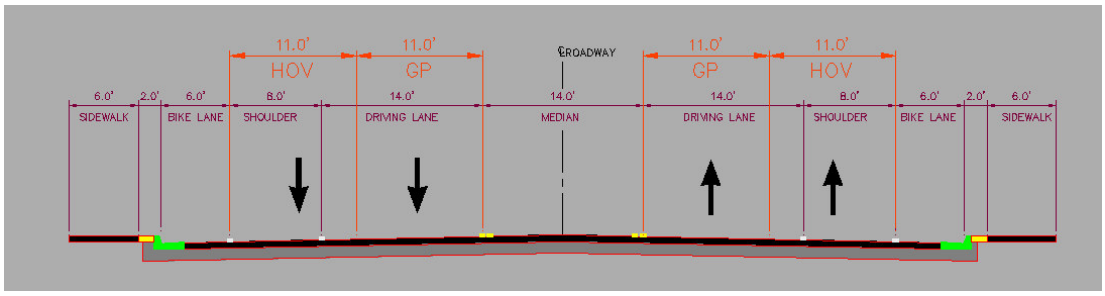
Based on the modifications to the corridor required for an HOV lane in the center of the typical section (median), the *1 Center (Median) HOV Lane with 2 General Purpose Lanes* alternative was also removed from the set of candidate alternatives. It would require the removal of the median, negatively impact access from the side streets and driveways, remove median refuge for mid-block crossings, and the cost of removing the fully landscaped medians, concrete wall barrier at the Montaño Bridge, and the center pier of the Rio Grande Boulevard Overpass would be substantial.

Alternative Development *continued*:

The alternative of 1 Outside HOV Lane (AM/PM Peak Only) with 2 Inside General Purpose Lanes is nearly identical in character to the 2 Inside HOV Lanes with 2 Outside General Purpose Lanes alternative. The exception is that only one lane westbound is used in the AM peak hour and one lane eastbound is used in the PM peak hour. For the remainder of this report Alternative 1 and Alternative 2 are used to call out the two candidate alternatives as follows:



Alternative 1 – *4 General Purpose Lanes*



Alternative 2 – *2 Outside HOV Lanes with 2 Inside General Purpose Lanes*

Year 2025 Traffic Analysis for Proposed Alternatives:

A. Model Assumptions:

MRCOG 2025 Roadway Network:

The roadway networks used are based on the 2025 Metropolitan Transportation Plan (MTP). According to the information provided by MRCOG, several background road network changes occur between 2005 and 2025 from the MTP are represented in the model. Some of the major roadway network changes include:

- Montaño Road is widened to 6 lanes between 2nd Street and Interstate 25
- 2nd Street is widened to 6 lanes between Montaño Road and Interstate 40
- Edith Boulevard is widened to 4 lanes between Montaño Road and Candelaria
- Re-striping of 4th Street between Osuna and Alameda from 4 to 3 lanes.
- I-40/Coors Blvd. Interchange is reconstructed
- Unser Blvd. is completed as a 4-lane roadway to Rio Rancho
- Rainbow Blvd. is completed as a 4-lane roadway between Unser and Paseo del Norte
- Paseo del Norte 4-lane extension to the west of Golf Course Road is completed

Year 2025 Traffic Analysis for Proposed Alternatives *continued*:

B. Projected Peak Hour Volume Data:

Table 12 presents the Year 2025 peak hour projections on Montaño Road between Coors Boulevard and 4th Street. These AM and PM peak hour volumes were derived from the Year 2025 daily and peak hour traffic volume projections provided by MRCOG on February 9, 2005. As shown on the table, the Year 2025 peak hour volume projections are based on growth factors derived by comparing Year 2005 and Year 2025 peak hour link volumes from the model, and applying these growth factors to existing (Year 2005) traffic counts. The term K factor for vehicle traffic is derived from the Highway Capacity Manual and is defined as the proportion of average daily traffic (ADT) occurring in the AM or PM peak hour. The decrease in the K factors for both Alternative 1 and Alternative 2 in Year 2025 as compared to the existing Year 2005 K factors indicates that future Year 2025, AM and PM peak conditions will last longer than the existing peak hour currently experienced by drivers traveling Montaño Road. This condition will have an effect of extending peak traffic conditions and lengthening the peak period. Thus, future Year 2025 peak hour volumes will grow at a lower rate than average daily traffic volumes

Table 12 – *Key Assumptions and Process for Developing Year 2025 Peak Hour Volume Projections by Alternative*

Facility	Direction of Travel	Existing Year 2005 Conditions			Existing Year 2025 Conditions (1)					
					Alternative 1 4 General Purpose Lanes			Alternative 2 2 General Purpose and 2 High Occupancy Vehicle (HOV) Lanes		
		Projected Daily Volume (vpd)	Peak Hour Volume (vph)		Projected Daily Volume (2) (vpd)	Peak Hour Volume (vph)		Projected Daily Volume (3) (vpd)	Peak Hour Volume (vph)	
			AM	PM		AM	PM		AM	PM
Montaño Road (Coors Blvd. to 4th St.)	**Two-Way**	27,000			50,000			40,000		
Montaño Road (Coors Blvd. to 4th St.)	Eastbound		1,585	818		2,315	1,335		1,914	1,135
	Westbound		556	1,541		912	2,101		750	1,850
	Eastbound & Westbound		2,141	2,359		3,227	3,436		2,664	2,985
K Factor (4)			8%	9%		6%	7%		7%	7%

Source: Wilson & Company - September 20, 2005

Notes:

1. The Year 2025 peak hour volume projections are based on growth factors derived by comparing Year 2005 and Year 2025. peak hour link volumes from the model, and applying these growth factors to existing (Year 2005) traffic counts.
2. The daily volume projection for Alternative 1 (4 General Purpose Lanes) was provided by the Mid-Region Council of Governments dated February 9, 2005.
3. For the development of a Year 2025 volume estimate for Alternative 2 (2 General Purpose Lanes and 2 HOV Lanes), Wilson & Company assumed that the daily volume projection for this alternative would be approximately 80 percent of the daily volume projection for Alternative 1 (4 General Purpose Lanes) or 40,000 vpd.
4. K factor is defined in the Highway Capacity Manual as the proportion of average daily traffic (ADT) occurring in the AM or PM peak hour or (Westbound Peak Hour Volume + Eastbound Peak Hour Volume)/projected daily volume, vehicles per day (vpd).

Year 2025 Traffic Analysis for Proposed Alternatives *continued*:

C. Modeling of Network Alternatives:

Simulation of Candidate Alternatives:
After the existing model was calibrated for current AM and PM peak hour traffic conditions, two roadway improvement alternatives were evaluated with the traffic simulation model with projected 2025 traffic volume conditions. The two alternatives are:

> ***Alternative 1*** – 4 General Purpose Lanes with intersection improvements at 2nd Street and 4th Street (See Programmed Major Improvements, Page 15 of this report).
>
> ***Alternative 2*** – 2 Outside HOV Lanes with 2 Inside General Purpose Lanes with intersection improvements at 2nd Street and 4th Street (See Programmed Major Improvements, Page 15 of this report).

D. Model Results and Traffic Analysis Findings:

Table 13 provides a summary of intersection levels of service (LOS) under Year 2025 conditions for both Alternatives 1 and 2. The control delay and LOS estimates are based on the results of the future conditions Synchro analysis. This analysis includes the capacity enhancements that are planned at both the 4th Street and 2nd Street intersections.

Table 13 – *Year 2025 Signalized Intersection Levels of Service*

	Intersection	AM Peak Hour		PM Peak Hour	
		Control Delay (Sec/Veh)	LOS	Control Delay (Sec/Veh)	LOS
Alternative 1	Coors Blvd./ Montaño Rd.	75.6	E	120.0	F
	4th Street/ Montaño Rd.	66.0	E	84.9	F
	2nd Street/ Montaño Rd.	66.8	E	59.6	E
Alternative 2	Coors Blvd./ Montaño Rd.	51.9	D	107.8	F
	4th Street/ Montaño Rd.	45.9	D	67.1	E
	2nd Street/ Montaño Rd.	55.0	D	53.2	D

Source: Wilson & Co. - 2005

All three signalized intersections are expected to operate at LOS E or F in Year 2025 during the AM and PM peak hours under the Alternative 1 design condition. For Alternative 2, the Coors Boulevard intersection is projected to operate at LOS F for the PM peak hour, and the 4th Street intersection is also expected to operate below LOS D during the PM peak hour.

Year 2025 Traffic Analysis for Proposed Alternatives *continued*:

Table 14 provides additional detail related to the capacity and level of service at each of the three study area signalized intersections under future year 2025 conditions. This table presents individual control delay and level of service estimates for each approach for all analyzed intersections.

Table 14 – *Year 2025 Signalized Intersection Levels of Service by Approach*

Intersection	AM Peak Hour				PM Peak Hour			
	EB Approach	WB Approach	NB Approach	SB Approach	EB Approach	WB Approach	NB Approach	SB Approach
Alternative 1								
Coors Blvd/ Montaño Rd.	83.1/F	72.0/E	70.3/E	77.8/E	90.6/F	138.2/F	119.9/F	119.2/F
4th St./ Montaño Rd.	67.6/E	32.1/C	77.2/E	80.4/F	53.9/D	112.1/F/	83.9/F	80.4/F
2nd St./ Montaño Rd.	82.3/F	43.4/D	46.9/D	73.0/E	67.7/E	59.0/E	53.9/D	59.0/E
Alternative 2								
Coors Blvd./ Montaño Rd.	63.3/E	59.6/E	49.0/D	46.9/D	100.1/F	115.9/F	101.1/F	113.3/F
4th St./ Montaño Rd.	44.1/D	27.6/C	54.5/D	56.0/E	48.1/D	74.6/E	72.6/E	69.2/E
2nd St./ Montaño Rd.	68.8/E	44.7/D	40.6/D	54.3/D	69.6/E	50.5/D	45.4/D	49.9/D

Source: Wilson & Co. – 2005

As shown on Table 14, all intersection approaches operating at LOS D or worse during the AM or PM peak hours under both design alternatives. The only exception to this finding is at the intersection of 4th Street and Montaño Road. At this location, LOS C conditions are anticipated in the eastbound/off-peak direction during the AM peak period. This table clearly illustrates that "at capacity" conditions will exist at all study area intersections under future conditions for either design alternative. This analysis also includes the capacity enhancements that are planned at both the 4th Street and 2nd Street intersections.

Unsignalized intersection access delays (in seconds) for each alternative are summarized in Table 15 for the AM and PM peak hours. This table illustrates the expected level of delay for each minor street approach at all five analyzed intersections within the study area.

Table 15 – *Year 2025 Unsignalized Intersection Minor Street Access Delay*

Intersection	AM Peak Hour Delay (Sec./Veh.)		PM Peak Hour Delay (Sec./Veh.)	
	Alt 1	Alt 2	Alt 1	Alt 2
Winter Haven Drive (SB)	690	250	654	500
Tierra Viva Place (SB)	19	30	12	35
12th Street (NB)	22	5	38	21
9th Street (NB)	18	2	15	7
5th Street (NB)	81	18	164	151

Source: Wilson & Co. – 2005

Year 2025 Traffic Analysis for Proposed Alternatives *continued*:

The HOV lane alternative (Alternative 2) is expected to reduce Winter Haven Drive access delay by half from existing condition for the AM peak hour. Access delays from Winter Haven Drive for PM peak hour are projected to increase from the existing condition for both alternatives. This situation results from intersection delay at Coors Boulevard and the anticipated westbound traffic queue approaching this intersection. However, Winter Haven Drive is proposed to be a future grade separation. A similar situation occurs at the 5th Street intersection during the AM peak hour. Queues resulting from intersection delays at 4th Street block the northbound approach at 5th Street. Thus, 5th Street access delays are anticipated to increase under both design alternatives by year 2025. With additional intersection improvements before the year 2025, these delays will be minimized.

Vehicle Travel Time Results:
Peak hour, peak direction vehicle travel time estimates for the segment of Montaño Road between Coors Boulevard and 2nd Street were derived from the traffic simulation model for each alternative. The results of the travel time analysis are summarized and presented in Table 16. The times shown in the table do include the effect of the intersection control delay for both the observed field and estimated model travel times.

Table 16 – *Summary of CORSIM Travel Time Analysis*

Alternative	Average Travel Time *2nd Street to Coors Blvd.*	
	AM (Eastbound)	**PM (Westbound)**
Existing	12 min. 17 sec.	12 min. 25 sec.
Alternative 1 (4 GP Lanes)	9 min. 5 sec.	13 min. 6 sec.
Alternative 2 (HOV Lane)	9 min. 40 sec.	12 min. 21 sec.

Source: Wilson & Co. – 2005

During the AM peak hour, the peak direction of travel on Montaño Road is eastbound and during the PM peak hour westbound travel represents the peak direction. Presently peak direction travel times on Montaño Road are approximately 12-13 minutes for both the AM peak hour (eastbound) and the PM peak hour (westbound).

Peak direction travel times under Alternative 1 are projected to be approximately 9 minutes in the eastbound direction during the AM peak hour and 13 minutes in the westbound direction during the PM peak hour. The 2025 AM peak hour travel time will improve with this alternative as compared to existing Year 2005 travel time due to the addition of one new travel lane in each direction on Montaño Road.

Alternative 2 AM peak hour, peak direction travel times are projected to decrease as compared to current travel times. During the AM peak hour eastbound travel time between Coors Boulevard and 2nd Street is estimated at approximately 9-10 minutes. This estimate represents an improved travel time by 3-4 minutes as compared to existing Year 2005 condition. Conversely, during the PM peak hour travel time in the peak, westbound direction is estimated to remain at current Year 2005 levels (12-13 minutes).

Year 2025 Traffic Analysis for Proposed Alternatives *continued*:

E. Summary of Analysis Results:

This study utilized CORSIM simulation software with the assistance of Synchro, to evaluate the proposed Alternatives 1 and 2. The evaluation is based on the before-and-after comparison of the simulation results. This section of the report provides a summary of the analysis results. As presented in the section entitled Analysis of 2005 Existing Traffic Data and Conditions, Wilson & Company has developed a series of "General Technical Observations" for future Year 2025 conditions. These observations are based on our analysis of future conditions and are not sensitive to any particular design alternative. The section on general observations presented below is followed by a more detailed discussion of key findings related to the analysis of future Year 2025 performance under both design alternatives.

General Technical Observations/Operational Deficiencies for Year 2025 Projected Demand:

- Excess intersection demand will exist in Year 2025 at all three study area signalized intersections during AM and PM peak hours.
- AM and PM peak hour segment volumes in peak travel directions will be limited by the capacity and operational characteristics of key signalized intersections along Montaño Road including, Coors Boulevard and 4th Street. By the year 2025 intersections along the corridor will require improvement to meet with the capacity of either design alternative.
- Intersection improvements at 4th Street & Coors Boulevard along with the elimination of existing lane drop condition would enhance segment capacity along Montaño Road.
- Extensive delays will continue for vehicles executing the southbound to eastbound movement at Winter Haven Drive during the AM peak hour as a result of heavy eastbound traffic on Montaño Road and the lane drop condition east of Coors Boulevard. (Note: Winter Haven Drive is proposed as a future grade separation.)
- Longer peak period delays are expected at all unsignalized minor-side street approaches in the future under the No-Build Conditions due to higher traffic density on Montaño Road and an extension of the AM and PM peak periods.
- The Coors Boulevard intersection and 4th Street intersection are expected to operate at their capacities. These two intersections will meter (limit) the number of vehicles entering the Montaño Road corridor. The additional roadway capacity on Montaño Road will not be fully utilized due to the metering of the traffic volumes.

Year 2025 Traffic Analysis for Proposed Alternatives *continued*:

The Advantages and Disadvantages for Alternatives 1 and 2 are summarized and presented as follows:

Alternative 1: 4 General Purpose Lanes

Advantages:

- Captures the underutilized capacity in the AM peak hour at the intersection of 4th Street and Montaño Rd.
- This alternative eliminates the eastbound bottleneck into the Coors Blvd. intersection on Montaño Road at the lane drop just east of Coors Boulevard. This will provide safer operations along the corridor.
- This alternative eliminates the westbound bottleneck into 4th Street intersection on Montaño Road at the lane drop just west of 4th Street. This will provide safer operations along the corridor.
- The additional capacity (2 general purpose lanes) reduces the morning peak hour arterial travel time from Coors Boulevard to 2nd Street.
- Provides section capacity to help address area growth
- Realization of infrastructure investment
- No retrofitting of existing improvements
- Provides consistent corridor and is a minor arterial roadway as it is classified

Disadvantages:

- The additional capacity (2 general purpose lanes) increases the vehicle arrival rate at the signalized intersections. Intersection delay will increase at these locations if future modifications are not implemented.
- The side street access delays at Winter Haven Drive and 5th Street are projected to increase. This is due to the increase in delay and vehicle queues at the Coors Boulevard intersection and the 4th Street intersection. (Note: Winter Haven Drive is proposed as a future grade separation.)
- The Coors Boulevard intersection and 4th Street intersection are expected to operate at their capacities. These two intersections will meter (limit) the number of vehicles entering the Montaño Road corridor. The additional roadway capacity on Montaño Road will not be fully utilized due to the metering of the traffic volumes.

Year 2025 Traffic Analysis for Proposed Alternatives *continued*:

Alternative 2: 2 Outside HOV Lanes with 2 Inside General Purpose Lanes

Advantages:

- The HOV alternative eliminates the eastbound bottleneck into Coors Blvd. intersection on Montaño Road at the lane drop just east of Coors Boulevard. This will provide for safer operations along this section of the corridor.

- The HOV alternative eliminates the westbound bottleneck into 4th Street intersection on Montaño Road at the lane drop just west of 4th Street. This will provide for safer operation along this section of the corridor.

- The additional capacity (2 HOV lanes) reduces the morning peak hour travel time from Coors Boulevard to 2nd Street.

- The HOV lanes, as part of a larger city-wide system, could promote carpooling resulting in a decrease in the overall number of vehicles on the arterial compared to Alternative 1.

- Better side street accessibility is possible in Alternative 1 as a result of lighter traffic volumes on the HOV lane.

- Intersections operations at Coors Boulevard, 4th Street, and 2nd Street are improved compared to Alternative 1 in the year 2025.

Disadvantages:

- The Coors Boulevard intersection and 4th Street intersection will operate at their capacities. These two intersections will meter (limit) the number of vehicles entering Montaño Road. The additional roadway capacity on Montaño Road will not be fully utilized due to the metering of the traffic volumes.

- The additional capacity (2 HOV lanes) increases the vehicle arrival rate at the signalized intersections resulting in an increase in intersection delay at these locations.

- Conflicts will exist at the HOV termination point near the intersection of 4th Street and Montaño Road.

- Conflicts will exist at the HOV termination point near the intersection of Coors Boulevard and Montaño Road.

- The location of the HOV lane next to the General Purpose lane may require a vertical separator (plastic tube, etc.) between the two lanes. This could become a maintenance problem as they tend to be run over or knocked down by weaving traffic.

Year 2025 Traffic Analysis for Proposed Alternatives *continued*:

F. Recommendations by Public Comment:
The effect of the alternatives to the Key Public Comments, as described on Page 3, and to the Guidelines of Developing Alternatives, as described on Page 24.

Public Comment:
Limited River Crossings – Alternative 1 provides the best utilization of the existing river crossing at Montaño Road by fully utilizing the roadway sections with 4 general purpose lanes. Montaño Bridge is the only river crossing which currently has the available width required to provide additional lanes without reconstructing the structure and roadway.

Ingress and egress between driveways / side streets and Montaño – In the current year either alternative provides better access than the existing condition because the additional lanes will allow vehicles to "platoon" into groups of vehicles and provide more gaps in traffic for access. By the year 2025 Alternative 2 will provide better access along Montaño because the HOV lanes on the outside will be less utilized than the interior general purpose lanes.

Pedestrian crossing locations – Currently there are six grade separated or signalized locations that provide a desirable crossing location for pedestrians between Coors Blvd. and Second Street. The longest distance a pedestrian needs to walk to utilize a grade separation or signal is 1650'. Winter Haven Drive is on the MRCOG Long Range Plan to be an additional grade separation. As part of the study that HPE will be submitting are some improvements that may be implemented to further enhance the walkability of the corridor. The City of Albuquerque is currently under contract to study 5 mid block crossing locations throughout the area. Recommendations from that study may also be implemented along Montaño in the future. Both Alternatives would utilize the existing roadway width and could have further enhancements incorporated so there is no advantage from one to the other.

Bicycle Safety – Both Alternatives 1 and 2 provide a design in relation to bicycle operation as per the AASHTO and City of Albuquerque guidelines. Bicyclists favor the placement and location of the bicycle lane adjacent to the driving line.

Retainage of Character – Montaño Road from Coors Boulevard to Second Street is classified as a Minor Arterial. Alternative 1 meets the description of a minor arterial to closest. Noise, vibration, air quality, and biological studies have all determined that the implementation of Alternative 1 will have no adverse effects to the character of the surrounding area. The trail network will be maintained as will the sidewalk, bicycle lanes, landscaped medians, landscaped parkways, and overall character of the corridor. The alternative will not require any construction efforts to damage any of the amenities.

Design for a transit / HOV system – Either of the alternatives will provide for a future transit and / or HOV system. Obviously, Alternative 2 provides the HOV component immediately. The approximate 3 mile segment from Coors to Montaño will not provide the full effects of HOV system until other corridors or transit systems are provided as links. Alternative 1 provides the lanes for a future HOV system. The modification of an existing general purpose lane into an HOV lane is common practice.

Year 2025 Traffic Analysis for Proposed Alternatives *continued*:

Air Quality – According to MRCOG, the Transportation Conformity Technical Committee (TCTC) determined in August 2005 that a four lane Montaño Road conforms with the State Implementation Plan's (SIP) Carbon Monoxide regional mobile sources emissions budgets for each interim and horizon year forecast (MRCOG, September 14, 2005). Therefore, both alternatives will not hinder the air quality.

Intersection Capacity and Congestion – Currently the intersection of Coors and Montaño is at capacity while the intersection of 4th and Montaño has some underutilized capacity. Alternative 1 will alleviate some of the congestion at Coors and Montaño by allowing vehicles to exit the intersection eastbound without a conflicting merge point that currently bottlenecks traffic back into the intersection. Alternative 1 will also capture the under utilized capacity at 4th and Montaño that is so vital for commuters.

Safety and Faster Commute – The key safety provisions that we recommend is the removal of conflicting merge points east of Coors Boulevard and west of 4th Street. This merge creates a bottleneck at these intersections that backs up into the intersection. The potential for accidents will decrease with the removal of this bottleneck.

Not conflicting with planning efforts on 4th Street (Lomas to Solar) – Both Alternatives will connect into the existing lane configuration at 4th Street approximately 600' west of the intersection. The HOV lanes of Alternative 2 will take require a transition length prior to the intersection that will allow the HOV and General Purpose lanes to merge. This will be necessary until a comprehensive and city-wide HOV system can be implemented. Alternative 1 will connect directly into the current configuration of the intersection and will not adversely affect the existing geometry. To address year 2025 travel demand volumes at the intersections other improvements will be implemented to further enforce the current efforts of the 4th Street Coalition. Alternative 1 is the best utilization of the corridor today that will not adversely affect the plans to improve the intersection in the future.

Integrate Alternatives into Existing Bridge Deck and Rio Grande Overpass – Both alternatives would be implemented by restriping the 14' driving lane and 8' shoulder into two 11' lanes. Neither option will require reconstruction of the bridge, roadway, or overpass.

Sensible use of Local Funds – Both alternatives will be implemented with restriping and possibly some additional signing. The cost of adding 2 additional lanes of capacity will not exceed $20,000. A new 2-lane bridge constructed today that would produce the same results would cost in excess of $10 million.

Year 2025 Traffic Analysis for Proposed Alternatives *continued*:

G. Overall Recommendations:

Montaño Road Corridor:

The advantages and disadvantages of Alternative 1 and 2 are very similar. As shown in the previous section the alternatives affect issues raised by the public and the guidelines of the study in both different and positive ways. The primary finding in the current year is that 4th Street and Montaño Road intersection has available capacity that can be utilized to improve the travel time of Albuquerque's residents. The primary finding for the horizon year of the study in 2025 is that if traffic demand is realized and no other improvements are made to the intersections along Montaño Road the roadway will fail to meet expectations. The benefit of High Occupancy Vehicle (HOV) lanes with two or more people per vehicle is to allow for more person trips to reach their destinations with fewer vehicles on the roadway. This benefit cannot be met with only a short segment of roadway being utilized as HOV. The Alternative with 2 general purpose lanes and 2 HOV lanes on the outside needs to connect to a larger HOV system in order to be beneficial, i.e. a HOV system with lanes that connect to Interstate 25 or to a north-south system allowing connection to activity centers. Therefore the conclusion of this study and the recommendation by Wilson & Company is that the most beneficial alternative for Montaño Road between Coors Boulevard and 4th Street is Alternative 1 – 4 General Purpose Lanes. The primary advantages of 4 general purpose lanes that provide the most benefit to the City are:

- Provides the lane capacity across the Montaño Bridge that will utilize the available capacity at 4th Street and Montaño Intersection
- Improves travel time
- Eliminates the conflicting merge points at Coors and 4th
- Allows for future transit / HOV lanes
- Most economical prudent use of local funds