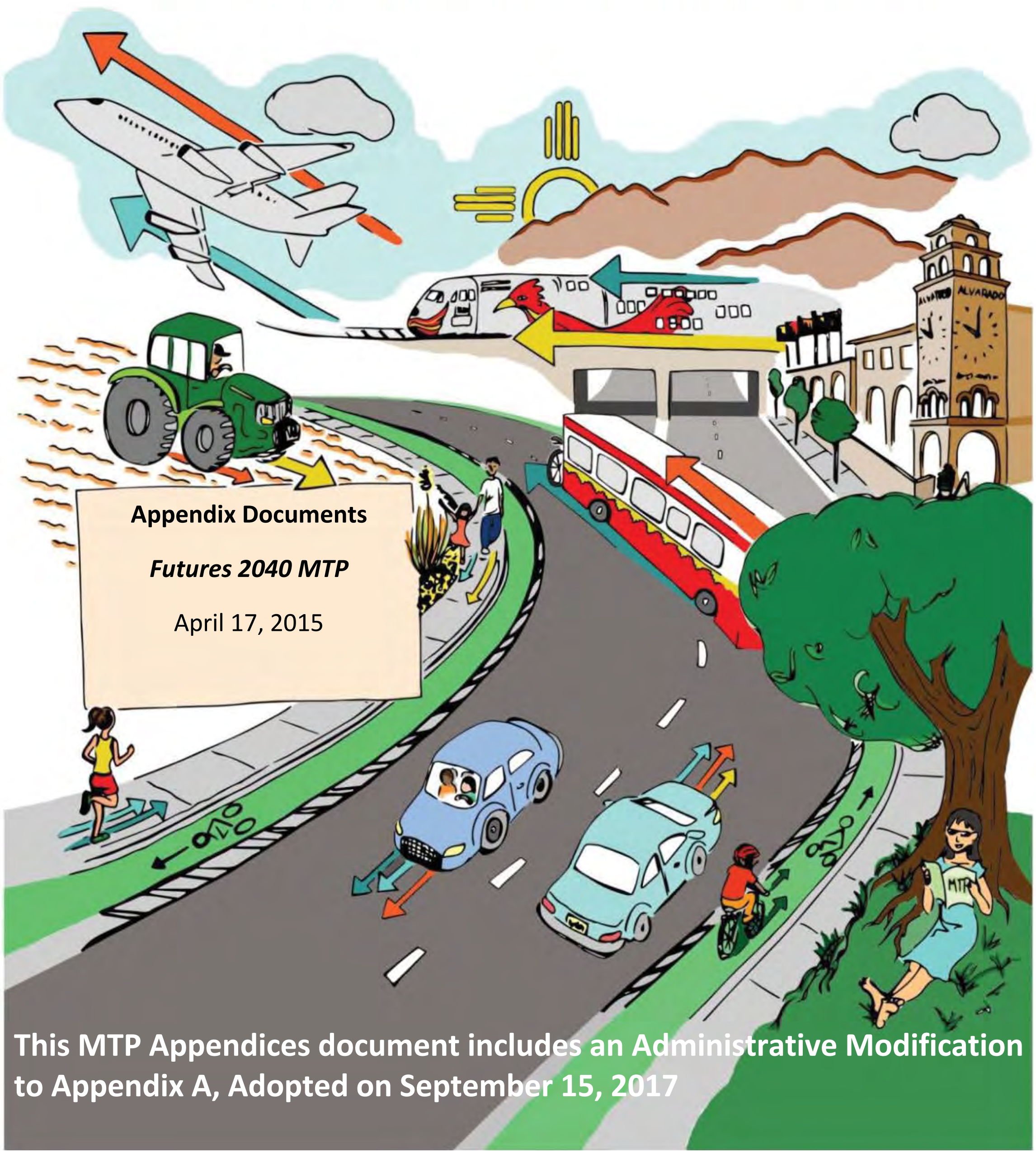
APPENDICES

Futures 2040

Metropolitan Transportation Plan



Appendix Documents

Futures 2040 MTP

April 17, 2015

This MTP Appendices document includes an Administrative Modification to Appendix A, Adopted on September 15, 2017

Mid-Region Metropolitan Planning Organization
Mid-Region Council of Governments
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Mid-Region Metropolitan Planning Organization and the Mid-Region Council of Governments fully complies with Title VI of the Civil Rights Act of 1964 and related statutes and regulations in all programs and activities. For more information or to obtain a Title VI Complaint Form, please contact the MRCOG Title VI Coordinator at (505) 247-1750-tel. of email mrcog@mrcog-nm.gov or visit our website at www.mrcog-nm.gov.

Appendix A: Project Listing

2040 MTP Project Listing by Project Type

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2040 MTP Project Listing by Project Type, then Project Title - PUBLIC Funds (Federal, State & Local)

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845.0	10th St Bike Lanes	Lead Ave	Marquette Ave	Implement Bike Lanes	Bike/Ped	City of Albuquerque-DMD	742,500	Late Term	
866.0	2nd St Bike/Ped Facilities	County Line	Woodward Rd	Construct bicycle/pedestrain facilities.	Bike/Ped	County of Bernalillo	4,500,000	Late Term	
96.3	2nd St SW (Valle de Oro) Trail Phase 2	Sandia Salida	South Diversion Channel	Construct mult-use trail. Project may be phased.	Bike/Ped	County of Bernalillo	3,000,000	Near Term	
96.4	2nd St SW (Valle de Oro) Trail Phase 3	Prosperity Avenue	Woodward	Construct mult-use trail. Project may be phased.	Bike/Ped	County of Bernalillo	3,000,000	Near Term	
96.0	2nd St SW (Valle de Oro) Trail Phase I	South Diversion Channel	Prosperity Avenue	Construct mult-use trail. Project may be phased.	Bike/Ped	County of Bernalillo	1,436,379	Funded	
811.0	8th St Bike Lanes	Ave Cesar Chavez	Lead Ave	Build Bike Lanes	Bike/Ped	City of Albuquerque-DMD	1,419,000	Funded	
24.1	Alameda Drain & 2nd St Bike/Ped Facitilies	Matthew Ave	Osuna Rd	Construct bicycle/pedestrain facilities.	Bike/Ped	City of Albuquerque-DMD	6,311,250	Near Term	
24.0	Alameda Drain & 2nd St Bike/Ped Trail	Osuna Rd	Roy Ave	Construct a multi-use trail.	Bike/Ped	County of Bernalillo	1,200,000	Near Term	
802.0	Albuquerque City Trails Resurfacing & Reconstruction	Albuquerque City Wide		Rehabilitate/resurface various multi-use trail facilities throughout the greater Albuquerque area includingsubgrade prep, 2-3 foot recovery zone stabilization, striping & signage, and other typical modifications as needed.	Bike/Ped	City of Albuquerque-P&R	491,666	Near Term	
812.0	Amole Arroyo del Norte Bike Trail	Sage Road	San Ygnacio Rd	Construct Bike Trail	Bike/Ped	City of Albuquerque-DMD	330,000	Late Term	
812.1	Amole Arroyo Trail	Atrisco Vista Blvd (PdV)	98th St	Construct bicycle/pedestrain facilities.	Bike/Ped	County of Bernalillo	2,200,000	Late Term	
102.2	AMPA Wide Bicycle Education Program for Adults (FY 2012)	AMPA Wide		Increase cycling and safety by addressing public education for adults. COMPLETED	Bike/Ped	City of Albuquerque-P&R	160,000	Funded	
100.0	AMPA Wide Bicycle Facil. Prog. & Activities	Albuquerque Metro Area		Improvements to bicycle facilities, programs and activities. Separate CN will be issued later for each FY.	Bike/Ped	City of Albuquerque-DMD	819,289	Funded	
100.4	AMPA Wide Bicycle Facil. Prog. & Activities	Albuquerque Metro Area		Improvements to bicycle facilities, programs and activities.	Bike/Ped	City of Albuquerque-DMD	234,082	Funded	
100.5	AMPA Wide Bicycle Facil. Prog. & Activities (FFY 2020)	Albuquerque Metro Area		Improvements to bicycle facilities, programs and activities.	Bike/Ped	City of Albuquerque-DMD	175,562	Funded	
100.6	AMPA Wide Bicycle Facil. Prog. & Activities (FFY 2021)	Albuquerque Metro Area		Improvements to bicycle facilities, programs and activities.	Bike/Ped	City of Albuquerque-DMD	175,562	Funded	
100.2	AMPA Wide Bicycle Facil. Prog. & Activities (FY 2012)	Albuquerque Metro Area		Improvements to bicycle facilities, programs and activities. COMPLETED	Bike/Ped	City of Albuquerque-DMD	204,822	Funded	
100.3	AMPA Wide Bicycle Facil. Prog. & Activities (FY 2013)	Albuquerque Metro Area		Improvements to bicycle facilities, programs and activities.	Bike/Ped	City of Albuquerque-DMD	204,822	Funded	
101.5	AMPA Wide Bicycle/Pedestrian Safety Educ. Program	AMPA Wide		Bicycle & Pedestrian Safety Education Program. Separate CN will be issued later for each FY.	Bike/Ped	City of Albuquerque-P&R	1,875,000	Funded	
101.2	AMPA Wide Bicycle/Pedestrian Safety Educ. Program (FY 2012)	AMPA wide		Bicycle & Pedestrian Safety Education Program COMPLETED	Bike/Ped	City of Albuquerque-P&R	80,000	Funded	
101.3	AMPA Wide Bicycle/Pedestrian Safety Educ. Program (FY 2013-2014)	AMPA wide		Bicycle & Pedestrian Safety Education Program.	Bike/Ped	City of Albuquerque-P&R	146,667	Funded	
190.0	AMPA Wide Bike Share Program	Multiple Locations		Install bike share kiosks and rental bikes in multiple locations throughout central city at locations to be determined. Note: local match will be used for environmental and design.	Bike/Ped	City of Albuquerque-DMD	570,000	Near Term	

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850.0	Avenida Cesar Chavez Bike Lanes	Broadway	Yale Blvd	Build Bike Lanes	Bike/Ped	City of Albuquerque-DMD	2,310,000	Late Term	
863.0	Baltic Ave Sidewalk	Southern Blvd	Pecos Loop	Construct sidewalks which are ADA compliant on the east side of Baltic. Includes work on several driveways to maintain adequate slope and construction of retaining walls as necessary.	Bike/Ped	City of Rio Rancho	200,000	Near Term	
839.0	Baranca Arroyo Trail	Unser Blvd	NM 528	Construct Bike Trail	Bike/Ped	City of Rio Rancho	5,849,250	Near Term	
806.1	Bear Canyon Arroyo Trail Ext. & Pedestrian Overcrossings Phase I	existing trail at Seagull Lane	Wyoming Blvd with connection	Construction of the Bear Canyon Arroyo Trail along alignment of Osuna Rd and Bear Canyon Arroyo with future pedestrian overcrossings at San Mateo & Wyoming Blvds. Initial phase will construct at-grade crossings at San Mateo & Wyoming. $1.8mil in FY 2011. COMPLETED.	Bike/Ped	City of Albuquerque-DMD	2,400,000	Funded	
806.2	Bear Canyon Arroyo Trail Ext. & Pedestrian Overcrossings Phase II	I-25 (east side of roadway)	existing trail at Seagull Lane	Construction of the Bear Canyon Arroyo Trail along alignment of Osuna Rd and Bear Canyon Arroyo with future pedestrian overcrossings at San Mateo & Wyoming Blvds. Initial phase will construct at-grade crossings at San Mateo & Wyoming.	Bike/Ped	City of Albuquerque-DMD	1,900,000	Funded	
382.2	Bernalillo Main St Streetscape Phase III	Calle Presidente	Calle del Norte	Sidewalk replacement for ADA compliance, pedestrian and roadway lighting and ADA compliant crosswalks. Phases I & II under CN 3450.	Bike/Ped	Town of Bernalillo	835,000	Funded	
97.0	Black Arroyo Open Space Commuter Trail	Unser Blvd & Westside Blvd Vicinity	Southern Blvd & Lisbon Blvd Vicinity	Construct a mult-use trail along Black Arroyo on SSCAFCA public land. Project may be phased.	Bike/Ped	SSCAFCA	896,400	Funded	
97.1	Black Arroyo Wildlife Park Commuter Trail, Phase Two	south terminus of Velasquez Road	pedestrian trail at Veranda Road	Plan, des. & const. new northern Black Arroyo bike/ped bridge crossing along w/ additional trail system & commuter trail expansion to improve connectivity . Project includes fencing to prevent user conflict and channel stabilization for bridge abutments.	Bike/Ped	SSCAFCA	352,788	Funded	
555.1	Bluewater Rd Bike Lanes	98th St	90th St	Build Bike Lanes	Bike/Ped	City of Albuquerque-DMD	825,000	Late Term	
871.0	Bosque del Rio Trail & Chris Chavez Trail	BdR: S. Diversion Channel to Bridge Blvd.	CCT: S. Diversion Channel to Rio Bravo Blvd.	Reconst portions of the Bosque del Rio Trail (S Div Ch to approx 1200' N of Bridge Blvd) & Chris Chavez Trail (S Div Ch to/along Rio Bravo), add signage/amenities, improve connections & add new connection at Woodward with bridge over channel. COMPLETED	Bike/Ped	County of Bernalillo	998,230	Funded	
820.0	Bosque Trail Bike Path (Rio Rancho)	NM 448, Corrales Rd	City limits at Town of Bernalillo	Construct Bike Trail/Path	Bike/Ped	City of Rio Rancho	2,904,000	Funded	
302.0	Business Loop 13 in Belen at Railroad Overpass			Sidewalk and ADA improvements	Bike/Ped	NMDOT D-3	500,000	Funded	
861.0	Calabacillas Arroyo Bike Trail	Golf Course Rd	Rio Grande	Construct Bike Trail	Bike/Ped	City of Albuquerque-DMD	1,526,250	Late Term	
809.0	Candelaria Rd Bike Lanes	Rio Grande Blvd	I-25	Construct Bike Lanes	Bike/Ped	City of Albuquerque-DMD	4,620,000	Funded	

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829.0	Castillo St Bike Lanes	Los Lentes Rd	Carson Dr	Build Bike Lanes	Bike/Ped	Village of Los Lunas	231,000	Late Term	
66.3	Central Ave Railroad Crossing Connectivity Improvements			Improvements to connect downtown with EDo/the UNM tech. incubation-workforce development facil. in "Innovation Corridor" including: new pedestrian crossing, removal of unused tracks, track improvements, intersection & sidewalk improvements at ATC, etc.	Bike/Ped	City of Albuquerque-DMD	20,700,000	Near Term	
862.0	Corrales Rd Bike & Ped Pathway	Meadowlark Lane	Old Church Rd	Construct Bicycle & Pedestrian Pathway	Bike/Ped	Village of Corrales	990,000	Late Term	
192.0	County Wide District Bike Lanes, Improved Shoulders and Trails			Develop bike lanes, improved shoulders and or trails by Comm. District.	Bike/Ped	County of Bernalillo	37,109,762	Near Term	
193.0	County Wide Dsitrict Sidewalks and ADA Improvements			Install ADA compliant sidewalks by Comm District per the Bikeways and Pedestrian Action Plan.	Bike/Ped	County of Bernalillo	21,375,200	Near Term	
857.0	Edith Blvd Bike/Ped Facilities	Osuna Rd	Alameda Blvd	Construct bicycle/pedestrain facilities.	Bike/Ped	County of Bernalillo	1,300,000	Late Term	
584.1	Eubank Blvd Bear Arroyo Trail Overcrossing	Eubank Blvd at Bear Arroyo Trail		Construct Overcrossing for Trail	Bike/Ped	City of Albuquerque-DMD	3,000,000	Late Term	
807.0	Eubank Blvd Bike Lanes	Southern Blvd	Central Ave	Implement bike lanes	Bike/Ped	City of Albuquerque-DMD	561,000	Near Term	
852.0	Eubank Blvd Bike Lanes (NE)	Osuna Rd	Academy Blvd	Build Bike Lanes	Bike/Ped	City of Albuquerque-DMD	2,310,000	Late Term	
150.0	Fifty Mile Loop	Various locations		Plan, design, and construction on-street and/or trail improv. to provide bicycle & pedestrian access to points of interest throughout the city. The project will be developed & implemented in phases.	Bike/Ped	City of Albuquerque-Planning	500,000	Near Term	
860.0	Fortuna Rd Bike Lanes/Trail	NM 345, Unser Blvd	NM 45, Coors Blvd	Build Bike Lanes/Trail	Bike/Ped	City of Albuquerque-DMD	2,326,500	Funded	
836.2	Frost Rd Shoulder Improvements	Vallecitos Dr	Mountain Valley Rd	Pave and improve shoulders for motorist, bicycle and pedestrian safety.	Bike/Ped	County of Bernalillo	350,000	Late Term	
802.1	GAP Closure for On-Street Bicycle Facilities	AMPA Wide		Implement recommended bicyle improvements form the updated Bikeways and Trails Facility Plan.	Bike/Ped	City of Albuquerque-DMD	2,106,742	Near Term	
476.3	Gibson Blvd West Bike Trail	98th St	Unser Blvd	Construct bike/multi-purpose trail	Bike/Ped	City of Albuquerque-DMD	700,000	Late Term	
855.0	Golf Course Rd Bike Lanes, Stage I	Taylor Ranch Rd	Paseo del Norte	Build Bike Lanes	Bike/Ped	City of Albuquerque-DMD	2,640,000	Near Term	
855.1	Golf Course Rd Bike Lanes, Stage II	Paseo del Norte	Paradise Blvd	Build Bike Lanes	Bike/Ped	City of Albuquerque-DMD	1,204,500	Late Term	
343.0	Harvey Jones Channel Bridge	Loma Larga	Paseo Cesar Chavez	Construct a bridge over the Harvey Jones Channel.	Bike/Ped	Village of Corrales	1,073,800	Late Term	
830.0	Huning Lateral Multi-Use Trail	Southern Village Bdry	Northern Village Bdry	Construct Unpaved Trail	Bike/Ped	Village of Los Lunas	3,300,000	Late Term	
199.0	I-25 North and Tramway Bike Network Study	I-25 Big I to Alameda	and Tramway Blvd.	Analysis of existing bicycle network and potential connections.	Bike/Ped	City of Albuquerque-DMD	500,000	Funded	
17.0	I-40 Bike Trail Connection Through the Big "I" Feasibility Study	6th St	University Ave	Environmental documentation and preliminary design to determine the feasibility of providing a multi-use trail within this corridor.	Bike/Ped	City of Albuquerque-P&R	702,247	Near Term	

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179.0	Innovation Trail: Rail Yards to Convention Center	Rail Yards	Albuquerque Convention Center	Plan, design acquire ROW, construct and improve multi-modal facilities to connect the Rail Yards to the Convention Center to include but not limited to landscaping and sidewalks.	Bike/Ped	City of Albuquerque-DMD	1,000,000	Near Term	
803.0	Isleta Drain Trail	I-25	Bridge Blvd	Construct bicycle/pedestrain facilities.	Bike/Ped	County of Bernalillo	3,977,300	Late Term	
847.0	Juan Tabo Blvd Bear Arroyo Trail Overcrossing	Juan Tabo Blvd at Bear Arroyo Trail		Construct Overcrossing for Trail	Bike/Ped	City of Albuquerque-DMD	4,500,000	Late Term	
821.0	La Cueva Trail	Eubank Blvd	Tramway Blvd	Construct bicycle/pedestrain facilities.	Bike/Ped	County of Bernalillo	695,000	Late Term	
858.0	Ladera Drive Bike Lanes	Unser Blvd	Ouray Rd	Build Bike Lanes	Bike/Ped	City of Albuquerque-DMD	1,732,500	Near Term	
10.0	Leon Grande Sidewalks	NM 528	Villa Verde Dr	Construct pedestrian facility. (Old CN=3641). COMPLETED	Bike/Ped	City of Rio Rancho	595,667	Funded	
712.0	Lisbon Channel Trail	Southern Blvd. and Lisbon Ave.	Tulip Rd. and Lisbon Ave.	Install approximately 1.8 miles of pedestrian trail along Lisbon Channel in Rio Rancho.	Bike/Ped	SSCAFCA	700,000	Funded	
828.0	Los Lentes Rd Bike Lanes	Morris Rd	Castillo St	Buiild Bike Lanes	Bike/Ped	Village of Los Lunas	412,500	Late Term	
873.0	Meadowlark & Prairie Sage Bike/Trail	Rio Rancho-Corrales Boundary	Sara Rd	Widen the existing pavement on Meadowlark Lane approx 1/4 mile completing the bike lanes to the city line. In addition install retaining/garden walls for erosion control on adjacent Prairie Sage trail. Tot Proj Cost includes FY 2011 $50,000. COMPLETED	Bike/Ped	City of Rio Rancho	340,214	Funded	
814.0	Menaul Blvd Bike Lanes, Stage I	Tramway Blvd	Monte Largo Dr	Implement Bike Lanes	Bike/Ped	City of Albuquerque-DMD	825,000	Late Term	
814.1	Menaul Blvd Bike Lanes, Stage II	Morris St	Tramway Blvd	Build Bike Lanes	Bike/Ped	City of Albuquerque-DMD	2,541,000	Near Term	
677.0	MLK Bikeway and Connectivity Improvement Project	Broadway Boulevard	University Boulevard	Plan, design, and construct improvements to the bicycle and pedestrian facilities along MLK between Broadway and University to promote opportunities to access other modes of transportation such as transit and Railrunner services.	Bike/Ped	City of Albuquerque-DMD	1,500,000	Funded	
840.0	Montoyas Arroyo Trail	Unser Blvd	NM 528	Construct Bike Trail	Bike/Ped	City of Rio Rancho	3,630,000	Near Term	
859.0	Morris St Bike Lanes	Lomas Blvd	Constitution Ave	Build Bike Lanes	Bike/Ped	City of Albuquerque-DMD	2,475,000	Late Term	
880.0	Mountain Rd Pedestrian Lighting & Streetscape Improvements	Rio Grande Blvd	I-25	Construct pedestrian and lighting improvements	Bike/Ped	City of Albuquerque-DMD	1,500,000	Near Term	
837.0	Mountain Valley Rd Shoulder Improvements	I-40	section with existing shoulders	Improve & Widen Shoulders to accommodate bicycles and improve safety	Bike/Ped	County of Bernalillo	3,000,000	Late Term	
93.0	NM 314 & NM 6 Bike Bypass Route Connection	Schmidt Place	Vista Larga Dr	Construct bike/ped ditch crossing to connect two roads to establish the bypass of the NM 314 & NM 6 intersection for Railrunner commuters.	Bike/Ped	Village of Los Lunas	147,500	Funded	
825.2	NM 314 Bike & Pedestrian Improvements-Northside of Village	NM 6	James St	Construct new bike/ped facilities including streetscape, drainage, and roadside improvements.	Bike/Ped	Village of Los Lunas	1,771,185	Funded	
825.0	NM 314 Bike Lanes & Enhancements	Morris Rd	NM 6 (Main St)	Construct sidewalks, bicycle lanes, lighting, medians and outer curbs to manage access. Signage and other appurtenances included. Former CN=L3313.	Bike/Ped	Village of Los Lunas	2,855,618	Funded	

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7.2	NM 333 Pedestrian Improvements Phase I	Tijeras Avenue	NM 337	Plan, Design and Construct pedestrian improvements, including new curb and gutter, sidewalks, minor road improvements, wheelchair ramps, and related drainage, lighting, striping, signing improvements and other appurtenances as necessary.	Bike/Ped	Village of Tijeras	382,048	Funded	
7.0	NM 333 Pedestrian/Bike Enhancements	NM 333 Mile Marker 6.45	NM 333 Mile Marker 7.25	Construction of new sidewalks, bike facilities, median landscaping, and ADA upgrades along NM 333 frontage.	Bike/Ped	Village of Tijeras	1,350,000	Funded	
113.0	NM 556, Tramway Blvd Bridge Rehabilitation on the Pierda Lisa Bridge	MP 12.30	MP 12.25	Replacement of the bridge approaches, replace missing spans and rehabilitation of the Bridge Deck and other associated bridge work.	Bike/Ped	NMDOT D-3	550,000	Funded	
581.0	North Diversion Channel Road Construction East-West Connector (El Pueblo)	Jacs Lane	Lorraine Court	Constr. Multi-use trail to trail & bike route on El Pueblo where trail terminates from PdN project to provide access to N. Div. channel; includes pavement & bridge deck rehab, bridge widening, signing & striping improv. to accom. facil as a bike route.	Bike/Ped	NMDOT D-3	3,000,000	Funded	
581.1	North Diversion Channel Road Construction North-South Connector	Hawkins	El Pueblo	Construct new 2 lane roadway with bike lanes (East-West connection under A300170). All funds in FY 2010 through 2016 are included in total project cost.	Bike/Ped	City of Albuquerque-DMD	14,874,251	Near Term	
870.0	North Diversion Channel Trail	Balloon Fiesta Park	4th St	Construct bicycle/pedestrain facilities.	Bike/Ped	County of Bernalillo	1,260,000	Late Term	
870.1	North Diversion Channel Undercrossing	Nort Diversion Channel and Indian School		Design and construct an undercrossing of the NDC trail.	Bike/Ped	City of Albuquerque-DMD	1,755,618	Near Term	
805.0	North Pino Arroyo Bike Trail	North Diversion Channel Trail	Tiburon St	Construct Bike Trail	Bike/Ped	City of Albuquerque-DMD	519,750	Near Term	
849.0	Osuna Rd Bike Lanes/Trail	2nd St	Edith Blvd	Build Bike Lanes/Trail.	Bike/Ped	City of Albuquerque-DMD	3,069,000	Late Term	
848.0	Osuna Rd North Diversion Channel Trail Undercrossing	Osuna Rd at N. Diversion Ch. Trail		Construct undercrossing for trail	Bike/Ped	City of Albuquerque-DMD	4,500,000	Near Term	
542.0	Pajarito Rd Bike Trail/Lanes	118th St	Isleta Drainage Channel	Construct Bike Trail/Lanes	Bike/Ped	County of Bernalillo	5,346,000	Near Term	
834.0	Paradise Blvd Trail	City Limits west of La Paz	Golf Course Rd	Construct trail to connect existing trails along Paradise Blvd including a connection to existing ped facil. On Golf Course Rd approx 400ft south of Paradise Blvd. Former CN=L3413	Bike/Ped	County of Bernalillo	819,288	Funded	
16.0	Paseo del Norte Corridor Bikeways Stage I	Golf Course Rd	Paseo del Norte Trail (west of the Rio Grande)	Construct bike lanes and trail between Golf Course Rd & Eagle Ranch Rd. Construct a grade separated crossing between Eagle Ranch Rd to the western terminus of the existing Paseo del Norte Trail (west of the Rio Grande). Project will be built in stages.	Bike/Ped	City of Albuquerque-P&R	1,000,000	Funded	
11.0	Pecos Loop Sidewalk (Rio Rancho)	Rainbow Blvd	Baltic Ave	Construct a 5' wide sidewalk with ADA ramps as necessary. Partial reconstruction of approx. 37 driveway aprons to meet ADA standards.	Bike/Ped	City of Rio Rancho	400,000	Near Term	
856.0	Piedras Marcadas Arroyo Bike Trail	Paseo del Norte	Dam	Construct Bike Trail	Bike/Ped	City of Albuquerque-DMD	511,500	Late Term	

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875.1	Primera Agua Pedestrain Improvements/Trail Enhancements Phase 2	Tijeras Village Line (2,500' S of NM 333)	NM 333 (Rt 66)	Install lighting, improve pedestrain access, ADA compliance.	Bike/Ped	Village of Tijeras	170,000	Near Term	
1101.1	Region Wide Bicycle/Pedestrian Safety Educ (Late Time Frame)	Benalillo, Sandoval and Valencia Counties		Increase bicycling and pedestrian safety awareness and promote shift to alternate modes of travel.	Bike/Ped	Various/Joint Effort	1,275,000	Late Term	
1101.0	Region Wide Bicycle/Pedestrian Safety Educ (Near Time Frame)	Benalillo, Sandoval and Valencia Counties		Increase bicycling and pedestrian safety awareness and promote shift to alternate modes of travel.	Bike/Ped	Various/Joint Effort	340,000	Near Term	
43.0	Regional East-West Trail & Bikeway			Plan, design, rights-of-way acquisition and construction of trail improvements on the designated east-west trail facility. Ref. NM097 COMPLETED	Bike/Ped	City of Albuquerque-DMD	2,395,834	Funded	
816.1	Rio Grande Blvd Bike Facility (North End in Village)	Paseo del Norte	Ortega Rd	Construct Bike facility	Bike/Ped	Village of Los Ranchos de Albuquerque	125,000	Near Term	
816.3	Rio Grande Blvd Bike Lanes & Sidewalks	Ortega	Alameda Blvd	Construct bicycle/pedestrain facilities.	Bike/Ped	County of Bernalillo	468,165	Near Term	
713.0	San Jose Drain Trail	Woodward Rd	Rio Bravo Blvd	Construct bicycle/pedestrian facilities from Woodward Rd to Rio Bravo Blvd along San Jose Drain corridor.	Bike/Ped	County of Bernalillo	800,000	Near Term	
94.0	Santo Domingo Multi-Use Trail Segment 1 and 2	Cattle grd E. of Mateo Overp. to NMRX Station	NMRX Station to SP 88 (Old Hwy 22)	Construct a multi-use trail. (TTP funds used for required match.) Design for Segments 1 & 2.	Bike/Ped	Pueblo of Santo Domingo	768,727	Funded	
94.1	Santo Domingo Multi-Use Trail Segment 2	Intersection of state highway 22 and indian service road 88 (SP88)	NMRX Rail Runner Station	Construct a multi-use trail. (TTP funds used for required match.)	Bike/Ped	Pueblo of Santo Domingo	1,090,000	Near Term	
94.2	Santo Domingo Pedestrian Trail through Concrete Box Culvert	Indian Service Road 88 (SP88) West of Mateo Overpass	Indian Service Road 88 (SP88) Cattle Guard E of Mateo Overpass	Design and Construct a pedestrian walkway through the existing concrete box culvert. Alternative 1 selected from the Kewa Pedestrian Assessment Report on behalf of NMDOT.	Bike/Ped	Pueblo of Santo Domingo	95,886	Near Term	
602.1	Saratoga Drive Sidewalks	Rockaway Blvd	Northern Blvd	Construct sidewalks which are ADA compliant on the north side of Saratoga. Includes work on several driveways to maintain adequate slope, and construction of retaining walls as necessary.	Bike/Ped	City of Rio Rancho	426,000	Near Term	
592.1	Singer Blvd Bike Lanes	Chappel Dr	Jefferson St	Build Bike Lanes.	Bike/Ped	City of Albuquerque-DMD	825,000	Funded	
714.0	South Boundary Trail	Rio Grande	Broadway	Construct bicycle/pedestrian facilities from the proposed Bosque Trail adjacent to the Rio Grande to Broadway Blvd along the proposed AMAFCA channel adjacent to I-25.	Bike/Ped	County of Bernalillo	1,200,000	Near Term	
864.0	South Diversion Channel Trail	Rio Bravo Blvd	Gibson Blvd	Construct bicycle/pedestrain facilities.	Bike/Ped	County of Bernalillo	1,760,000	Late Term	
660.7	SRTS: Corrales Road Safe Routes to Schools Phase II	MP 8 (Devon John Lane)	MP 8.8	Crosswalk Improvements by the Montessori school and the addition of an RRBF in advance of a crosswalk on Corrales Road.	Bike/Ped	NMDOT D-3	52,000	Funded	
660.5	SRTS: NM 448 Corrales Rd Pedestrian/Crosswalk Improvements	Cabezon Rd (approx. MP 7)	approx. Milepoint 9	Crosswalk and other pedestrian improvements as needed.	Bike/Ped	NMDOT D-3	50,000	Funded	
831.0	Sun Ranch Village Rd Bike Lanes	Bachelors Street	NM 6	Build Bike Lanes	Bike/Ped	Village of Los Lunas	1,254,000	Late Term	

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7.1	Tijeras Area Sidewalk Improvements and ADA Upgrades on NM 337	Old School Rd	NM 333	Construction/installation of new sidewalks and ADA improvements on NM 337 where it does not exist today between NM 333 and Public/Old School Road. Match is provided by NMDOT.	Bike/Ped	Village of Tijeras	150,000	Funded	
832.0	Tijeras Arroyo Bike & Pedestrian Trail, Stage II	South Diversion Channel	University Blvd	Construct Bike/Pedestrian Trail	Bike/Ped	County of Bernalillo	1,800,000	Late Term	
854.0	University Blvd Multimodal Improvements Phase I	NM 500, Rio Bravo Blvd	George Rd	Construct missing bike lanes and improve existing roadway segments as needed, construction management services; request to use local design services as "soft match". Proj. will be Constructed in phases. Env. clearance will be requested for both phases.	Bike/Ped	City of Albuquerque-DMD	1,100,000	Funded	
854.1	University Blvd Multimodal Improvements Phase II	George Rd	Gibson Blvd.	Const. missing bike facilities & improve existing roadway segments as needed, construction management services; request to use local design services as "soft match". Proj. will be Constructed in phases. Env. clearance will be requested for both phases.	Bike/Ped	City of Albuquerque-DMD	3,721,536	Funded	
842.0	Utility Easement Trail	County Line	Paseo del Volcan	Construct Bike Trail	Bike/Ped	City of Rio Rancho	6,839,250	Late Term	
96.1	Valle De Oro Connections	Rio Grande	2nd Street	Construct bicycle/pedestrian facilities from the proposed Bosque Trail adjacent to the Rio Grande along Sandia Salida corridor and the Barr Drain corridor.	Bike/Ped	County of Bernalillo	1,000,000	Near Term	
841.0	Venado Arroyo Trail	Unser Blvd	Utility Easement	Construct Bike Trail	Bike/Ped	City of Rio Rancho	3,828,000	Late Term	**Total Bike/Ped Projects**
874.2	West Meadowlark Bike/Ped Trail	Loma Larga	Municipal Boundary (Rio Rancho)	pave ped/bike trails on both sides of West Meadowlark Lane between Loma Larga and the municipal boundary with Rio Rancho, connecting to the existing paved trails west of Corrales.	Bike/Ped	Village of Corrales	500,000	Near Term	**263,944,607**
575.0	106th St Extension & I-40 Bridge Crossing	Eucariz Ave	Ladera Dr	Construct new 2 lane road and crossing over I-40; includes bike lanes.	Capacity Proj	City of Albuquerque-DMD	1,368,500	Near Term	
526.0	118th Street (Lower Section)	Sen Dennis Chavez Blvd	Amole Arroyo	Construct new 2 lane roadway; includes bike lanes & trail.	Capacity Proj	City of Albuquerque-DMD	8,130,000	Near Term	
526.4	118th Street (Upper Section)	Eucariz Ave	I-40	Construct new roadway with bike lanes	Capacity Proj	County of Bernalillo	5,300,000	Near Term	
23.0	2nd Street NW Reconstruction	Paseo del Norte	4th St	Reconstruct as 4 lane divided facility between Paseo del Norte and Alameda Blvd and as a 2 lane with center turn lane facility between Alameda and 4th St. Includes new signals, bike lanes, sidewalks, and landscaping.	Capacity Proj	County of Bernalillo	9,200,000	Near Term	
34.0	34th Ave/Campus Ave Construction	Unser Blvd	Center Blvd	Construct new 2 lane roadway.	Capacity Proj	City of Rio Rancho	1,725,000	Near Term	
4.3	4th St Improvements Stage II (ED, PE & Design)	Shulte Rd	Ortega Road	Reconstruct 4th St from 4 to 3 lanes, including drainage, bike lanes, transit amenities, improved pedestrian access, ADA compliance and landscaping.	Capacity Proj	Village of Los Ranchos de Albuquerque	12,870,000	Near Term	
527.1	90th St Crossing of I-40	90th St over I-40		Restore/construct street connection across I-40 without access to expressway.	Capacity Proj	City of Albuquerque-DMD	5,000,000	Near Term	

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474.0	98th Street Improvements	Rio Clara Ave.	Gibson Blvd.	Construct additoinal driving lanes, bicycle facilities, sidewaks, landscaping and othe appurtenances as necessary; construction management services. Request to use local design services as "soft match".	Capacity Proj	City of Albuquerque-DMD	2,000,000	Near Term	
920.0	Alameda Blvd Improvements	I-25	2nd St	Additional travel lanes in each direction, deceleration lanes for right-turn movements, continue existing bike/ped facilities, multi-use trail, upgrade of traffic signals as needed, signal timing, ITS communiciations, and other appurtenances as necc.	Capacity Proj	City of Albuquerque-DMD	17,000,000	Funded	
578.0	Alameda Blvd Widening, Stage I	Jefferson St	I-25	Widen from 4 to 6 lanes, including on-street bike lanes.	Capacity Proj	City of Albuquerque-DMD	3,250,000	Near Term	
578.1	Alameda Blvd Widening, Stage II	Edith Blvd	Jefferson St	Widen from 4 to 6 lanes, including on-street bike lanes.	Capacity Proj	City of Albuquerque-DMD	7,100,000	Near Term	
406.4	Atrisco Vista Blvd (PdV) Widening	I-40	Paseo del Norte	Widen from 2 to 4 lanes	Capacity Proj	City of Albuquerque-Aviation	15,640,000	Late Term	
619.0	Bernalillo Rail Runner Station Entrance Rd	NM 313, Camino del Pueblo	Rail Runner Station	Construct (incl Design) new 2 lane roadway, gutters, sidewalks, parking lot, etc. Total cost includes 2009 funds.	Capacity Proj	Town of Bernalillo	654,108	Late Term	
490.2	Broadmoor Blvd Extension (30th St) - Middle Section, Phase II	34th Ave/Campus Ave	Progress Blvd	Construct new 2 lane roadway with bicycle facilities.	Capacity Proj	City of Rio Rancho	2,500,000	Near Term	
490.0	Broadmoor Blvd Extension (30th St) - Southern Section	Idalia Rd	Paseo del Volcan	Right-of-way acquisition for future 4 lane roadway. (Initial phase will construct 2 lane roadway with shoulders.)	Capacity Proj	City of Rio Rancho	11,000,000	Funded	
332.1	Broadmoor Blvd Widening (30th St) - Southern Section	Northern	Paseo del Volcan	Widen Roadway from 2 to 4 lanes. ED, PE & DE done under #490. MPO ID changed from 490.4	Capacity Proj	City of Rio Rancho	10,000,000	Near Term	
932.0	Camelot Blvd Extension	Sichler Rd	end of existing Camelot Blvd	Construct roadway extension including sidewalks, bike lanes, drainage and bridge structure.	Capacity Proj	Village of Los Lunas	1,638,436	Funded	
724.0	Camino del Llano Extension	Prairie Dog Ln	Mesa Rd	Develop new Collector Rd for anticipated development area. Reconstruct exiting corridor, add lanes, bike/ped and related facilities.	Capacity Proj	City of Belen	2,000,000	Late Term	
66.1	Central Ave Improvements (Old Town - Downtown)	Rio Grande Blvd	8th Street	Lane Reductions from 4 to 3 or 2 lanes and streetscape improvements. May include reconfiguration of Central & Lomas intersection. (Also see projects "Albuquerque Great Streets")	Capacity Proj	City of Albuquerque-DMD	4,780,000	Funded	
584.2	Eubank Blvd & Montgomery Blvd Intersection Improvements	Eubank Blvd	Montgomery Blvd	Add 3rd northbound through lane, modify median access, add additional turning movement capacity and improve pedestrian accessibility.	Capacity Proj	City of Albuquerque-DMD	1,000,000	Near Term	
250.0	I-25 Expansion I-40 to Paseo del Norte	I-40	Paseo del Norte	Reconstruct from 3 to 4 Lanes & Add Auxiliary lane. Reconstruct/reconfigure interchanges to be determined.	Capacity Proj	NMDOT D-3	182,104,759	Late Term	
448.1	I-25 Reconstruction (Southside of ABQ)	Broadway	Rio Bravo Blvd	Rehabilitation/Reconstruction of the existing lanes, possible changes in configuration, bridge replacement, and other appurtances as necessary. Project cost includes FY 2011 funding.	Capacity Proj	NMDOT D-3	26,000,000	Funded	

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442.6	I-25 Southbound	Jefferson St	San Mateo Blvd.	Bridge Widening SB I-25 at San Mateo to accommodate a fourth lane from San Antonio to Jefferson St.	Capacity Proj	NMDOT CRDC	15,647,132	Funded	
613.0	Idalia Rd Reconstruction & Widening	Iris Rd	NM 528	Widen from 2 to 3 lane undivided or 4 lane divided roadway. Includes: turn lanes, intersection improvements, curbs, gutter, storm drains, bike lanes, etc. Project t.b.d. concurrently with sewer project.	Capacity Proj	City of Rio Rancho	13,510,587	Funded	
533.0	Irving Blvd Reconstruction & Widening (C)	La Paz Dr	Unser Blvd	Reconstruct & Widen from 3 to 4 lanes, includes Bike Lanes	Capacity Proj	City of Albuquerque-DMD	6,937,500	Late Term	
439.0	Irving Blvd Widening	Universe Blvd.	Rio Los Pinos Dr.	Widen roadway from 2 to 4 lanes, divided; includes bike lanes between Unser Blvd and Eagle Ranch Rd. Includes Intersection improvements. Former CN-L3039.	Capacity Proj	City of Albuquerque-DMD	3,650,000	Near Term	
376.0	Lincoln Ave Construction (Interim 2 Lane)	NM347 Paseo del Volcan	Adams Lane	Construct 2 lane roadway.Intersection improvements at NM 347.	Capacity Proj	City of Rio Rancho	5,500,000	Funded	
376.1	Lincoln Ave Extension	Paseo del Volcan	Adams Ln NE	Construct 4 lane roadway. (Only Env Doc, PE, design & ROW programmed at this time.)	Capacity Proj	City of Rio Rancho	500,000	Late Term	
376.2	Lincoln Ave Widening	Paseo del Volcan (NM 347)	Adams Ln NE	Widen to a 4 lane facility.	Capacity Proj	City of Rio Rancho	13,051,290	Late Term	
540.0	Loma Colorado Blvd Extension - Middle Section	Idalia Rd	Paseo del Volcan	Construct New 2 lane Roadway	Capacity Proj	City of Rio Rancho	5,848,000	Funded	
537.5	Los Lunas Corridor Frontage Roads	I-25	NM 314	Design and construct frontage roads.	Capacity Proj	NMDOT D-3	3,000,000	Late Term	
537.3	Los Lunas Corridor River Crossing ROW Acquisition	I-25	NM 47	Acquire rights-of-way as identified in the Los Lunas Corridor Study	Capacity Proj	Village of Los Lunas	3,744,382	Funded	
537.2	Los Lunas Corridor-New Interchange, Arterial & River Crossing Stage I	I-25	NM 314	Design and Const. a new interchange on I-25 south of the village with a new roadway easterly across the Rio Grande to NM 47. (Stage 1 I-25 - NM 314) (Stage 2 NM 314 - NM 47) Alignment/alternatives per the Los Lunas Corridor Study.	Capacity Proj	Village of Los Lunas	22,000,000	Near Term	
537.4	Los Lunas Corridor-New Interchange, Arterial & River Crossing Stage II	NM 314	NM 47	Design and Const. a new interchange on I-25 south of the village with a new roadway easterly across the Rio Grande to NM 47. (Stage 1 I-25 - NM 314) (Stage 2 NM 314 - NM 47) Alignment/alternatives per the Los Lunas Corridor Study.	Capacity Proj	Village of Los Lunas	37,591,000	Late Term	
631.0	Los Lunas New Street Connection (S of Courthouse Rd)	Rail Runner Station Area	Los Lentes Rd	Purchase property and construct new street from the Rail Runner station area to Los Lentes Road.	Capacity Proj	Village of Los Lunas	500,000	Late Term	
18.0	Menaul Boulevard Improvements	Carlisle Blvd	Tramway Blvd	Provide for a uniform 6 lane roadway, add bicycle lanes as appropriate, implement multi-modal improvements consistent with the planning principles for increasing person-trip capacity in a heavily congested arterial corridor.	Capacity Proj	City of Albuquerque-DMD	6,170,412	Near Term	
148.2	Mesa Roadway Improvements	Cannon Rd	Camino del Llano	Pave existing dirt road, add curb, gutter, sidewalks, lighting, signing, striping, intersection improvements and related work	Capacity Proj	City of Belen	1,500,000	Late Term	
418.3	NM 347 Paseo del Volcan - Rio Rancho Sect - Widening Stage I	Unser Blvd	Iris Rd	Widen Roadway from 2 to 4 lanes.	Capacity Proj	NMDOT D-3	16,000,000	Late Term	

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418.4	NM 347 Paseo del Volcan - Rio Rancho Sect - Widening Stage II	Iris Rd	US 550	Widen Roadway from 2 to 4 lanes.	Capacity Proj	NMDOT D-3	30,353,600	Late Term	
70.1	NM 347 Paseo del Volcan ROW Acquisition [at Proposed I-40 Interchange]	I-40	US 550	ROW acquisition for the PDV Cooridor. (Old CN 2607)	Capacity Proj	NMDOT D-3	2,000,000	Funded	
300.0	NM 47 in Peralta (Old CN=2105)	MP 31.000	MP 32.800	Rehabilitate/reconstruct from 2 to 5 lane facility with center turn lane and drainage improvements.	Capacity Proj	NMDOT D-3	13,884,876	Funded	
493.3	NM 528 Rio Rancho Blvd Improvements	Southern Blvd	Ridgecrest	Pavement overlay/reconstruction and widening including pavement markings, signage, and other appurtenances as necessary. Total cost incl. FY 2010 & 2011 funds.	Capacity Proj	NMDOT D-3	17,532,751	Funded	
493.4	NM 528 Rio Rancho Blvd Improvements (Upper Section)	Ridgecrest Dr/Leon Grande Ave	Northern Blvd	Pavement overlay and widening from 4 to 6 lanes including pavement markings, bike path, drainage improvements, shoulders, signage, and other appurtenances as necessary. ED, PE & Design under A300380.	Capacity Proj	NMDOT CRDC	15,774,634	Funded	
493.1	NM 528 Rio Rancho Blvd Reconstruction & Widening (D)	Northern Blvd	US 550	Reconstruct to 6 lanes	Capacity Proj	NMDOT D-3	73,500,000	Late Term	
625.0	NM 6 Widening	approx. 4 miles west of I-25	I-25 & NM 6 Interchange	Widen Roadway, Add 2 lanes	Capacity Proj	NMDOT D-3	23,823,800	Funded	
347.1	Northern Blvd Expansion Phase B	Unser Blvd.	Broadmoor Blvd.	Design and Right-Of-Way Acquisition.	Capacity Proj	City of Rio Rancho	2,255,616	Near Term	
438.0	Osuna Blvd Widening Phase I	North Diversion Channel	Jefferson St	Widen from 4 to 6 lanes, divided.	Capacity Proj	City of Albuquerque-DMD	8,300,000	Funded	
438.2	Osuna Blvd Widening Phase II	Edith Blvd	North Diversion Channel	Widen from 4 to 6 lanes, divided. Includes bike lanes and multi-purpose trail.	Capacity Proj	City of Albuquerque-DMD	12,490,824	Near Term	
438.3	Osuna Blvd Widening Phase III	2nd St	Railroad	add 2 lanes includes bike lanes.	Capacity Proj	County of Bernalillo	12,000,000	Late Term	
629.2	Paradise Blvd Widening, Eastern Section	Golf Course Rd	Eagle Ranch Rd	Widen from 3 to 4 lanes, on-street bike lanes and rebuild mult-purpose trail.	Capacity Proj	City of Albuquerque-DMD	2,250,000	Near Term	
529.1	Paseo del Norte NW Improvements & Widening	Universe Blvd	Escarpment end of current 4 lane	Reconstruct & Widen from 2 to 4 lanes; includes Bike Lanes & Trail	Capacity Proj	City of Albuquerque-DMD	18,000,000	Late Term	
529.2	Paseo del Norte NW Improvements & Widening Stage I	Woodmont Ave	Universe Blvd	Reconstruction and widen from 2 to 4 lanes, bike lanes, sidewalks & intersection improvements.	Capacity Proj	City of Albuquerque-DMD	22,000,000	Late Term	
600.2	Progress Blvd - Eastern Section	Loma Colorado Blvd	Paseo del Volcan	Construct new 2 lane roadway	Capacity Proj	City of Rio Rancho	12,000,000	Late Term	
600.3	Progress Blvd - Middle Section	Broadmoor Blvd	Loma Colorado Blvd	Construct new 2 lane roadway.	Capacity Proj	City of Rio Rancho	4,000,000	Late Term	
600.1	Progress Blvd - Western Section	Rainbow Blvd	Unser Blvd	Construct New 2 lane Roadway, include Bike Route.	Capacity Proj	City of Rio Rancho	11,567,000	Late Term	
12.3	Rainbow Blvd Connection	McMahon Blvd	Southern Blvd	Construct 2 lane roadway with bike lane.	Capacity Proj	City of Rio Rancho	4,600,000	Near Term	
12.4	Rainbow Blvd Connection Widening	McMahon Blvd	Southern Blvd	Widen from 2 to 4 lanes with additional bike lane and sidewalks.	Capacity Proj	City of Rio Rancho	4,600,000	Late Term	
489.0	Rainbow Blvd Extension (Rio Rancho)	Northern Blvd	King Blvd	Construct New 2 lanes; includes Bike Lanes.	Capacity Proj	City of Rio Rancho	12,700,000	Near Term	
425.2	Roy Ave Improvements (West Sect.)	NM 313, 4th Street	Mile Marker #1.26	Reconstruct & Widen from 2 to 4 lanes	Capacity Proj	Pueblo of Sandia	6,482,800	Near Term	
579.1	Sage Rd Reconstruction & Widening	Unser Blvd	Coors Blvd	Reconstruct and widen from 2 to 4 lanes with bike lanes.	Capacity Proj	County of Bernalillo	3,655,000	Near Term	

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592.0	Singer Blvd Bridge Widening	Bridge over North Diversion Channel		Widen and rehab bridge and approach roadway from 2 to 4 lanes.	Capacity Proj	City of Albuquerque-DMD	4,000,000	Funded	
935.0	Southeast Los Lentes Road Improvements	Morris Rd	Aspen Dr	Reconstruct roadway including new detached multi-use trail, drainage, lighting and related improvements.	Capacity Proj	Village of Los Lunas	2,100,000	Funded	
437.0	Sunport Blvd Extension	Woodward	I-25 Exit 221 at Sunport Blvd	Construct new 4 lane divided facility with bike lanes includes signage, drainage, and other necessary appurtenances. Demo ID NM006. Project total includes capital outlay & county funds in previous FYs.	Capacity Proj	County of Bernalillo	21,000,000	Funded	
367.0	Tower Rd Widening	Unser Blvd	Coors Blvd	Widen from 2 to 4 lanes.	Capacity Proj	City of Albuquerque-DMD	4,500,000	Near Term	
394.1	University Blvd - Los Picaros Widening	Approx 1000 - 1500 ft N+S of Los Picaros		Construct northbound University Blvd grade seperation over Loss Picaros Rd. Total length approx 1000 -1500 ft. Demo ID NM038. Local design funds as soft match.	Capacity Proj	City of Albuquerque-DMD	1,537,388	Funded	
395.1	University Blvd & Los Picaros Rd Grade Separation	University Blvd	Los Picaros Rd	Construct grade separated interchange.	Capacity Proj	City of Albuquerque-DMD	25,000,000	Late Term	
395.0	University Blvd Widening	Mesa del Sol	Rio Bravo Blvd	Widen the two lane section in the Los Picaros area from 2 to 4 lanes to provide lane continuity.	Capacity Proj	City of Albuquerque-DMD	5,000,000	Near Term	
593.0	Unser Blvd & 98th St Off-Ramps	MP 144.25	MP 154.5	Plan, design and construction two-lane off-ramps on I-40 westbound; inlcludes signage and other appurtenances as needed.	Capacity Proj	NMDOT D-3	1,774,563	Funded	
464.0	Unser Blvd Connection	Atrisco Blvd (end of existing 4-lane sect.)	Paradise Blvd.	PE, design & ROW for new 4 lane roadway & bike lanes/trail & construction for first phase. First phase will construct a 2 lane roadway from Atrisco to Paradise. Some ROW to be acquired from landowners by transfer. Tot Proj Cost includes 2009, 2010 & 2011.	Capacity Proj	City of Albuquerque-DMD	11,750,000	Funded	
464.1	Unser Blvd Connection Widening	Atrisco Blvd (end of existing 4-lane sect.)	Paradise Blvd	Widen from 2 to 4 lanes, including on-street bike lanes and multi-purpose trail. (Some PE, Design and ROW done under A300300) Also see A300301.	Capacity Proj	City of Albuquerque-DMD	15,000,000	Near Term	
465.1	Unser Blvd Corridor Improvements Future Stages	Central Ave	Bernalillo-Sandoval County Line	Complete a uniform 4 and/or 6 lane roadway facility and implement multi-modal improvements; construction management services. Local design funds may be used as "soft" match. Projet may be phased. (Some PE, Design & ROW done under A300300)	Capacity Proj	City of Albuquerque-DMD	9,352,600	Near Term	
465.0	Unser Blvd Corridor Improvements Stage 1	Bandelier Rd	McMahon Blvd	Complete a uniform 4 and/or 6 lane roadway facility and implement multi-modal improvements; construction management services. Local design funds may be used as "soft" match. (Some PE, Design & ROW done under A300300)	Capacity Proj	City of Albuquerque-DMD	1,753,371	Near Term	
465.2	Unser Blvd Improvements (NW ABQ)	Irving Blvd	Bernalillo-Sandoval County Line	Reconstruct & Widen Roadway from 2 to 4 lanes including bike lanes and trail.	Capacity Proj	City of Albuquerque-DMD	6,800,625	Near Term	
380.3	Unser Blvd Phase 2B	Farol Rd	NM 347 (Paseo del Volcan)	Complete ROW land acquisitions for this phase.	Capacity Proj	City of Rio Rancho	6,435,000	Near Term	
380.1	Unser Blvd Rights-of-way Acquisition for Phase 2B	Farol Rd	Paseo del Volcan	Purchase rights-of-way	Capacity Proj	City of Rio Rancho	1,030,222	Funded	

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380.0	Unser Blvd Widening Middle Section 2B	Cherry Road	Paseo del Volcan	Reconstruct & Widen from 2 to 4 lanes, divided. Add bike lanes. The project is divided into 3 segments for construction purposes: 2a-PdV to King, 2b-Farol to Pdv and 2c-King to Progress. ED, PE, Design under CN=L3111. ROW PURCHASE UNDERWAY	Capacity Proj	City of Rio Rancho	12,485,369	Near Term	
381.2	Unser Blvd Widening Upper Section	Progress Blvd	US 550	Reconstruct & Widen from 2 to 4 lanes. Add bike lanes (proj #381.3)	Capacity Proj	City of Rio Rancho	63,168,000	Late Term	
380.2	Unser Blvd. Widening 2 C	King Blvd.	Progress Blvd.	Reconstruct and widen from 2 to 4 lanes, divided. Project includes lanes.	Capacity Proj	City of Rio Rancho	9,872,331	Late Term	
386.3	US 550 Reconstruction & Widening	MP 1.25 (East of Don Tomas)	MP 2.50 (NM 528)	Reconstruction, widening (1 lane each dir), bridge rehabilitation & repairs, includes ADA compliance, sidewalks and other appurtenances as necessary.	Capacity Proj	NMDOT CRDC	28,000,000	Funded	
508.2	Westside Blvd Improvements	Unser Blvd	Golf Course Rd	Design, construct, enhance and improve Westside Boulevard : Construct a bridge and the approaches for the eastbound lanes and completion of the top mat of asphalt for the entire road length between Unser Blvd. and Golf Course Rd.	Capacity Proj	City of Rio Rancho	1,536,383	Funded	**Total Highway Capacity Projects**
508.1	Westside Blvd Widening	Golf Course Rd	NM 528	Rehab & widen from 2 to 4 lanes, bike lanes, pedestrian enhancements and other improvements per the Westside-McMahon Corridor Study. Total cost includes est of future construction costs.	Capacity Proj	City of Albuquerque-DMD	5,702,247	Near Term	**1,036,980,106**
550.0	2nd Street Improvements (South Valley)	Sandia Salida Rd	Woodward Ave.	Reconstruct roadway and intersection improvements	Hwy & Brg Pres	County of Bernalillo	10,000,000	Near Term	
96.2	2nd Street/Valle del Oro Acces Improvements	Valle del Oro Entrance north of Sandia Salida Rd.	Mountain View Elementary School north of Shirk Ln	Reconstruct roadway with drainage, curb, gutter, sidewalks, multi-use trail, lighting, signage and realignment of the Desert Rd intersection.	Hwy & Brg Pres	County of Bernalillo	12,500,000	Funded	
178.0	4th Street Cooridor Enhancements	Mountain	Solar	Plan, design, acquire right-of-way and construct roadway improvements in accordance with the Fourth Street Corridor Plan including but not limited to, sidwalk reconstruction, landscaping, and traffic calming measures.	Hwy & Brg Pres	City of Albuquerque-DMD	2,000,000	Late Term	
512.0	Alameda Blvd Reconstruction	Ventura Blvd	Eubank Blvd	Reconstruct 2 lane Roadway and Bike Lanes & Trail	Hwy & Brg Pres	County of Bernalillo	5,950,000	Near Term	
138.2	Albuquerque Bridge R&R - Bridge #7926	Bridge St (Avenida Cesar Chavez)	over William St	Plan, design and construciton of bridge repairs and/or rehabilitation of off-system Bridge #7926. The project will be advance constructed (pend funding agreement). Design funds to be used as "soft match" for federal const. funds.	Hwy & Brg Pres	City of Albuquerque-DMD	1,853,422	Funded	
138.0	Albuquerque City Wide Off-System Bridge Program			Plan, design and construction of bridge repairs and/or rehabilitation of off-system bridges. Includes Bridge #8254 Jefferson St over Bear Canyon Arroyo and Bridge #8255 Jefferson St over Bear Canyon Arroyo. Bridge(s) in FFY 2019 yet to be selected.	Hwy & Brg Pres	City of Albuquerque-DMD	1,280,133	Funded	

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203.0	Aragon Rd.Improvements and Pedestrian Improvements East of Main St.	Intersection of West Aragon Rd. and North Main St.	100' east of the Railrunner crossing on East Aragon Rd.	Design and construct new roadway. Project includes new base, asphalt, curb, getter, sidewalks, drivepads, wheelchair ramps, pedestrian improvements and other appurtenances as needed.	Hwy & Brg Pres	City of Belen	690,000	Near Term	
491.0	Arenal Rd Reconstruction	Coors Blvd	Tapia Blvd	Reconstruct Roadway. Project to include safety improvements	Hwy & Brg Pres	County of Bernalillo	7,640,000	Near Term	
632.0	Atrisco Dr Improvements	Hooper Rd	Central Ave	Resurface roadway, install/rehab. storm drainage, curbs, gutters, sidewalks, etc.	Hwy & Brg Pres	City of Albuquerque-DMD	3,100,000	Funded	
406.3	Atrisco Vista Blvd (DEII Rd) Rehabilitation	DE II Airport Access Road	Paseo del Norte	Rehabiliatate and resurface roadway.	Hwy & Brg Pres	City of Albuquerque-Aviation	3,000,000	Near Term	
363.0	Atrisco Vista Blvd Rehabilitation	Sen. Dennis Chavez Blvd	I-40	Rehabilitate roadway, shoulders, etc. includes bike lanes and trail. CHANGE LEAD TO NMDOT PER BERN CO	Hwy & Brg Pres	County of Bernalillo	1,649,748	Mid Term	
310.0	Belen Business Loop 13 Pavement Preservation.	MP 2.68 to MP 2.94	MP 3.47 to MP 6.60	Pavement preservation (Mill and Inlay). Project includes ADA improvements.	Hwy & Brg Pres	NMDOT D-3	3,186,070	Funded	
872.2	Bridge Blvd and Tower Rd Reconstruction	Bridge: Coors Blvd to 8th Street	Tower: Stinson Street to Old Coors Dr	Reconstruct and/or widen roadway sections including intersection improvements/realignments, sidewalks, ADA accomodation, drainage, lighting, a& other appurtenances as necessary. (The $80,376 HUD match includes $15,000 in-kind).	Hwy & Brg Pres	County of Bernalillo	24,739,541	Funded	
932.1	Camelot Blvd Improvements	Southernmost point of Camelot Blvd	Intersection of NM6 and Camelot Blvd	Resurfacing Camelot Blvd to accommodate increase in traffic volume in anticipation of future connection to Sichler Rd/Morris Rd. Bike lanes and turn bays will be included.	Hwy & Brg Pres	Village of Los Lunas	2,944,000	Funded	
933.0	Camelot Blvd Reconstruction & Morris Extension	Morris Rd	NM 6	Roadway improvements, including upgraded bike and ped facilities, access management, capacity improvements, safety improvements.	Hwy & Brg Pres	Village of Los Lunas	5,000,000	Late Term	
679.0	Carlisle and Constitution Intersection	Carlisle	Constitution	Plan, design and construct level of service improvements to the intersection of Carlisle and Constitution.	Hwy & Brg Pres	City of Albuquerque-DMD	605,000	Funded	
936.0	Carson Dr-Aspen Dr-NMRX Station Rd Bike & Pedestrian Improv.	Carson fr Aspen to Pine St; Aspen fr Carson to Los Lentes	Connection to NMRX Station Rd	Roadway rehab including new ped/bike facility extensions to the Los Lunas Railrunner Station. Other appertenances as necessary.	Hwy & Brg Pres	Village of Los Lunas	1,550,000	Funded	
67.1	Central Ave & Eubank Blvd Intersection Improvements	Central Ave at Eubank Blvd		Construct Intersection improvements and improve pedestrian accessibility.	Hwy & Brg Pres	City of Albuquerque-DMD	2,500,000	Funded	
176.0	Chappell Road Improvements	Renaissance	Osuna	Reconstruct and rehabilitate existing roadway to include a three lane roadway section with on-street bike lanes and sidewalk.	Hwy & Brg Pres	City of Albuquerque-DMD	2,000,000	Near Term	
517.0	Cochiti Pueblo: BIA SP-85	.5 miles south of Cochiti Pueblo on BIA SP-85	.25 miles south of Cochiti Pueblo on BIA SP-85	Road/bridge restor/replac; includes TS&L rept, PE, conceptual bridge layouts, surveys, geotech investig., drainage anal., archaeol. assess., ROW, erosion control, clearing, grubbing, removal of struct/obstruct, excav., gabions, revet mattress, surfacing.	Hwy & Brg Pres	Pueblo of Cochiti	3,092,606	Funded	
204.0	Concrete Replacement: Downtown Transit Routes	2nd Between Gold and Lomas	Lomas Between 5th and 2nd	System preservation effort to replace existing asphalt with concrete to better support transit operations.	Hwy & Brg Pres	City of Albuquerque-DMD	4,681,648	Near Term	
33.0	Coors Blvd Rehabilitation Near I-40	Hanover Rd (MP 14.00)	Quail Rd (MP 16.00)	Pavement rehabilitation and/or reconstruction and other appurtenances as needed. Demo ID NM041.	Hwy & Brg Pres	NMDOT D-3	2,700,000	Funded	

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90.0	Coors Blvd: NM 45 Pavement Preservation	MP 10.6 (Tower Rd.) to	MP 12.7 (Central Ave.)	Pavement preservation; full depth reclamation includes pavement markings and other appurtenances as necessary. State funding is Section 5 Special Appropriation.	Hwy & Brg Pres	NMDOT D-3	2,000,000	Funded	
108.5	Coors Blvd: NM 45 Pavement Preservation	Eduardo Rd	Tower Rd	Intersection full depth reconstruction and pavement preservation to include pavement markings and other apputenances as necessary.	Hwy & Brg Pres	NMDOT D-3	1,400,000	Funded	
92.0	Coors Blvd: NM 45 Pavement Preservation Project from Central to Hanover	Central (MP 12.5)	Hanover (MP 14.25)	Mill and Inlay, curb ramppeplacements, and other appurtenances as needed.	Hwy & Brg Pres	NMDOT D-3	1,708,426	Funded	
616.2	Coors Corridor Improvements Stage I	Bridge Blvd	NM 528 (Alameda Blvd)	Implement improvements consistent with the Coors Corridor Plan Update (CN=L3210). Includes Coors Bypass.	Hwy & Brg Pres	City of Albuquerque-DMD	3,000,000	Near Term	
616.3	Coors Corridor Improvements Stage II	Bridge Blvd	NM 528 (Alameda Blvd)	Implement improvements consistent with the Coors Corridor Plan Update (CN=L3210). Includes Coors Bypass.	Hwy & Brg Pres	City of Albuquerque-DMD	12,000,000	Near Term	
657.0	Corrales Access "A" Intersection	NM 528	Northern Blvd	Construct full intersection from NM 528 & Northern Blvd to Don Julio Road. COMPLETED.	Hwy & Brg Pres	Village of Corrales	1,000,000	Funded	
653.2	Courthouse Road Improvements Stage II	NM 314	Calle Madero	Construct street improvements including: pavement, on-street parking, landscaping, sidewalks, curbs, bike lanes, crosswalks, drainage, signage, signal improvements and intersection improvements at side streets as needed.	Hwy & Brg Pres	Village of Los Lunas	772,472	Funded	
110.0	District 3 Bridge Deck Overlays	Various bridges on I-25 & I-40		Epoxy polymer bridge deck overlay on bridge #6228, 6229, 6203, 6204, 8700, 8509, 8510, 9341, 9342, 6104, 6105 & 8793.	Hwy & Brg Pres	NMDOT D-3	1,075,103	Funded	
75.4	District 3 Bridge Deck Repairs (6102, 6103, 8650, 9395,9100, 9101, 9102, 9926, 9927)	various locations		Bridge deck repairs and/or overlay and/or joint repairs and other appurtenances as necessary.	Hwy & Brg Pres	NMDOT D-3	1,473,379	Funded	
75.7	District 3 Bridge Deck Repairs (8929, 8930, 8666)	various locations		Bridge deck repairs and/or overlay and/or joint repairs. Other appurtenances as necessary.	Hwy & Brg Pres	NMDOT D-3	1,300,000	Funded	
75.3	District 3 Bridge Deck Repairs (9341, 9342, 9938, 9939, 9940, 9952, 9953)	Varies	Varies	Bridge Deck Overlay.	Hwy & Brg Pres	NMDOT D-3	1,600,000	Funded	
75.5	District 3 Bridge Deck Repairs (9921, 9922, 9923, 9924, 9962, 9931, 9959, 9957)	various locations		Bridge deck repairs and/or overlay and/or joint repairs. Other appurtenances as necessary.	Hwy & Brg Pres	NMDOT D-3	1,603,836	Funded	
75.6	District 3 Bridge Deck Repairs (9949, 9950, 9951, 9932, 9933, 5989, 5990, 6149)	various locations		Bridge deck repairs and/or overlay and/or joint repairs. Other appurtenances as necessary.	Hwy & Brg Pres	NMDOT D-3	1,026,723	Funded	
1075.1	District 3 Bridge Rehab/Repl Program (Late Time Frame)	District 3 Wide		Rehabilitate and/or replace federal-aid bridges.	Hwy & Brg Pres	NMDOT D-3	5,600,000	Late Term	
1075.0	District 3 Bridge Rehab/Repl Program (Near Time Frame)	District 3 Wide		Rehabilitate and/or replace federal-aid bridges.	Hwy & Brg Pres	NMDOT D-3	1,428,000	Near Term	
196.0	District 3 Bridge Rehab/Replacement Program	Old Highway 60- Bridge over Rio Puerco		Rplace Bridge #531.	Hwy & Brg Pres	NMDOT D-3	3,628,538	Funded	
111.0	District 3 Bridge Repairs - I-25 over MLK Blvd	MP 224.5	MP 225	Bridge deck repairs & epoxy overlay and/or other repairs as needed. Bridge #6147 & #6148	Hwy & Brg Pres	NMDOT D-3	330,497	Funded	
112.0	District 3 Bridge Repairs - US 550 over the Rio Grande	MP 1.0	MP 2.0	Bridge deck repairs & epoxy overlay and/or bridge joint repairs and/or other repairs as needed. Bridges #8537 & #8540.	Hwy & Brg Pres	NMDOT D-3	549,612	Funded	

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138.3	District 3 Off System Bridge Program	TBD	TBD	Plan, design and construciton of bridge repairs and/or rehabilitation of off-system Bridges.	Hwy & Brg Pres	NMDOT D-3	434,993	Funded	
108.6	District 3 Pavement Preservation	District 3 Wide		Pavement Preservation on various roadways to be selected.	Hwy & Brg Pres	NMDOT D-3	2,168,539	Funded	
108.7	District 3 Pavement Preservation	District 3 Wide		Pavement Preservation on various roadways to be selected.	Hwy & Brg Pres	NMDOT D-3	2,751,245	Funded	
108.8	District 3 Pavement Preservation	District 3 Wide		Pavement Preservation on various roadways to be selected.	Hwy & Brg Pres	NMDOT D-3	1,400,000	Funded	
108.9	District 3 Pavement Preservation	District 3 Wide		Pavement Preservation on various roadways to be selected.	Hwy & Brg Pres	NMDOT D-3	6,079,515	Funded	
1108.1	District 3 Pavement Preservation (Late Time Frame)	District 3 Wide		Pavement preservation on various highways.	Hwy & Brg Pres	NMDOT D-3	541,340,000	Late Term	
75.0	District 3 Wide Bridge Rehab/Repl Program (Placeholder)	District 3 Wide		Rehabilitate and/or replace several Federal-Aid bridges to be selected. New CN will be issed as specific projects are identified.	Hwy & Brg Pres	NMDOT D-3	7,349,060	Funded	
205.0	Don Pasqual Roadway Improvements	Intersection of NM 6	Intersection of Tondre Rd.	New asphalt, base, curb, gutter, sidewalks drainage improvements to the existing two lane facility.	Hwy & Brg Pres	Village of Los Lunas	1,300,000	Near Term	
406.0	Double Eagle II Rd (PdV) Rehabilitation	I-40	DE II Airport	Reconstruct the 2 lane highway; project includes bike lanes. (AKA Paseo del Volcan East/Atrisco Vista Blvd). There were FY 2008 HPP funds obligated = $799,451 of which $39,972.54 has been expended. Demo IDs NM029, NM036, NM058 & NM059. COMPLETED.	Hwy & Brg Pres	City of Albuquerque-Aviation	9,500,000	Funded	
180.0	El Cerro Mission Blvd Improvements	NM 263/El Cerro Loop	San Martin Ave	Design and reconstruct roadway. Project includes drainage study.	Hwy & Brg Pres	County of Valencia	2,831,000	Near Term	
180.1	El Cerro Mission Blvd Improvements Phase 1	NM 263/El Cerro Loop	Manzano Expressway	Rehabilitate roadway. Project includes marking, signage and other appurtenances.	Hwy & Brg Pres	County of Valencia	781,000	Near Term	
180.2	El Cerro Mission Blvd Improvements Phase 2	Manzano Expressway	Van Camp Blvd	Rehabilitate roadway. Project includes marking, signage and other appurtenances.	Hwy & Brg Pres	County of Valencia	750,000	Near Term	
180.3	El Cerro Mission Blvd Improvements Phase 3	Van Camp Blvd.	San Martin Ave.	Rehabilitate roadway. Project includes marking, signage and other appurtenances.	Hwy & Brg Pres	County of Valencia	800,000	Near Term	
385.0	Encino Road Improvements (Sandoval Landfill Connection)	Northern Blvd	proposed landfill site	Roadway improvements to accommodate heavy vehicles.	Hwy & Brg Pres	County of Sandoval	500,000	Late Term	
633.0	Fortuna Rd	west of 76th St	Coors Blvd	Resurface roadway, install/rehab. storm drainage, curbs, gutters, sidewalks, bike lanes, etc.	Hwy & Brg Pres	City of Albuquerque-DMD	3,600,000	Funded	
838.0	Gun Club Roadway Imrovements and Bike Lanes/Trail	118th St	NM 314, Isleta Blvd	Rehabilitate and/or reconstruct Gun Club Rd. Project includes Bike Lanes/Trail and other appurtenances.	Hwy & Brg Pres	County of Bernalillo	9,058,500	Late Term	
442.4	I-25 & Paseo del Norte Interchange Reconstruction	I-25: Jefferson St to Alameda Blvd	PdN: 2nd St to San Pedro St	Reconstr interchange with ramps/frontage road imprv., constr free-flow ramp EB PdN to SB I-25, flyover NB I-25 to WB PdN, grade sep. at Jefferson, bike/ped imprv., I-25 mainline imprv. btwn Jeff & Alameda & other roadway rehab/reconst & imprv freeway acc.	Hwy & Brg Pres	NMDOT CRDC	95,000,000	Funded	

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447.1	I-25 & US 550 Interchange Reconstruction	I-25 Exit 242 at US 550		Reconstruct and reconfigure Interchange (includes approaches from both routes & utility relocations as needed). Some funds obligated in FY 2009, 2010 & 2011. Also see old CN D3019. NOTE: Local funds are RMRTD GRT, STP-U match is from Town of Bernalillo.	Hwy & Brg Pres	NMDOT CRDC	23,440,509	Funded	
250.4	I-25 / Cesar Chavez Interchange Reconstruction	Bridge #6228 & 6229		Reconstrcut interchange with bridge rehab or replacement.	Hwy & Brg Pres	NMDOT CRDC	15,000,000	Late Term	
250.3	I-25 / Montgomery Blvd. Interchange Reconstruction	(Bridge #6261)		Reconstrcut interchange with bridge rehab or replacement.	Hwy & Brg Pres	NMDOT CRDC	28,000,000	Late Term	
364.3	I-25 Belen Reconstruction and Pavement Preservation	MP 189.7	MP 193.1	Full depth reconstruction and pavement preservation (mill and inlay) including pavement markings, guardrail replacement, signage, and other appurtenances as necessary.	Hwy & Brg Pres	NMDOT D-3	4,300,000	Funded	
364.2	I-25 Bernalillo - Algodones Pavement Preservation	MP 242	MP 248.90	Pavement preservation. (Project is mostly within the AMPA.). Total cost of $4,692,158 includes FY 2011 funds.	Hwy & Brg Pres	NMDOT D-3	4,692,158	Funded	
670.0	I-25 Bridge Replacement over the Tijeras Arroyo (Bridge # 7377 and Bridge # 7378)			Bridge Replacement.	Hwy & Brg Pres	NMDOT CRDC	6,591,836	Funded	
627.0	I-25 Interchange Reconstruction (Los Lunas)	Exit 203, Los Lunas Interchange		Reconstruct existing interchange.	Hwy & Brg Pres	NMDOT D-3	28,500,000	Late Term	
651.3	I-25 NB Lane Addition	Comanche Rd (MP 227.57)	Jefferson St (MP 229.51)	Additional northbound lane from Comanche to Jefferson including pavement markings and other appurtenances as necessary. COMPLETED	Hwy & Brg Pres	NMDOT D-3	3,052,614	Funded	
250.2	I-25 Off Ramp Improvements at Cesar Chavez	I-25 at SB Off-Ramp	C Chavez: 1000' W of SB Ramp to NB On/Off Ramp	Build additional left-turn lane on SB I-25 Off-Ramp, a new WB left to SB I-25 turn lane on Cesar Chavez, and ADA compliance and signal work, signage and other appurtenances as necessary. Local funds from City of Albuquerque.	Hwy & Brg Pres	NMDOT D-3	470,309	Funded	
485.0	I-25 Reconstruction/Pavement Rehabilitation Phase II	Broadway Blvd	Rio Bravo Blvd	Pavement rehabilitation and/or reconstruction as needed and other appurtenances as necessary.	Hwy & Brg Pres	NMDOT D-3	17,980,000	Funded	
448.6	I-25 Rio Bravo Interchange Reconstruction	NM 500, Rio Bravo Blvd Exit #220	University to approx 500' west of Broadway	Reconstruct interchange with possible changes in configuration.	Hwy & Brg Pres	NMDOT CRDC	36,623,875	Funded	
98.0	I-40 & Louisiana Blvd On/Off Ramps	I-40 (MP 162.5)	I-40 (MP 163.5)	Rehabilitation and/or reconstruction of the on and off ramps.	Hwy & Brg Pres	NMDOT D-3	4,621,784	Funded	
359.0	I-40 Concrete Pavement Preservation	Coors Blvd (MP 155.0)	Carnuel (MP 169.21)	Concrete pavement preservation.	Hwy & Brg Pres	NMDOT D-3	1,300,000	Near Term	
358.0	I-40 County Line to Rio Puerco	MP 132	MP 139	Reconstruction and/or resurfacing.	Hwy & Brg Pres	NMDOT D-3	14,000,000	Near Term	
358.1	I-40 County Line to Rio Puerco Interim Pavement Rehab	MP 132	MP 139	Interim pavement rehabiliatation	Hwy & Brg Pres	NMDOT D-3	4,858,806	Near Term	
420.5	I-40 Interchange at Rio Puerco WB Operations Study	Exit 140		Reconstruct the on/off ramp.	Hwy & Brg Pres	NMDOT D-3	50,000	Near Term	
32.0	I-40 Reconstruction Near Coors	approx. MP 154.5	Rio Grande at MP 156.0	Pavement rehabilitation and/or reconstruction of roadway and other appurtenances as necessary. Demo ID NM041.	Hwy & Brg Pres	NMDOT D-3	13,000,000	Funded	

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420.1	I-40 Rio Puerco Area Interchange Reconstruction	Exit #140 Rio Puerco Interchange		Reconstruct interchange & associated bridge rehab/replacement as needed. (Formerly CN G1513.) Breakdown of the FY 2012 Bridge fundds: BRM=$2,397,591, BR-On=$756,377, BR-Off=$579,422, BR-ON/Off+$772,563. Total Cost incl FY 2010 funds. COMPLETED	Hwy & Brg Pres	NMDOT CRDC	6,993,383	Funded	
197.0	I-40 Westbound Lanes Reconstruction	Wyoming Blvd	Louisiana Blvd.	Full depth reconstruction of westbound driving lanes and shoulders.	Hwy & Brg Pres	NMDOT D-3	4,000,000	Funded	
613.1	Idalia Rd Reconstruction	Loma Colorado Blvd	Iris Rd	Reconstruct Highway and Build Bike Lanes	Hwy & Brg Pres	City of Rio Rancho	10,197,000	Near Term	
91.1	Interstate 25 / Gibson Blvd. Interchange Reconstruction Project			Reconstruction and possible reconfiguration of interchange.	Hwy & Brg Pres	NMDOT CRDC	24,718,134	Funded	
511.3	Isleta Blvd (NM 314) Reconstruction (Stage I)	Muniz Rd	Gun Club Rd	Reconstruct roadway with shoulders. Other appurtenances as necessary. Demo ID NM024.	Hwy & Brg Pres	County of Bernalillo	233,964	Funded	
676.0	Ladera Drive Improvements	Gavin	Coors	Plan, design and construct roadway, median, and bicycle lane improvements.	Hwy & Brg Pres	City of Albuquerque-DMD	8,000,000	Funded	
1006.0	Major Bridge Rehabilitation: Bridge Blvd over Rio Grande	Bridge Blvd over Rio Grande		Major rehabilitation of the bridge. Possible widening.	Hwy & Brg Pres	NMDOT D-3	10,000,000	Late Term	
1005.0	Major Bridge Rehabilitation: Central Avenue over Rio Grande	Central Ave over Rio Grande		Major rehabilitation of the bridge. Possible widening.	Hwy & Brg Pres	City of Albuquerque-DMD	10,000,000	Late Term	
1001.0	Major Bridge Rehabilitation: I-25 over Rio Grande	I-25 over Rio Grande		Major rehabilitation of the bridge. Possible widening.	Hwy & Brg Pres	NMDOT D-3	40,000,000	Late Term	
1002.0	Major Bridge Rehabilitation: I-40 over Rio Grande	I-40 over Rio Grande		Major rehabilitation of the bridge. Possible widening.	Hwy & Brg Pres	NMDOT D-3	40,000,000	Late Term	
1007.0	Major Bridge Rehabilitation: Montano over Rio Grande	Montano Blvd over Rio Grande		Major rehabilitation of the bridge.	Hwy & Brg Pres	City of Albuquerque-DMD	10,000,000	Late Term	
1009.1	Major Bridge Rehabilitation: NM 147 over Rio Grande			Major rehabilitation of the bridge.	Hwy & Brg Pres	NMDOT D-3	5,000,000	Late Term	
1009.0	Major Bridge Rehabilitation: NM 309 over Rio Grande			Major rehabilitation of the bridge.	Hwy & Brg Pres	NMDOT D-3	5,000,000	Late Term	
1009.2	Major Bridge Rehabilitation: NM 346 over Rio Grande			Major rehabilitation of the bridge.	Hwy & Brg Pres	NMDOT D-3	5,000,000	Late Term	
1004.0	Major Bridge Rehabilitation: NM 528, Alameda Blvd over Rio Grande	NM 528, Alameda Blvd over Rio Grande		Major rehabilitation of the bridge. Possible widening.	Hwy & Brg Pres	NMDOT D-3	15,000,000	Late Term	
1008.0	Major Bridge Rehabilitation: NM 6 over Rio Grande	NM 6 over Rio Grande		Major rehabilitation of the bridge.	Hwy & Brg Pres	NMDOT D-3	5,000,000	Late Term	
1003.0	Major Bridge Rehabilitation: US 550 over Rio Grande	US 550 over Rio Grande		Major rehabilitation of the bridge. Possible widening.	Hwy & Brg Pres	NMDOT D-3	30,000,000	Late Term	
195.2	Manzano Expressway & Hillandale Ave Intersection Improvements	Manzano Expressway and Hillandale Ave		Construct new turning lane on Manzano Expressway onto Hillandale Ave. Project includes signal and signage components and other appurtenances.	Hwy & Brg Pres	City of Rio Communities	500,000	Late Term	
940.0	Manzano Expressway Rehabilitation	NM 47 (Rio Communities Blvd)	South Rio del Oro	Pavement preservsation and rehab including pavement markings, signage and other appurtenances as necessary.	Hwy & Brg Pres	County of Valencia	2,000,000	Funded	
940.1	Manzano Expressway Rehabilitation	South Rio del Oro	Meadowlake Rd	Pavement preservation and rehab including pavement markings, signage, and other appurtenances as necessary.	Hwy & Brg Pres	County of Valencia	4,000,000	Near Term	

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308.0	Manzano Exwy	700' north of South Rio del Oro Loop	Van Camp Blvd	Pulverize exsisting pavement, rehab foundation and repave segment; reconstruct Manzano Expway/North Rio Del Oro intersection with deceleration/turn-lanes; and install striping and signage. (Old CN=3100240)	Hwy & Brg Pres	County of Valencia	1,035,211	Funded	
941.0	Meadowlake Road Improvements	NM 263 (El Cerro Loop)	Manzano Exwy	Pavement preservsation and rehab including pavement markings, signage, upgrade school warning flasher, widen shoulders, drainage improvements and other appurtenances as necessary.	Hwy & Brg Pres	County of Valencia	250,000	Funded	
148.1	Mesa Roadway Improvements	Aragon Rd	BL-13 Business Loop	Reconstruct roadway, improve alignment of Mesa Rd. Project includes bike and pedestrian facility improvements, drainage, signing, striping, lighting and other appurtenances as needed.	Hwy & Brg Pres	City of Belen	2,750,000	Near Term	
937.0	Molina Road - Roadway and Pedestrian Improvements	NM 47	Frederick Ln	Roadway rehabilitation, new pedestrian facilities, drainage improvements, access management, median and landscaping improvements. Other appertenances as necessary.	Hwy & Brg Pres	Town of Peralta	450,000	Funded	
939.0	NM 263 & El Cerro Mission Blvd Intersection Improvements	El Cerro Loop (NM 263)	Intersection of El Cerro Mission Blvd	Reconfigure intersection of El Cerro Mission Blvd as it joins NM 263	Hwy & Brg Pres	County of Valencia	100,000	Funded	
195.4	NM 304 & Golf Course Rd Intersection Improvements	NM 304 and Golf Course Rd.		Construct new turning lane on NM 304 southbound onto Golf Course Road.	Hwy & Brg Pres	City of Rio Communities	500,000	Late Term	
195.5	NM 304 & Vista del Rio Rd Intersection Improvements	NM 304 and Vista del Rio Blvd.		Construct new turning lane on NM 304 westbound onto Vista del Rio Blvd..	Hwy & Brg Pres	City of Rio Communities	500,000	Late Term	
304.0	NM 304 South of Belen, Bridge #05235	MP 13.9	MP 14.4	Bridge replacement.	Hwy & Brg Pres	NMDOT CRDC	3,400,000	Funded	
149.0	NM 309 and Belen Business Loop Intersection Improvements	Main St. and Reinken Ave.		Reconstruct NM 309 and BL00013 Intersection. Project includes other appurtenances as necessary.	Hwy & Brg Pres	NMDOT CRDC	4,000,000	Funded	
314.0	NM 314 & Courthouse Rd Intersection Improvements			Addition of northbound and southbound left-turn lanes and other intersection improvements as needed.	Hwy & Brg Pres	NMDOT D-3	750,000	Funded	
628.0	NM 314 Reconstruction in Los Lunas	NM 6, Main St	Northern Village/Pueblo Boundary	Reconstruct Roadway	Hwy & Brg Pres	Village of Los Lunas	12,837,000	Near Term	
333.1	NM 333 Pavement Preservation Segment	Tramway Blvd (MP 0.00)	NM 333 (MP 4.4)	Pavement preservation including pavement markings, signage, and other appurtenances as necessary.	Hwy & Brg Pres	NMDOT D-3	4,200,000	Funded	
333.2	NM 333 Pavement Preservation Segment 2	Carnuel Area (MP 4.3)	Tijeras Area (MP 7.35)	Pavement preservation including pavement markings, signage, and other appurtenances as necessary. COMPLETED	Hwy & Brg Pres	NMDOT D-3	1,800,000	Funded	
333.3	NM 333 Pavement Preservation Segment 3	Tijeras Area (MP 7.38)	Sedillo Area (MP 12.00)	Pavement preservation including pavement markings, signage, and other appurtenances as necessary. COMPLETED	Hwy & Brg Pres	NMDOT D-3	2,650,000	Funded	
207.0	NM 337 Bridge Replacement	NM 337 Bridge South on NM 333 Intersection (Bridge #6788)		Replace Bridge #6788	Hwy & Brg Pres	NMDOT CRDC	3,500,000	Near Term	
671.0	NM 337 Bridge Replacement in Chilili			Replacement of bridge on NM 337 (Bridge Number 5548)	Hwy & Brg Pres	NMDOT CRDC	3,500,000	Funded	

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350.0	NM 448 Corrales Drainage Structure Upgrade	at MP 11.5 (Montoyas Arroyo/Harvey Jones Ch)		Improvements to drainage facilities that protect the NM 448 bridge crossing at the Harvet Jones Channel in order to accomodate the modeled 100-year storm event flow rates.	Hwy & Brg Pres	SSCAFCA	1,314,797	Funded	
344.0	NM 448 Corrales Road & Meadowlark Lane Intersection Improvements	NM 448 at Meadowlark Lane		Redesign intersection and construct improvements to improve safety. Includes: storm water control, bicycle & pedestrian facilities and delineation of commercial driveways and other improvements.	Hwy & Brg Pres	Village of Corrales	1,711,000	Near Term	
348.0	NM 448, Corrales Road Reconstruction	NM 528, Alameda Blvd	NM 528 Rio Rancho Blvd	Reconstruct roadway. This is proposed by the village to be in cooperation with NMDOT.	Hwy & Brg Pres	Village of Corrales	25,000,000	Late Term	
195.0	NM 47 & Manzano Expressway Intersection Improvements	NM 47 and Manzano Expressway		Construct new left turn lane from Manzano Expressway to NM 47 Southbound.	Hwy & Brg Pres	City of Rio Communities	500,000	Late Term	
195.3	NM 47 & Nancy Lopez Rd Intersection Improvements	NM 47 and Nancy Lopez Blvd.		Construct new turning lane on NM 47 southbound onto Nancy Lopez Blvd.	Hwy & Brg Pres	City of Rio Communities	500,000	Late Term	
195.1	NM 47 & NM 304 Intersection Improvements	NM 304 and NM 47		Reconstruct left and right turning lanes from Hwy 304 eastbound onto NM 47 (Both north bound and southbound)	Hwy & Brg Pres	City of Rio Communities	500,000	Late Term	
945.0	NM 47 Bridge Replacement over I-25 SB Off Ramp			NM 47 Bridge Replacement over the I-25 SB Off Ramp.	Hwy & Brg Pres	NMDOT CRDC	3,500,000	Funded	
637.0	NM 47 Resurfacing	Isleta-Bosque Farms Boundary	I-25 Interchange	Resurface roadway	Hwy & Brg Pres	Pueblo of Isleta	800,000	Near Term	
42.1	NM 500 Rio Bravo Blvd & 2nd St Intersection Improvements	NM 500 at 2nd St (MP 3.16)		Plan, environmental, design, right-of-way, and construct intersection improvements with pedestrian and bicycle facilities. NOTE: local match will be used as a soft match towards preliminary engineering and design.	Hwy & Brg Pres	County of Bernalillo	2,340,824	Near Term	
42.0	NM 500 Rio Bravo Blvd Roadway & Intersection Reconstruction	NM 500 at Isleta Blvd (MP 1.91)		Reconstruction of roadway section and intersection. Cost incl FY 2011 funds. (Broadway to be done under A300280 and 2nd St t.b.d. later under separate CN.)	Hwy & Brg Pres	NMDOT D-3	4,936,241	Funded	
8.0	NM 500 Rio Bravo EB Bridge Replacement (Bridge #6204)	NM 500 MM 2.39	NM 500 MM 2.43	Replace bridge.	Hwy & Brg Pres	NMDOT D-3	6,100,000	Funded	
493.6	NM 528 Rio Rancho Blvd Roadway and Intersection Improvements	approx. 1/2 mile South of Enchanted Hills Blvd	US 550	Intersection improvements at NM 528 & Enchanted Hills and roadway reconstruction and widening on NM 528 between Enchanted Hills and US 550. Demo ID NM062.	Hwy & Brg Pres	NMDOT D-3	3,801,345	Funded	
493.5	NM 528, Rio Rancho Blvd Iris to US 550	Iris Road	US 550 (including the intersection)	Pavement preservation. (Demo ID NM032).	Hwy & Brg Pres	NMDOT D-3	800,000	Funded	
339.0	NM 556 Roy Ave Bridge Replacements on Sandia Pueblo	Bridge #5703 NM 556 over Edith Blvd	Bridge #5704 NM 556 over NMRRX	Replacement of existing bridges; includes signage, striping, guardrail and other appurtenances. IN DEVELOPMENT	Hwy & Brg Pres	NMDOT D-3	5,077,386	Funded	
378.0	NM 556 Tramway Blvd Pavement Preservation	Central Ave	Montgomery Blvd	Pavement preservation including pavement markings, signage, and other appurtenances as necessary.	Hwy & Brg Pres	NMDOT CRDC	5,880,000	Near Term	
206.0	NM 6 and Luna Ave. Intersection Improvements	100' south and 300' east of NM 6 (Main st) intersection	100' north and 300' west of NM 6 (Main st) intersection	Reconstruct the entire intersection including new turn bays, ADA facilities, sidewalks, curb & gutter and updated signals and timing phases for the approaches.	Hwy & Brg Pres	Village of Los Lunas	1,000,000	Near Term	
6.2	NM 6 Bridge Replacement	MP 27.3 - MP 32.6 (AMPA Portion)	MP 19.4 - MP 27.3 (non-AMPA portion)	Replacment of bridges # 210, 212, 213, 214, 6290 & 6291. Funding is listed in STIP under 3100250. Project approved by MTB for AMPA portion. COMPLETED	Hwy & Brg Pres	NMDOT D-3	3,798,689	Funded	

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6.8	NM 6 Bridge Replacement (Rio Grande Bridge #7453)			Bridge Replacement and other appertenances as necessary.	Hwy & Brg Pres	NMDOT D-3	6,000,000	Funded	
6.5	NM 6 Bridge Replacement Timber Bridge #210	approx. MP 29.659	approx MP 30.659	Replace bridge with culvert pipe, modify superelevation, correct horizontal curve, widen approach shoulders, and other appurtenances as necessary.	Hwy & Brg Pres	NMDOT D-3	1,781,797	Funded	
6.0	NM 6 West Side of Los Lunas - Pavement Preservation	MP 18.2	MP 26	Pavement preservation including pavement markings, signage, and other appurtenances as necessary. UNDER DEVELOPMENT.	Hwy & Brg Pres	NMDOT CRDC	8,225,100	Funded	
138.1	Pan American East R&R and ADA Improvements	San Mateo	Harper Dr.	Construct ADA and pedestrian improvements to sidewalks along Pan American East with roadway rehabiltation and repair (R&R). Project is being scoped in coordination with District 3.	Hwy & Brg Pres	City of Albuquerque-DMD	260,000	Funded	
669.0	Paseo del Norte and Eagle Ranch Rd. Intersection Improvements			Reconstruct Intersection. Project includes safety enhancements and other appurtenances as necessary.	Hwy & Brg Pres	NMDOT D-3	3,000,000	Funded	
28.0	Paseo del Norte PCCP Intersection Reconstruction	I-25	Tramway Blvd	Reconstruct the PCCP intersections on NM 423 (PdN) between I-25 and Tramway Blvd.	Hwy & Brg Pres	NMDOT D-3	9,500,000	Funded	
63.2	Rio Grande Boulevard Improvements	Candelaria	Griegos	Plan, design and construct roadway improvements and rehabilitation, including signage and bicycle and pedestrian lanes improvements.	Hwy & Brg Pres	City of Albuquerque-DMD	400,000	Funded	
664.0	Roadway Improvements on Road #N-57 & N-58	beg. from west N-56	easterly to N-57	Road improvements: includes roadbed, drainage, blacktop with bridge/culvert work as needed & signage, etc.	Hwy & Brg Pres	To'hajiilee-Navajo Gov't.	3,500,000	Near Term	
99.0	Rural Roadway Preservation & Rehab (Placeholder)	various locations t.b.d.		Preserve and rehab various rural roadways including pavement striping, signage and other appurtenances as necessary. New projects and locations to be determined and added by the formal amendment process. (FFYs 2016 - 2021)	Hwy & Brg Pres	NMDOT D-3	8,253,736	Funded	
675.0	San Pedro Drive Improvements	I-40	Lomas	Plan, design and construct improvements along San Pedro.	Hwy & Brg Pres	City of Albuquerque-DMD	100,000	Funded	
618.0	South Hill Rd Phase I	NM 473	US 550	Rehab and/or reconst with drainage improv. & other appurtenances as necessary. Project will be phased; Bobby Place to Richardson Dr. will be 1st phase. Local Match will be used as "soft match" for design. Coop. project w/ ESCAFCA. Former CN=L3123.	Hwy & Brg Pres	Town of Bernalillo	1,638,577	Funded	
9.1	Southern Blvd Reconstruction Phase I	Golf Course Rd	NM 528	Reconstruct Southern Blvd. to include to include signalized intersection, street light installation, curb and gutter, sidwalk and roadway pavement replacement, turning lane construction, storm drain construction, striping and signage.	Hwy & Brg Pres	City of Rio Rancho	8,204,120	Funded	
9.2	Southern Blvd Reconstruction Phase II	Unser Blvd	Golf Course Rd	Reconstruct Existing 4 Lane Road. Intersection and Corridor Improvements.	Hwy & Brg Pres	City of Rio Rancho	25,500,000	Near Term	
9.3	Southern Blvd Reconstruction Phase III	Rainbow Blvd.	Unser Blvd	Reconstruct Existing 4 Lane Road Section. Expand Existing 2 Lane Road Section. Intersection and Corridor Improvements.	Hwy & Brg Pres	City of Rio Rancho	37,000,000	Near Term	

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723.0	SP 88 Rio Grande Bridge Reconstruction	SP 88 Westernmost p.t of bridge	SP 88 easternmost pt.of bridge	Construct new bridge over Rio Grande. Construction and Construction Management. Connecting Santo Domingo Pueblo to Sile.	Hwy & Brg Pres	Pueblo of Santo Domingo	4,381,804	Near Term	
437.1	Sunport Blvd Pavement Rehabilitation	I-25	Girard Blvd	Mill & repave (or other pavement rehab.)	Hwy & Brg Pres	City of Albuquerque-Aviation	2,000,000	Funded	
1080.1	Tribal Roads Rehab (Late Time Frame)	various locations		Repair and rehabilitate eligible roads on Indian Reservations using TTP funds.	Hwy & Brg Pres	Various/Joint Effort	62,226,000	Funded [partial]	
1080.0	Tribal Roads Rehab (Near Time Frame)	various locations		Repair and rehabilitate eligible roads on Indian Reservations using TTP funds.	Hwy & Brg Pres	Various/Joint Effort	46,446,000	Funded [partial]	
390.0	University Blvd & Lomas Blvd Intersection Improvements	University Blvd	Lomas Blvd	Add additional turning movement capacity at key approaches and other improvements as necessary.	Hwy & Brg Pres	City of Albuquerque-DMD	2,000,000	Near Term	
390.1	University Blvd Improvements	Los Picaros Rd	Lomas Blvd	Various improvements to University Blvd. (Env, PE & Desing ONLY) Demo ID NM060.	Hwy & Brg Pres	City of Albuquerque-DMD	634,844	Funded	
211.0	Unser Blvd Dam & Realignment	Unser Blvd and Wimmera Rd.	Unser Blvd and Osage Rd.	Realign a portion of Unser Blvd in according to NMDOT specs for road curvature to remove Unser Blvd from the floodplain & provide downstream protection of the roadway against flooding. Includes a culvert crossing for the passage of storm flows.	Hwy & Brg Pres	SSCAFCA	1,858,286	Funded	
466.0	Unser Blvd Reconstruction (Improvement of Geometrics)	Dellyne Ave	Montano Rd	Reconstruct Roadway; includes bike lanes & trail.	Hwy & Brg Pres	City of Albuquerque-DMD	4,991,250	Funded	
605.0	Uptown Improvements in Albuquerque	Louisiana Blvd	Louisiana Blvd (Uptown Blvd is loop road)	Various improvements to the collector road system in Uptown. (Env, PE & Design Only). Demo ID NM017.	Hwy & Brg Pres	City of Albuquerque-DMD	379,468	Near Term	
212.0	West Aragon Rd. Improvements	Intersection of North Mesa Rd.	Intersection of Main St.	rehab roadway base, asphalt, curb and gutter. drainage improvements as well as sidewalk, drive pads, and pedestrian facilities will all be included in the project.	Hwy & Brg Pres	City of Belen	2,362,000	Near Term	
212.1	West Aragon Roardway and Intersection Improvements	Erica Lane	Mesa Rd	Reconstruct roadway, intersection immprovements, pedestrian improvements, signing, striping, lighting. Pave segment that is currently unpaved.	Hwy & Brg Pres	City of Belen	1,750,000	Late Term	**Total Highway and Bridge Preservation Projects**
865.1	Woodward Road Improvements Project	Intersection of 2nd St & Woodward Road	Intersection of Broadway Blvd & Woodward Rd	Completely reconstruct Woodward Road to address vehicle, drainage, bicycle, and pedestrian needs.	Hwy & Brg Pres	County of Bernalillo	4,782,641	Funded	**1,628,885,094**
386.2	Alameda Adaptive Control System Extension	I-25	Cottonwood Dr	Expand the existing adaptive signal system to interconnect & upgrade signals for a continuous adaptive system.	ITS-TSM	County of Bernalillo	400,000	Funded	
106.0	AMPA Wide Comprehensive Regional Travel Survey	AMPA Wide		Conduct a data collection effort that includes a household survey, commercial vehicle survey, external station survey, transit on-board survey, and intergration of survey results into the travel demand model. COMPLETED	ITS-TSM	MRMPO	1,170,412	Funded	
568.4	AMPA Wide Motorist Assistance Courtesy Patrols	AMPA Wide		Operate courtesy patrols (H.E.L.P. vehicles)	ITS-TSM	NMDOT D-3	300,000	Funded	
568.5	AMPA Wide Motorist Assistance Courtesy Patrols	AMPA Wide		Operate courtesy patrols (H.E.L.P. vehicles)	ITS-TSM	NMDOT D-3	400,000	Funded	
568.8	AMPA Wide Motorist Assistance Courtesy Patrols	AMPA Wide		Operate courtesy patrols (H.E.L.P. vehicles)	ITS-TSM	NMDOT D-3	500,000	Funded	
568.9	AMPA Wide Motorist Assistance Courtesy Patrols	AMPA Wide		Operate courtesy patrols (H.E.L.P. vehicles)	ITS-TSM	NMDOT D-3	200,000	Funded	

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568.2	AMPA Wide Motorist Assistance Courtesy Patrols (FY 2012)	AMPA Wide		Operate courtesy patrols (H.E.L.P. vehicles) COMPLETED	ITS-TSM	NMDOT D-3	400,000	Funded	
1568.1	AMPA Wide Motorist Assistance Courtesy Patrols (Late Time Frame)	AMPA Wide		Operate courtesy patrols (H.E.L.P. vehicles)	ITS-TSM	NMDOT D-3	6,320,000	Late Term	
1568.0	AMPA Wide Motorist Assistance Courtesy Patrols (Near Time Frame)	AMPA Wide		Operate courtesy patrols (H.E.L.P. vehicles)	ITS-TSM	NMDOT D-3	1,680,000	Near Term	
175.0	Central Ave. TSM/ITS Improvements	98th Street	Rio Grande Blvd	Plan, design, aquire property and construct TMS/ITS improvements for a full range of travel modes, including but not limited to roadway, transit, lighting, landscaping, bikeway, and pedestrian enhancements.	ITS-TSM	City of Albuquerque-DMD	1,500,000	Near Term	
1107.1	CMP Transp. Assmnt. Prog. (Late Time Frame)	Region Wide		Collect travel time data on the roads and interstate system identified in the congested network of the AMPA. Data will be used for the congestion management process (CMP) among other uses.	ITS-TSM	MRMPO	3,160,000	Late Term	
1107.0	CMP Transp. Assmnt. Prog. (Near Time Frame)	Region Wide		Collect travel time data on the roads and interstate system identified in the congested network of the AMPA. Data will be used for the congestion management process (CMP) among other uses.	ITS-TSM	MRMPO	840,000	Near Term	
201.0	CMP Transportation Analysis Program	AMPA Wide		Collect travel time and other data to assess the performance of the transportation network, analyze congested locations, identify projects to address regional needs, use data for project prioritization.	ITS-TSM	MRMPO	224,951	Near Term	
201.1	CMP Transportation Analysis Program	AMPA Wide		Collect travel time and other data to assess the performance of the transportation network, analyze congested locations, identify projects to address regional needs, use data for project prioritization.	ITS-TSM	MRMPO	225,000	Near Term	
107.6	CMP Transportation Assessment Program	AMPA Wide		Collect travel time and other data to assess the performance of the transportation network, analyze congested locations, identify projects to address regional needs, use data for project prioritization.	ITS-TSM	MRMPO	113,097	Funded	
107.7	CMP Transportation Assessment Program	AMPA Wide		Collect travel time and other data to assess the performance of the transportation network, analyze congested locations, identify projects to address regional needs, use data for project prioritization.	ITS-TSM	MRMPO	113,098	Funded	
107.8	CMP Transportation Assessment Program	AMPA Wide		Collect travel time and other data to assess the performance of the transportation network, analyze congested locations, identify projects to address regional needs, use data for project prioritization.	ITS-TSM	MRMPO	200,000	Funded	
107.9	CMP Transportation Assessment Program	AMPA Wide		Collect travel time and other data to assess the performance of the transportation network, analyze congested locations, identify projects to address regional needs, use data for project prioritization.	ITS-TSM	MRMPO	200,000	Funded	

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107.4	CMP Travel Time Program	Region wide		Collect travel time data on the roads and interstate system identified in the congested network of the AMPA. Data will be used for the congestion management process (CMP) among other uses. IN PROGRESS	ITS-TSM	MRMPO	205,632	Funded	
107.2	CMP Travel Time Program (FY 2012)	Region wide		Collect travel time data on the roads and interstate system identified in the congested network of the AMPA. Data will be used for the congestion management process (CMP) among other uses. COMPLETD	ITS-TSM	MRMPO	169,944	Funded	
107.3	CMP Travel Time Program (FY 2013)	Region wide		Collect travel time data on the roads and interstate system identified in the congested network of the AMPA. Data will be used for the congestion management process (CMP) among other uses. COMPLETD	ITS-TSM	MRMPO	186,938	Funded	
107.5	Congestion Management Program:Travel Time Program	Region Wide		Collect travel time data on the roads and interstate system identified in the congested network of the AMPA. Data will be used for the congestion management process (CMP) among other uses.	ITS-TSM	MRMPO	174,366	Funded	
471.1	Coors Blvd & S.I.P.I. Entrance Signal Improvement	NM 448, Coors Blvd @ SIPI Entrance		Removal of existing temporary signal and replace with a permanent signal and pedestrian improvements.	ITS-TSM	NMDOT D-3	450,000	Near Term	
442.7	I-25 & PdN Interchange Traffic Surveillance Equipment Installation	Ramps, flyovers, through lanes, and frontage roads of the interchange as selected		Design and install traffic surveillance/traffic count equipment with communication at selected locations in the I-25 & PdN Interchange	ITS-TSM	NMDOT Oper./ITS	83,058	Funded	
251.0	I-25 Corridor Operations Study	Broadway Blvd	Big I (I-40)	Study, PE, Environmental Doc, and some design to identify operational improvements. Project is funded with SPR (State Planning & Research) funding of $879,429 which are not programmed in the TIP. This project is shown for informational purposes.	ITS-TSM	NMDOT D-3	879,429	Funded	
104.4	ITS - District 3 Deployment of ITS	I-25 & I-40 & other State Hwys	AMPA Wide	Implement ITS Improvements in conformance to the Regional ITS Architecture	ITS-TSM	NMDOT D-3	1,367,040	Funded	
104.5	ITS - District 3 Deployment of ITS	I-25 & I-40 & other State Hwys	AMPA Wide	Implement ITS Improvements in conformance to the Regional ITS Architecture	ITS-TSM	NMDOT D-3	1,367,040	Funded	
104.6	ITS - District 3 Deployment of ITS	I-25 & I-40 & other State Hwys	AMPA Wide	Implement ITS Improvements in conformance to the Regional ITS Architecture	ITS-TSM	NMDOT D-3	500,000	Funded	
104.7	ITS - District 3 Deployment of ITS	I-25 & I-40 & other State Hwys	AMPA Wide	Implement ITS Improvements in conformance to the Regional ITS Architecture	ITS-TSM	NMDOT D-3	500,000	Funded	
104.8	ITS - District 3 Deployment of ITS	I-25 & I-40 & other State Hwys	AMPA Wide	Implement ITS Improvements in conformance to the Regional ITS Architecture.	ITS-TSM	NMDOT D-3	1,000,000	Funded	
104.9	ITS - District 3 Deployment of ITS	I-25 & I-40 & other State Hwys	AMPA Wide	Implement ITS Improvements in conformance to the Regional ITS Architecture.	ITS-TSM	NMDOT D-3	3,000,000	Funded	
104.2	ITS - District 3 Deployment of ITS (FY 2012)	I-25 & I-40 & other State Hwys	AMPA Wide	Implement ITS Improvements in conformance to the Regional ITS Architecture COMPLETED	ITS-TSM	NMDOT D-3	1,484,081	Funded	
104.3	ITS - District 3 Deployment of ITS (FY 2013)	I-25 & I-40 & other State Hwys	AMPA Wide	Implement ITS Improvements in conformance to the Regional ITS Architecture COMPLETED	ITS-TSM	NMDOT D-3	1,484,081	Funded	
1048.1	ITS - Regional ITS Expansion (Late Time Frame)	AMPA Wide		Implement ITS irmprovements.	ITS-TSM	Various/Joint Effort	55,695,000	Late Term	
1048.0	ITS - Regional ITS Expansion (Near Time Frame)	AMPA Wide		Implement ITS irmprovements.	ITS-TSM	Various/Joint Effort	14,805,000	Near Term	

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1049.0	ITS Regional Operations & Incident Management Enhancements (FY 2016-2025)	AMPA Wide		Enhance operations and incident managment programs and facilities as needed.	ITS-TSM	NMDOT Oper./ITS	4,200,000	Near Term	
1049.1	ITS Regional Operations & Incident Management Enhancements (FY 2026-2040)	AMPA Wide		Enhance operations and incident managment programs and facilities as needed.	ITS-TSM	NMDOT Oper./ITS	15,800,000	Late Term	
49.1	ITS Regional Transportation Management Center (TMC)	location t.b.d.		Design & construct a regional transportation management center (TMC) for all ITS stakeholders. TMC will integrate multi-agency ITS components, signal systems, & interstate/arterial monitoring systems for real-time transportation & incident management.	ITS-TSM	City of Albuquerque-DMD	8,681,648	Funded	
	ITS-Albuquerque on Key CMP Corridors	Central Ave, San Mateo Blvd & Jefferson St.		Plan, design, install, integrate and replace traffic signal infrastructure communications, monitoring devices, other ITS related elements and services, and construction management services. Separate CNs will be issued later for each FY as needed.	ITS-TSM	City of Albuquerque-DMD	2,340,824	Near Term	
103.0	ITS-Albuquerque Traffic Management System	Albuquerque City Wide		Plan, design, install, integrate and replace traffic signal infrastructure communications, monitoring devices, other ITS related elements and services, and construction management services. Separate CNs will be issued later for each FY as needed.	ITS-TSM	City of Albuquerque-DMD	5,459,176	Funded	
103.4	ITS-Albuquerque Traffic Management System	Albuquerque City Wide		Plan, design, install, integrate and replace traffic signal infrastructure communications, monitoring devices, other ITS related elements and services, and construction management services.	ITS-TSM	City of Albuquerque-DMD	2,340,824	Funded	
103.2	ITS-Albuquerque Traffic Management System (FY 2012)	Albuquerque City Wide		Plan, design, install, integrate and replace traffic signal infrastructure communications, monitoring devices, other ITS related elements and services, and construction management services. COMPLETED	ITS-TSM	City of Albuquerque-DMD	2,933,427	Funded	
103.3	ITS-Albuquerque Traffic Management System (FY 2013)	Albuquerque City Wide		Plan, design, install, integrate and replace traffic signal infrastructure communications, monitoring devices, other ITS related elements and services, and construction management services. COMPLETED	ITS-TSM	City of Albuquerque-DMD	2,640,824	Funded	
208.0	Real Time System Mgmt Info Program (1201 Mandate)	AMPA Wide		Implement federal mandate for the provision of real-time travel conditions on "routes of significance" (ROS). The rule applies to MSAs over 1 Mill. population by Nov 8, 2016 and is tied to 10-year census. ROS must be identified by NMDOT in coord with MPOs	ITS-TSM	MRCOG	1,037,360	Near Term	
384.4	Regional Traffic Surveillance (Traffic Count) Program	Bernalillo, Valencia, Sandoval & Torrance		Traffic Data Collection for NM Traff. Mon. Sys., HPMS-Hwy. Perf. Mon. Sys., GIS, Traff. Flow data & model devel. IN PROGRESS	ITS-TSM	MRCOG	303,875	Funded	
384.2	Regional Traffic Surveillance (Traffic Count) Program (FY 2012)	Bernalillo, Valencia, Sandoval & Torrance		Traffic Data Collection for NM Traff. Mon. Sys., HPMS-Hwy. Perf. Mon. Sys., GIS, Traff. Flow data & model devel. COMPLETED	ITS-TSM	MRCOG	158,584	Funded	

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384.3	Regional Traffic Surveillance (Traffic Count) Program (FY 2013)	Bernalillo, Valencia, Sandoval & Torrance		Traffic Data Collection for NM Traff. Mon. Sys., HPMS-Hwy. Perf. Mon. Sys., GIS, Traff. Flow data & model devel. COMPLETED	ITS-TSM	MRCOG	289,405	Funded	
209.0	Rio Bravo Adaptive Signal Control Technology Project	Coors Blvd	University Blvd.	Install adaptive signal control system and fiber optic cable on Rio Bravo Blvd. from Coors Blvd. to University Blvd. NOTE: Local match will be used as a soft match for preliminary engineering and design.	ITS-TSM	County of Bernalillo	1,200,000	Near Term	
661.0	US 550 and NM 347 (PdV Intersection Signalization)	MP		Installation of traffic signals.	ITS-TSM	NMDOT D-3	475,000	Funded	**Total ITS-TSM Projects**
66.0	West Central Central Ave Improvements	98th St	Rio Grande Blvd	Implement mult-modal improv. consis. with the planning principles for increasing person-trip capacity in a heavily congested river crossing corridor. Incl: intersection improv.at Central & Unser in support of dev. land uses, bus transit & ITS/TSM improv.	ITS-TSM	City of Albuquerque-DMD	5,096,442	Funded	**154,255,556**
119.0	ABQ City-Wide Median Landscaping & Interstate Enhancements	various locations in the City of Albuquerque		Install median landscaping and enhancements on various highways.	Misc	City of Albuquerque-DMD	3,000,000	Funded	
587.2	Albuquerque City Great Streets	Refer to project description for termini		Implement design concepts from Great Streets Facility Plan. Termini: Central Ave from 98th St to 8th St, and from Girard to Tramway (West Central, Nob Hill & East Central) and the vicinity of 12th St & Menaul Blvd; other locations may be included.	Misc	City of Albuquerque-DMD	14,719,078	Funded	
801.1	Albuquerque Comprehensive Bikeway/Trail Plan Update	Albuquerque City Wide		Update Comprehensive Bikeway/Trail Plan. Plan is in DRAFT.	Misc	City of Albuquerque-DMD	500,000	Funded	
307.0	BL0013 & NM 314 Lighting Project			Install street lighting. Termini: I-25 at Exit 191- Belen Business Loop BL0013 fr MM 4.12 to MM 6.6 & NM 314 fr MM 0.0 to MM 0.25	Misc	NMDOT D-3	750,000	Funded	
332.0	Broadmoor Blvd (30th St) Expansion	Northern Blvd	Paseo del Volcan	First phase to complete a corridor study and prelim. design. Then complete final design & construction of a 2 lane roadway with accommodation for future widening. Total cost includes FY 2010 local funding.	Misc	City of Rio Rancho	5,814,851	Funded	
801.3	Ceja N/S Bike Trail Study	Paseo del Volcan	Sen. Dennis Chavez Blvd	Conduct bike trail study	Misc	City of Albuquerque-DMD	800,000	Near Term	
565.0	Christopher Rd Landscaping and Scenic Beautification	Camino del Llano		Sidewalk and landscaping improvements.	Misc	City of Belen	400,000	Funded	
138.4	District 3 Off System Bridge Program	TBD	TBD	Plan, design and construciton of bridge repairs and/or rehabilitation of off-system Bridges.	Misc	NMDOT D-3	434,993	Funded	
650.4	District 3 On-Call Planning & Design Support	District 3 Wide Projects T.B.D.		Provide planning, engineering, & design services on an on-call basis.	Misc	NMDOT D-3	2,100,000	Funded	
650.8	District 3 On-Call Planning & Design Support	District 3 Wide Projects T.B.D.		Provide planning, engineering, & design services on an on-call basis.	Misc	NMDOT D-3	500,000	Funded	
650.9	District 3 On-Call Planning & Design Support	District 3 Wide Projects T.B.D.		Provide planning, engineering, & design services on an on-call basis.	Misc	NMDOT D-3	1,500,000	Funded	
650.2	District 3 On-Call Planning & Design Support (FY 2012-2013)	District 3 Wide Projects T.B.D.		Provide planning, engineering, & design services on an on-call basis. Formerly CN=D3047. COMPLETED	Misc	NMDOT D-3	600,000	Funded	
1650.1	District 3 On-Call Planning & Design Support (Late Time Frame)			Provide planning, engineering and design services by contract.	Misc	NMDOT D-3	7,900,000	Late Term	

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1650.0	District 3 On-Call Planning & Design Support (Near Time Frame)			Provide planning, engineering and design services by contract.	Misc	NMDOT D-3	2,100,000	Near Term	
312.0	District 3 Rehab Projects Professional Services			Professional servies for the development of rehabilitation projects.	Misc	NMDOT D-3	500,000	Funded	
801.4	Eagle Ranch Rd Bike Lane Study	Coors Blvd	Irving Blvd	Conduct bike lane study	Misc	City of Albuquerque-DMD	800,000	Near Term	
880.1	Eubank Blvd & Candelaria Blvd Median Landscaping	Eubank from Lomas to Montgomery	Candelaria from San Mateo to Eubank	Install and maintain landscaping improvements	Misc	City of Albuquerque-DMD	2,500,000	Near Term	
527.0	Freeway Overpasses Study I-25 & I-40	Various locations on I-40 & I-25 t.b.d.		Freeway Overpasses to facilitate traffic flow. Poss loc: San Francisco/I-25, Morris/I-40, Midpt btwn Unser&Coors/I-40, 118th/I-40, Atrisco/I-40, San Diego/I-25. Cost is for EACH overpass. See proj #527.1	Misc	Various/Joint Effort	1,500,000	Late Term	
801.5	Girard Blvd Bike Lane Study	Santa Clara Ave	Indian School Road	Conduct bike lane study	Misc	City of Albuquerque-DMD	800,000	Near Term	
656.1	Hiland Theatre TOD	Central Ave & Monroe St Area		Acquisition and redevelopment for mixed use TOD (Transit Oriented Development)	Misc	County of Bernalillo	3,750,000	Near Term	
427.0	Historic Rt 66 Los Lunas Corridor Management Plan (FFY 2012 Funds)			Plan and develop a Historic Route 66 Corridor Management Plan.	Misc	Village of Los Lunas	24,000	Funded	
428.0	Historic Rt 66 Wayfinding Signs in Albuquerque (FFY 2012 Funds)			Design, develop, and install new wayfinding signs on Historic Route 66 and other roads in the vicinity of Historic Route 66.	Misc	City of Albuquerque-Planning	150,000	Funded	
91.0	I-25 & Gibson Blvd, Interchange ADA Improvements	I-25/Gibson Blvd Interchange MP 222.75	MP 223.25		Misc	NMDOT D-3	85,000	Funded	
6.9	I-25 & NM 6 Interchange Beautification Enhancements Phase III	I-25 Exit 203 vicinity		lanscaping the I-25 center median and the outside perimeter of the interchange.	Misc	Village of Los Lunas	1,592,958	Funded	
6.4	I-25 & NM 6 Interchange Enhancements in Los Lunas	MP 203.19	MP 203.40	Landscaping of the NM 6 & I-25 Interchange.	Misc	Village of Los Lunas	1,200,000	Funded	
6.6	I-25 & NM 6 Interchange Enhancements Phase II	I-25 Exit 203 vicinity		Landscaping, wayfinding, and ADA improvements on NM 6. Other appertenances as necessary.	Misc	Village of Los Lunas	829,588	Funded	
251.1	I-25 Corridor North Study Update	Big I	Tramway Blvd.	Study, PE, Environmental Doc, and some design to identify improvements.	Misc	NMDOT D-3	1,000,000	Funded	
623.0	I-25 Frontage Roads Feasibility Study - Valencia County	North Belen Interchange	Los Lunas Interchange	Conduct a feasibility study to determine need, cost and schedule for implementation.	Misc	NMDOT D-3	1,000,000	Late Term	
351.0	I-25 Landscaping & Signage Enhancements at NM 473 in Bernalillo	approx. MP 240	approx. MP 241	Landscaping and signage improvements (Demo ID NM048)	Misc	Town of Bernalillo	344,489	Funded	
359.1	I-40 Concrete Pavement Evaluation	Coors Blvd (MP 154)	Sedillo Hill (MP 184)	Perform pavement evaluation on the conrete pavement both EB and WB.	Misc	NMDOT D-3	100,000	Funded	
566.0	I-40 Median Modifications	I-40 (MP 127.6)	I-40 (MP 157 Rio Grande Blvd.)	Improvements to median turnarounds for incident management.	Misc	NMDOT D-3	1,098,266	Funded	
666.0	I-40 Noise Wall near Unser Blvd.			Design and construct a Noise wall located at Usner Blvd. to satistfy Envirnmental Commitment of CN A300303.	Misc	NMDOT D-3	3,000,000	Funded	
516.0	Ladera Rd Drainage	Peralta Blvd	Valencia Rd	Improve drainage, erosion control, roadside pond construciton and other work as necessary.	Misc	Town of Peralta	300,000	Funded	
567.0	Lomas Blvd. Corridor Master Plan	I-25	Univerity Blvd.	Plan, design, construct and make improvements to Lomas Blvd in coordination with the University of New Mexico for the development of the North Medical Campus.	Misc	City of Albuquerque-DMD	500,000	Funded	

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652.3	Multi-modal Improvements at West Central Vicinity	I-40 & Atrisco Vista Blvd vicinity		Multi-modal Improvements as determined in scoping & PE; funds may be used for scoping & PE. Construction phase to be added once scope is established. Demo ID NM059. HPP funds CAN NOT be used for this purpose away from the interchange (as of 10-9-13).	Misc	County of Bernalillo	4,000,000	Funded	
76.0	NM 448 Corrales Road Right-of-Way Survey	NM 528, Alameda/Coors Blvds	northern end at NM 528	Survey of highway rights-of-way.	Misc	NMDOT D-3	461,940	Funded	
638.1	NM 47 Medians & Roadside Landscaping	north ofTribal Services Complex entrance (MP 39.59)	Isleta Pueblo Boundary	Design & install center median & roadside landscaping with curbing, sidewalks, plantings, irrigation, water conserv measures, erosion cntrl, appurtenances, beautification & local artwork. Project let in stages, Ph 1=$940,000. (see remarks)	Misc	Pueblo of Isleta	2,315,000	Funded	
3.2	Orthophotography	District 3 wide		Orthophotographic services provided by the Mid-Region Council of Governments per MOU. COMPLETED.	Misc	NMDOT D-3	50,000	Funded	
3.3	Orthophotography	District 3 wide		Orthophotographic services provided by the Mid-Region Council of Governments per MOU.	Misc	NMDOT D-3	50,000	Funded	
3.4	Orthophotography	District 3 wide		Orthophotographic services provided by the Mid-Region Council of Governments per MOU.	Misc	NMDOT D-3	50,000	Funded	
3.5	Orthophotography	District 3 wide		Orthophotographic services provided by the Mid-Region Council of Governments per MOU.	Misc	NMDOT D-3	50,000	Funded	
3.1	Orthophotography (FY 2012)	District 3 wide		Orthophotographic services provided by the Mid-Region Council of Governments per MOU. COMPLETED.	Misc	NMDOT D-3	50,000	Funded	
418.8	Paseo del Volcan (NM 347) Median Landscaping	approx. 300 yard south of US 550	US 550 Intersection	NM 347 median landscaping improvements.	Misc	City of Rio Rancho	300,000	Funded	
418.9	Paseo del Volcan (NM 347) Right-of-Way Acquisition - Northern Sect.	Bernallilo-Sandoval County Line	Unser Blvd	Acquire rights-of-way for roadway. Project may extend beyond 2040 MTP.	Misc	NMDOT ROW Bureau	500,000	Near & Late Term	
704.0	Pueblo de Cochiti 2016-2020 LRTP			Develop a 2016-2020 Long Range Transportation Plan	Misc	Pueblo of Cochiti	55,000	Funded	
12.0	Rainbow Blvd Corridor Study	Rio Rancho/Albuquerque City Limits	Southern Blvd	Prepare a corridor study.	Misc	City of Rio Rancho	1,000,000	Near Term	
801.7	San Pedro Blvd Bike Lane Study	Zuni Ave	Lomas Blvd	Conduct bike lane study	Misc	City of Albuquerque-DMD	800,000	Late Term	
210.0	Sandoval County Transit Yard Phase 1	Southern Sandoval County/Rio Rancho		Acquire land for, plan & design of a transit yard for RR Dial-a-Ride and RMRTD services that would inlcude vehichle storage, maint shop, operations & dispatch office space, & potentially a small transit center or transfer hub for connecting routes.	Misc	Rio Metro Transit Dist	1,000,000	Near Term	
9.0	Southern Blvd Corridor Study	Rainbow Blvd	NM 528	Prepare a corridor study	Misc	City of Rio Rancho	994,850	Funded	
660.4	SRTS: Corrales Schools Phase 2	Corrales Elementary School	Cottonwood Montessori School	Educational programs for children on safety traveling to school. SRTS-Flex is (LU30) COMPLETED	Misc	Village of Corrales	25,000	Funded	
801.6	University Blvd Bike Lanes/Trail Study	Gibson Blvd	Rio Bravo Blvd	Conduct bike lane/bike trail study	Misc	City of Albuquerque-DMD	800,000	Near Term	

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692.0	UNM & CNM Area Transportation & Land Use Coordination	vicinity of University of New Mexico	vicinity of Central New Mexico Comm. College	Identify & implement transit, infrastructure & policies that promote alter. modes of transp. including TDM strategies, alter. analysis of modes, integration of land-use policies & design guidelines. $381,671 TCSP in FY 2011, $55,000 Local in FY 2010.	Misc	MRCOG	936,671	Funded	**Total Miscellaneous Projects (studies, landscaping projects, etc.)**
386.1	US 550 Traffic & Operations Study	NM 528	NM 313	Conduct traffic operations study. Project is funded with SPR (State Planning & Research) funds.	Misc	NMDOT D-3	500,000	Funded	**76,131,684**
20.0	Albuquerque Street Sign Safety Improvements	Albuquerque City Wide		Replace (as needed) regulatory, street, way-finding, and informational signs to be in compliance with new federal requirements and the MUTCD.	Safety	City of Albuquerque-DMD	6,118,340	Funded	
800.2	Albuquerque Trail Edge Safety Railings	various locations		Installation of safety railings along shared-use trail facilities located immediately adjacent to storm drainage channels.	Safety	City of Albuquerque-DMD	800,000	Near Term	
800.3	Albuquerque Trail Safety Signage System	various locations		Formulation and installation of a city-wide trail milemarker system, major cross streets, etc.	Safety	City of Albuquerque-DMD	690,000	Near Term	
653.3	Bernalillo (Town) Intersection Improvements	NM473 & NM313, US550 & Don Tomas		Intersection improvements for pedestrian and vehicular safety and lighting. IN PROGRESS	Safety	Town of Bernalillo	1,500,000	Funded	
496.2	Blake Road SW Safety Improvements	Coors Blvd.	Belmont Dr. SW	Const. shoulders & sidewalks/paths along Blake Rd & in front of the school, extend culvert under the rd. at the Arenal Canal. Install improved crosswalk with flasher beacons. Proj. includes lighting, signage, ADA improv. & other apppurtenances as needed.	Safety	County of Bernalillo	900,000	Funded	
301.0	Business Loop 13 in Belen, Bridge #059850.9 miles north of NM 309	MP 2.94	MP 3.47	Bridge replacement.	Safety	NMDOT D-3	9,433,898	Funded	
174.0	Central and Yucca Roadway Realignment	Central	Yucca	Plan, design, aquire right-of-way, construct roadway improvements to realign existing intersection	Safety	City of Albuquerque-DMD	4,000,000	Near Term	
305.0	Chughole Ln from Herron Rd to Chaparral Ln, Peralta	Herron Rd	Chaparral Ln	Restore 24 ft wide roadway width on horizontal curves, restore or pave drop-offs from Chughole Ln edge of pavement and intersecting unpaved streets, upgraded signs, pavement markings, and lighting.	Safety	Town of Peralta	459,821	Funded	
422.4	Commuter Rail: Isleta Pueblo Quiet Zone & RR Crossing Consolidation	Xing #019452T, 019451L, 019450E,	019449K, 019445H, 019443U & 019442M	Project will permanently close some crossing to consolidate crossings, realign roadways at other crossings, install flashers, gates and other safety devices. (Also includes design for A300083.) UNDER DEVELOPMENT	Safety	Rio Metro NMRRX	2,700,000	Funded	
65.1	Coors Blvd & Blake Rd Intersection Improvements	NM 45, Coors Blvd @ Blake Rd		Reconstruct intersection to include additional turn lanes at all 4 intersection legs, replace signals, & addition of bike lanes, curb, median, & sidewalk as well as storm drainage. Local match to be used as soft maych for PE and design.	Safety	County of Bernalillo	4,000,000	Near Term	
471.0	Coors Blvd Northbound Lane Addition	S.I.P.I. (MP 4.25)	Coors Bypass (Calabacillas Arroyo)	Build an Additional Northbound lane and realign PdN EB to north ramp. Project COMPLETED.	Safety	NMDOT CRDC	3,000,000	Funded	
31.0	Corrales Safety Project - Digital Speed Warning Signs	various roads in Corrales		Purchase and installation of digital speed warning reader board signs. COMPLETED	Safety	Village of Corrales	103,000	Funded	

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191.0	County Wide Roadway Striping, Traffic Calming, Pavement Markings and Guardrails	County Wide		Improve county maintained roads for all users with striping, traffic calming, pavement markings, guardails, signals and signage components.	Safety	County of Bernalillo	1,000,000	Near Term	
194.0	County Arterial Program (CAP)			Implement roadway improvements that will maximize safety of school bus routes on arterial roads.	Safety	County of Bernalillo	8,400,000	Late Term	
630.1	Courthouse Rd & NMRX Gate Upgrades	Courthouse Rd at Railroad Crossing	Crossing #0194624	Upgrade from a two-quadrant gate railroad crossing to a four-quadrant railroad crossing.	Safety	NMDOT Transit Rail	125,000	Funded	
681.0	Delgado Avenue Improvements (RSA)	North 10th Street	North Mesa Road	Project to be removed per duplication in STIP	Safety	City of Belen	45,000	Funded	
334.0	Edith Blvd & El Pueblo Rd Intersection Improvements	Edith Blvd at El Pueblo Rd		Construct right-turn bay from EB El Pueblo to SB Edith, implement signalization improvements and other necessary appurtenances.	Safety	NMDOT CRDC	1,000,000	Near Term	
180.4	El Cerro Mission Blvd Street Lights	NM 263	Manzano Express Way	Install Street lights.	Safety	County of Valencia	165,917	Near Term	
944.0	Gabaldon Road Signage & Pavement Markings	East Aragon Rd	NM 314 Frontage Rd	Rehabilitate Gabaldon Rd including pavement markings, signage and other appurtenances as necessary.	Safety	County of Valencia	450,000	Funded	
441.1	I-25 Auxiliary Lanes	Sunport Blvd	Gibson Blvd	Construct auxiliary lanes (northbound and southbound). IN PROGRESS	Safety	NMDOT CRDC	3,452,189	Funded	
78.0	I-25 DMS Approach Signs	at WB Cesar Chavez Blvd, WB Gibson Bl,	EB MLK Blvd, and EB Central Ave	Purchase and install a Digital Message Sign (all on cantilever type sign structures)	Safety	NMDOT Oper./ITS	700,000	Funded	
77.0	I-25 DMS Sign	NB between San Mateo Blvd	and San Antonio Drive	Purchase and install a Digital Message Sign (on existing median butterfly type).	Safety	NMDOT Oper./ITS	80,000	Funded	
29.0	I-25 Median Fence Installation	Broadway Blvd Interchange vicinity (MP 213.60)	Rio Bravo Blvd Interchange vicinity (MP 220.46)	Install median fencing	Safety	NMDOT D-3	600,000	Funded	
398.0	Intersection Improvements	Enchanted Hills Blvd & Sprint Blvd		Intersection Improvements to improve traffic circulation.	Safety	City of Rio Rancho	750,000	Near Term	
397.0	Intersection Improvements at Cabezon Blvd and Western Hills Dr	Cabezon Blvd @ Western Hills Dr		Intersection Improvements to improve traffic circulation. Analysis and design done through a NMDOT project in FY 2010.	Safety	City of Rio Rancho	700,000	Near Term	
399.0	Intersection Improvements at King Blvd and Wilpett Rd	Kiing Blvd & Wilpett Rd		Intersection improvements to improve traffic circulation.	Safety	City of Rio Rancho	1,000,000	Near Term	
396.0	Intersection Improvements at Meadows Blvd and King Blvd	Meadows Blvd. & King Blvd.		Intersection improvements.	Safety	City of Rio Rancho	500,000	Near Term	
938.0	Loma Larga & Meadowlark Lane Intersection Improvements			Intersection improvements for pedestrians and cyclists.	Safety	Village of Corrales	337,000	Funded	
620.5	Lomas Blvd & Louisiana Blvd Safety Improvements	Lomas Blvd at Louisiana Blvd		Construct intersection and roadway safety improvements consistent with the recommendations in the city's Citywide Intersection LOS (Level of Service) Study	Safety	City of Albuquerque-DMD	490,000	Near Term	
435.1	Mid-Block Bicycle/Pedestrian Crossings Phase II	various locations		Construct safety improvements at mid-block roadway/trail crossings on San Mateo and other locations to be determined.	Safety	City of Albuquerque-DMD	100,000	Near Term	
943.0	Mill Road Signage & Pavement Markings	NM 116	NM 109	Pavement preservsation and rehab including pavement markings, signage and other appurtenances as necessary.	Safety	County of Valencia	120,000	Funded	
668.0	Morris Road & NMRX Gate Upgrades	Morris Rd at Railroad Crossing	Crossing #019463F	Upgrade two-quadrant gate railroad crossing to a four-quadrant railroad crossing.	Safety	NMDOT Transit Rail	100,000	Funded	
825.1	NM 314 & Courthouse Rd Railroad Crossinig Bike/Ped Safety Project	NM 314 @ Courthouse Rd & NMRRX		Install pedestrian gate-arms at all four approaches to the railroad crossing.	Safety	Village of Los Lunas	650,000	Near Term	

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82.0	NM 314 & NM 45 Intersection Improvements	NM 45 @ NM 314		Alternatives evaluation, environmental, preliminary and final design for the NM 314 and NM 45 intersection.	Safety	Pueblo of Isleta	1,430,000	Funded	
333.4	NM 333 & NM 217 Intersection Improvements	MP 15.2 on NM 333	MP 10.5 on NM 217	Construct left turn lanes on NM 333 both EB and WB & redefine the intersection reducing its width, etc. Includes pavement markings, signage, redefining access existing ingress & egress access to selected mailbox clusters & possible lighting improvements.	Safety	NMDOT D-3	1,500,000	Funded	
167.0	NM 333 & Patricio Garcia Shoulder Crossing Improvements	Patricio Garcia Rd @ Camino Municipal Rd	Patricio Garcia Rd @ NM 333	design and construct new pedestrian walkway along Patricio Garcia and school bus pull off area along NM 333 and the intersection.	Safety	Village of Tijeras	118,000	Funded	
30.0	NM 47 & Appaloosa Dr Intersection Improvements			Construct median improvements; includes: signage, markings, sidewalk improvements and ADA compliance and construction of turn-bay(s). Other appurtenances as necessary.	Safety	Village of Los Lunas	85,000	Funded	
147.0	NM 47 & NM 147 Intersection Safety Project			Install dilemma zone vehicle detectors and modify signal system for NM 47 SB to approach interssection.	Safety	Pueblo of Isleta	120,000	Funded	
942.0	NM 47 & NM 263 Street Lighting, Signage & Markings			Upgrade pavement markings, signage and add street lighting at intersection for visibility issues.	Safety	County of Valencia	120,000	Funded	
169.0	NM 47 & NM 6 Intersection Improvements	600' south of the Intersection of NM 6 & NM 47	600' north of the Intersection of NM 6 & NM 47	Design and reconstruct improved intersection geometry along with new ADA complient facilities. Project includes installation of new traffic signals, signage and other apputenances as needed.	Safety	Village of Los Lunas	835,000	Funded	
702.0	NM 47 and NM 6 Intersection Safety Improvements	NM 47 @ NM 6		Safety Improvements, new pedestrian facilities, new signals, improve intersection geometry.	Safety	Village of Los Lunas	600,000	Funded	
47.0	NM 47 Safety Project	Chical Rd (MP 35)	NM 147 (MP 38)	Intersection safety improvements.	Safety	NMDOT D-3	771,778	Funded	
6.1	NM 6 & NM 263 Traffic Safety and Capacity Enhancements	NM 6 @ NM 263		Build new eastbound right-hand turn bay onto NM 263. Upgrade pedestrian facilities and related signal upgrades. UNDER DEVELOPMENT.	Safety	Village of Los Lunas	280,000	Funded	
6.7	NM 6 & Riverpark Rd Intersection	Rio Grande	Riverpark Rd	Construct new turn bay EB to SB and pedestrian crossing improvements.	Safety	Village of Los Lunas	178,361	Funded	
14.0	NM 6 amd Desert Willow Intersection Improvements			Reconstruction of the entire intersection including new turn bays, ADA facilities, sidewalks, curb & gutter and updated signals and timing phases for the approaches.	Safety	Village of Los Lunas	1,000,000	Near Term	
148.0	North Mesa Road Realignment of Horizontal "S" Curve	Aragon Rd	BL-13 Business Loop	Realign "S" curve; includes signage, pavement markings, and other appurtenances as necessary.	Safety	City of Belen	171,000	Funded	
349.0	Northern Blvd & Rockaway Blvd Traffic Signal Installation	Northern Blvd @ Rockaway Blvd		Install traffic signal, upgrade ADA ramps, construct eastbound right-turn lane to Rockaway Blvd. Bring signal into coordination with Loma Colorador & Lowe's signals.	Safety	City of Rio Rancho	280,000	Funded	
64.0	Old Coors Rd & Sage Rd Intersection Improvements	Old Coors Rd @ Sage Rd		Realign intersection to eliminate skew and improve sight-distance and install permanent traffic signals.	Safety	County of Bernalillo	572,908	Funded	

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303.0	Paizalas Rd Railroad Xing #019504 north of US 60 & south of Belen	RR MP 0948.12; 1 mile N of Exit 175	1/4 mile east of NM 116	Lights, gates and new concrete surface.	Safety	NMDOT Transit Rail	385,000	Funded	
620.6	Paradise Blvd & Eagle Ranch Rd Safety Improvements	Paradise Rd at Eagle Ranch Rd		Construct intersection and roadway safety improvements consistent with the recommendations in the city's Citywide Intersection LOS (Level of Service) Study	Safety	City of Albuquerque-DMD	300,000	Late Term	
356.0	Railroad Crossing Impr.-NMRX MUTCD Upgrades	All Public Road Grade Crossings NMRX RR Belen to Lamy/SF		Upgrade signage and/or pavement markings as needed to comply with the Manual of Uniform Traffic Control Devices (MUTCD) Section 8.	Safety	NMDOT Transit Rail	120,000	Funded	
172.3	Railroad Crossing Improv - 8th Street Albuquerque and NMRX/BNSF RR (Crossing 019679L)	NMRX/BNSF RR Crossing 019679L at 8th Street, .027 miles south of I-40		Construct new surface and approaches.	Safety	NMDOT Transit Rail	260,000	Funded	
172.0	Railroad Crossing Improv - Avenida Bernalillo and NMRX RR (Crossing 013758J)	NMRX RR Cossing 013758J at Avenida Bernalillo, .08 miles east of NM 313		Construct surface to accommodate pedestrians.	Safety	NMDOT Transit Rail	200,000	Funded	
172.4	Railroad Crossing Improv - Broadway Blvd and NMRX RR (Crossing 019409M)	NMRX RR Crossing 019409M at Broadway Blvd, 1.4 miles north of Rio Bravo		Design and construct new surface, lights and gates and active advanced warning lights.	Safety	NMDOT Transit Rail	470,000	Funded	
672.0	Railroad Crossing Improv - Elaine Rd.and NMRX RR (Crossing 019466B)	.02 miles east of intersection with NM 314 between MM4 and MM 5 south of Los Lunas		New surfacing improvements at RR crossing.	Safety	NMDOT Transit Rail	70,000	Funded	
674.0	Railroad Crossing Improv - Griegos Rd. - NMRX (Crossing 019357X)	.22 miles west of intersection with Edith Blvd.		New surfacing improvements at RR crossing.	Safety	NMDOT Transit Rail	140,000	Funded	
673.0	Railroad Crossing Improv - Luscombe Ln - NMRX RR (Crossing 019465U)	.02 miles east of intersection with NM 314 between MM4 and MM 5 south of Los Lunas		New surfacing improvements at RR crossing.	Safety	NMDOT Transit Rail	70,000	Funded	
172.1	Railroad Crossing Improv - Lucero Rd and NMRX RR (Crossing 013760D)	NMRX RR Crossing 013760D at Lucero Rd, .05 miles east of NM 313		Construct new surface.	Safety	NMDOT Transit Rail	75,000	Funded	
172.2	Railroad Crossing Improv - Ortega Rd and NMRX RR (Crossing 013773E)	NMRX RR Crossing 013773E at Ortega Rd, .25miles east of 2nd Street		Construct new surface.	Safety	NMDOT Transit Rail	75,000	Funded	
357.1	Railroad Crossing Imprv.- South Camino de Los Chavez Crossing	Crossing # 019469P		Imrove railroad crossing; includes crossing surface improvements, signage, pavement markings and other appurtenances as necessary.	Safety	NMDOT Transit Rail	72,000	Funded	
352.0	Railroad Crossing Imprv.-Calle del Oro	Crossing # 019467H		Widen and imrove railroad crossing; includes signage, pavement markings and other appurtenances as necessary.	Safety	NMDOT Transit Rail	75,000	Funded	
354.0	Railroad Crossing Imprv.-Indian School Road	Crossing # 019397V (NMRX MP 900.79)		Reconstruct railroad crossing; includes new concrete surface, signage pavement markings, approaches and quad gate intallation. Project includes other appurtenances as necessary.	Safety	NMDOT Transit Rail	790,640	Funded	
574.0	Railroad Crossing Imprv.-Morris Road in Los Lunas	Crossing # 019443U		Rehabilitate railroad crossing; includes signage, pavement markings and other appurtenances as necessary.	Safety	NMDOT Transit Rail	56,719	Funded	

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355.0	Railroad Crossing Imprv.-NM 47 in Belen	Crossing # 019336E (BNSF MP879.11)		Improvements include: new concrete surface installation, signage, pavement markings, advanced warning flashers, and other appurtenances as necessary.	Safety	NMDOT Transit Rail	120,000	Funded	
570.0	Railroad Crossing Imprv.-Tribal Road #53 in Isleta Pueblo	Crossing #019463F		Resurface railroad crossing and other appurtenances as necessary.	Safety	NMDOT Transit Rail	56,719	Funded	
63.1	Rio Grande Blvd Intersection Improvements	Rio Grande	Candelaria	Construction of roundabout at the intersection of Rio Grande and Candelaria and approaches north and south of the intersection as necessary to accommodate the transition of the facility. See old CN A300650.	Safety	City of Albuquerque-DMD	1,760,000	Funded	
170.0	Road Safety Audit (RSA) - I-40, Central and Tramway Intersection	I-40/Central/Tramway Intersection	New Project	Road safety audit to determine appropriate countermeasures to improve safety.	Safety	City of Albuquerque-DMD	0	Funded	
171.0	Road Safety Audit (RSA) - Jefferson	Singer	Paseo del Norte	Road safety audit/analysis of current on this section of roadway in order to determine appropriate countermeasures to improve safety.	Safety	City of Albuquerque-DMD	0	Funded	
198.0	RSA - Pedestrian & Bicycle Safety Study at NMRX Crossings	Belen Station	Santa Fe Depot	Develop ped/bike safety standards and guidelines for NMRX crossings includes needs assessment, crossing prioritization and implementation plan.	Safety	Rio Metro NMRRX	45,000	Funded	
678.0	San Mateo/Gibson/Tramway/Lomas Pedestrian Safety	TBD	TBD	Plan, design and construct pedestrian safety, traffic calming, and public art on San Mateo, Gibson, Tramway, and Lomas Boulevards.	Safety	City of Albuquerque-DMD	100,000	Funded	
675.1	San Pedro Street and Trumbull Avenue Light Project	TBD	TBD	Purchase and install street lights along Trumbull Avenue SE and San Pedro Drive SE.	Safety	City of Albuquerque-DMD	100,000	Funded	
660.6	SRTS: South Valley Safe Routes to Schools	McEwen Ave on south; Lucia St on west	Valdora Av on north; Isleta Blvd on east	Construct sidewalks on Byron Ave, Citation St, & McEwen Ave. Construct mid-block crossing with refuge median and HAWK signal at Isleta Blvd near McEwen Ave. COMPLETED.	Safety	County of Bernalillo	500,000	Funded	
700.0	Sunset Rd SW Roadway and Safety Improvements	Goff Blvd	Bridge Blvd	Construct new roadway which includes safety improvements to add sidwalks, signage, drainage and other appurtenances as necessary.	Safety	County of Bernalillo	4,000,000	Funded	
381.3	Unser Blvd Shoulders Upper Section	Progress Blvd	NW Loop/US 550 Connection	Construction of 8 ft shoulders (includes taper) on each side of roadway to eliminate drop-off and to provide for a safe pull-off area for vehicles and also to provide a safe route for bicyclists. Includes recessed pavement reflectors & pavement markings.	Safety	City of Rio Rancho	3,000,000	Near Term	
653.6	US 550 and Sheriff's Posse Rd Intersection	US 550 & Sheriff's Posse Rd		Realign intersection to mitigation safety hazard and relieve congestion.	Safety	Town of Bernalillo	500,000	Late Term	
168.0	Village of Tijeras Traffic Sign Replacements	Public School Rd @ NM 333	Gutierrez Canyon Rd @ North Zamora Rd	Removal and replacement of street signs to comply with MUTCD retroreflectivity requirements.	Safety	Village of Tijeras	40,000	Funded	
874.1	West Meadowlark Lane Safety Project	Village line	Loma Larga Rd	Remove 3,000 ft of speed bumps, some 10' in width on both sides of the street, and install four solar-powered digital "Slow Down" units.	Safety	Village of Corrales	100,000	Near Term	

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620.7	Zuni Rd & Alvarado Dr Safety Improvements	Zuni Rd at Alvarado Dr		Construct intersection and roadway safety improvements consistent with the recommendations in the city's Citywide Intersection LOS (Level of Service) Study	Safety	City of Albuquerque-DMD	600,000	Late Term	**Total Safety Projects**
636.0	Zuni Rd Improvements	Washington St	Central Ave	Construct ADA compliant sidewalks & ramps, minor intersection realignment, lighting, upgrade signage/markings, improve crosswalks and other measures to reduce pedestrian & bicycle crashes.	Safety	City of Albuquerque-DMD	4,245,000	Funded	**80,858,290**
122.4	ABQ Ride - TDM-Travel Demand Management	AMPA Wide		Transportation Demand Management Program. Increase alternative modes of transportation at major traffic generators.	TDM	City of Albuquerque-ABQ Ride	945,166	Funded	
122.5	ABQ Ride - TDM-Travel Demand Management	AMPA Wide		Transportation Demand Management Program. Increase alternative modes of transportation at major traffic generators.	TDM	City of Albuquerque-ABQ Ride	948,151	Funded	
122.3	ABQ Ride - TDM-Travel Demand Management (FY 2013)	AMPA Wide		Transportation Demand Management Program. Increase alternative modes of transportation at major traffic generators.	TDM	City of Albuquerque-ABQ Ride	1,006,250	Funded	
202.0	AMPA Wide Joint TDM-Travel Demand	AMPA Wide		Transportation Demand Management Program to increase alternative modes of transportation with activities including public education, outreach, promotions, information and related equipment and services. Joint lead with ABQ-RIDE in FY20 & FY21.	TDM	Rio Metro Transit Dist	1,260,412	Near Term	
202.1	AMPA Wide Joint TDM-Travel Demand	AMPA Wide		Transportation Demand Management Program to increase alternative modes of transportation with activities including public education, outreach, promotions, information and related equipment and services. Joint lead with ABQ-RIDEin FY20 & FY21.	TDM	Rio Metro Transit Dist	1,314,373	Near Term	
123.8	AMPA Wide Joint TDM-Travel Demand Management	AMPA Wide		Transportation Demand Management Program to increase alternative modes of transportation with activities including public education, outreach, promotions, information and related equipment and services. Joint lead with Rio Metro in FY18 & FY19.	TDM	City of Albuquerque-ABQ Ride	1,240,637	Near Term	
123.9	AMPA Wide Joint TDM-Travel Demand Management	AMPA Wide		Transportation Demand Management Program to increase alternative modes of transportation with activities including public education, outreach, promotions, information and related equipment and services. Joint lead with Rio Metro in FY18 & FY19.	TDM	City of Albuquerque-ABQ Ride	1,275,749	Near Term	
123.6	AMPA Wide TDM-Travel Demand Management	AMPA Wide		TDM program for Rail Runner and Rio Metro services to include public education, outreach, etc.	TDM	Rio Metro Transit Dist	1,469,135	Funded	
123.7	AMPA Wide TDM-Travel Demand Management	AMPA Wide		TDM program for Rail Runner and Rio Metro services to include public education, outreach, etc.	TDM	Rio Metro Transit Dist	1,170,412	Funded	
1100.1	Region Wide TDM (Late Time Frame)	Benalillo, Sandoval and Valencia Counties		Travel Demand Management programs and activities @ $1.2 mil/yr.	TDM	Various/Joint Effort	19,908,000	Late Term	
1100.0	Region Wide TDM (Near Time Frame)	Benalillo, Sandoval and Valencia Counties		Travel Demand Management programs and activities @ $1.2 mill/yr.	TDM	Various/Joint Effort	5,292,000	Near Term	

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123.4	Rio Metro TDM-Travel Demand Management	AMPA Wide		TDM program for Rail Runner and Rio Metro services to include public education, outreach, etc.	TDM	Rio Metro Transit Dist	338,381	Funded	
123.5	Rio Metro TDM-Travel Demand Management	AMPA Wide		TDM program for Rail Runner and Rio Metro services to include public education, outreach, etc.	TDM	Rio Metro Transit Dist	348,477	Funded	
123.2	Rio Metro TDM-Travel Demand Management (FY 2012)	AMPA Wide		TDM program for Rail Runner and Rio Metro services to include public education, outreach, etc.	TDM	Rio Metro Transit Dist	319,064	Funded	**Total Travel Demand Management Projects**
123.3	Rio Metro TDM-Travel Demand Management (FY 2013)	AMPA Wide		TDM program for Rail Runner and Rio Metro services to include public education, outreach, etc.	TDM	Rio Metro Transit Dist	328,579	Funded	**37,164,786**
431.3	ABQ Ride - Bus Stop Facilities Improvements	ABQ Ride System Wide		Rehabilitate, upgrade and/or construct bus stop infrastructure including access, paving, signage, lighting, shelters and other amenities & associated equipment.	Transit	City of Albuquerque-ABQ Ride	643,727	Funded	
431.4	ABQ Ride - Bus Stop Facilities Improvements (FY 2015 Allocation)	ABQ Ride System Wide		Rehabilitate, upgrade and/or construct bus stop infrastructure including access, paving, signage, lighting, shelters and other amenities & associated equipment.	Transit	City of Albuquerque-ABQ Ride	1,250,000	Funded	
431.2	ABQ Ride - Bus Stop Facilities Improvements (FY 2013)	ABQ Ride System Wide		Rehabilitate, upgrade and/or construct bus stop infrastructure including access, paving, signage, lighting, shelters and other amenities & associated equipment.	Transit	City of Albuquerque-ABQ Ride	351,124	Funded	
1431.1	ABQ Ride - Bus Stop Facilities Improvements (Late Time Frame)	ABQ Ride System Wide		Construct improvements to bus stops and stations.	Transit	City of Albuquerque-ABQ Ride	19,750,000	Late Term	
1431.0	ABQ Ride - Bus Stop Facilities Improvements (Near Time Frame)	ABQ Ride System Wide		Construct improvements to bus stops and stations.	Transit	City of Albuquerque-ABQ Ride	5,250,000	Near Term	
120.4	ABQ Ride - Coors Corridor Park & Ride	location t.b.d.		Construct park & ride facility in the Coors Corridor to support current and future transit service focused on river crossing trips.	Transit	City of Albuquerque-ABQ Ride	3,511,236	Near Term	
497.4	ABQ Ride - Fixed Route Expansions & Revisions	ABQ Ride System Wide	selected routes t.b.d.	Expansion of Bus Service pending vehicle availability, funding and any necessary interagency and intermunicipal agreements.	Transit	City of Albuquerque-ABQ Ride	877,809	Funded	
497.2	ABQ Ride - Fixed Route Expansions & Revisions (FY 2012 Allocation)	ABQ Ride System Wide	selected routes t.b.d.	Expansion of Bus Service pending vehicle availability, funding and any necessary interagency and intermunicipal agreements.	Transit	City of Albuquerque-ABQ Ride	877,809	Funded	
497.3	ABQ Ride - Fixed Route Expansions & Revisions (FY 2013 Allocation)	ABQ Ride System Wide	selected routes t.b.d.	Expansion of Bus Service pending vehicle availability, funding and any necessary interagency and intermunicipal agreements.	Transit	City of Albuquerque-ABQ Ride	877,809	Funded	
1497.1	ABQ Ride - Fixed Route Expansions & Revisions (Late Time Frame)	ABQ Ride System Wide		Expansion of bus service.	Transit	City of Albuquerque-ABQ Ride	15,800,000	Late Term	
1497.0	ABQ Ride - Fixed Route Expansions & Revisions (Near Time Frame)	ABQ Ride System Wide		Expansion of bus service.	Transit	City of Albuquerque-ABQ Ride	42,000,000	Near Term	
374.0	ABQ Ride - Park & Ride Eagle Ranch & Coors	Coors Blvd & Eagle Ranch Rd		Construct park & ride facility in the vicinity of Coors Blvd & Eagle Ranch Rd. (Planned in cooperation with AMAFCA as primary property owner)	Transit	City of Albuquerque-ABQ Ride	3,750,000	Near Term	

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120.1	ABQ Ride - Park & Ride NW ABQ/Southern Rio Rancho	exact location t.b.d.		Construction of a park & ride facility in the northwest Albuquerque or southern Rio Rancho, most likely in the Unser Corridor. Total cost includes est of projected future construction costs.	Transit	City of Albuquerque-ABQ Ride	5,000,000	Near Term	
120.2	ABQ Ride - Park & Ride: Facility Development	ABQ Ride Service Area	various locations	Develop park & ride facilities at various locations. Includes design, ROW, Env., & Construction.	Transit	City of Albuquerque-ABQ Ride	585,206	Funded	
120.3	ABQ Ride - Park & Ride: Facility Development	ABQ Ride Service Area	various locations	Develop park & ride facilities at various locations. Includes design, ROW, Env., & Construction. (Note funds transferred to FTA of which $500,000 of CMAQ-M funds will be utilized under TA00351.)	Transit	City of Albuquerque-ABQ Ride	625,000	Funded	
120.0	ABQ Ride - Park & Ride: Facility Development (Placeholder)	ABQ Ride Service Area	various locations	Develop park & ride facilities at various locations. Includes design, ROW, Env., & Construction.	Transit	City of Albuquerque-ABQ Ride	1,250,000	Near Term	
36.1	ABQ Ride - Staionary Fare Collection Equipment	ABQ Ride System Wide		Purchase and install stationary fare collection equipment and related structural improvements	Transit	City of Albuquerque-ABQ Ride	3,000,000	Near Term	
124.3	ABQ Ride - Transit Enhancements (FY 2012 & 2013 Allocation)	ABQ Ride Service Area		Construct bus shelters, landscaping, bike/ped access, signage, public art. $237,000=FY 2012 allocation previsouly under TA00092.	Transit	City of Albuquerque-ABQ Ride	434,276	Funded	
124.4	ABQ Ride - Transit Enhancements (FY 2014 Allocation)	ABQ Ride Service Area		Construct bus shelters, landscaping, bike/ped access, signage, public art.	Transit	City of Albuquerque-ABQ Ride	110,000	Funded	
124.5	ABQ Ride - Transit Enhancements (FY 2015 Allocation)	ABQ Ride Service Area		Construct bus shelters, landscaping, bike/ped access, signage, public art.	Transit	City of Albuquerque-ABQ Ride	112,500	Funded	
124.6	ABQ Ride - Transit Enhancements (FY 2016 Allocation)	ABQ Ride Service Area		Construct bus shelters, landscaping, bike/ped access, signage, public art.	Transit	City of Albuquerque-ABQ Ride	116,250	Funded	
124.7	ABQ Ride - Transit Enhancements (FY 2017 Allocation)	ABQ Ride Service Area		Construct bus shelters, landscaping, bike/ped access, signage, public art.	Transit	City of Albuquerque-ABQ Ride	118,750	Funded	
124.8	ABQ Ride - Transit Enhancements (FY 2018 Allocation)	ABQ Ride Service Area		Construct bus shelters, landscaping, bike/ped access, signage, public art.	Transit	City of Albuquerque-ABQ Ride	116,250	Funded	
124.9	ABQ Ride - Transit Enhancements (FY 2019 Allocation)	ABQ Ride Service Area		Construct bus shelters, landscaping, bike/ped access, signage, public art.	Transit	City of Albuquerque-ABQ Ride	118,750	Funded	
200.0	ABQ Ride - Transit Enhancements (FY 2020 Allocation)	ABQ Ride Service Area		Construct bus shelters, landscaping, bike/ped access, signage, public art, and other enhancements.	Transit	City of Albuquerque-ABQ Ride	135,000	Funded	
200.1	ABQ Ride - Transit Enhancements (FY 2020 Allocation)	ABQ Ride Service Area		Construct bus shelters, landscaping, bike/ped access, signage, public art, and other enhancements.	Transit	City of Albuquerque-ABQ Ride	137,500	Funded	
1432.1	ABQ Ride - Transit Facilities Rehabilitation (Late Time Frame)	various facilities and garages		Rehabilitate and/or repairs to bus garages and other transit facilities.	Transit	City of Albuquerque-ABQ Ride	15,800,000	Late Term	
1432.0	ABQ Ride - Transit Facilities Rehabilitation (Near Time Frame)	various facilities and garages		Rehabilitate and/or repairs to bus garages and other transit facilities.	Transit	City of Albuquerque-ABQ Ride	4,200,000	Near Term	
432.2	ABQ Ride - Transit Facility Rehabilitation (FY 2011-2012)	ABQ Ride System Wide		Rehabilitate & Remodel Transit Facilities. Some FTA 5307 funds are from FY 2011.	Transit	City of Albuquerque-ABQ Ride	1,250,000	Funded	
432.3	ABQ Ride - Transit Facility Rehabilitation (FY 2018-2019)	ABQ Ride System Wide		Rehabilitate & Remodel Transit Facilities. New CN will be issued for each FY as needed.	Transit	City of Albuquerque-ABQ Ride	625,000	Funded	
432.1	ABQ Ride - Transit Facility Rehabilitation (Placeholder)	ABQ Ride System Wide		Rehabilitate & Remodel Transit Facilities. New CN will be issued for each FY as needed.	Transit	City of Albuquerque-ABQ Ride	3,125,000	Funded	
126.2	ABQ Ride - Transit Planning (FY 2013)	ABQ Ride System Wide		Facilities & Operations Planning. Includes short, medium and long range planning activities.	Transit	City of Albuquerque-ABQ Ride	250,000	Funded	

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126.3	ABQ Ride - Transit Planning (FY 2019)	ABQ Ride System Wide		Facilities & Operations Planning. Includes short, medium and long range planning activities.	Transit	City of Albuquerque-ABQ Ride	4,500,000	Funded	
126.4	ABQ Ride - Transit Planning (FY 2021)	ABQ Ride System Wide		Facilities & Operations Planning. Includes short, medium and long range planning activities.	Transit	City of Albuquerque-ABQ Ride	4,812,500	Funded	
126.0	ABQ Ride - Transit Planning (Placeholder)	ABQ Ride System Wide		Facilities & Operations Planning. Includes short, medium and long range planning activities.	Transit	City of Albuquerque-ABQ Ride	9,000,000	Funded	
429.1	ABQ Ride - Transit Security Equipment Upgrade (FY 2016 Alloca)	ABQ Ride System Wide		Acquisition & installation of security related equipment.	Transit	City of Albuquerque-ABQ Ride	312,500	Funded	
130.4	ABQ Ride - Transit Technology Upgrade (FY 2014 Allocation)	ABQ Ride System Wide		Rehabilitate, upgrade and expand transit technologies.	Transit	City of Albuquerque-ABQ Ride	625,000	Funded	
130.5	ABQ Ride - Transit Technology Upgrade (FY 2015 Allocation)	ABQ Ride System Wide		Rehabilitate, upgrade and expand transit technologies.	Transit	City of Albuquerque-ABQ Ride	625,000	Funded	
130.6	ABQ Ride - Transit Technology Upgrade (FY 2016 Allocation)	ABQ Ride System Wide		Rehabilitate, upgrade and expand transit technologies.	Transit	City of Albuquerque-ABQ Ride	1,250,000	Funded	
130.7	ABQ Ride - Transit Technology Upgrade (FY 2017 Allocation)	ABQ Ride System Wide		Rehabilitate, upgrade and expand transit technologies.	Transit	City of Albuquerque-ABQ Ride	625,000	Funded	
130.8	ABQ Ride - Transit Technology Upgrade (FY 2018-2019 Allocation)	ABQ Ride System Wide		Rehabilitate, upgrade and expand transit technologies.	Transit	City of Albuquerque-ABQ Ride	625,000	Funded	
130.9	ABQ Ride - Transit Technology Upgrade (FY 2021 Allocation)	ABQ Ride System Wide		Rehabilitate, upgrade and expand transit technologies.	Transit	City of Albuquerque-ABQ Ride	1,000,000	Near Term	
121.3	ABQ Ride - Vehicles & Equip. Purchase (FY 2013 Revenue Vehicles)	ABQ Ride System Wide		Replace buses and associated equipment including fare boxes, debt service and manufacturing inspections.	Transit	City of Albuquerque-ABQ Ride	20,610,336	Funded	
121.4	ABQ Ride - Vehicles & Equip. Purchase (FY 2014 Revenue Vehicles)	ABQ Ride System Wide		Replace buses and associated equipment including fare boxes, debt service and manufacturing inspections.	Transit	City of Albuquerque-ABQ Ride	9,324,096	Funded	
121.5	ABQ Ride - Vehicles & Equip. Purchase (FY 2015 Revenue Vehicles)	ABQ Ride System Wide		Replace buses and associated equipment including fare boxes, debt service and manufacturing inspections.	Transit	City of Albuquerque-ABQ Ride	4,381,928	Funded	
121.6	ABQ Ride - Vehicles & Equip. Purchase (FY 2016 Revenue Vehicles)	ABQ Ride System Wide		Replace buses and associated equipment including fare boxes, debt service and manufacturing inspections.	Transit	City of Albuquerque-ABQ Ride	10,824,096	Funded	
121.7	ABQ Ride - Vehicles & Equip. Purchase (FY 2017 Revenue Vehicles)	ABQ Ride System Wide		Replace buses and associated equipment including fare boxes, debt service and manufacturing inspections.	Transit	City of Albuquerque-ABQ Ride	5,580,723	Funded	
121.8	ABQ Ride - Vehicles & Equip. Purchase (FY 2018 Revenue Vehicles)	ABQ Ride System Wide		Replace buses and associated equipment including fare boxes, debt service and manufacturing inspections.	Transit	City of Albuquerque-ABQ Ride	10,522,891	Funded	
121.9	ABQ Ride - Vehicles & Equip. Purchase (FY 2019-2021Rev. Vehicles)	ABQ Ride System Wide		Replace buses and associated equipment including fare boxes, debt service and manufacturing inspections.	Transit	City of Albuquerque-ABQ Ride	24,491,567	Funded	
1121.1	ABQ Ride - Vehicles & Equip. Purchase (Late Time Frame Revenue Vehicles)			Replace buses and associated equipment.	Transit	City of Albuquerque-ABQ Ride	182,490,000	Late Term	
1121.0	ABQ Ride - Vehicles & Equip. Purchase (Near Time Frame Revenue Vehicles)			Replace buses and associated equipment.	Transit	City of Albuquerque-ABQ Ride	48,510,000	Near Term	
391.2	Alvarado Transp. Ctr.: Santa Fe Freight Bldg Renovation	Old Santa Fe Freight Bldg	1st Street SW, Albuquerque, NM	Renovate the building to house NM Rail Runner Express offices and dispatch and RMRTD offices.	Transit	Rio Metro Transit Dist	11,000,000	Near Term	
125.2	AMPA Wide JARC (FY 2012)	AMPA Wide		Fund eligible Job Access Reverse Commute Programs. COMPLETED	Transit	MRCOG	554,499	Funded	

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125.3	AMPA Wide JARC (FY 2013 using FY 2012 Alloca)	AMPA Wide		Fund eligible Job Access Reverse Commute Programs. COMPLETED	Transit	MRCOG	526,868	Funded	
127.2	AMPA Wide New Freedom Program (FY 2012)	AMPA Wide		Fund eligible New Freedom programs. COMPLETED	Transit	MRCOG	296,135	Funded	
127.3	AMPA Wide New Freedom Program (FY 2013 using FY 2012 Alloca)	AMPA Wide		Fund eligible New Freedom programs. COMPLETED	Transit	MRCOG	283,840	Funded	
345.4	Central Ave BRT - Phase IB	98th Street	Tramway Blvd	Planning, engineering, ROW, utilities, vehicle acquisitions, multi-modal improvements & construction with other appurtenances as necessary. (Additionally $500,000 of CMAQ-M has already been transferred to FTA under TA00084 to be used for this proj.)	Transit	City of Albuquerque-ABQ Ride	48,605,656	Funded	
345.3	Central Ave High Capcity Transit System Improvements Stage II	I-40 & West Central Interchange	Tramway Blvd	Continue implementation of higher level of transit with connections to major activity centers. Possibile modes include: improved BRT, dedicated tranist lanes, light-rail, streetcar, expanded local bus service, etc. to be determined and phased.	Transit	City of Albuquerque-ABQ Ride	85,000,000	Late Term	
345.2	Central Avenue Cooridor BRT - Phase 1	Central and Atrisco Vista Blvd.	Central and Tramway Blvd.	Perform planning, eng, and/or const. pahase tasks for BRT in the Central Ave. cooridor; may include planning, PE, final design, ROW acqusition, utility rellocations, vehicle acqusition, connecting bus & multi-modal improvements and construction.	Transit	City of Albuquerque-ABQ Ride	7,786,112	Funded	
213.0	Cochiti Pueblo Transit Program	Pueblo of Cochiti Visitor Center	Tent Rocks National Monument	Purchase shuttle buses for new route and infrastructure improvements.	Transit	Pueblo of Cochiti	786,250	Funded	
580.0	Commuter Rail Capital Maintenance	Albuquerque Large Urban Area		Railroad track improvements on commuter rail line in Albuquerque UZA; includes tie replacement at various locations and Mountain Rd RRxing resurfacing & track rehab. FUNDS UTILIZED.	Transit	NM Rail Runner Exp.	1,117,743	Funded	
134.0	Commuter Rail Maint of Eqiup & Maint of Way (FY 2011)	NMRRX Service Area		Provide capital maintenance of equipment and capital maintenance of way (track improvements, etc.) for the New Mexico Railrunner Express commuter train system. FTA 5307 funds are from FY 2011.	Transit	Rio Metro NMRRX	6,028,769	Funded	
134.1	Commuter Rail Maint of Eqiup & Maint of Way (FY 2012 Allocation)	NMRRX Service Area		Provide capital maintenance of equipment and capital maintenance of way (track improvements, etc.) for the New Mexico Railrunner Express commuter train system.	Transit	Rio Metro NMRRX	7,998,038	Funded	
134.2	Commuter Rail Maint of Eqiup & Maint of Way (FY 2013 Allocation)	NMRRX Service Area		Provide capital maintenance of equipment and capital maintenance of way (track improvements, etc.) including 1% for Security and 1% for Associated Transit Improvements for the New Mexico Railrunner Express commuter train system.	Transit	Rio Metro NMRRX	10,048,232	Funded	
134.3	Commuter Rail Maint of Eqiup & Maint of Way (FY 2015 Alloc)	NMRRX Service Area		Provide capital maintenance of equipment and capital maintenance of way (track improvements, etc.) including 1% for Security and 1% for Associated Transit Improvements for the NMRRX commuter train system and transit operations.	Transit	Rio Metro NMRRX	16,836,875	Funded	

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MPO #	Project Title	From	To	Project Description	Project Type	Lead Agency	MTP Project Cost	Time Frame	Category Totals
134.4	Commuter Rail Maint of Eqiup & Maint of Way (FY 2016 Alloc)	NMRRX Service Area		Provide capital maintenance of equipment and capital maintenance of way (track improvements, etc.) including 1% for Security and 1% for Associated Transit Improvements for the NMRRX commuter train system and transit operations.	Transit	Rio Metro NMRRX	17,341,250	Funded	
134.5	Commuter Rail Maint of Eqiup & Maint of Way (FY 2017 Alloc)	NMRRX Service Area		Provide capital maintenance of equipment and capital maintenance of way (track improvements, etc.) including 1% for Security and 1% for Associated Transit Improvements for the NMRRX commuter train system and transit operations.	Transit	Rio Metro NMRRX	17,861,875	Funded	
134.7	Commuter Rail Maint of Eqiup & Maint of Way (FY 2019 Alloc)	NMRRX Service Area		Provide capital maintenance of equipment and capital maintenance of way (track improvements, etc.) including 1% for Security and 1% for Associated Transit Improvements for the NMRRX commuter train system and transit operations.	Transit	Rio Metro NMRRX	18,950,163	Funded	
134.6	Commuter Rail Maint of Eqiup & Maint of Way. (FY 2018 Alloc)	NMRRX Service Area		Provide capital maintenance of equipment and capital maintenance of way (track improvements, etc.) including 1% for Security and 1% for Associated Transit Improvements for the NMRRX commuter train system and transit operations.	Transit	Rio Metro NMRRX	18,398,125	Funded	
134.8	Commuter Rail Maint of Eqiup & Way & Transit Oper (FY 2014 Alloc)	NMRRX Service Area		Provide capital maintenance of equipment & capital maintenance of way (track improvements, etc.) including 1% for Security and 1% for Associated Transit Imp for the NMRX commuter train system & transit operations.	Transit	Rio Metro NMRRX	15,784,799	Funded	
134.9	Commuter Rail Maint of Eqiup & Way & Transit Oper (FY 2020 Alloc)	NMRRX Service Area		Provide capital maintenance of equipment and capital maintenance of way (track improvements, etc.) including 1% for Security and 1% for Associated Transit Improvements for the New Mexico Railrunner Express commuter train system and transit operations.	Transit	Rio Metro NMRRX	19,786,250	Funded	
135.0	Commuter Rail Maint of Eqiup & Way & Transit Oper (FY 2021 Alloc)	NMRX Service Area		Provide capital maintenance of equipment and capital maintenance of way (track improvements, etc.) including 1% for Security and 1% for Associated Transit Improvements for the New Mexico Railrunner Express commuter train system and transit operations.	Transit	Rio Metro NMRRX	20,380,000	Funded	
135.1	Commuter Rail Maint of Eqiup & Way & Transit Oper (FY 2022 Alloc)	NMRX Service Area		Provide capital maintenance of equipment and capital maintenance of way (track improvements, etc.) including 1% for Security and 1% for Associated Transit Improvements for the New Mexico Railrunner Express commuter train system and transit operations.	Transit	Rio Metro NMRRX	21,000,000	Near Term	

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135.2	Commuter Rail Maint of Eqiup & Way & Transit Oper (FY 2023 Alloc)	NMRX Service Area		Provide capital maintenance of equipment and capital maintenance of way (track improvements, etc.) including 1% for Security and 1% for Associated Transit Improvements for the New Mexico Railrunner Express commuter train system and transit operations.	Transit	Rio Metro NMRRX	22,000,000	Near Term	
135.3	Commuter Rail Maint of Eqiup & Way & Transit Oper (FY 2024 Alloc)	NMRX Service Area		Provide capital maintenance of equipment and capital maintenance of way (track improvements, etc.) including 1% for Security and 1% for Associated Transit Improvements for the New Mexico Railrunner Express commuter train system and transit operations.	Transit	Rio Metro NMRRX	23,000,000	Near Term	
135.4	Commuter Rail Maint of Eqiup & Way & Transit Oper (FY 2025 Alloc)	NMRX Service Area		Provide capital maintenance of equipment and capital maintenance of way (track improvements, etc.) including 1% for Security and 1% for Associated Transit Improvements for the New Mexico Railrunner Express commuter train system and transit operations.	Transit	Rio Metro NMRRX	24,000,000	Late Term	
135.5	Commuter Rail Maint of Eqiup & Way & Transit Oper (FY 2026 Alloc)	NMRX Service Area		Provide capital maintenance of equipment and capital maintenance of way (track improvements, etc.) including 1% for Security and 1% for Associated Transit Improvements for the New Mexico Railrunner Express commuter train system and transit operations.	Transit	Rio Metro NMRRX	25,000,000	Late Term	
135.6	Commuter Rail Maint of Eqiup & Way & Transit Oper (FY 2027-2040 Alloc)	NMRX Service Area		Provide capital maintenance of equipment and capital maintenance of way (track improvements, etc.) including 1% for Security and 1% for Associated Transit Improvements for the New Mexico Railrunner Express commuter train system and transit operations.	Transit	Rio Metro NMRRX	284,252,445	Late Term	
643.0	Commuter Rail: Double Track Construction I	Los Ranchos	North Diversion Channel	Construct second main track.	Transit	Rio Metro NMRRX	8,000,000	Near Term	
644.0	Commuter Rail: Double Track Construction II	Abajo	Bern County Station	Construct second main track	Transit	Rio Metro NMRRX	11,000,000	Near Term	
646.0	Commuter Rail: Jointed Rail Replacement	North Valley	Bernalillo	Replace jointed rail with continuous welded rail	Transit	Rio Metro NMRRX	9,000,000	Near Term	
642.0	Commuter Rail: Positive Train Control System	NMRX System		Construct and install positive train control infrastructure on track, vehicles and equipment as necessary.	Transit	Rio Metro NMRRX	75,000,000	Near Term	
641.1	Commuter Rail: Albuquerque Downtown Locks & Switches			Install power switch and control point on track near Marquette Ave. Install electric locks on industry crossovers and other-than-main switches.	Transit	Rio Metro NMRRX	1,000,000	Near Term	
641.0	Commuter Rail: Albuquerque Downtown Railyard Improvements	Albuquerque Downtown Railyard		Construct new track and rail infrastructure and rehabiliate as necessary.	Transit	Rio Metro NMRRX	11,000,000	Near Term	
423.2	Commuter Rail: Balloon Fiesta Park Spur & Station	Existing Rail Line	Balloon Fiesta Park	Assess the feasibility of constructing a railroad spur and station to serve Balloon Fiesta Park	Transit	Rio Metro NMRRX	1,500,000	Funded	
642.1	Commuter Rail: Centralized Traffic Control	Abajo	Hahn	Install centralized traffic control system including signals, powered switches, track material, hardware, software, etc.	Transit	Rio Metro NMRRX	4,000,000	Near Term	

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1640.1	Commuter Rail: Facility Improvements (Late Time Frame)	AMPA Wide		Study, acquisition, design, construction, reconstruction, installation and purchase of miscellaneous rail equipment as necessary.	Transit	Rio Metro NMRRX	7,000,000	Late Term	
1640.0	Commuter Rail: Facility Improvements (Near Time Frame)	AMPA Wide		Study, acquisition, design, construction, reconstruction, installation and purchase of miscellaneous rail equipment as necessary.	Transit	Rio Metro NMRRX	5,500,000	Near Term	
1446.1	Commuter Rail: Fencing Program (Late Time Frame)			Replace and/or extend approximately 5 miles of fencing per year @ $50,000/yr.	Transit	Rio Metro NMRRX	700,000	Late Term	
1446.0	Commuter Rail: Fencing Program (Near Time Frame)			Replace and/or extend approximately 5 miles of fencing per year @ $50,000/yr.	Transit	Rio Metro NMRRX	350,000	Near Term	
422.6	Commuter Rail: Isleta Pueblo Quiet Zone Off-Track Improvements	Xing #019452T, 019451L, 019450E,	019449K, 019445H, 019443U & 019442M	Project will include off-track improvements , including work on the drainage underpass. Design under A300081 by Rio Metro.	Transit	Pueblo of Isleta	950,000	Funded	
423.4	Commuter Rail: Los Ranchos Station Improvements			Construct second platform and parking lot west of the existing Los Ranchos/Journal Center Station..	Transit	Rio Metro NMRRX	2,000,000	Near Term	
422.5	Commuter Rail: North Valley RR-xing Improvements II	various locations		Track and/or signal improvements to the railroad in the North Valley. (Also reference old CN C8S284; this project's funds are the remainder of the older project.)	Transit	Rio Metro NMRRX	18,100	Funded	
422.9	Commuter Rail: Quiet Zone-Bernalillo Town			Construct quiet zone improvements (quad gates, medians, etc.) at NMRX crossing at Avenida Bernalillo and Lucero Ave	Transit	Rio Metro NMRRX	560,000	Near Term	
422.7	Commuter Rail: Quiet Zone-Los Lunas			Construct quiet zone improvements (quad gates, medians, etc.) at NMRX crossing at Courthouse Rd & Morris Rd.	Transit	Rio Metro NMRRX	500,000	Near Term	
422.8	Commuter Rail: Quiet Zone-South Valley			Construct quiet zone improvements (quad gates, medians, etc.) at NMRX crossing at Rio Bravl Blvd, Prosperity Ave & Desert Rd.	Transit	Rio Metro NMRRX	775,000	Near Term	
645.3	Commuter Rail: Railroad Lead Improvements-Hahn	Hahn Control Point	Milepost 887.8 (north of Montano Rd.)	Reconstruct Hahn Lead (Main Track #2). Improvements include reconstructing existing roadbed, track, bridge structures and other appurtenances, and installing and upgrading signals.	Transit	Rio Metro NMRRX	4,600,000	Near Term	
645.2	Commuter Rail: Railroad Sidings Improvements-Alameda Siding	Alameda Blvd	Alameda Rd.	Construct new siding between Alameda Blvd and Alameda Rd.	Transit	Rio Metro NMRRX	1,600,000	Funded	
645.0	Commuter Rail: Railroad Sidings Improvements-Chloe	Chloe Siding		Reconstruct siding into BNSF yard.	Transit	Rio Metro NMRRX	4,025,000	Near Term	
645.1	Commuter Rail: Railroad Sidings Improvements-Los Lunas	Morris Road	Los Lunas Station	Reconstruct siding between Los Lunas Station and Morris Road	Transit	Rio Metro NMRRX	2,000,000	Near Term	
1445.0	Commuter Rail: Rolling Stock Purchase			Purchase of coach cars, locomotives, and cab cars.	Transit	Rio Metro NMRRX	10,100,000	Near Term	
647.0	Commuter Rail: RR Tie Replacement Program			Replace railroad ties. (25 years at $450,000/yr)	Transit	Rio Metro NMRRX	11,250,000	Near Term	
1445.2	Commuter Rail: Service Expansion (2026-2040)			Study, acquisition, design, construct, purchase & misc. rail improvements, equipment, ROW, sidings, yards, rolling stock, etc. for service expansion.	Transit	Rio Metro NMRRX	30,000,000	Late Term	
1445.1	Commuter Rail: Service Expansion (Near Time Frame)			Study, acquisition, design, construct, purchase & misc. rail improvements, equipment, ROW, sidings, yards, rolling stock, etc. for service expansion.	Transit	Rio Metro NMRRX	30,000,000	Near Term	

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649.0	Commuter Rail: Special Equipment Purchase			Purchase, install various equipment such as: 80-Ton crane, train wash, communications equip, wind generators, vehicles	Transit	Rio Metro NMRRX	2,111,500	Near Term	
691.0	Los Lunas Park & Ride Lot Expansion	vicinity of NM Rail Runner Station		Construct/Expand park & ride lots in vicinity of NM Rail Runner Station: south, east and north of the station.	Transit	Village of Los Lunas	1,650,000	Near Term	
1039.0	Metro Area Enhanced Transit Improvement	Region Wide		Expand, enhance and improve Bus Rapid Transit, Rapid Ride and other premium transit services throughout the metropolitan area.	Transit	Rio Metro Transit Dist	30,000,000	Near Term	
1039.1	Metro Area Enhanced Transit Improvements (Late Time Frame)	Region Wide		Expand, enhance and improve Bus Rapid Transit, Rapid Ride and other premium transit services throughout the metropolitan area.	Transit	Rio Metro Transit Dist	30,000,000	Late Term	
39.2	NW Metro Area Bus Rapid Transit Implementation Phase I	NW Albuquerque & Rio Rancho Areas	PdN & I-25 Corridors Journal Ctr. UNM/CNM & Downtown	Final design, ROW & construction on the Minimum Operable Segment produced by the BRT Alternatives Analysis (CN=TA00010) and subsequent environmental work.	Transit	Rio Metro Transit Dist	50,000,000	Late Term	
39.3	NW Metro Area Bus Rapid Transit Implementation Phase II	NW Albuquerque & Rio Rancho Areas	PdN & I-25 Corridors	Expand and/or enhance BRT from the NW metro area to the I-25 corridor/UNM/CNM.	Transit	Rio Metro Transit Dist	60,000,000	Late Term	
39.4	NW Metro Area Bus Rapid Transit Implementation Phase III	NW Albuquerque & Rio Rancho Areas	PdN & I-25 Corridors	Expand and/or enhance BRT from the NW metro area to the I-25 corridor/UNM/CNM.	Transit	Rio Metro Transit Dist	40,000,000	Late Term	
39.1	NW Metro Area Bus Service Phase I	NW Albuquerque & Rio Rancho Areas	PdN & I-25 Corridors, Journal Ctr, UNM/CNM & Downtown	Design, ROW and construction of bus service improvements at EB PdN ramp at 2nd Street and other various locations including development of park and ride lots.	Transit	Rio Metro Transit Dist	1,053,371	Funded	
39.0	NW Metro Area Unser Blvd/PdN Bus Rapid Transit Feasibility Study	NW Albuquerque & Rio Rancho Areas	PdN & I-25 Corridors	Feasibility study and design for BRT (Bus Rapid Transit) including study of dedicated rights-of-way, etc. This is a Joint Effort with ABQ Ride. COMPLETED	Transit	Rio Metro Transit Dist	787,500	Funded	
536.0	Pueblo of Isleta Transit	Pueblo wide		Develop a feasability study for implementing a transit program within the Pueblo of Isleta that ties to existing services in adjacent counties.	Transit	Pueblo of Isleta	30,000	Funded	
357.0	Railroad Crossing Imprv.-North Camino de Los Chavez Crossing	Crossing # 019469N		Imrove railroad crossing; includes crossing surface improvements, signage, pavement markings and other appurtenances as necessary.	Transit	NMDOT Transit Rail	72,000	Funded	
139.3	Rio Metro - Los Lunas Small Urb Transit Services (FY 2026-2040 Alloc)	Rio Metro Regional Tranist District	Los Lunas Small Urban Area/Valencia Co.	Capital, operating & administrative funds for bus and rail services for the Los Lunas Small Urban Area.	Transit	Rio Metro Transit Dist	33,758,099	Late Term	
136.0	Rio Metro - Los Lunas Small Urban Transit Services (FY 2013 Alloc)	Rio Metro Regional Tranist District	Los Lunas Small Urban Area/Valencia Co.	Operating & administrative funds for bus and rail services for the Los Lunas Small Urban Area.	Transit	Rio Metro Transit Dist	2,089,928	Funded	
136.1	Rio Metro - Los Lunas Small Urban Transit Services (FY 2014 Alloc)	Rio Metro Regional Tranist District	Los Lunas Small Urban Area/Valencia Co.	Operating & administrative funds for bus and rail services for the Los Lunas Small Urban Area.	Transit	Rio Metro Transit Dist	1,439,850	Funded	
136.2	Rio Metro - Los Lunas Small Urban Transit Services (FY 2015 Alloc)	Rio Metro Regional Tranist District	Los Lunas Small Urban Area/Valencia Co.	Capital, operating & administrative funds for bus and rail services for the Los Lunas Small Urban Area.	Transit	Rio Metro Transit Dist	1,832,100	Funded	
136.3	Rio Metro - Los Lunas Small Urban Transit Services (FY 2016 Alloc)	Rio Metro Regional Tranist District	Los Lunas Small Urban Area/Valencia Co.	Capital, operating & administrative funds for bus and rail services for the Los Lunas Small Urban Area.	Transit	Rio Metro Transit Dist	1,894,000	Funded	
136.4	Rio Metro - Los Lunas Small Urban Transit Services (FY 2017 Alloc)	Rio Metro Regional Tranist District	Los Lunas Small Urban Area/Valencia Co.	Capital, operating & administrative funds for bus and rail services for the Los Lunas Small Urban Area.	Transit	Rio Metro Transit Dist	1,660,000	Funded	

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136.5	Rio Metro - Los Lunas Small Urban Transit Services (FY 2018 Alloc)	Rio Metro Regional Tranist District	Los Lunas Small Urban Area/Valencia Co.	Capital, operating & administrative funds for bus and rail services for the Los Lunas Small Urban Area.	Transit	Rio Metro Transit Dist	1,728,000	Funded	
136.6	Rio Metro - Los Lunas Small Urban Transit Services (FY 2019 Alloc)	Rio Metro Regional Tranist District	Los Lunas Small Urban Area/Valencia Co.	Capital, operating & administrative funds for bus and rail services for the Los Lunas Small Urban Area.	Transit	Rio Metro Transit Dist	2,182,375	Funded	
136.7	Rio Metro - Los Lunas Small Urban Transit Services (FY 2020 Alloc)	Rio Metro Regional Tranist District	Los Lunas Small Urban Area/Valencia Co.	Capital, operating & administrative funds for bus and rail services for the Los Lunas Small Urban Area.	Transit	Rio Metro Transit Dist	2,247,375	Funded	
136.8	Rio Metro - Los Lunas Small Urban Transit Services (FY 2021 Alloc)	Rio Metro Regional Tranist District	Los Lunas Small Urban Area/Valencia Co.	Capital, operating & administrative funds for bus and rail services for the Los Lunas Small Urban Area.	Transit	Rio Metro Transit Dist	2,300,000	Funded	
136.9	Rio Metro - Los Lunas Small Urban Transit Services (FY 2022 Alloc)	Rio Metro Regional Tranist District	Los Lunas Small Urban Area/Valencia Co.	Capital, operating & administrative funds for bus and rail services for the Los Lunas Small Urban Area.	Transit	Rio Metro Transit Dist	2,400,000	Near Term	
139.0	Rio Metro - Los Lunas Small Urban Transit Services (FY 2023 Alloc)	Rio Metro Regional Tranist District	Los Lunas Small Urban Area/Valencia Co.	Capital, operating & administrative funds for bus and rail services for the Los Lunas Small Urban Area.	Transit	Rio Metro Transit Dist	1,833,768	Near Term	
139.1	Rio Metro - Los Lunas Small Urban Transit Services (FY 2024 Alloc)	Rio Metro Regional Tranist District	Los Lunas Small Urban Area/Valencia Co.	Capital, operating & administrative funds for bus and rail services for the Los Lunas Small Urban Area.	Transit	Rio Metro Transit Dist	1,870,443	Near Term	
139.2	Rio Metro - Los Lunas Small Urban Transit Services (FY 2025 Alloc)	Rio Metro Regional Tranist District	Los Lunas Small Urban Area/Valencia Co.	Capital, operating & administrative funds for bus and rail services for the Los Lunas Small Urban Area.	Transit	Rio Metro Transit Dist	1,907,851	Late Term	
137.0	Rio Metro Community Transportation (Job Access 2014)	AMPA Wide		Provide transit services, which may include taxi services, circulators, vanpool programs, etc., operating within or connecting to the albuquerque Urbanized Area.	Transit	Rio Metro Transit Dist	360,000	Funded	
137.1	Rio Metro Community Transportation (Job Access 2015)	AMPA Wide		Provide transit services, which may include taxi services, circulators, vanpool programs, etc., operating within or connecting to the albuquerque Urbanized Area.	Transit	Rio Metro Transit Dist	371,000	Funded	
137.2	Rio Metro Community Transportation (Job Access 2016)	AMPA Wide		Provide transit services, which may include taxi services, circulators, vanpool programs, etc., operating within or connecting to the albuquerque Urbanized Area.	Transit	Rio Metro Transit Dist	382,000	Funded	
137.3	Rio Metro Community Transportation (Job Access 2017)	AMPA Wide		Provide transit services, which may include taxi services, circulators, vanpool programs, etc., operating within or connecting to the albuquerque Urbanized Area.	Transit	Rio Metro Transit Dist	393,000	Funded	
137.4	Rio Metro Community Transportation (Job Access 2018)	AMPA Wide		Provide transit services, which may include taxi services, circulators, vanpool programs, etc., operating within or connecting to the albuquerque Urbanized Area.	Transit	Rio Metro Transit Dist	405,000	Funded	
137.5	Rio Metro Community Transportation (Job Access 2019)	AMPA Wide		Provide transit services, which may include taxi services, circulators, vanpool programs, etc., operating within or connecting to the albuquerque Urbanized Area.	Transit	Rio Metro Transit Dist	417,000	Funded	
137.6	Rio Metro Community Transportation (Job Access 2020)	AMPA Wide		Provide transit services, which may include taxi services, circulators, vanpool programs, etc., operating within or connecting to the albuquerque Urbanized Area.	Transit	Rio Metro Transit Dist	471,000	Funded	

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137.7	Rio Metro Community Transportation (Job Access 2021)	AMPA Wide		Provide transit services, which may include taxi services, circulators, vanpool programs, etc., operating within or connecting to the albuquerque Urbanized Area.	Transit	Rio Metro Transit Dist	485,000	Funded	
137.8	Rio Metro Community Transportation (Job Access 2022)	AMPA Wide		Provide transit services, which may include taxi services, circulators, vanpool programs, etc., operating within or connecting to the albuquerque Urbanized Area.	Transit	Rio Metro Transit Dist	500,000	Near Term	
137.9	Rio Metro Community Transportation (Job Access 2023)	AMPA Wide		Provide transit services, which may include taxi services, circulators, vanpool programs, etc., operating within or connecting to the albuquerque Urbanized Area.	Transit	Rio Metro Transit Dist	515,000	Near Term	
140.0	Rio Metro Community Transportation (Job Access 2024)	AMPA Wide		Provide transit services, which may include taxi services, circulators, vanpool programs, etc., operating within or connecting to the albuquerque Urbanized Area.	Transit	Rio Metro Transit Dist	417,000	Near Term	
140.1	Rio Metro Community Transportation (Job Access 2025)	AMPA Wide		Provide transit services, which may include taxi services, circulators, vanpool programs, etc., operating within or connecting to the albuquerque Urbanized Area.	Transit	Rio Metro Transit Dist	417,000	Late Term	
140.2	Rio Metro Community Transportation (Job Access 2026-2040 Alloc)	AMPA Wide		Provide transit services, which may include taxi services, circulators, vanpool programs, etc., operating within or connecting to the albuquerque Urbanized Area.	Transit	Rio Metro Transit Dist	6,255,000	Late Term	
129.4	Rio Metro Transit 5311 Funding (FY 2014)	Rio Metro Regional Transit District	outside ABQ & Los Lunas UZAs	Capital, operating & administrative funds for bus service in rural areas.	Transit	Rio Metro Transit Dist	1,934,420	Funded	
129.5	Rio Metro Transit 5311 Funding (FY 2015)	Rio Metro Regional Transit District	outside ABQ & Los Lunas UZAs	Capital, operating & administrative funds for bus service in rural areas.	Transit	Rio Metro Transit Dist	2,086,250	Funded	
129.6	Rio Metro Transit 5311 Funding (FY 2016)	Rio Metro Regional Transit District	outside ABQ & Los Lunas UZAs	Capital, operating & administrative funds for bus service in rural areas.	Transit	Rio Metro Transit Dist	1,847,900	Funded	
129.7	Rio Metro Transit 5311 Funding (FY 2017)	Rio Metro Regional Transit District	outside ABQ & Los Lunas UZAs	Capital, operating & administrative funds for bus service in rural areas.	Transit	Rio Metro Transit Dist	1,896,000	Funded	
129.8	Rio Metro Transit 5311 Funding (FY 2018)	Rio Metro Regional Transit District	outside ABQ & Los Lunas UZAs	Capital, operating & administrative funds for bus service in rural areas.	Transit	Rio Metro Transit Dist	2,240,000	Funded	
129.9	Rio Metro Transit 5311 Funding (FY 2019)	Rio Metro Regional Transit District	outside ABQ & Los Lunas UZAs	Capital, operating & administrative funds for bus service in rural areas.	Transit	Rio Metro Transit Dist	2,292,000	Funded	
	Rio Metro Transit 5311 Funding (FY 2020)	Rio Metro Regional Transit District	outside ABQ & Los Lunas UZAs	Capital, operating & administrative funds for bus service in rural areas.	Transit	Rio Metro Transit Dist	2,408,000	Funded	
	Rio Metro Transit 5311 Funding (FY 2021)	Rio Metro Regional Transit District	outside ABQ & Los Lunas UZAs	Capital, operating & administrative funds for bus service in rural areas.	Transit	Rio Metro Transit Dist	2,480,000	Funded	
129.2	Rio Metro Transit 5311 Operations & Administration (FY 2012)	Rio Metro Regional Transit District	outside ABQ Urban Area	Operating & administrative funds for bus service in areas outside the census defined Albuquerque Urban Area. Ref. contract M01124. COMPLETED	Transit	Rio Metro Transit Dist	1,422,924	Funded	
129.3	Rio Metro Transit 5311 Operations & Administration (FY 2013)	Rio Metro Regional Transit District	outside ABQ Urban Area	Operating & administrative funds for bus service in areas outside the census defined Albuquerque Urban Area. COMPLETED	Transit	Rio Metro Transit Dist	1,941,415	Funded	
453.0	Rio Metro Transit Asset Management System (TAMS) (FY 2012 Alloc.)			Purchase, implement and maintain an automated Transit Asset Management System (TAMS)	Transit	Rio Metro Transit Dist	425,000	Funded	

2040 MTP Project Listing by Project Type, then Project Title - PUBLIC Funds (Federal, State & Local)

Time Frame: "Funded" = programmed with federal, state or local funding between 2012-2021; "Near Term" = project completion anticipated 2015-2025; "Late Term" = project completion anticipated 2025-2040

MPO #	Project Title	From	To	Project Description	Project Type	Lead Agency	MTP Project Cost	Time Frame	Category Totals
604.2	Rio Metro Transit Bus Purchase (FY 2012)			Vehicle purchase per fleet management plan. Fund breakdown= Capital Cost of Contract: $430,795 + $107,699 match and Reg Capital: $4,800 + 41,200 match. Ref. contract M01124.	Transit	Rio Metro Transit Dist	544,494	Funded	
604.3	Rio Metro Transit Capital (FY 2013)	Rio Metro Regional Transit District	outside ABQ Urban Area	Capital purchase.	Transit	Rio Metro Transit Dist	20,000	Funded	
693.4	Rio Metro Transit Facilities	Rio Metro Service Area Wide		Construct bus stops, access to bus stops, park & ride lots, shelters and associated equipment.	Transit	Rio Metro Transit Dist	179,073	Funded	
693.5	Rio Metro Transit Facilities	Rio Metro Service Area Wide		Construct bus stops, access to bus stops, park & ride lots, shelters and associated equipment.	Transit	Rio Metro Transit Dist	266,854	Funded	
693.6	Rio Metro Transit Facilities	Rio Metro Service Area Wide		Construct bus stops, access to bus stops, park & ride lots, shelters and associated equipment.	Transit	Rio Metro Transit Dist	50,000	Funded	
693.7	Rio Metro Transit Facilities	Rio Metro Service Area Wide		Construct bus stops, access to bus stops, park & ride lots, shelters and associated equipment.	Transit	Rio Metro Transit Dist	50,000	Funded	
693.3	Rio Metro Transit Facilities (FY 2013)	Rio Metro Service Area Wide		Construct bus stops, access to bus stops, park & ride lots, shelters and associated equipment.	Transit	Rio Metro Transit Dist	175,562	Funded	
1693.1	Rio Metro Transit Facilities (Late Time Frame)			Rehabilitate, construct, acquire, and/or repair bus garages, storage, offices, shelters, and other transit facilities.	Transit	Rio Metro Transit Dist	2,800,000	Late Term	
1693.0	Rio Metro Transit Facilities (Near Time Frame)			Rehabilitate, construct, acquire, and/or repair bus garages, storage, offices, shelters, and other transit facilities.	Transit	Rio Metro Transit Dist	2,800,000	Near Term	
133.1	Rio Metro Transit Rural JARC (FY 2012)	Rio Metro Transit District Wide	outside Albuquerque Census Defined Urban Area	Fund and/or provide Job Access Reverse Commute programs. Ref. contract M01125. COMPLETED	Transit	Rio Metro Transit Dist	316,608	Funded	
133.2	Rio Metro Transit Rural JARC (FY 2013)	Rio Metro Transit District Wide	outside Albuquerque Census Defined Urban Area	Fund and/or provide Job Access Reverse Commute programs. COMPLETED	Transit	Rio Metro Transit Dist	444,400	Funded	
1129.0	Rio Metro Transit Rural Transit Service (5311) (FY 2022-2025)	Rio Metro Regional Transit District	outside Albuquerque & Los Lunas UZAs	Capital, operating and administrative funds for bus service in rural areas.	Transit	Rio Metro Transit Dist	16,044,000	Near Term	
1129.1	Rio Metro Transit Rural Transit Service (5311) (FY 2026-2040)	Rio Metro Regional Transit District	outside Albuquerque & Los Lunas UZAs	Capital, operating and administrative funds for bus service in rural areas.	Transit	Rio Metro Transit Dist	32,088,000	Late Term	
1604.1	Rio Metro Transit Vehicles & Equip. Purchase (Late Time Frame Revenue Vehicles)			Replace buses and associated equipment.	Transit	Rio Metro Transit Dist	7,900,000	Late Term	
1604.0	Rio Metro Transit Vehicles & Equip. Purchase (Near Time Frame Revenue Vehicles)			Replace buses and associated equipment.	Transit	Rio Metro Transit Dist	2,100,000	Near Term	

2040 MTP Project Listing by Project Type, then Project Title - PUBLIC Funds (Federal, State & Local)

MPO #	Project Title	From	To	Project Description	Project Type	Lead Agency	MTP Project Cost	Time Frame	Category Totals
	Time Frame: "Funded" = programmed with federal, state or local funding between 2012-2021; "Near Term" = project completion anticipated 2015-2025; "Late Term" = project completion anticipated 2025-2040								
692.1	UNM/CNM/Sunport BRT	Menaul and University	Sunport	Project Development for UNM/CNM/Sunport BRT. (UNM and CNM Area Transportation and Land Use Coordination Study A301130)	Transit	Rio Metro Transit Dist	1,588,031	Funded	
105.0	Veterans' Intitiative Website Development Project			Implement a one-click website for referrals to public transportaton services, workforce services, human services, and the veterans' community.	Transit	MRCOG	407,500	Funded	**Total Transit Projects**
721.0	Volcano Heights Transit Blvd. Construction	Paseo del Norte	Unser Blvd	Plan, design and construct the proposed Transit Blvd in coordination with RMRTD and ABQ-Ride for the Volcano Heights Sector Development Plan.	Transit	City of Albuquerque-DMD	4,850,000	Near Term	**1,809,046,248**
				Total Est. Cost of All Publicly Funded Projects			**5,087,266,371**		
				Projected Federal & State Revenues 2012-2040			4,831,978,993		
				Projected Local Revenues 2012-2040			5,905,378,655		
				Projected TotalPublic Revenues			**10,737,357,648**		
				Projected Maint. & Operations Cost for All Agencies			5,649,589,429		
				Projected Public Revenue Available for Capital Projects			**5,087,768,219**		
				Total Est. Cost of All Publicly Funded Projects (from above)			**5,087,266,371**		
				Difference (Captial Available - Total Projects' Cost)			501,848		
								%	**Category Totals**
				Total Cost of All Bike/Ped Projects (Public Funds)				**5.19%**	**263,944,607**
				Total Cost of All Highway Capacity Projects (Public Funds)				**20.38%**	**1,036,980,106**
				Total Cost of All Highway and Bridge Preservation Projects (Public Funds)				**32.02%**	**1,628,885,094**
				Total Cost of All ITS-TSM Projects (Public Funds)				**3.03%**	**154,255,556**
				Total Cost of All Miscellaneous Projects (Public Funds)				**1.50%**	**76,131,684**
				Total Cost of All Safety Projects (Public Funds)				**1.59%**	**80,858,290**
				Total Cost of All TDM Projects (Public Funds)				**0.73%**	**37,164,786**
				Total Cost of All Transit Projects (Public Funds)				**35.56%**	**1,809,046,248**
				Total Est. Cost of All Projects (Public Funds)				**100.00%**	**5,087,266,371**

2040 MTP Project Listing by Project Type, then Project Title - PRIVATE-DEVELOPER FUNDED PROJECTS

Time Frame: "Funded" = programmed with federal, state or local funding between 2012-2021; "Near Term" = project completion anticipated 2015-2025; "Late Term" = project completion anticipated 2025-2040

MPO #	Project Title	From	To	Project Description	Project Type	Lead Agency	MTP Project Cost	Time Frame	Category Totals
474.1	98th St Bike Lanes (SW ABQ)	Sen Dennis Chavez Blvd	Blake Rd	Build Bike Lanes	Bike/Ped	Private	1,815,000	Near Term	
815.0	Gibson Blvd Bike Lane & Bike Trail	Snow Vista Channel & Barbados Ave	Unser Blvd	Construct Bike Lanes/Trail	Bike/Ped	Private	1,980,000	Near Term	
476.2	Gibson Blvd West Bike Facilities	Atrisco Vista Blvd	western Albuquerque City Limits	Construct bike facilities. (Bike lanes if road is built) CHANGE TO A PRIVATELY FUNDED PROJECT PER BERN CO	Bike/Ped	Private	1,608,750	Late Term	
883.0	High Mesa Dr Bike/Ped Facilities	Ladera Dr	98th St	Construct bicycle/pedestrain facilities. CHANGE LEAD TO PRIVATE PER BERN CO	Bike/Ped	Private	225,000	Late Term	
484.1	Irving Blvd Bike Lanes (B)	Universe Blvd	La Paz Dr	Build Bike Lanes.	Bike/Ped	Private	1,072,500	Near Term	
878.0	La Orilla Bike Trail (Eastern Sect)	Coors Blvd	Rio Grande Bosque	Construct Bike Trail	Bike/Ped	Private	198,000	Near Term	
878.1	La Orilla Bike Trail (Western Sect)	Villa Corta Del Sur	Coors Blvd	Construct Bike Trail	Bike/Ped	Private	175,000	Late Term	
454.6	Mesa del Sol Streets Bicycle/Ped Trails Construction Stage I			Construct bicycle/pedestrain trails.	Bike/Ped	Private	5,000,000	Near Term	
454.7	Mesa del Sol Streets Bicycle/Ped Trails Construction Stage II			Construct bicycle/pedestrain trails.	Bike/Ped	Private	5,000,000	Late Term	
813.0	Sky View Channel Bike Trail	Black Arroyo	NM 528, Rio Rancho Blvd	Construct Bike Trail	Bike/Ped	Private	618,750	Near Term	**Total Private Developer Funded Bike/Ped Projects**
851.0	Upper St Bike/Ped Facilities	Middle St	Atrisco Vista Blvd (Double Eagle II Rd)	Construct bicycle/pedestrain facilities. REQUEST to CHANGE LEAD TO PRIVATE PER NMDOT.	Bike/Ped	Private	3,500,000	Late Term	**21,193,000**
562.0	10th St (Rio Rancho) Construction	Black Arroyo Blvd	Southern Blvd	Construct 2 lane roadway with 1 bike lane and sidewalk.	Capacity Proj	Private	4,300,000	Late Term	
526.7	118th Street - New I-40 Interchange	Future 118th Street Ext at I-40		Construct full interchange with I-40	Capacity Proj	Private	25,000,000	Late Term	
526.1	118th Street (Middle Section)	Amole Arroyo	Eucariz Ave	Construct new 4 lane roadway; includes bike lanes and trail	Capacity Proj	Private	2,805,000	Near Term	
526.2	118th Street (Southern Section)	Pajarito Rd	Sen Dennis Chavez Blvd	Construct new 2 lane roadway with bike lanes	Capacity Proj	Private	1,980,000	Near Term	
526.5	118th Street Ext (Northern Section)	I-40	Ladera Dr	Construct new roadway and bike lanes	Capacity Proj	Private	2,150,000	Near Term	
526.3	118th Street Ext (Northwest Section)	Ladera St	Lower St	Construct New 2 lane Roadway; includes Bike Lanes & Trail	Capacity Proj	Private	6,639,500	Near Term	
19.0	19th Ave NE/Montezuma Rd Construction	Unser Blvd	Loma Colorado Blvd	Construct new 2 lane roadway.	Capacity Proj	Private	4,600,000	Near Term	
34.1	34th Ave/Campus Ave Construction	Center Blvd	Broadmoor Blvd	Construct new 2 lane roadway.	Capacity Proj	Private	770,000	Near Term	
506.3	Alameda Blvd Reconstruction & Widening, Stage III	San Pedro Dr	Louisiana Blvd	Widen from 2 to 4 lanes	Capacity Proj	Private	2,700,000	Near Term	
506.4	Alameda Blvd Reconstruction & Widening, Stage IV	Barstow St	Ventura St	Reconstruct and widen to a 4 lane roadway (2 lanes approved in EA)	Capacity Proj	Private	2,700,000	Late Term	
521.0	Arroyo Vista Blvd (98th St) Stage I	I-40 Interchange	Lower St	Construct New 4 lane Roadway; includes Bike Lanes & Trail	Capacity Proj	Private	3,425,500	Near Term	
522.0	Arroyo Vista Blvd (98th St) Stage II	Lower St	Atrisco Vista Blvd	Construct New 4 lane Roadway; includes Bike Lanes & Trail	Capacity Proj	Private	21,157,499	Late Term	
406.5	Atrisco Vista Blvd. (PdV) Connection	Paseo del Norte	Southern Blvd & Paseo del Volcan	Construct New 2 lane Roadway; includes Bike Lanes & Trail	Capacity Proj	Private	24,400,000	Late Term	
406.6	Atrisco Vista Blvd. (PdV) Connection Widening	Paseo del Norte	Southern Blvd & Paseo del Volcan	Widen roadway from 2 to 4 lanes	Capacity Proj	Private	7,000,000	Late Term	

2040 MTP Project Listing by Project Type, then Project Title - PRIVATE-DEVELOPER FUNDED PROJECTS

MPO #	Project Title	From	To	Project Description	Project Type	Lead Agency	MTP Project Cost	Time Frame	Category Totals
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563.0	Black Arroyo Blvd Western Extension Construction	Rainbow Blvd	10th St (approx.)	Construct 2 lane roadway.	Capacity Proj	Private	4,300,000	Near Term	
490.1	Broadmoor Blvd Extension (30th St) - Middle Section, Phase 1	Paseo del Volcan	34th Ave/Campus Ave	Construct New 2 lane Roadway with bicycle facilities.	Capacity Proj	Private	6,800,000	Late Term	
490.3	Broadmoor Blvd Extension (30th St) - Northern Section	Progress Blvd	Unser Blvd	Construct New 2 lane Roadway	Capacity Proj	Private	4,730,000	Late Term	
715.0	Camino Encantadas Roadway Improvements Phase I	Hapsburg Rd	Lincoln Ave	Construct 2 lane road.	Capacity Proj	Private	144,000	Near Term	
715.1	Camino Encantadas Roadway Improvements Phase II	Camino Venada	Enchanted Hills Blvd	Construct 2 lane road.	Capacity Proj	Private	1,404,000	Near Term	
717.0	Cardiff Ave Improvements	Broadmoor Blvd	Dinadan Dr	Construct 2 lane road.	Capacity Proj	Private	1,122,497	Near Term	
501.0	Cross St Extension	Ladera Dr	Arroyo Vista Blvd (98th St)	Construct New 2 lane Roadway; includes Bike Lanes	Capacity Proj	Private	4,403,000	Near Term	
716.0	Edinburgh St. Improvements	Northern Blvd	Montezuma Blvd	Construct 2 lane road.	Capacity Proj	Private	1,618,343	Near Term	
454.0	I-25 & Mesa del Sol Interchange	I-25 New Exit	Mesa del Sol Interchange	Construct New Interchange. (Previous obligations FY 2006=$371,756 STP-D & $464,696 Borders&Corr.) Demo ID NM043 with $5,039,440 remaining per June 22, 2012 HPP reconcilliation. Project Deleted R-13-08	Capacity Proj	NMDOT D-3 (Private Funding with some public funds possible)	26,000,000	Late Term	
719.2	I-40 & Paseo del Volcan Interchange			Design and Construct Basic Interchange. Project shall include Scope, Env Doc, PE & IJR.	Capacity Proj	Private	15,400,000	Late Term	
414.3	I-40 Construction (Westside) Frontage Road	118th St	98th St	Construct a new 2 lane frontage road (to serve proposed Sun Cal Town Center development).	Capacity Proj	Private	2,240,000	Near Term	
590.1	Irving Blvd Extension, Phase 2	Del Oeste Dr	Ventana Ridge Rd	Construct New 2 lane Roadway.	Capacity Proj	Private	3,200,000	Near Term	
483.2	Irving Blvd Reconstruction & Widening (A)	Rainbow Blvd	Universe Blvd	Reconstruct & Widen from 2 to 4 lanes; includes Bike Lanes	Capacity Proj	Private	3,800,000	Near Term	
484.0	Irving Blvd Reconstruction & Widening (B)	Universe Blvd	La Paz Dr	Reconstruct & Widen from 2 to 4 lanes	Capacity Proj	Private	4,940,000	Near Term	
590.2	Irving Blvd Widening (Far Western Section)	Del Oeste Dr	Rainbow Blvd	Widen from 2 to 4 lanes with bike lanes.	Capacity Proj	Private	7,500,000	Late Term	
505.0	Ladera Drive Extension (Middle Section)	Lower St	Arroyo Vista Blvd (98th St)	Construct New 2 lane Roadway; includes Bike Lanes	Capacity Proj	Private	8,151,500	Near Term	
523.0	Ladera Drive Extension (Western Section)	Atrisco Vista Blvd	Lower St	Construct new 2 lane roadway; includes bike lanes.	Capacity Proj	Private	9,520,000	Late Term	
480.1	Ladera Drive Widening	118th St	98th St	Reconstruct & Widen from 2 to 4 lanes, includes Bike Lanes	Capacity Proj	Private	12,950,000	Near Term	
577.0	Loma Colorado Extension - Upper Section	Paseo del Volcan	Progress Blvd	Construct New 4 lane Roadway; includes Bike Lanes.	Capacity Proj	Private	9,880,000	Near Term	
504.0	Lower St Construction	Ladera Dr	Arroyo Vista Blvd (98th St)	Construct New 2 lane Roadway; includes Bike Lanes	Capacity Proj	Private	5,950,000	Near Term	
368.1	McMahon Blvd Extension	Rainbow Blvd	Universe Blvd	Construct New 2 lane Roadway. Includes bike lanes.	Capacity Proj	Private	3,213,000	Near Term	
368.7	McMahon Blvd Extension	Ventana Parkway West	Rainbow Blvd	Construct 2 lane Roadway, includes Bike Lanes	Capacity Proj	Private	5,950,000	Late Term	
368.8	McMahon Blvd Widening	Universe Blvd	Unser Blvd	Widen from 2 to 4 lanes with bike lanes and/or trail.	Capacity Proj	Private	8,200,000	Near Term	
454.1	Mesa Del Sol Parkway	Broadway & I-25 Future Exit	Mesa del Sol Loop Rd	Construct New 4 lane, divided & Bike Lanes	Capacity Proj	Private	8,325,000	Late Term	

2040 MTP Project Listing by Project Type, then Project Title - PRIVATE-DEVELOPER FUNDED PROJECTS

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454.2	Mesa del Sol Streets and Roadways Construction Stage I	various roadways in Mesa del Sol		Construct collector roads, minor arterial roadways and major arterial roadways in Mesa del Sol.	Capacity Proj	Private	80,000,000	Near Term	
454.3	Mesa del Sol Streets and Roadways Construction Stage II	various roadways in Mesa del Sol		Construct collector roads, minor arterial roadways and major arterial roadways in Mesa del Sol.	Capacity Proj	Private	100,000,000	Late Term	
524.0	Middle St Construction	Ladera Dr	98th St	Construct New 2 lane Roadway; includes Bike Lanes	Capacity Proj	Private	5,950,000	Late Term	
718.0	Montezuma Blvd Roadway Improvements	Edinburgh Dr	Unser Blvd	Construct 2 lane road.	Capacity Proj	Private	318,960	Near Term	
530.0	Paseo del Norte (Far Westside) Extension	Future NM 347 Paseo del Volcan	Atrisco Vista Blvd	Construct New 2 lane Roadway. Add bike lanes.	Capacity Proj	Private	8,600,000	Late Term	
470.0	Paseo del Norte Improvements	Rainbow Blvd	Calle Nortena	Reconstruct & Widen from 2 to 4 lanes as Stage II. Includes Bike Lanes & Trail	Capacity Proj	Private	19,142,500	Late Term	
529.0	Paseo del Norte NW Improvements & Widening Stage II	Atrisco Vista Blvd	Woodmont Ave	Reconstruct & Widen from 2 to 4 lanes; includes Bike Lanes & Trail	Capacity Proj	Private	21,750,000	Late Term	
719.3	Paseo del Volcan in Santolina	Atrisco Vista Blvd	I-40	Construct 2 lane roadway, bike lane, and sidewalk. (Does not include I-40 interchange.)	Capacity Proj	Private	11,620,000	Late Term	
600.0	Progress Blvd - City Center Area	Unser Blvd	Broadmoor Blvd	Construct New 2 lane Roadway	Capacity Proj	Private	21,930,000	Late Term	
722.1	Quail Ranch Devel. of Arterials and Collectors (Late Time Frame)			Construction of arterials and collector roads.	Capacity Proj	Private	56,349,000	Late Term	
722.0	Quail Ranch Devel. of Arterials and Collectors (Near Time Frame)			Construction of arterials and collector roads.	Capacity Proj	Private	10,000,000	Near Term	
12.1	Rainbow Blvd Extension	Irving Blvd	McMahon Blvd	Construct New 2 lane Roadway. Includes Bike Lanes & Trail	Capacity Proj	Private	3,867,500	Near Term	
12.2	Rainbow Blvd Extension Reconstruction & Widening	Irving Blvd	McMahon Blvd	Reconstruct & Widen from 2 to 4 lanes	Capacity Proj	Private	5,476,250	Late Term	
531.0	Rainbow Blvd Reconstruction & Widening	Unser Blvd	Woodmont Ave (near Volcano Vista HS)	Reconstruct & Widen from 2 to 4 lanes; includes Bike Lanes & Trail	Capacity Proj	Private	18,135,000	Near Term	
720.0	Rancho Cielo Development of Arterials and Collectors (2025 Implementation)			Develop arterial and collector network for the Rancho Cielo Master Planned Community.	Capacity Proj	Private	41,740,123	Near Term	
720.1	Rancho Cielo Development of Arterials and Collectors (2026 - 2040 Implementation)			Develop arterial and collector network for the Rancho Cielo Master Planned Community.	Capacity Proj	Private	67,827,500	Late Term	
719.0	Santolina Development of Arterials & Collectors (2025 Implementation)			Develop arterial and collector network for the Santolina Master Planned Community.	Capacity Proj	Private	55,447,000	Near Term	
719.1	Santolina Development of Arterials & Collectors (2026-2040 Implementation)			Develop arterial and collector network for the Santolina Master Planned Community.	Capacity Proj	Private	100,000,000	Late Term	
462.0	Tierra Pintada Blvd (Old 98th St) Extension	98th St	end of existing Old 98th St	Construct New 4 lane Roadway & Bike Lanes	Capacity Proj	Private	13,875,000	Near Term	
463.0	Tierra Pintada Blvd (Old 98th St) Extension	118th St	98th St	Construct New 2 lane Roadway & Bike Lanes	Capacity Proj	Private	4,998,000	Near Term	
481.0	Tierra Pintada Blvd (Old 98th St) Reconstruction	98th St	Unser Blvd	Reconstruct & Widen from 2 to 4 lanes. Includes Bike Lanes	Capacity Proj	Private	16,650,000	Late Term	
487.1	Universe Blvd Connection Construction	McMahon Blvd	Westside Blvd	Construct 2 lane roadway with 1 bike lane & sidewalk.	Capacity Proj	Private	4,380,000	Near Term	
487.2	Universe Blvd Connection Widening	McMahon Blvd	Westside Blvd	Widen from 2 to 4 lanes with additonal bike lane & sidewalk	Capacity Proj	Private	4,380,000	Late Term	
487.0	Universe Blvd Reconstruction & Widening (B)	Irving Blvd	McMahon Blvd	Reconstruct & Widen from 2 to 4 lanes	Capacity Proj	Private	4,940,000	Near Term	
498.1	Unser Blvd Extension (SW ABQ) Middle Section	Gun Club Rd	Sen Dennis Chavez Blvd	Construct new 2 lane roadway with bike lanes, sidewalks and trail	Capacity Proj	Private	3,612,000	Late Term	

2040 MTP Project Listing by Project Type, then Project Title - PRIVATE-DEVELOPER FUNDED PROJECTS

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498.2	Unser Blvd Extension (SW ABQ) Southern Section	Pajarito Rd	Dennis Chavez	Construct new 2 lane roadway with bike lanes, sidewalks and trail. REQUEST TO CHANGE LEAD TO PRIVATE PER BERN CO.	Capacity Proj	Private	13,500,000	Late Term	
607.1	Ventana Parkway West Construction	Irving Blvd	McMahon Blvd (future)	Construct 2 lane Roadway, includes Bike Lanes	Capacity Proj	Private	4,760,000	Late Term	
721.2	Volcano Heights Collectors (Late Time Frame)			Design and construct collector streets.	Capacity Proj	Private	12,782,000	Late Term	
721.1	Volcano Heights Collectors (Near Time Frame)			Design and construct collector streets.	Capacity Proj	Private	6,391,000	Near Term	
721.3	Volcano Heights PdN & Unser Blvd Interchange			Construct grade-separated urbanized, minimally sized interchange.	Capacity Proj	Private	25,000,000	Late Term	
479.0	West Mesa (Estrella) Streets & Roadway Construction Stage I	various roadways on the west mesa		Construct collector roads, minor arterial roadways and major arterial roadways on the west mesa.	Capacity Proj	Private	50,000,000	Near Term	
479.1	West Mesa (Estrella) Streets & Roadway Construction Stage II	various roadways on the west mesa		Construct collector roads, minor arterial roadways and major arterial roadways on the west mesa.	Capacity Proj	Private	50,000,000	Late Term	
608.0	Westphalia Blvd (Southern Section)	Paseo del Volcan	Progress Blvd	Construct New 4 lane Roadway	Capacity Proj	Private	8,360,000	Late Term	
508.0	Westside Blvd Reconstruction & Widening	Unser Blvd	Golf Course Rd	Reconstruct & Widen from 2 to 4 lanes and 1 Bike Lane. PARTIALLY COMPLETED	Capacity Proj	Private	10,531,250	Funded	
507.0	Westside Blvd Western Extension Construction	Rainbow Blvd	Unser Blvd	Construct 2 lane roadway with 1 bike lane & sidewalk	Capacity Proj	Private	8,600,000	Near Term	
507.1	Westside Blvd Western Extension Widening	Rainbow Blvd	Unser Blvd	Widen from 2 to 4 lanes and add 1 bike lane & sidewalk.	Capacity Proj	Private	8,600,000	Late Term	**Total Private Developer Funded Highway Capacity Projects**
482.0	Winrock Redevelopment Area Streets Construction	between Louisiana and Wyoming Blvds		Construct collector roads, minor arterial roadways and major arterial roadways in the Winrock redevelopment area.	Capacity Proj	Private	7,000,000	Near Term	**1,155,881,922**
									Total Private Developer Funded Highway & Bridge Preservation Projects
928.0	I-25 North Belen Interchange Reconfiguration	I-25 Exit 195		Complete the reconfiuration of the exit and entrance ramps and other appurtenances as necessary. Funds will be private funds to the City of Belen.	Hwy & Brg Pres	City of Belen (Private Funding)	5,100,000	Near Term	**5,100,000**
454.4	Mesa del Sol Streets Transit Facilities Construction Stage I			Construct transit guideeways and other facilities in Mesa del Sol.	Transit	Private	10,625,000	Near Term	**Total Private Developer Funded Transit Projects**
454.5	Mesa del Sol Streets Transit Facilities Construction Stage II			Construct transit guideeways and other facilities in Mesa del Sol.	Transit	Private	15,000,000	Late Term	**25,625,000**
				Total Est. Cost of All Private Developer Funded Projects			**1,207,799,922**		
			Projected Private Revenue for Projects (amount assumed pledged equals cost of projects)				**1,207,799,922**		
				Difference (Private Revenue Projected - Total Projects' Cost)			**0**		

2040 MTP Project Listing by Project Type, then Project Title - PRIVATE-DEVELOPER FUNDED PROJECTS

MPO #	Project Title	From	To	Project Description	Project Type	Lead Agency	MTP Project Cost	Time Frame	Category Totals
	Time Frame: "Funded" = programmed with federal, state or local funding between 2012-2021; "Near Term" = project completion anticipated 2015-2025; "Late Term" = project completion anticipated 2025-2040								
								%	Category Totals
				Total Cost of All Private Developer Funded Bike/Ped Projects				1.75%	21,193,000
				Total Cost of All Private Developer Funded Highway Capacity Projects				95.70%	1,155,881,922
				Total Cost of All Private Developer Funded Highway and Bridge Preservation Projects				0.42%	5,100,000
				Total Cost of All Private Developer Funded Transit Projects				2.12%	25,625,000
				Total Est. Cost of All Private Developer Funded Projects				100.00%	1,207,799,922

Administrative Modification to Appendix A - 2040 MTP Project Listing

2040 MTP Project Listing by Project Type, then Project Title - PRIVATE-DEVELOPER FUNDED PROJECTS

MPO #	Project Title	From	To	Project Description	Project Type	Lead Agency	MTP Project Cost	Time Frame
	Time Frame: "Funded" = programmed with federal, state or local funding between 2012-2021; "Near Term" = project completion anticipated 2015-2025; "Late Term" = project completion anticipated 2025-2040							
454.0	I-25 & Mesa del Sol Interchange Project DELETED from 2040 MTP time frame under Admin. Mod. #1 2017 Sept	I-25 New Exit	Mesa del Sol Interchange	Construct New Interchange. (Previous obligations FY 2006=$371,756 STP-D & $464,696 Borders&Corr.) Demo ID NM043 with $5,039,440 remaining per June 22, 2012 HPP reconcilliation.	Capacity Proj	NMDOT D-3 (Private Funding with some public funds possible)	26,000,000	~~Late Term~~ Beyond 2040
				Total Est. Cost of All Private Developer Funded Projects			1,207,799,922	
				Removal of Project ID 454.0 Mesa del Sol Interchange			(26,000,000)	
				Revised Total Est. Cost of All Private Developer Funded Projects			1,181,799,922	
				REVISED Projected Private Revenue for Projects (amount assumed pledged equals cost of projects)			1,181,799,922	
				Difference (Private Revenue Projected - Total Projects' Cost)			0	

There is no change to the fiscal constraint of the MTP since this project was privately funded in this listing.

Appendix B: Projects of Special Interest

Disposition of Major Regional Projects of Special Interest

KEY:

Public = funding from federal or state or local fund sources

Private = funding from private companies and developers who are usually responsible for designing and constructing the infrastructure within master planned communities and large subdivisions and developments.

IJR = Interchange Justification Report required by the Federal Highway Administration to explain why a new interchange on the Interstate system is necessary.

Env Doc = Environmental Document required for all projects to assess the project's environmental impacts.

PE = Preliminary Engineering

2012-2025 = Near Term time frame of this MTP; 2012 is the base year. Projects in this time frame have been included in the FFY 2012-2017 TIP, FFY 2014-2019 TIP or the FFY 2016-2021 TIP and are considered candidate projects for the FFY 2018-2023 TIP.

2026-2040 = Late Term time frame of this MTP; projects in this time frame are included in the financial plan for this MTP.

after 2040 = projects in this time frame are not included in this MTP or any of the travel demand model outputs; furthermore, any estimated costs are not included in the financial plan for this MTP. They are very long-term projects which are listed for informational purposes only.

NM 347 Paseo del Volcan (PdV) Corridor

Project Description

NM 347, Paseo del Volcan (listed in previous long-range plans as Paseo del Volcan Western Alignment) is proposed at full build-out, to be a thirty mile long four-lane expressway beginning at a new interchange on I-40 approximately 1.7 miles west of existing Exit #149 to US 550 in Rio Rancho. It will provide an outer loop arterial for the west and northwest section of the metro area. Construction of the expressway would be undertaken in segments, and initially constructed as a two-lane highway with at-grade intersections north of I-40. In 2002 the Environmental Impact Statement (EIS) was prepared culminating with a Record of Decision by the Federal Highway Administration establishing the preferred alignment should the project be funded. The northernmost seven mile segment between Unser Boulevard and US 550 has already been constructed as a two-lane highway. In 2014 the Mid-Region Council of Governments with funding from the City of Albuquerque, conducted a study of the economic impacts of this roadway. (Reference *Paseo del Volcan Corridor, Analysis of Economic Development Opportunities*; prepared by Parsons-Brinckerhoff, August 2014.) The PdV corridor will serve several master planned communities and future activity centers: Santolina, Westland/Estrella, Quail Ranch, Rio Rancho Industrial Park, Rio Rancho City Center, and Paseo Gateway. Also, the City of Albuquerque's master plan for Double Eagle II Airport proposes an Aerospace Technology Park; the master plan was approved by the Environmental Planning Commission (EPC) and the Federal Aviation Administration (FAA). The land on the west side of the proposed road and west of the airport is in the city's open space master plan.

Project Status and Implementation Timeframe

Construction of Paseo del Volcan will require significant funding for the purchase of rights-of-way, design and construction. The proposed new interchange at I-40 will require the purchase of approximately 30 parcels, the segment between the interchange and the Bernalillo-Sandoval county line is under ownership of two private landholders and the City of Albuquerque on the west side of Double Eagle II Airport, and the Sandoval County segment between the county line and Unser Boulevard requires the acquisition of over 1000 parcels. Total projected cost for completion of an initial two-lane roadway with at-grade intersections is approximately $96 million (2014 dollars). The projected cost does not include the construction of extensions of Paseo del Norte, Ladera Drive, or Arroyo Vista Boulevard which would provide east-west connections to Paseo del Volcan. Full implementation of this corridor should include provisions for dedicated transit rights-of-way. Given the uncertainties of federal, state and local funding availability along with the long-range implementation time frame for the construction of the planned communities/activity centers, much of the implementation of this corridor is beyond the 2040 horizon of this metropolitan transportation plan. However, it remains part of the long-range transportation system for the metro area. Purchase of rights-of-way along the entire corridor as funding becomes available and/or parcels become available is consistent with the MTP. Design and construction of PdV along the west side of Double Eagle II Airport (and improvements to Shooting Range Road) to accommodate economic development and improvements to the Aerospace Technology Park, is also consistent with the MTP as funding becomes available.

Segment	**Estimated Cost (2014 $)**	**Possible Fund Sources**	**Time Frame**
NM 347 Rights-of-Way Acquisition	$33,700,000	Public & Private	as needed or as funding or parcels become available
I-40 & PdV Interchange Scope, Env Doc, PE & IJR for Basic Interchange	no separate est. included below	Public &/or Private	as develop. warrants
I-40 & PdV Interchange Design & Construct Basic Interchange	$15,400,000	Public &/or Private	2026-2040
Design & Construction of PdV in Santolina (2 lanes)	$11,620,000	Private	2026-2040
PdV Design & Construct 13.7 mile 2-Lane Roadway I-40 to Southern Blvd	$24,700,000	Private (primarily) Public at DEII Airport & Open Space Plan	after 2040 but airport roads 2026-2040
PdV Design & Construct 8.6 mile 2-Lane Roadway Southern Blvd to Unser Blvd	$19,500,000	Public (some private)	beyond MTP after 2040 earlier only if development warrants
PdV Widening to 4 Lanes Unser Blvd to US 550	$46,353,600	Public	2026-2040
PdV Widening to 4 Lanes I-40 to Unser Blvd	not estimated	Public &/or Private	beyond MTP after 2040

Atrisco Vista Blvd Extension & Connection to Paseo del Volcan / Southern Blvd

Project Description

Related to Paseo del Volcan, is a proposed connection between future Paseo del Volcan at Southern Boulevard and Atrisco Vista Boulevard (formerly known as both Double Eagle II Road and Paseo del Volcan Eastern Alignment). When fully realized, will be an arterial connection between the existing I-40 interchange at Exit #149 and US 550 via the existing Atrisco Vista Boulevard and the future Paseo del Volcan north of Southern Boulevard. By extending to the north, this corridor will provide improved north-south access serving Double Eagle II Airport, the industrial area near Exit #149 connecting southerly into Santolina and to NM 500, Senator Dennis Chavez Boulevard, thus serving as the innermost, outer loop arterial for the west and northwest sections of the metro area.

Project Status and Implementation Timeframe

Although this connection was not analyzed in the 2014 Paseo del Volcan corridor analysis, implementation of this section will require acquisition of numerous parcels in Rio Rancho and right-of-way through the Quail Ranch landholdings. Construction of this connector along with construction of Paseo del Volcan between Southern Boulevard and Unser Boulevard would provide the metro area with a north-south arterial. The connection to Paseo del Norte already exists although improvements to that roadway will be necessary.

Segment	Estimated Cost (2014 $)	Possible Fund Sources	Time Frame
Atrisco Vista Blvd Ext. Rights-of-Way Acquisition	included below	Public/Private	as needed or available
Atrisco Vista Blvd Ext. Design & Construct 2-Lane Roadway Paseo del Norte to Southern	$24,400,000	Private (some public)	2026-2040 earlier if development or traffic warrants
Atrisco Vista Blvd Widening to 4 Lanes I-40 to Paseo del Norte	$15,640,000	Public	2026-2040
Atrisco Vista Blvd Widening to 4 Lanes Paseo del Norte to Southern	$ 7,000,000	Public/Private	2026-2040

Paseo del Norte (PdN) Extension & Improvements

Project Description
Paseo del Norte is currently a multi-lane arterial highway between Eagle Ranch Road and Tramway Boulevard and a two-lane highway between Atrisco Vista Boulevard and Eagle Ranch Road with intersections at most north-south arterial roadways in the Albuquerque and Rio Rancho areas. Final build-out envisions the widening of the current two-lane segments and extensions westerly to future Paseo del Volcan (PdV) and the Northwest Loop as a multi-lane arterial expressway. Full implementation of this corridor should include provisions for a dedicated transit guideway.

Project Status and Implementation Timeframe
Given the uncertainties of federal, state and local funding availability along with the long-range implementation time frame for growth in this area, much of the implementation of this corridor is beyond the 2040 horizon of this metropolitan transportation plan. Full build-out of Paseo del Norte remains part of the long-range transportation system of the metro area.

Segment	Estimated Cost (2014 $)	Possible Fund Sources	Time Frame
PdN Improvements Widening to 4 Lanes Woodmont Ave to End of Current 4 Lane	$40,000,000	Public	2026-2040 earlier if development or traffic warrants
PdN Improvements Widening to 4 Lanes Atrisco Vista Blvd to Woodmont Ave	$21,750,000	Public (some private)	2026-2040 earlier if development or traffic warrants
Paseo del Norte Ext. Rights-of-Way Acquisition between future NW Loop and Atrisco Vista Blvd	not estimated	Public/Private	beyond MTP after 2040
PdN Design & Construct 2 Lane Roadway between PdV and Atrisco Vista Boulevard	$8,600,000	Public/Private	2026-2040 earlier only if development or traffic warrants
PdN Design & Construct 2 Lane Roadway between PdV and future Northwest Loop	not estimated	Public/Private	beyond MTP after 2040

Northwest Loop Corridor

Project Description

The Northwest Loop is proposed as part of the long-range transportation system of the metro area. The 77 mile roadway would provide a third outer loop connecting I-40 at a new interchange near existing Exit #140 to US 550 at the Unser Blvd intersection. Environmental documentation was undertaken in the 1980's. In 2009 and 2010, some federal, state and local funds under project 3100060, were used to update the environmental document, conduct a cultural resources investigation and design and construct a short segment in the vicinity of the desalination plant site. Currently, the Northwest Loop exists only as a gravel roadway from Alice King Way to a point south of the desalination site, and a very short section between Unser Blvd and US 550 (the connection of Unser Blvd to US 550). The completed roadway would serve the proposed Rio West planned community, the planned Sandoval County general aviation airport, the proposed Sandoval County landfill, and the western edge of the planned Westland community. However, these areas can be accessed in the interim via extensions and improvements to other roadways such as Northern Boulevard, Southern Boulevard, and Encino Road (pipeline road). A phased approach was proposed in 2010 which called for design and construction of a two-lane gravel roadway followed by future paving.

Project Status and Implementation Timeframe

Given the long-range implementation time frame for construction of these developments and facilities, further implementation of this corridor is beyond the 2040 horizon of this metropolitan transportation plan. However, public and/or private funds used to build or improve short segments of the Northwest Loop in order to serve the proposed landfill, airport, desalination plant, etc., are considered consistent with this metropolitan transportation plan in order to support economic vitality of the region. The Northwest Loop Corridor remains part of the long-range transportation system for the metro area.

Segment	Estimated Cost (2014 $)	Possible Fund Sources	Time Frame
NW Loop Design & Constr of Short Segments for Landfill, Airport, Desalination Plant, etc.	not estimated	Public	as development of the facilities occur
NW Loop Rights-of-Way Completion of Acquisition	not estimated	Public & Private	beyond MTP after 2040
I-40 & NW Loop Interchange Scope, Env Doc, PE & IJR for Basic Interchange	not estimated	Public &/or Private	beyond MTP after 2040
I-40 & NW Loop Interchange Design & Construct Basic Interchange	not estimated	Public &/or Private	beyond MTP after 2040
NW Loop Design & Construct 2-Lane Gravel Roadway I-40 to US 550	not estimated	Public &/or Private	beyond MTP after 2040
NW Loop Paving 2-Lane Roadway I-40 to US 550	not estimated	Public &/or Private	beyond MTP after 2040
NW Loop Widening to 4 Lanes			beyond MTP

I-40 to US 550	not estimated	Public &/or Private	after 2040

Mesa del Sol Area Interchanges

Project Description

Mesa del Sol is a master-planned community that has begun development. Current access to Mesa del Sol is provided primarily via University Boulevard with secondary access from NM 47 via Bobby Foster Road. The master plan includes a new interchange on I-25 (vicinity of milepoints 216-217) to provide access to the future extension of Mesa del Sol Boulevard; a second new I-25 interchange proposes the conversion of the Bobby Foster Road overpass to a full interchange. Federal money to partially fund the construction of the Mesa del Sol Boulevard & I-25 interchange was appropriated by Congress (Demo ID NM043); there is $5,039,440 remaining after some preliminary engineering was conducted. Additional money to fully fund the project was not identified.

Project Status and Implementation Timeframe

The timing of the construction of these interchanges is dependent upon the developer's schedule of further construction. The Mesa del Sol Boulevard interchange will be necessary once traffic on University Boulevard reaches approximately 30,000 AWDT (Average Weekday Daily Traffic).

Segment	Estimated Cost (2014 $)	Possible Fund Sources	Time Frame
Design & Construct New Interchange at I-25 & Mesa del Sol Blvd	$26,000,000	Public and/or Private	when traffic warrants 2026-2040
Design & Construct New Interchange at I-25 & Bobby Foster Road	$26,000,000	Private	beyond MTP after 2040

SP 85 Bridge Construction over Peralta Arroyo in Cochiti Pueblo

Project Description

SP 85 (Southern Pueblo Route 85) is a two-lane roadway which provides primary access to the unincorporated community of Sile (pop. approx. 90). After flooding in 2011 that followed the Las Conchas forest fire, the road has been closed at the arroyo requiring a 16 mile detour for residents, school buses, and emergency vehicles. The Pueblo of Cochiti has been investigating alternatives and has been working with the US Army Corps of Engineers, and other agencies to develop a bridge project to reconnect the roadway and span the arroyo.

The location of the proposed bridge previously had only two ten foot culverts which were inadequate during heavy rains. In 2011, the heavy post-fire flooding exceeded the capacity of the culverts and overtopped the road at SP 85. As an emergency measure, the Cochiti Governors made the decision to remove the culverts because the lack of capacity created a barrier for the flood waters, which threatened the Pueblo village and individual home sites. The removal of the culverts reduced the pinch point and allowed the flood waters to flow through the crossing and around Cochiti Pueblo homes and infrastructure. This action proved to be the best decision because it saved lives and prevented severe damage to homes and the Pueblo during the heavy July 2013 and September 2013 rains. Because the Las Conchas fire has dramatically changed the Peralta watershed and the future hydrology of the drainage, the crossing will continue to experience heavy flows in the near and extended future, therefore a much wider water channel needs to be spanned. Construction of this bridge is important to the community of Sile and Cochiti Pueblo and is a high priority for the area.

Project Status and Implementation Timeframe

Securing funds to complete the project and the timing of design and construction of this project should be implemented as soon as possible. Any funds secured for this project will be amended into the Transportation Improvement Program (TIP).

Segment	**Estimated Cost (2014 $)**	**Possible Fund Sources**	**Time Frame**
Design & Construct New Bridge on SP 85 at Peralta Arroyo	$3,100,000	Public	as soon as possible

Los Lunas New River Crossing Arterial

Project Description

In 2012, the Mid-Region Council of Governments in collaboration with the Village of Los Lunas and the New Mexico Department of Transportation concluded the *Alternatives Analysis Report for the Los Lunas Corridor Study*. The report evaluated the need for an east-west roadway that would connect to existing north-south highways (I-25, NM 314 and NM 47). In Valencia County only three bridges span the Rio Grande: NM 6 in Los Lunas, NM 309 in Belen, and NM 346 south of Belen; only NM 6 provides a direct east-west connection to I-25. The NM 6 and NM 309 bridges are 10.5 miles apart limiting cross-river connectivity. The study recommended the Morris B Alignment as the locally preferred alternative. This alignment proposes the construction of a new interchange at I-25, a new bridge over the Rio Grande to NM 47.

Project Status and Implementation Timeframe

The Village of Los Lunas began begun acquisition of rights-of-way necessary for the corridor under A300961. Construction of the new arterial will be done in phases.

Segment	**Estimated Cost (2012 $)**	**Possible Fund Sources**	**Time Frame**
Los Lunas Corridor Rights-of-Way Acquisition	remaining $3,500,000	Public	current and as phased-in
Design & Construct Arterial & New Interchange I-25 to NM 314	$22,000,000	Public	2015-2025
Design & Construct Arterial & Rio Grande Bridge NM 314 to NM 47	$37,591,000	Public	2026-2040

Design & Construct Frontage Roads I-25 to NM 314	$ 3,000,000	Public	2026-2040

Belen North I-25 Interchange Expansion

Project Description

The northern Belen interchange (exit #195) currently only provides access along NM 109 east of I-25. The developers of Rancho Cielo are in the process of working with Burlington Northern and Santa Fe Railroad (BNSF) to construct a railyard and transfer facility on the west side of I-25 next to the interchange. The project would modify the existing interchange ramps to provide full access east and west of I-25.

Project Status and Implementation Timeframe

This project is currently in the Transportation Improvement Program (TIP) and is privately funded.

Segment	Estimated Cost (2014 $)	Possible Fund Sources	Time Frame
I-25 North Belen Interchange Reconfiguration Project at Exit 195	$5,000,000	Private	In TIP proj. # A301490 2012-2025

Manzano Expressway Expansion

Project Description

The Manzano Expressway in Valencia County is currently a 2 lane roadway from the junction of NM 47 and NM 309 to Meadowlake Road. The *2006 Valencia County Mobility Study* recommended future expansion to four lanes.

Project Status and Implementation Timeframe

Resurfacing and rehabilitation of the existing 2 lane roadway is necessary for the preservation of the existing infrastructure and is included in this MTP. Expansion of the expressway to four lanes is not anticipated to be necessary at current levels of development, therefore expansion of this corridor is beyond the 2040 horizon of this metropolitan transportation plan. However, it remains part of the long-range transportation system for the metro area.

Segment	Estimated Cost (2014 $)	Possible Fund Sources	Time Frame
Manzano Expy Improvements Resurfacing and/or Rehabilitation of Existing Road	$6,000,000	Public	as needed 2012-2025 & 2026-2040
Manzano Expy Widening to 4 Lanes NM 47 to Meadowlake Road	$50,000,000	Public	beyond MTP after 2040

I-25 Frontage Roads in Valencia County

Project Description

The *2006 Valencia County Mobility Study* recommended future construction of a two-way frontage roads on the east and west sides of I-25 between the north Belen interchange and NM 6 (exits 195 and 203). These frontage roads would provide access for economic development adjacent to I-25. The pace of the development of Rancho Cielo, a master planned community in Belen just west of I-25 is a major factor in the timing for the need of these frontage roads.

Project Status and Implementation Timeframe

Currently, Rancho Cielo has undergone minimal development, therefore construction of these frontage roads is beyond the 2040 horizon of this metropolitan transportation plan. However, it remains part of the long-range transportation system for the metro area.

Segment	Estimated Cost (2014 $)	Possible Fund Sources	Time Frame
I-25 Frontage Road Feasibility Study	$ 1,000,000	Public	when needed 2026-2040
I-25 Frontage Road Design & Construction Exit 195 to Exit 203	not estimated	Public	beyond MTP after 2040

Albuquerque Rapid Transit (Central Avenue BRT)

Please refer to Chapter 3.4 for a description of this project.

UNM/CNM High Capacity Transit Project

Please refer to Chapter 3.4 for a description of this project.

NW Metro High Capacity Transit Project

Please refer to Chapter 3.4 for a description of this project.

Appendix C

Scenario Planning Modeling Methodology

Addressing Workshop Feedback in the Modeling of the Preferred Scenario

The Futures 2040 and Climate Change Scenario Planning workshops resulted in the development of a "Preferred Scenario" that represents departure from anticipated growth patterns reflected in the "Trend Scenario." The feedback revealed a great deal of common ground among the various stakeholders and included specific recommendations for implementing change in the region. Many of the specific recommendations that MRMPO received can be simulated and evaluated within a modeling framework. MRMPO uses an integrated land use model (UrbanSim) and travel demand model (CUBE Voyager) environment. These models are tools to help us understand the anticipated benefits and costs associated with different land use and transportation decisions. By translating recommendations from the stakeholders into policy changes that can be modeled, we are able to construct our Preferred Scenario and discuss the potential implementation strategies that are necessary to attain shared goals.

MRMPO has simulated alternative policy decisions and developed different "futures" within our modeling environments by modifying three areas: 1) zoning, 2) transportation networks, and 3) development incentives.

Zoning

Zoning sets the parameters for development related to the land uses and densities allowed on a particular parcel. Developing alternative zoning required the spatial selection of targeted areas in the region and redefining the growth potential in terms of allowable uses, maximum units per acre, and maximum floor-to-area ratio (FAR). Changes to allowable use affects what type of development may be pursued for the parcel. Changes to units per acre and FAR affects the remaining developable capacity for an area. While zoning dictates what projects and intensities might occur in a specific area, it is site attractiveness and market demand that determine whether or not a parcel is actually developed.

Transportation Networks

Roadway projects identified by member agencies form the basis for future-year transportation networks. Alternative road and transit networks require coding new networks within CUBE Voyager. After the networks are developed they are introduced into a travel model simulation. Alternative networks will have an impact on mode split, travel times, vehicle miles traveled and land development patterns.

Policy Incentives

The ability to simulate policy incentives and their effects is possible within the UrbanSim model through the adjustable levers that can be pulled in order to increase the development probability of an area that has been targeted for additional investment. These incentives may be related to the development process with expedited approvals or waived or reduced permitting fees, for example. Or, they may be regulatory: density bonuses, parking reductions, or relaxed design criteria. They may also be financial with incentives such as tax increment financing districts, impact fee reductions, or shared infrastructure costs.

The policy levers implemented in UrbanSim do not represent a specific type of incentive. Rather, they simulate a relative magnitude of any type of incentive, financial, regulatory, or otherwise. The levers are essentially assigned a value (e.g., 1, 2, or 3) that can be attached to a point (e.g., a transit node) and a radius around that point or a zone (e.g., an activity center) that increases the probability that there will be new development. The modeler can choose the value: the higher the value the heavier the probability. The values assigned are based on a variety of testing along with an idea of an expected or desired impact. If a value of 3 is necessary to arrive at a desired impact (e.g., 2,000 more jobs in downtown), we may not be able to say which specific policy needs to be enacted to make that happen; however, we have a better understanding of the relative level of investment that may be necessary in order to realize certain outcomes.

It is important to note that areas that are incentivized in UrbanSim are still subject to all of the other modeling inputs and influences. For example, if a parcel has no remaining capacity, or if it is not zoned for certain types of development, the policy lever will have no effect. The lever increases likelihood but does not ensure future development. It is also important to note that locations for which no shifter has been applied may still experience considerable development. This is especially true where areas exhibit multiple favorable criteria that have historically factored into development decisions or if there are known development plans in the future growth assumptions.

Feedback and Scenario Refinements

Following is a summary of the feedback from participants of the workshops related to specific strategies that might be used to achieve the Preferred Scenario. Each section describes how the strategies were addressed within the modeling environments using one of the three instruments described above.

Expand Transit Opportunities

- Provide transit service improvement and expansion beyond the limited improvements in the Trend scenario.
- Assume new sources of revenue for public transit, in particular an infusion of capital funding through the FTA Small Starts program and an increase in the transit-specific GRT from 0.125 cents to 0.5 cents.

Increase Transit Node Attractiveness

- Increase the mix and intensity of allowable uses in the zoning assumptions surrounding key transit nodes to promote key corridors and greater use of transit.
- Simulate incentives that will increase the probability of housing and commercial activity surrounding key transit nodes.

Increase Activity Center Attractiveness

- Increase the mix and intensity of allowable uses in the zoning assumptions within key activity centers that have been identified by member jurisdictions in order to concentrate and shorten trip origins and destinations and promote multi-modalism.
- Simulate incentives that will increase the probability of housing and commercial activity in and around key activity centers and implement a prioritized approach that recognizes three specific tiers of centers.

Achieve Greater Balance of Housing and Jobs

- Increase the mix and intensity of land uses, particularly commercial development, in targeted areas west of the Rio Grande where employment opportunities are limited and dramatically outpaced by new housing.
- Increase the opportunity for multi-family housing in close proximity to job centers east of the Rio Grande.

Prioritize Growth within Existing Water Service Areas

- The existence of water service infrastructure is imbedded in the probability equations that affect both the Trend and Preferred scenarios. That is, the water service boundary is found to be statistically significant in its ability to explain historical growth. As such, it can be applied as an influential factor for predicting future development.
- The inclusion of a water service boundary not only represents the increased cost of development involved in expanding infrastructure to service locations outside of the boundary, but also the recurring sentiment from participants in the scenario planning process that water availability will be the region's single-greatest future challenge.

Reduce Parking Requirements

- Zoning specifications determine what the UrbanSim model will allow on a particular parcel. Therefore, parking lots are considered available for future development as long as there is an alternate zoned use and there is existing market demand.
- In the Preferred Scenario, zoning was bolstered near transit nodes and activity centers thereby allowing the intensity of uses on all parcels including parking lots. Several additional parking lots were targeted for redevelopment through zoning and their maximum floor-to-area ratios (FAR) were raised by 20 percent.

Preserve Open Space

- Areas that are designated as parks, recreational fields, forest lands, drainage, and all other publically owned open spaces are recognized within the UrbanSim model and prohibited from development in both the Trend and Preferred Scenarios.

Reduce Development in High-Risk Floodplain Areas

- Currently high-risk floodplain areas are developable and their potential use and intensity is determined by zoning. These conditions are reflected in the Trend Scenario.
- In the Preferred Scenario, parcels that lie within floodplains that are not currently developed were given a 20 percent reduction in allowable densities in the zoning specifications. This reduction simulates the higher costs of insurance and development that exist within designated 100-year floodplains.

Preserve Agricultural Lands

- If an agricultural property has been specifically targeted for preservation by a local jurisdiction it is recognized by UrbanSim and will not be developed. For example, this is the case on several agricultural properties in the Village of Corrales.
- In the Preferred Scenario, MRMPO down-zoned agricultural parcels by 20 percent if they lie within floodplains. This reduction in the redevelopment potential of agricultural land in high-risk areas rests on the assumption that increased awareness of the vulnerability of these lands will guide future preservation efforts.

Interface/Intermix

- In the Trend Scenario, wild land interface and intermix areas that are sensitive to wildfire and other extreme events are developable and their potential use and intensity is determined by the zoning code.
- In the Preferred Scenario, undeveloped parcels within the intermix area that were confirmed as located in a potentially sensitive area and are not within a floodplain were give a 20 percent reduction in zoning densities. This reduction attempts to simulate the challenges to developing in these areas, financial or otherwise, and the additional costs associated with protecting development from fire risks.

Reduce Development in Wildlife Crucial Habitat Areas

- Large swaths of developed land within our urban core are designated as crucial wildlife habitats. While it is not feasible to limit development in established areas such as Old Town and the University of New Mexico, the performance measure has been redefined to monitor the extent to which the land use scenarios are expected to impact critical wildlife habitats outside of the existing urban footprint.

Preserve Historic Districts & Neighborhoods

- Historic landmarks, structures, and overlay zones are scattered throughout the region. Future development potential for these sites is often on a case-by-case basis. More research must be done in order to craft a standard approach to address these areas through the MRMPO modeling environment.

Appendix D: Safety Analysis Methodology

Previous Work on Applying Statistical Techniques in Regional Safety Modeling

Crash safety literature has produced a wide breadth of statistical techniques applied to variety of geographical entity when it comes to developing area-wide predictive crash models. Some of these previous studies are listed in a tabular format (Table 1) showing the types of spatial aggregation used, types of crashes modeled and modeling techniques adopted. This representation is not meant to be exhaustive and has excluded studies that modeled pedestrian and bicycle crashes deliberately to maintain relevancy to this study which models total and severe crash types only. The applied models, as shown in the Table, can be broadly characterized based on their spatial accountability in the model structure- thus, spatial and non-spatial models.

Among a wide spectrum of non-spatial models it can be observed from the literature that Negative Binomial (NB) model structure is favored particularly because of its ability to handle overdispersed crash data well. And the list of studies that applied NB model in crash predictions for different spatial units are quiet long (Amoros and Laumon, 2003; Noland and Oh, 2004; Hadayeghi et al., 2003, 2006, 2007; Aguero-Valverde and Jovanis, 2006; Quddus, 2008; Lord and Mannering, 2010; Naderan and Shahi, 2010; Abdel-Aty et al., 2011; Pirdavani et al., 2012; Karim et al., 2013; Pulugurtha et al., 2013). Since crashes are aggregated for a spatial entity, it is intuitive to consider the presence of spatial correlation in the model structure. But that increases the model complexity and data needs to some degree. Aguero-Valverde (2013) argued that spatial models, by dint of accounting spatial correlation, has potential to increase model fit by estimating 'pool strengths' from the spatial neighbors, and spatial effects can be surrogates for unknown and relevant covariates (Dubin, 1988; Cressie, 1993). As shown in Table 1, similar to NB, spatial models are being widely explored for predicting macro-level crashes and specifying a hierarchical Bayesian model that can account for overdispersion appears to be a popular technique among the researchers (Aguero-Valverde and Jovanis, 2006; Quddus, 2008; Huang et al., 2010; Karim et al., 2013; Aguero-Valverde, 2013). This study applied both NB and Bayesian hierarchical models for forecasting total and severe crashes. Two forms of Bayesian models were specified- one without accounting for spatial correlation (i.e., non-spatial Bayesian) and another accounting for spatial correlation. As such, there were three candidate models to compare 'classical versus Bayesian' and 'non-spatial versus spatial' modeling approaches.

The need for proactively forecasting safety for long range transportation plans has been reverberated in many of these studies. For example, Karim et al. (2013) evaluated the spatial effects of the occurrence of crashes in the Traffic Analysis Zones (TAZs) of Metro Vancouver to improve model fit and inference capability understanding that their effort will allow transportation authorities and planners to estimate safety proactively 'at a very early stage of transportation planning'. They (Karim et al., 2013) concluded that the spatial effects need to be considered in the crash prediction models to avoid any potential bias associated with model misspecification. Pulugurtha et al. (2013) estimated crashes for the TAZs of North Carolina based on land use characteristics and argued that their models can be used in safety conscious planning, land use decisions, and long range transportation plans. The authors (Pulugurtha et al., 2013) used NB models with a wide variety of land use covariates to model total, injury and property damage only (PDO) type crashes separately. Pirdavani et al. (2012) developed different zonal prediction models

for injury crashes and commented that the main purpose of their study was to develop planning-level predictive tool in order to evaluate safety for different travel demand management policies.
This report investigates forecasts found from multiple crash models developed for mid-region of New Mexico comprising Bernalillo, Sandoval, Valencia, and Torrance County. A methodical long range transportation planning technique, known as scenario planning, was utilized for developing different scenarios which were then used for forecasting safety. A twenty-five year planning horizon (2015-2040) was adopted for the study.

The rest of the report is structured as follows. The immediate next section describes the scenario planning process and the scenarios that were developed and applied in this study. The following section is about forecasting zonal parameters which illustrates the application of land use and travel demand models used for preparing datasets. The next two sections discuss crash models and parameter estimates. The section thereafter compares results from model forecasts for different planning scenarios. Finally the paper ends with a summary and concluding remarks.

Scenario Planning

Since 2004, the Federal Highway Administration (FHWA) has encouraged transportation-focused scenario planning as an enhancement of the traditional transportation planning process. Scenario planning techniques are designed to help practitioners to consider how future changes in transportation, land use, demographics, or other factors could affect communities. At the core of scenario planning lies identifying land-use patterns as a dynamic variable affecting transportation networks, investments, and operations. Other potential variables may include demographic, economic, political, and environmental trends. These variables are used to develop alternated 'possibilities' or 'scenarios' that help stakeholders to understand how a region might look and function in the future, and make decisions for the present and prepare for future needs. (FHWA Scenario Planning Guidebook, February, 2011)

Three alternative scenarios were developed in this study. Each scenario is briefly described below.

Alternative 1 (Trend Scenario)

This scenario continues the patterns from the early 2000s in which residential development was focused on single family housing in more peripheral parts of the region. This scenario assumes that commercial development is scattered across the region rather than in targeted centers. About half of new jobs, but about three-quarters of new housing are located west of the river (Rio Grande). Private vehicle travel remains the dominant mode for the vast majority of residents in the region. This scenario resembles continuing historical trend. Major scenario components include-

- Low and medium-density residential housing in previously undeveloped areas
- No particular emphasis on mixed-use development or along transit corridors
- Commercial development is scattered around region rather than concentrated in particular areas
- Assumes continued reliance on private vehicles for most trips.

Alternative 2 (Preferred Scenario)

This scenario reflects a range of trends in housing preferences and travel behavior across the region. Parcels within a ½-mile radius of existing and future transit stops were designated for medium-density mixed-use development and multi-family, and those within a ¼-mile radius were designated for high-density mixed-use. Emphasis is placed on compact development in targeted locations near transit to meet the demands of a range of age demographics. An increased preference for alternative modes and increased spending on public transportation was emphasized. Major scenario components include-

- Development on activity centers and corridors near premium transit
- Accessory dwelling units to meet senior and multi-generational housing needs
- Multi-family housing near transit
- Greater emphasis on mixed-use development
- More transportation options and increased preference for proximity to services and entertainment.

Alternative 3 (Preferred Constrained Scenario)

This scenario reflects all the major components of Alternative 2 except a constraint was imposed on the road network. Each of these scenarios were developed for 2015-2040 forecast years. Unlike Alternate 2, this scenario restricted the growth of highway and transit network at year 2025. As such all growth beyond 2025 would be based on constrained network capacities. More detailed discussion on the networks are provided in the Travel Demand Model section.

Forecasting Zonal Parameters

The study utilizes 914 data analysis subzones (DASZ) which are geographic entities similar to traffic analysis zones (TAZ). These zones contain the entirety of four counties of New Mexico (Bernalillo, Sandoval, Valencia and Torrance County) comprising the Albuquerque metropolitan area.
Figure 1 shows the study area and its relative location with respect to the state of New Mexico. A few DASZs (north of Torrance County and east of Bernalillo County) that were outside the County boundary (in
Figure 1) were part of Santa Fe County. Crashes that took place between 2006 and 2010 were analyzed. Aggregated total crashes and severe crashes per DASZ were modeled using 2010 socioeconomic (SE) data as the independent variables. Severe crashes were defined as the sum of fatal and injury type crashes. Bernalillo is an urban County and captures the largest share of crashes in the study region. Valencia, Torrance and parts of Santa Fe County in the study area are mostly rural. About 88% of total crashes and about 86% of severe crashes took place in Bernalillo County alone. Together, Bernalillo and Sandoval County captured 95.3% of total crashes and 94.7% of severe crashes in the study area. Severe crashes were about 30% of the total crashes region-wide.

For each scenario a land use model was specified. The land use model iteratively ran with two travel demand models. Land use models took a wide array of observed variables considering 2012 as the base year. This model then ran till 2040 forecast year. The following sub-sections discuss more on each of these models.

Land Use Model and Travel Demand Model

The Open Platform for Urban Simulation (OPUS) was used for land use modeling. OPUS architecture is primarily based on the UrbanSim project (The Open Platform for Urban Simulation and UrbanSim Version 4.3, January, 2011). UrbanSim is a software-based simulation system that incorporates the interactions between land use, transportation, the economy, and the environment. It supports planning and analysis of urban development and helps explore the effects of infrastructure and policy choices on community outcomes such as motorized and non-motorized accessibility, housing affordability, etc. More on UrbanSim can be found at urbanism.org. Currently multiple planning organizations in USA have adopted UrbanSim for operational planning use; examples include- Maricopa Association of Governments, Metropolitan Transportation Commission, Puget Sound Regional Council, etc.

The land use model utilized parcels as the smallest geographic entity for analyzing, aggregating, and creating the database structure. The OPUS base year database was developed using 2012 data which was used as initial inputs for starting each scenario simulation. Zonings for each of the alternative scenarios were input to OPUS. OPUS then produced a socioeconomic forecast for every five years between 2015 and 2040.

The travel demand model (TDM) was built in Citilabs Cube 6.1.0. Table 2 and Table 3 show different networks that were used for different planning scenarios. Unlike the land use model, the travel model scenarios were built for years 2025 and 2040 only. Therefore, the travel time skim was fed from travel demand model to OPUS in 2025 and 2040 only. As mentioned earlier, Alternative 3 represents a constrained network scenario. For 2025, the Alternative 3 roadway and transit networks were constrained to their corresponding 2012 networks (without any improvement). For 2040, the Alternative 3 roadway and transit networks were restricted to their corresponding 2025 networks.

Iterative Modeling between OPUS and TDM

Simulation of each scenario was started in UrbanSim. UrbanSim was interfaced with Cube at years 2025 and 2040 where UrbanSim 'called' Cube to perform a TDM analysis to predict travel conditions for those years. Therefore, each of the scenario-runs constituted two TDMs for years 2025 and 2040. Figure 2 depicts the exchange of data that took place in the iterative process between OPUS and TDM. Land use predictions from UrbanSim got input to the TDM, and travel conditions were input to the subsequent annual iterations of the UrbanSim land use model system. When UrbanSim is connected to TDM, it generates a summary of the household and job data at the DASZ level which feeds into TDM as an input data.

Because of the loop-back between OPUS and TDM, the forecasted socioeconomic variables are thought to account for the future effect of transportation infrastructure. Therefore, it would be redundant to calibrate safety models with both socioeconomic and transportation-related variables. Moreover, as land use and transportation are proven to influence one-another, the dynamics of feeding socioeconomic data from OPUS into TDM (for a simulation year) would have impact on forecasted travel time (output from Cube); and in a similar way feeding travel skims from TDM to OPUS would have its influence on the socioeconomic data for the future years.

The following section provides descriptive statistics of the socioeconomic variables that were used in both calibration and forecasting of the regional safety models.

Definition and Descriptive Statistics of the Zonal Variables

Table 4 defines each of the variables and provides their descriptive statistics. Each of the variables were aggregated at the DASZ level. Some of the variables were transformed to minimize heteroscedasticity of their variance. Total number of employed people per zone were divided into three categories- basic, retail and service. Basic employment being jobs related to agriculture and manufacturing industry, retail employment captured number of people working in the retail sector, and the number of people in service were defined in the service employment variable. It is important to note that these employment variables signifies the number of people who are employed in a DASZ, and they may or may not be a resident to that DASZ.

Regional Crash Prediction Models

Crashes were modeled using a Negative Binomial model and two Bayesian models. Bayesian models were given a Poisson-Lognormal structure to fit the crash data appropriately. The difference between two Bayesian models lied in incorporating spatial heterogeneity. One of the Bayesian models, which will be termed as 'spatial Bayesian model', had a spatial error component defined in the model structure. The other Bayesian model did not have any spatial error component and will be termed as 'non-spatial Bayesian model'. Previous studies (El-Basyouny and Sayed, 2009; Huang and Abdel-Aty, 2010; Siddiqui and Abdel-Aty, 2012) have shown that Bayesian models with spatial error component tend to fit and predict crash data well. However, the study investigated these models not only from their strict predictive fits but also in regards to their crash forecasts for future planning years.

Negative Binomial models are relatively easy to estimate especially with built-in procedure available in a handful of commercial and open source statistical software. Bayesian models, on the other hand, can be a little bit of work in terms of coding and specifying an appropriate data structure. These models are possible to fit using open source software like R (The R Project) or OpenBUGS (openbugs.net); however, they demand that the modeler have a relatively greater degree of knowledge in coding. Also, to incorporate spatial weight matrix into the model, the modelers have to use some kind of mapping software (such as ArcMap). This study attempts to investigate if all this extra work indeed makes a difference when it comes to forecasting long range safety.

Each of these models is discussed below.

Negative Binomial Model

It is the most simple among the three techniques applied in this study. NB regression is a type of generalized linear model in which the response variable is a count of the number of times an event occurs which in this case is 'occurrence of crashes'. The probability distribution of the response variable *y* can be given by (Hilbe, 2011):

$$P(y) = P(Y = y) = \frac{\Gamma(y + {}^{1}/_{\alpha})}{\Gamma(y+1)\Gamma({}^{1}/_{\alpha})}\left(\frac{1}{1+\alpha\mu}\right)^{1/\alpha}\left(\frac{\alpha\mu}{1+\alpha\mu}\right)^{y}$$

where, $\mu > 0$ is the mean of Y, and $\alpha > 0$ is the heterogeneity parameter.

Non-spatial Bayesian Poisson-Lognormal Model

A Poisson-lognormal model was specified as follows:
$y[i] \sim \text{Poisson}(\mu[i])$
$\log(\mu[i]) = \beta_0 + \beta X_i + \theta[i]$
$\theta[i] \sim \text{Normal}(0, \tau_\theta)$
where,
β_0 = intercept term,
β's are the coefficient estimates of the model covariates (X_i),
θ[i] = error component of the model capturing unstructured over-dispersion or unobserved heterogeneity component of the model, and
τ_θ = precision parameter which is inverse of the variance; a prior gamma distribution is specified to τ_θ.

The variance ($1/\tau_\theta$) provides the amount of variation not explained by the Poisson assumption (Lawson et al., 2003). A uniform prior distribution was assumed for β_0. The model was run considering a non-informative Normal(0, 100000) prior for β's.

Spatial Bayesian Poisson-Lognormal Model

The spatial Bayesian Poisson-Lognormal model included an explicit error component, (ϕ[i]), to account for the portion of heterogeneity occurring due to spatial correlation. Spatial distribution was implemented by specifying an intrinsic Gaussian Conditional Autoregressive (CAR) prior with Normal($\overline{\phi}[i]$, τ_i^2) distribution recommended by Besag (1974).

(ϕ[i]) is defined as-

$$\overline{\phi}[i] = \frac{\sum_{i \neq j} \phi[j] * W_{ij}}{\sum_{i \neq j} W_{ij}}$$

where, W_{ij} is the element of adjacency matrix with a value of 1 if *i* and *j* are adjacent or 0 otherwise.

Comparison of Model Fit

Both Bayesian models were initialized using non-informative priors for the intercept, β's, and error components. Each model had three Markov chains. Burn-in sample size and 'thinning' was set to 5000 and 5, respectively. Model convergence and performance were tested based on chain convergence (trace plots), density plots, and Brooks-Gelman-Rubin statistics. OpenBUGS provides Bayesian Credible Intervals (BCIs) to draw inference on the significance of the parameter estimates.

For classical models such as Negative Binomial, Akaike Information Criterion (AIC) is used for comparing non-nested models. AIC is defined as-

$$\text{AIC} = -2\log\left(p\left(y|\hat{\theta}\right)\right) + 2k = D\left(\hat{\theta}\right) + 2p$$

where, $\hat{\theta}$ = maximum likelihood estimate, and p = number of parameters in the model.
The term 2p in the above equation serve to penalize more complex model. For model comparison predictive ability forms a natural criterion. AIC fits well in this respect since it is designed to optimize predictions on a replicate dataset of the same size. And a model with a lower AIC is favored. (Lunn et al., 2012)

In a Bayesian context the posterior mean deviance $\overline{\mathrm{D}} = E[\mathrm{D}]$ has been suggested as a measure of fit. However, in analogy to AIC a measure of 'model complexity' is necessary to trade off against $\overline{\mathrm{D}}$ as more complex Bayesian model will fit the data better- hence decreasing the value of $\overline{\mathrm{D}}$. To suggest a measure of effective number of parameters ($\mathrm{p_D}$) Spiegelhalter et al. (2002) used an informal information-theoretic argument defined by

$$\mathrm{p_D} = \mathrm{E}_{\theta|y}[-2\log(\mathrm{p}(y|\theta))] + 2\log\left(\mathrm{p}\left(y\middle|\tilde{\theta}(y)\right)\right) = \overline{\mathrm{D}} - \mathrm{D}(\tilde{\theta})$$

where, $\tilde{\theta}$ is a 'good' plug in estimate of θ. If we consider $\tilde{\theta} = \mathrm{E}[\theta|y] = \bar{\theta}$, $\mathrm{p_D}$ reduces to 'posterior mean deviance' minus 'deviance of posterior means'. For large sample size or in presence of non-informative or 'vague' prior (which is the case in this study), when conditions for asymptotic normality is present, $\bar{\theta} \approx \hat{\theta}$, the maximum likelihood estimate and $\mathrm{p_D}$ reduces to p, the total number of parameters in the model. For complete discussion on this issue readers are referred to Lunn et al., 2012.

The measure of $\overline{\mathrm{D}}$ can now be combined with model complexity parameter $\mathrm{p_D}$ to calculate an AIC-like measure called Deviance Information Criterion (DIC):

$$\mathrm{DIC} = \overline{\mathrm{D}} + \mathrm{p_D} = \mathrm{D}(\bar{\theta}) + 2\mathrm{p_D}$$

DIC thus acts as a generalization of AIC. Since for non-informative prior $\bar{\theta} \approx \hat{\theta}$, this results $\mathrm{p_D} \approx \mathrm{p}$ and DIC ≈ AIC.

It was found that for total crash estimation (Table 5) the Negative Binomial, non-spatial, and spatial Bayesian model had the following values respectively: 9355 (AIC), 6637 (DIC), and 5788 (DIC). These values for severe crash estimation (Table 6) were 7273 (AIC), 5533 (DIC), and 1083 (DIC) for Negative Binomial, non-spatial, and spatial Bayesian models, respectively. The difference among DIC/AIC values are considerably large which signifies the superiority of spatial Bayesian model in terms of predictive fit for both total and severe crashes.

Parameter Estimates

Table 5 and Table 6 provides parameter estimates for total and severe crash models, respectively. For both total and severe crashes total number of signalized intersections, population count, and employment types (basic, retail, and service) were found to be positively associated. These associations are intuitive have been supported by previous studies (Quddus, 2008; Pirdavani et al., 2012; Aguero-Valverde, 2013).

Median income was negatively associated with both types of crashes indicating that poverty stricken zones are more prone to crashes. This association is also concurrent with previous findings (Noland and Quddus, 2004b; Aguero-Valverde and Jovanis, 2006; Huang et al., 2010; Pirdavani et al., 2012). For Albuquerque metropolitan area this finding may be particularly important to ponder upon as poverty rate in Albuquerque has steadily increased over the past seven years (City of Albuquerque Progress Report).

The number of single family dwelling unit (SFDU) was consistently negatively associated with total and severe crashes in both NB and non-spatial Bayesian models. On contrary, the number of multiple family dwelling unit (MFDU) was positively associated with both crash types in all three models. However, spatial Bayesian model for severe crashes deemed estimate of MFDU as statistically not significantly different from zero at 95% Bayesian Credible Interval (BCI). Also, for both crash models spatial Bayesian model had positive estimates for SFDU.

Among the County dummy variables, only Bernalillo and Valencia County dummies were found to be significantly different from zero at 95% BCI. Both of these dummy variables were negatively associated with total and severe crash types.

Evaluation of Regional Safety Models for Different Planning Scenarios

All three of the above mentioned models were applied to generate forecasts of total and severe crashes in every five-year interval starting 2011 until 2040. The forecasted socioeconomic data from land use and travel demand model iterations were used to calculate crash estimates for the future years. Table 7 provides the percent increase of crashes for the overall study area with respect to the base case (crashes occurring in between 2006 and 2010 inclusive) for three alternative scenarios.

For all three alternative scenarios crash forecasts from the Bayesian spatial model were minimum among three candidate models. Considering percent increase of crashes over the planning horizon, Alternate 1 scenario was found to be the safest for both total and severe crash types. Crash forecasts between Alternative 2 and 3 showed slight differences. Recall that the difference between Alternate 2 and 3 were in terms of constrained roadway and transit networks for years 2025 and 2040 (Table 2 and Table 3) which is why these two scenarios have the same forecasts until 2025. It is possible that the difference in socioeconomic forecasts between Alternate 2 and 3 were not large enough to be reflected in their corresponding crash forecasts from 2025 till 2040.

As found in the previous section, the spatial Bayesian model performed the best in terms of crash predictability. Its superior goodness of fit most likely lies in being able to capture spatial heterogeneity among the DASZs. It was found that for total crashes, about 77.5% of the error was captured by the spatial error term ($\phi[i]$). The same for severe crashes was about 77.1%. Inclusion of explicit error component for spatial heterogeneity seems more practical while modeling spatially aggregated count data. However it increases model complexity to some degree. If predictive fit of these models is put aside and only relative safety forecasts are compared among three scenarios, it can be observed that all three candidate models points towards Alternate 1 scenario to be safest in the planning horizon irrespective of modeling techniques. This implies that the approach of a safety forecast in the short-term versus long-term can be dictated by the accuracy of the predictability needed/expected from a regional safety model. Also, fitting spatial Bayesian models up until now in OpenBUGS or R involves multiple steps of data preparation and a certain level of coding expertise; and therefore, is not as straight forward as fitting NB models.

Similar to Aguero-Valverde and Jovanis, 2006 and Siddiqui et al., 2012 this study found that the non-spatial Bayesian models have better goodness of fits than that of NB models for predicting crashes. The forecasts for both total and severe crashes from the non-spatial Bayesian model, however, provided the largest variations between 2011 and 2040.

To further investigate the forecast pattern of the alternative scenarios the resolution was changed from the total modeling area to the County level. Table 8 lists the forecasted total and severe crashes for three scenarios based on the spatial Bayesian model. The forecasts for Bernalillo County were much similar to the overall safety forecast. And this is not surprising since Bernalillo County takes the lion share of the crashes in the modeling area. However, Sandoval County showed some interesting results. Sandoval County takes the second largest share of total and severe crashes in the study area (7.4% and 8.5% respectively). It was found that Alternate 2 was the safest in Sandoval County for both total and severe crashes. This indicates that the spatial aggregation can play an important role in the decision making process. In general Sandoval County was more ‘responsive’ to the crashes. In thirty years total number of crashes in Sandoval County increased by almost three times in Alternative 1, and about two times for Alternative 2 and 3 while compared to that of Bernalillo County. Although, severe crashes in Sandoval County did not increase by the scale of total crash increase, the County still experienced considerably higher percentages of severe crashes compared to its neighboring Bernalillo County.

As mentioned before, Bernalillo and Sandoval counties captured the majority of crashes. And from the above analysis certain differences in crash forecasts were found in these two counties. Therefore, to have a better understanding about County specific crash forecast, and also to gain insight into model transferability (County-specific versus region-wide), total and severe type crashes were modeled separately specific to Bernalillo and Sandoval County- as such four spatial Bayesian models were developed and are presented in Table 9 and Table 10. Out of 914 DASZs in the study area, Bernalillo County comprised of 660 DASZs, and there are 142 DASZs in Sandoval County. The forecasts from these models are presented in Table 12. Some of the interesting observations from the County-specific analysis are discussed below.

Apart from the range of parameter estimates the main difference between Bernalillo and Sandoval total crash models (model-8a and -9a) were in the signs of coefficient estimates of total population, median income and single family dwelling units (SFDU). The negative estimate for population and positive estimate for median income in Bernalillo County (model-8a) is counter intuitive. However, positive association between number of crashes and affluent areas are not quiet uncommon in spatial crash modeling. Aguero-Valverde (2013) found similar association and reported that percentage of person under poverty line living in cantons (smaller political units with a local government) of Costa Rica had lower crash frequency for injury and property damage only types of crashes. The direction of association of parameters in spatial crash modeling can be affected by the size (scale) of the modeling-area, spatial unit of aggregation, and the confounding effect among the parameters. The correlation matrices for the County-specific models were provided in Table 11. For all four models (model-8a, 8b, 9a, 9b) moderate to high negative correlations were observed between total population & median income, and total population & SFDU.

While comparing between region-wide (Table 8) and County-specific (Table 12) total crash forecasts, both Bernalillo and Sandoval County followed similar pattern. Similar to the region-wide model, Alternative 1 scenario was found to be the safest in Bernalillo County (with respect to total crashes). Alternative 2 was found to be the safest for total crashes in Sandoval County. Once again, County forecasts from Alternative 2 and 3 were found to be very similar. Interestingly, the forecasts during the end of thirty year planning horizon were also found to be close and considerably similar- 2036-2040 forecast between Alternative 1 and 2 differed about 5% and 3% in Bernalillo and Sandoval County, respectively. But the change in the percent increase of total crash between 2011-2015 and 2036-2040 were higher in Sandoval County than in Bernalillo County.

Similar to the total crash models (model-8a and -9a) the differences in the signs of parameter estimates for total population and median income were observed for Bernalillo and Sandoval County’s severe crash models (model-8b and -9b) as well. But SFDU was positively associated with the number of severe crashes in both of the counties. In addition, a similar pattern in the increase of severe crashes was observed between the region-wide (Table 8) and County-specific (Table 12) models. In regards to severe crashes Alternative 1 scenario was found to be the safest for Bernalillo County, and Alternative 2 was preferred for Sandoval County.

All covariates presented in Table 9 and Table 10 were statistically significant at 95% Bayesian Credible Interval. The contribution of spatial heterogeneity within the total error structure was less in Sandoval County than in Bernalillo County for both total and severe crash models. $\phi[i]$ for Sandoval County was 24.6% and 16.3% for total and severe crashes, respectively. The same ($\phi[i]$) for Bernalillo County was 80.8% and 80.1% for total and severe crashes, respectively.

Given that the County-specific analysis did not necessarily provide any different pattern in the forecast for both total and severe crashes when compared with the region-wide model, it is reasonable to conclude that a region-wide model would be a more practical and less computationally-intensive route for long range safety forecasts. However, particular differences in parameter estimates were observed between the county-specific models. Therefore it might be beneficial and worth estimating County-specific models for a relatively short-term safety predictions. Also, as commented before, the differences between different scenario forecasts were found to be wider in near future than distant years.

Summary

This study attempted to evaluate forecasting performances of regional safety models for different alternative scenario planning. Regional crash prediction models are often compared strictly based on their predictive fit. This study compared models beyond their predictive performance and investigated the role of model complexity (modeling techniques) and model granularity (spatial aggregation) may have in improving long range planning forecasts.

The study used 2012 as a base year for the independent parameter set. Demographic, socioeconomic, roadway and transit networks were utilized in preparing the base year dataset. These parameters were used to model total and severe crashes that occurred in between 2006 and 2010 inclusive, in the study area which comprised the entirety of four counties in Central New Mexico. In order to forecast exogenous variables for future years, UrbanSim (a land use model) and Cube (travel demand model) were iteratively run for each of the alternative scenarios. The socioeconomic variables were forecasted every five years between 2011 and 2040. Forecasted socioeconomic data were then used to forecast crashes for every five years in the same time span.

Among the three candidate models fitted for both total and severe crashes, the Bayesian model accounting for the spatial heterogeneity among DASZs outperformed the Negative Binomial and Bayesian model that did not account for spatial error in terms predictive fit. In general, the spatial Bayesian model forecasted the smallest increase in crash occurrences in future years. This may be a particularly important finding in terms of applying a model with a better fit since an unreasonably high increase of crashes (thus, deteriorating safety) would adversely affect public perception in the scenario planning process. The widest band of increase in crashes was observed from non-spatial Bayesian models which, in spite of its better predictive fit than Negative Binomial models, provided similar or worse safety forecasts for the alternative scenarios.

The effect of spatial granularity (region-wide versus County-specific) on model estimates and in turn on safety forecast was investigated. In order to understand whether an overall forecast would reveal a similar forecast pattern when compared to a smaller scale, County-specific models were developed for total and severe crashes. Percent increase in total and severe crashes showed a similar pattern (both in direction and scale) when compared between the region-wide and county-specific models.

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TABLES

Table 1: Few Examples of Previous Studies on Macro-level Crash Prediction

Reference	Spatial Aggregation	Applied Models	Modeled Crash Type(s)
Hadayeghi et al. (2003)	Traffic Zones of City of Toronto	Negative Binomial; Geographically Weighted Regression	Total; Severe (fatal and nonfatal injury)
Aguero-Valverde and Jovanis (2006)	Counties of Pennsylvania	Negative Binomial; Full Bayes Hierarchical Model with Spatial and Temporal Effects	Injury; Fatal
Quddus (2008)	Census Wards of the Greater London Metropolitan Area	Negative Binomial; Spatial Autoregressive; Spatial Error Model; Spatial Poisson-Lognormal	Fatal; Serious Injury; Slight Injury
Huang et al. (2010)	Counties of Florida	Spatial Poisson-Lognormal	Total; Severe
Pirdavani et al. (2012)	Traffic Analysis Zones of Flanders, Belgium	Negative Binomial	Injury
Aguero-Valverde (2013)	Cantons of Costa Rica	Multivariate Spatial Model using Full Bayes Hierarchical Approach	Fatal; Injury; Property Damage Only
Karim et al. (2013)	Traffic Analysis Zones of Metro Vancouver, Canada	Negative Binomial; Spatial Poisson-Gamma	Total; Severe; Property Damage Only
Pulugurtha et al. (2013)	Traffic Analysis Zones from the City of Charlotte and Mecklenburg County, North Carolina	Negative Binomial	Total; Injury; Property Damage Only

Table 2: TDM Scenario Specifications for 2025

Scenario Parameters	Alternate 1	Alternate 2	Alternate 3
Roadway Network	2025 Network	2025 Network	2012 Network
Transit Network	2012 Network (no improvement)	2025 Network	2012 Network (no improvement)
Socioeconomic (SE) Data	2025 SE	2025 SE	2025 SE

Table 3: TDM Scenario Specifications for 2040

Scenario Parameters	Alternate 1	Alternate 2	Alternate 3
Roadway Network	2040 Network	2040 Network	2025 Network
Transit Network	2012 Network + limited improvement	2040 Network	2025 Network
Socioeconomic (SE) Data	2040 SE	2040 SE	2040 SE

Table 4: Variables Definitions

Variable Acronym	Variable Definition	Mean	Standard Deviation	Min	Max
Response Variables					
Cr06to10	Total number of crashes between 2006 and 2010 inclusive	94.06	124.38	0	1013
SevCr06to10	Total number of severe crashes between 2006 and 2010 inclusive. Severe crashes are sum of fatal and injury type crashes.	27.66	36.07	0	275
Dependent Variables					
SigInt	Total number of signalized intersections	1.18	1.47	0	9
SFDU	Single family dwelling units	332.6	342.13	0	2180
MFDU	Multiple family dwelling units	81.8	202.73	0	2085
CountyXXX	Dummy variables. Each for a County in the study area. Examples include- CountyBER for Bernalillo County, CountyVAL for Valencia County, etc.	-	-	-	-
LnPop	Logarithmic transformation of the total population ln(total population + 1)	5.63	2.5251	0	8.75
LnBasic	Logarithmic transformation of the Basic Employment ln(basic employment + 1)	3.04	1.8557	0	10.04
LnRetail	Logarithmic transformation of the Retail Employment ln(retail employment + 1)	2.75	2.1598	0	7.6
LnService	Logarithmic transformation of the Service Employment ln(service employment + 1)	3.99	2.108	0	9.35
LnEmp	Logarithmic transformation of the Total Employment which is a sum of Basic, Retail, and Service Employment ln(total employment + 1)	4.71	2.1512	0	10.04
LnMedInc	Logarithmic transformation of Median Income	8.88	4.174	0	12.04
Rent	Total number of rented units	125.03	0.02	0	1819
Own	Total number of owner occupied housing units	259.35	0.0275	0	1751
UNMenroll	Total number of students enrolled in University of New Mexico	30.78	771.67	0	23111
CNMenroll	Total number of students enrolled in Central New Mexico	28.86	438.18	0	10944

Table 5: Parameter Estimates from Total Crash Models

Variables	Non-Bayesian NB Model (Model-5a)		Bayesian model without accounting spatial correlation (Model-5b)				Bayesian model accounting spatial correlation (Model-5c)			
	Estimates	P-value	Mean	Std. Dev.	Bayesian Credible Interval		Mean	Std. Dev.	Bayesian Credible Interval	
					2.5%	97.5%			2.5%	97.5%
SigInt	0.2044	< 0.001	0.2344	0.0302	0.1804	0.297	0.2028	0.0274	0.1529	0.261
LnPop	0.1131	0.0002	0.1203	0.032	0.0536	0.1709	0.0668	0.0318	0.0111	0.1265
LnBasic	0.1033	< 0.001	0.1087	0.0261	0.0603	0.1583	0.0606	0.0265	0.0113	0.115
LnRetail	0.1511	< 0.001	0.1994	0.029	0.1412	0.2529	0.124	0.0257	0.0716	0.1706
LnService	0.1619	< 0.001	0.2237	0.0254	0.1748	0.2715	0.1781	0.0281	0.1254	0.2337
LnMedInc	- 0.0641	< 0.001	- 0.0357	0.0125	- 0.0595	- 0.01042	- 0.021	0.0197	-0.0582	0.01493
SFDU	- 1.951E-4	0.1748	- 1.09E-4	1.66E-4	- 4.29E-4	2.03E-04	1.59E-4	1.38E-4	- 1.03E-4	4.39E-4
MFDU	3.159E-4	0.1011	2.20E-4	2.12E-4	- 2.22E-4	6.13E-04	4.00E-5	1.91E-4	- 3.40E-4	4.21E-4
CountyBER	0.2681	0.0046	0.2532	0.099	0.0686	0.4733	- 0.4514	0.2228	- 0.8486	0.1459
CountyVAL	- 0.4646	0.0020	- 0.4256	0.1675	- 0.7553	- 0.1075	- 0.7375	0.6007	- 1.992	0.4361
Intercept	2.2889	< 0.001	0.9874	0.1362	0.7385	1.255	2.184	0.1766	1.754	2.528
AIC	9355		-				-			
DIC	-		6637				5788			

Table 6: Parameter Estimates from Severe Crash Models

Variables	Non-Bayesian NB Model (Model-6a)		Bayesian model without accounting spatial correlation (Model-6b)				Bayesian model accounting spatial correlation (Model-6c)			
	Estimates	P-value	Mean	Std. Dev.	Bayesian Credible Interval		Mean	Std. Dev.	Bayesian Credible Interval	
					2.5%	97.5%			2.5%	97.5%
SigInt	0.1943	< 0.001	0.2088	0.0311	0.1472	0.2704	0.1881	0.0268	0.1358	0.2407
LnPop	0.1015	0.0008	0.1062	0.0324	0.0389	0.1696	0.0545	0.0413	- 0.0232	0.1335
LnBasic	0.0916	0.0003	0.0888	0.0277	0.0321	0.1425	0.0461	0.0259	- 0.0049	0.0967
LnRetail	0.1421	< 0.001	0.1827	0.0270	0.1288	0.2329	0.128	0.0253	0.0759	0.1776
LnService	0.1486	< 0.001	0.1959	0.0293	0.1427	0.2569	0.1432	0.0282	0.0883	0.198
LnMedInc	- 0.056	< 0.001	- 0.0416	0.0151	-0.0682	- 0.0088	- 0.0155	0.0204	- 0.0546	0.0275
SFDU	- 1.885E-4	0.1831	- 1.14E-4	1.55E-4	- 4.20E-4	1.81E-4	1.05E-4	1.61E-4	- 2.06E-4	4.03E-4
MFDU	3.639E4	0.0526	2.63E-4	2.17E-4	- 1.66E-4	6.77E-4	9.38E-5	1.90E-4	- 2.80E-4	4.69E-4
CountyBER	0.1451	0.1238	0.169	0.109	- 0.0506	0.3824	- 0.5593	0.3116	- 1.134	0.0634
CountyVAL	- 0.4466	0.0031	- 0.4153	0.1697	- 0.7523	- 0.0776	- 0.8207	0.5854	- 1.986	0.278
Intercept	1.3229	< 0.001	0.3129	0.1366	0.0313	0.5721	1.385	0.2949	0.8422	1.968
AIC	7273		-				-			
DIC	-		5533				1083			

Table 7: Percent Increase of Crashes for Different Scenarios in Five-Year Interval

Alternate 1 Scenario														
Total Crash Forecasts	2011-2015	2016-2020	2021-2025	2026-2030	2031-2035	2036-2040		*Severe Crash Forecasts*	2011-2015	2016-2020	2021-2025	2026-2030	2031-2035	2036-2040
Negative Binomial Model	6.98	10.75	15.99	21.02	26.31	30.54		Negative Binomial Model	5.67	9.41	14.34	19.07	24.14	28.24
Spatial Bayesian Model	2.15	5.34	9.55	13.53	17.27	20.36		Spatial Bayesian Model	0.79	3.7	7.34	10.68	13.85	16.45
Non-Spatial Bayesian Model	4.14	9.55	16.6	23.54	30.21	35.88		Non-Spatial Bayesian Model	2.41	6.75	12.61	18.4	24.05	28.84
Alternate 2 Scenario														
Total Crash Forecasts	2011-2015	2016-2020	2021-2025	2026-2030	2031-2035	2036-2040		*Severe Crash Forecasts*	2011-2015	2016-2020	2021-2025	2026-2030	2031-2035	2036-2040
Negative Binomial Model	6.49	14.42	22.23	30.75	38.17	45.52		Negative Binomial Model	5.17	12.39	19.68	27.93	35.12	42.41
Spatial Bayesian Model	2.05	7.34	13.19	18.12	22.34	26.26		Spatial Bayesian Model	0.57	5.09	10.2	14.64	18.41	21.95
Non-Spatial Bayesian Model	4.35	14.92	28.51	40.67	51.18	62.14		Non-Spatial Bayesian Model	1.79	9.98	20.91	31.08	39.79	48.95
Alternate 3 Scenario														
Total Crash Forecasts	2011-2015	2016-2020	2021-2025	2026-2030	2031-2035	2036-2040		*Severe Crash Forecasts*	2011-2015	2016-2020	2021-2025	2026-2030	2031-2035	2036-2040
Negative Binomial Model	6.49	14.42	22.23	30.31	37.94	45.42		Negative Binomial Model	5.17	12.39	19.68	27.5	34.96	42.48
Spatial Bayesian Model	2.05	7.34	13.19	18.08	22.52	26.45		Spatial Bayesian Model	0.57	5.09	10.2	14.54	18.48	21.97
Non-Spatial Bayesian Model	4.35	14.92	28.51	40.04	51.14	61.41		Non-Spatial Bayesian Model	1.79	9.98	20.91	30.39	39.59	48.07

Table 8: Percent Increase of Crashes in Bernalillo and Sandoval Counties Based on Spatial Poisson-Lognormal Model Forecast (Predictions Calculated from the Region-Wide Model)

Bernalillo County														
Total Crash Forecasts	2011-2015	2016-2020	2021-2025	2026-2030	2031-2035	2036-2040		*Severe Crash Forecasts*	2011-2015	2016-2020	2021-2025	2026-2030	2031-2035	2036-2040
Alternate 1 Scenario	2.15	4.79	8.58	12.13	15.26	17.56		Alternate 1 Scenario	0.89	3.33	6.65	9.69	12.37	14.41
Alternate 2 Scenario	2.51	7.79	13.32	17.66	21.4	24.9		Alternate 2 Scenario	1.12	5.65	10.54	14.58	18.01	21.3
Alternate 3 Scenario	2.51	7.79	13.33	17.58	21.55	24.92		Alternate 3 Scenario	1.12	5.65	10.54	14.41	18.03	21.16
Sandoval County														
Total Crash Forecasts	2011-2015	2016-2020	2021-2025	2026-2030	2031-2035	2036-2040		*Severe Crash Forecasts*	2011-2015	2016-2020	2021-2025	2026-2030	2031-2035	2036-2040
Alternate 1 Scenario	8.73	18.9	27.96	36.42	45.63	55.17		Alternate 1 Scenario	6.06	14.16	20.89	27	33.98	40.58
Alternate 2 Scenario	2.28	10.18	21.04	32.16	41.5	49.24		Alternate 2 Scenario	0.81	7.41	15.51	23.66	30.52	36.1
Alternate 3 Scenario	2.28	10.18	21.04	32.95	41.86	50.45		Alternate 3 Scenario	0.81	7.41	15.51	24.4	30.9	36.93

Table 9: Crash Models Developed Specific for Bernalillo County

Variables	Bayesian model for Total Crashes accounting spatial correlation (Model-8a)				Bayesian model for Severe Crashes accounting spatial correlation (Model-8b)			
	Mean	Std. Dev.	Bayesian Credible Interval		Mean	Std. Dev.	Bayesian Credible Interval	
			2.5%	97.5%			2.5%	97.5%
SigInt	0.2088	0.03	0.1494	0.2669	0.1966	0.0293	0.1387	0.2541
LnPop	- 0.0161	0.0461	- 0.1076	0.074	0.0086	0.0462	- 0.0808	0.0992
LnBasic	0.0641	0.031	0.0035	0.125	0.0448	0.0306	- 0.015	0.104
LnRetail	0.1269	0.0288	0.069	0.184	0.12	0.0277	0.0676	0.1754
LnService	0.1878	0.0306	0.1301	0.2505	0.1736	0.0298	0.1168	0.2333
LnMedInc	0.0216	0.0238	- 0.0225	0.0682	0.0061	0.0248	- 0.0422	0.0551
SFDU	3.14E-4	1.79E-4	- 5.12E-5	6.56E-4	1.69E-4	1.84E-4	- 1.94E-4	5.21E-4
MFDU	9.72E-5	1.96E-4	- 2.83E-4	4.82E-4	7.13E-5	1.86E-4	- 2.86E-4	4.45E-4
Intercept	1.897	0.1835	1.502	2.244	0.9616	0.1738	0.6228	1.296

Table 10: Crash Models Developed Specific for Sandoval County

Variables	Bayesian model for Total Crashes accounting spatial correlation (Model-9a)				Bayesian model for Severe Crashes accounting spatial correlation (Model-9b)			
	Mean	Std. Dev.	Bayesian Credible Interval		Mean	Std. Dev.	Bayesian Credible Interval	
			2.5%	97.5%			2.5%	97.5%
SigInt	0.2092	0.1063	4.06E-4	0.4169	0.2203	0.111	0.0097	0.4356
LnPop	0.1503	0.0932	- 0.0325	0.3266	0.1426	0.0867	- 0.0316	0.3125
LnBasic	0.1497	0.1064	- 0.0544	0.3565	0.1211	0.1082	- 0.0861	0.3419
LnRetail	0.1349	0.0906	- 0.0422	0.3183	0.1452	0.0914	- 0.0325	0.3213
LnService	0.1297	0.0895	- 0.0461	0.3014	0.0966	0.0903	- 0.0801	0.2723
LnMedInc	- 0.0415	0.0436	- 0.1224	0.0525	- 0.0571	0.039	- 0.1302	0.0252
SFDU	- 6.70E-5	4.07E-4	- 8.60E-4	7.01E-4	- 1.04E-4	3.94E-4	- 8.59E-4	6.74E-4
MFDU	0.0018	0.0015	- 0.001	0.0049	0.0017	0.0014	- 9.89E-4	0.0045
Intercept	1.13	0.3779	0.4106	1.875	0.5139	0.3739	- 0.234	1.221

Table 11: Correlation matrices for Crash Models Developed Specific for Bernalillo and Sandoval County

Bernalillo County - Total Crash Model (Model-8a)

	SigInt	LnPop	LnBasic	LnRetail	LnService	LnMedInc	SFDU	MFDU
SigInt	1.000							
LnPop	0.033	1.000						
LnBasic	-0.090	-0.075	1.000					
LnRetail	0.361	-0.012	-0.243	1.000				
LnService	0.103	-0.108	0.028	0.092	1.000			
LnMedInc	-0.176	**-0.813**	0.133	-0.061	0.081	1.000		
SFDU	-0.004	**-0.625**	-0.013	0.036	0.134	0.356	1.000	
MFDU	0.109	-0.372	0.063	0.088	-0.001	0.139	0.305	1.000

Bernalillo County - Severe Crash Model (Model-8b)

	SigInt	LnPop	LnBasic	LnRetail	LnService	LnMedInc	SFDU	MFDU
SigInt	1.000							
LnPop	0.072	1.000						
LnBasic	-0.137	-0.040	1.000					
LnRetail	-0.027	0.044	-0.290	1.000				
LnService	0.013	-0.110	-0.077	-0.248	1.000			
LnMedInc	-0.086	**-0.843**	0.076	-0.020	0.031	1.000		
SFDU	-0.043	**-0.618**	-0.062	-0.099	0.067	0.398	1.000	
MFDU	-0.055	-0.432	-0.005	-0.068	0.005	0.292	0.312	1.000

Sandoval County - Total Crash Model (Model-9a)

	SigInt	LnPop	LnBasic	LnRetail	LnService	LnMedInc	SFDU	MFDU
SigInt	1.000							
LnPop	0.103	1.000						
LnBasic	-0.041	-0.004	1.000					
LnRetail	-0.063	0.028	-0.314	1.000				
LnService	-0.030	-0.171	-0.334	-0.481	1.000			
LnMedInc	-0.208	**-0.616**	0.029	-0.096	0.118	1.000		
SFDU	-0.130	**-0.629**	-0.173	0.107	0.020	0.282	1.000	
MFDU	0.032	-0.091	-0.081	0.050	-0.008	-0.080	0.090	1.000

Sandoval County - Severe Crash Model (Model-9b)

	SigInt	LnPop	LnBasic	LnRetail	LnService	LnMedInc	SFDU	MFDU
SigInt	1.000							
LnPop	0.131	1.000						
LnBasic	-0.056	-0.029	1.000					
LnRetail	-0.133	0.061	-0.383	1.000				
LnService	-0.062	-0.186	-0.302	-0.483	1.000			
LnMedInc	-0.226	**-0.617**	0.075	-0.094	0.148	1.000		
SFDU	-0.172	**-0.634**	-0.112	0.025	-0.004	0.278	1.000	
MFDU	-0.232	-0.122	-0.035	-0.040	-0.022	0.010	0.103	1.000

Table 12: Percent Increase of Crashes in Bernalillo and Sandoval Counties Based on Spatial Poisson-Lognormal Model Forecast (Predictions Calculated from Each County-Specific Model)

Bernalillo County														
Total Crash Forecasts	2011-2015	2016-2020	2021-2025	2026-2030	2031-2035	2036-2040		*Severe Crash Forecasts*	2011-2015	2016-2020	2021-2025	2026-2030	2031-2035	2036-2040
Alternate 1 Scenario	2.65	6.1	9.78	12.88	15.72	17.81		Alternate 1 Scenario	1.5	4.19	7.44	10.34	12.9	14.78
Alternate 2 Scenario	4.32	7.94	12.38	16.4	19.76	23.1		Alternate 2 Scenario	2.28	5.67	9.81	13.42	16.47	19.37
Alternate 3 Scenario	4.32	7.94	12.38	16.12	19.66	22.9		Alternate 3 Scenario	2.28	5.67	9.81	13.22	16.42	19.27
Sandoval County														
Total Crash Forecasts	2011-2015	2016-2020	2021-2025	2026-2030	2031-2035	2036-2040		*Severe Crash Forecasts*	2011-2015	2016-2020	2021-2025	2026-2030	2031-2035	2036-2040
Alternate 1 Scenario	10.34	21.86	31.18	39.27	48.35	58.15		Alternate 1 Scenario	5.47	14.41	21.4	27.27	34.23	41.17
Alternate 2 Scenario	2.04	11.95	23.23	35.71	46.29	55.03		Alternate 2 Scenario	-1.05	7.02	15.56	24.59	32.23	38.51
Alternate 3 Scenario	2.04	11.95	23.23	36.77	46.55	56.01		Alternate 3 Scenario	-1.05	7.02	15.56	25.49	32.43	38.98

FIGURES

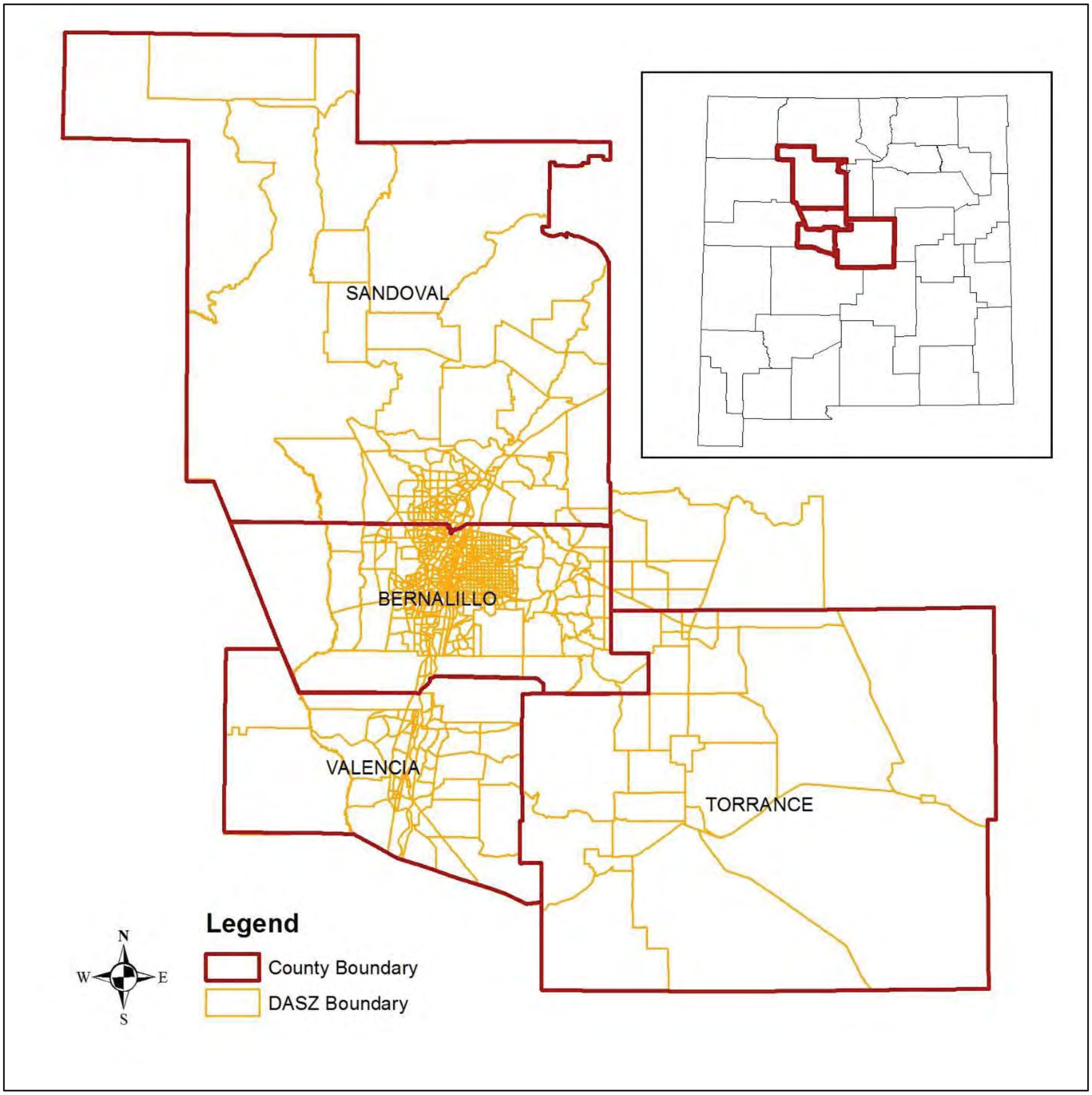


Figure 1: Study Area

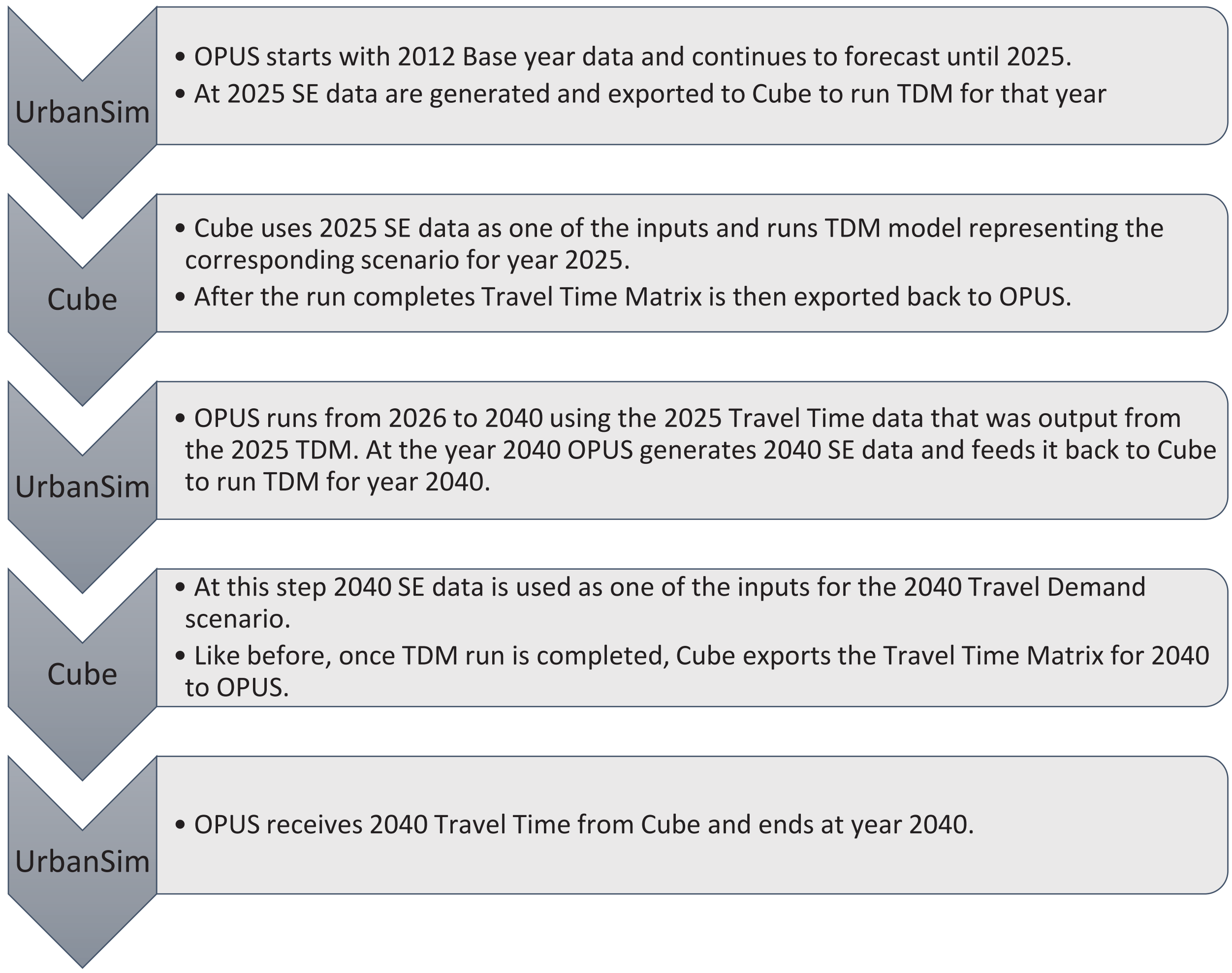


Figure 2: UrbanSim-Cube interaction

Appendix E: REMI Transight Technical Document

Overview of the REMI Transight Model[1]

The REMI model incorporates aspects of four major modeling approaches: Input-Output, General Equilibrium, Econometric, and Economic Geography. Each of these methodologies has distinct advantages as well as limitations when used alone. The REMI integrated modeling approach builds on the strengths of each of these approaches.

The REMI model, at its core, has the inter-industry relationships found in Input-Output models. As a result, the industry structure of a particular region is captured within the model, as well as transactions between industries. Changes that affect industry sectors that are highly interconnected to the rest of the economy will often have a greater economic impact than those for industries that are not closely linked to the regional economy.

General Equilibrium is reached when supply and demand are balanced. This tends to occur in the long run, as prices, production, consumption, imports, exports, and other changes occur to stabilize the economic system. For example, if real wages in a region rise relative to the U.S., this will tend to attract economic migrants to the region until relative real wage rates equalize. The general equilibrium properties are necessary to evaluate changes such as tax policies that may have an effect on regional prices and competitiveness.

REMI is sometimes called an "Econometric model," as the underlying equations and responses are estimated using advanced statistical techniques. The estimates are used to quantify the structural relationships in the model. The speed of economic responses is also estimated, since different adjustment periods will result in different policy recommendations and even different economic outcomes.

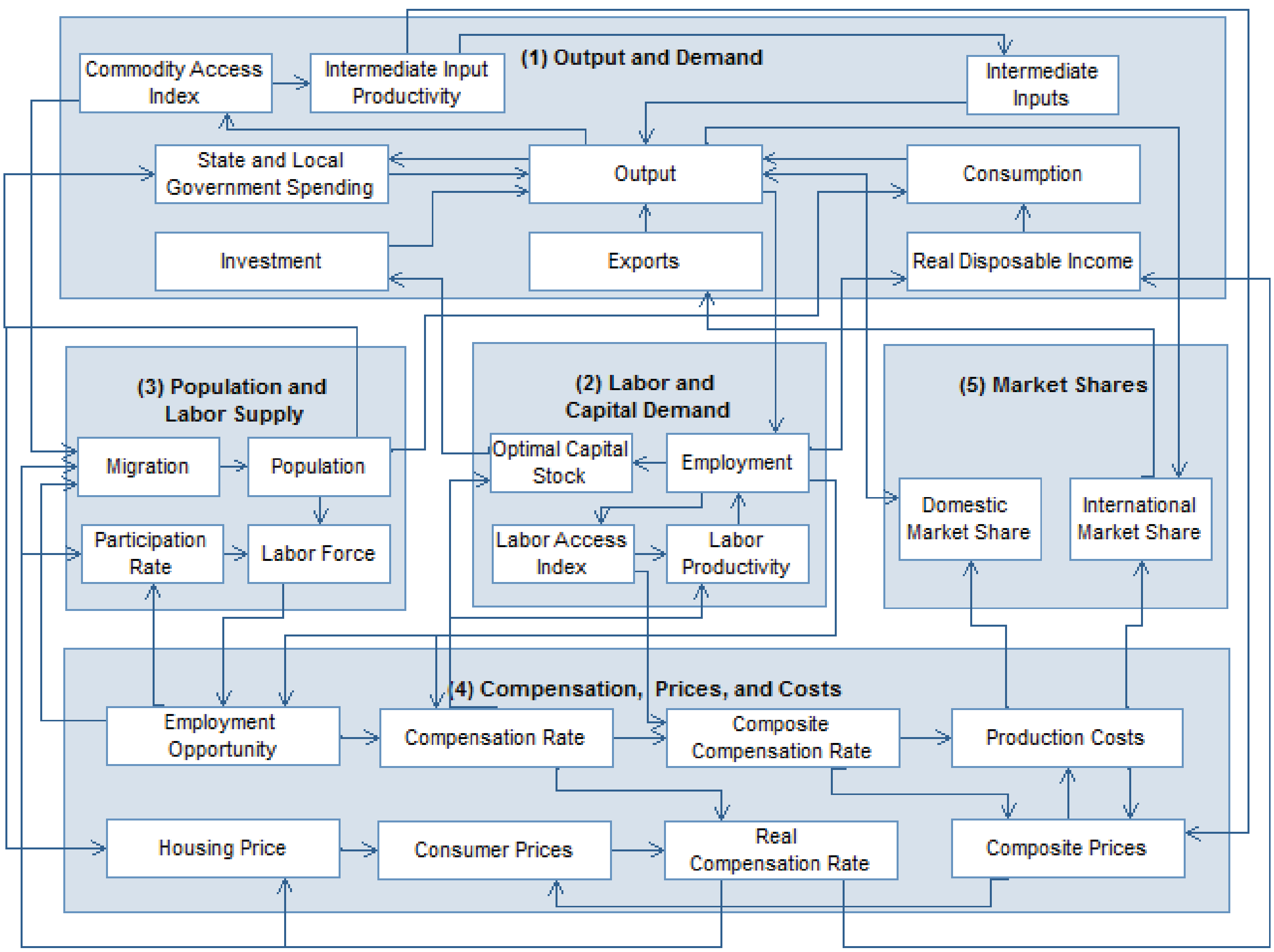
The New Economic Geography features represent the spatial dimension of the economy. Transportation costs and accessibility are important economic determinants of interregional trade and the productivity benefits that occur due to industry clustering and labor market access. Firms benefit having access to a large, specialized labor pool and from having access to specialized intermediate inputs from supplying firms. The productivity and competitiveness benefits of labor and industry concentrations are called agglomeration economies, and are modeled in the economic geography equations.

The REMI model consists of thousands of simultaneous equations with a structure that is relatively straightforward. The exact number of equations used varies depending on the extent of industry, demographic, demand, and other detail in the model. The overall structure of the model can be summarized in five major blocks: (1) Output and Demand, (2) Labor and Capital Demand, (3) Population

[1] The information contained in this technical appendix largely comes from REMI directly either through their technical documents, their webpage (www.remi.com), or the Transight model itself.

and Labor Supply, (4) Compensation, Prices and Costs, and (5) Market Shares. The blocks and their key interactions are shown in Figure 2.

Figure 2: REMI Model Linkages



Block 1. Output and Demand

This block includes output, demand, consumption, investment, government spending, import, commodity access, and export concepts. Output for each industry in the home region is determined by industry demand in all regions in the nation, the home region's share of each market, and international exports from the region.

For each industry, demand is determined by the amount of output, consumption, investment, and capital demand on that industry. Consumption depends on real disposable income per capita, relative prices, differential income elasticities, and population. Input productivity depends on access to inputs because a larger choice set of inputs means it is more likely that the input with the specific characteristics required for the job will be found. In the capital stock adjustment process, investment occurs to fill the difference between optimal and actual capital stock for residential, non-residential, and equipment investment. Government spending changes are determined by changes in the population.

Block 2. Labor and Capital Demand

The Labor and Capital Demand block includes the determination of labor productivity, labor intensity, and the optimal capital stocks. Industry-specific labor productivity depends on the availability of workers with differentiated skills for the occupations used in each industry. The occupational labor supply and commuting costs determine firms' access to a specialized labor force.

Labor intensity is determined by the cost of labor relative to the other factor inputs, capital and fuel. Demand for capital is driven by the optimal capital stock equation for both non-residential capital and equipment. Optimal capital stock for each industry depends on the relative cost of labor and capital, and the employment weighted by capital use for each industry. Employment in private industries is determined by the value added and employment per unit of value added in each industry.

Block 3. Population and Labor Supply

The Population and Labor Supply block includes detailed demographic information about the region. Population data is given for age, gender, and ethnic category, with birth and survival rates for each group. The size and labor force participation rate of each group determines the labor supply. These participation rates respond to changes in employment relative to the potential labor force and to changes in the real after-tax compensation rate. Migration includes retirement, military, international, and economic migration. Economic migration is determined by the relative real after-tax compensation rate, relative employment opportunity, and consumer access to variety.

Block 4. Compensation, Prices and Costs

This block includes delivered prices, production costs, equipment cost, the consumption deflator, consumer prices, the price of housing, and the compensation equation. Economic geography concepts account for the productivity and price effects of access to specialized labor, goods, and services.

These prices measure the price of the industry output, taking into account the access to production locations. This access is important due to the specialization of production that takes place within each industry, and because transportation and transaction costs of distance are significant. Composite prices for each industry are then calculated based on the production costs of supplying regions, the effective distance to these regions, and the index of access to the variety of outputs in the industry relative to the access by other uses of the product.

The cost of production for each industry is determined by the cost of labor, capital, fuel, and intermediate inputs. Labor costs reflect a productivity adjustment to account for access to specialized labor, as well as underlying compensation rates. Capital costs include costs of non-residential structures and equipment, while fuel costs incorporate electricity, natural gas, and residual fuels.

The consumption deflator converts industry prices to prices for consumption commodities. For potential migrants, the consumer price is additionally calculated to include housing prices. Housing prices change from their initial level depending on changes in income and population density.

Compensation changes are due to changes in labor demand and supply conditions and changes in the national compensation rate. Changes in employment opportunities relative to the labor force and occupational demand change determine compensation rates by industry.

Block 5. Market Shares

The market shares equations measure the proportion of local and export markets that are captured by each industry. These depend on relative production costs, the estimated price elasticity of demand, and the effective distance between the home region and each of the other regions. The change in share of a specific area in any region depends on changes in its delivered price and the quantity it produces compared with the same factors for competitors in that market. The share of local and external markets then drives the exports from and imports to the home economy.

Appendix F

GHG Emissions Reduction Strategies

Transportation-Related Greenhouse Gas Mitigation Strategies and Potential Applications in Central New Mexico

March 13, 2014

Developed by the U.S. Department of Transportation John A. Volpe National Transportation Systems Center with input from the Mitigation Technical Committee in support of the Central New Mexico Climate Change Scenario Planning Project: An Interagency Transportation, Land Use, and Climate Change Initiative

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Overview and Purpose

Planning for global climate change requires both adapting our human environment to emerging climate conditions and mitigating our contribution to climate change from greenhouse gas (GHG) emissions. This paper focuses on this second component. Scientists are in consensus that climate change has already begun; if we continue to emit GHGs from fossil fuels at rates similar to today, the severity and rate of change in the climate will increase.

Findings discussed at the Warsaw Climate Change Conference in 2013 included the need to reduce GHG emissions quickly in order to stave off a potentially devastating warming of the planet's mean temperature (i.e., 2^{o}C or 3.6^{o}F) before the end of this century. If the world collectively waits too long to begin significant GHG emissions mitigation efforts, the strategies that will need to be employed to avoid this difficult future will be more costly, politically challenging, and extreme because the rate of emissions reduction will need to be considerably higher.

The transportation sector accounts for roughly 30 percent of the overall GHG emissions in the United States. The other biggest emitters are electricity generation, much of it from buildings, and industry. Agricultural activities and residential and commercial land use make up the majority of the rest.

The Central New Mexico Climate Change Scenario Planning Project aims to help central New Mexico identify workable strategies to reduce the region's GHG emissions. Transportation and land use scenarios developed as part of the Mid-Region Council of Governments (MRCOG's) Metropolitan Transportation Plan can be evaluated for their ability to both mitigate emissions and adapt the region to new climate change futures expected during the next 30 years or more.

Due to these challenges and opportunities, the Project created a Greenhouse Gas Emissions Mitigation Technical Committee to:

1. Determine which transportation-related GHG emission reduction strategies could work/be effective in the central New Mexico region;
2. Prioritize identified strategies on potential impact and on feasibility;
3. Identify what data/tools are available to MRCOG and regional partners to measure strategies; and
4. Work with the consultant team to integrate these strategies into MRCOG's modeling environment for evaluation.

The list of strategies in this document is derived from those described in the Federal Highway Administration's *Reference Sourcebook for Reducing Greenhouse Gas Emissions* (http://www.fhwa.dot.gov/environment/climate_change/mitigation/resources_and_publications/reference_sourcebook/) and the Cambridge Systematics report *Moving Cooler: An Analysis of Transportation Strategies for Reducing Greenhouse Gas* Emissions published by the Urban Land Institute in 2009, as well as additional strategies discussed by members of the Mitigation Technical Committee for the Project.

Transportation-related strategies to reduce GHG emissions include 1) vehicle technology and policy strategies to improve the fuel-efficiency and reduce emissions from vehicles, 2) fuel technology strategies to reduce the carbon content of fuels, 3) travel activity strategies that seek to reduce the vehicle miles travelled (VMT) of the population, and 4) vehicle and system operations strategies that improve traffic flow and reduce emissions from vehicle idling. The first two strategies are important for meeting GHG emission reduction targets but for the most part are being addressed at a nationwide or global scale and are not significantly influenced by regional planning with a couple of exceptions mentioned later in this paper. Therefore, the final two strategies are those that the Project is primarily interested in investigating for applicability to Central New Mexico.

Travel activity is influenced by the land use that generates trips and the modes of transportation available to individuals who make those trips. For this reason, both transportation and land use strategies can be effective in reducing vehicle miles travelled and will be considered for analysis in the scenario planning project. The effects of strategies on GHG emission reduction will range in size and cost to implement and will be effective at different time scales. The scenario planning work will evaluate transportation and land use development scenarios on per-capita GHG emission rates in the region for 2020, 2030, and 2040. The region can evaluate GHG emission reduction strategies on 1) the degree to which they reduce per capita emissions, on 2) their cost-effectiveness in doing so, and on 3) how quickly they can be implemented.

For each general strategy listed in this document, there is a short synthesis of current and expected policy and programmatic activity in the Central New Mexico region and its potential to help implement these emissions reduction strategies. These potential applications were developed by consulting existing plans and policy documents, through discussions with technical stakeholders in the region, and from the discussion of the Greenhouse Gas Emissions Mitigation Technical Committee in winter 2013-14. These strategies have different implementation horizons and costs associated with them and most have other benefits beyond GHG emissions reduction, which are characterized in this document by the 2040 Draft Objectives for the 2040 Metropolitan Transportation Plan that they support beyond air quality and emissions reduction. As of March 2014, these objectives include:

- Maintain existing infrastructure
- Manage congestion and enhance operations
- Expand multimodal transportation options
- Support efficient freight movement
- Promote development in activity centers and key corridors
- Enhance the flow of goods and services
- Ensure affordable housing and transportation options
- Improve air quality
- Conserve water resources
- Prepare for climate uncertainties
- Minimize footprint of new development
- Improve access to employment sites, services, and recreational opportunities
- Encourage a mix of land uses in appropriate locations
- Provide healthy, safe, and convenient travel options

In general, most of the strategies described in this document will be considered for potential application in Central New Mexico and, with MRCOG's concurrence, could be included in the region's Metropolitan Transportation Plan. The matrix at the end of this document (Appendix A) summarizes several of the strategies for quick reference and how they may be evaluated for their effectiveness in reducing GHG emissions in the region using the region's integrated land use/transportation models or through off-model analysis.

Land Use Strategies

Some land use patterns are more transportation-efficient, in terms of the number and distance of trips they generate in order for people to conduct regular business, than others. A more efficient land use pattern in a defined area would be characterized by a higher overall residential population density and a high diversity of land use types (residential, commercial, employment) with urban design elements that connect these uses and activities together in such a way as to reduce the distance between trip origins (i.e., home) and destinations (i.e., work or shopping), thereby reducing the need and appeal of driving, which in turn would increase the appeal of other modes of transportation. Land use strategies like these may include:

- **Zoning changes** at the municipal level to allow for greater densities and a mix of land use types in areas with high quality transit service. Zoning changes to allow for more flexible and high density development could be pursued throughout the region. For example, to encourage transit-oriented development (TOD), a municipality can create a TOD overlay district in the city's zoning plan, or can require extra review through a planned unit development process. Some cities have partially replaced traditional Euclidian zoning in favor of form-based zoning, which considers the relationship between buildings and the public realm from an urban design perspective, which can be useful in creating the walkable communities required for successful TOD. However, TOD can be successful in any zoning paradigm. Form-based zoning could also be used to allow for higher residential densities and greater mix of use in existing neighborhoods, particularly near existing activity centers.

    1. **Potential Program in New Mexico:** Zoning is the purview of local governments; however the development of the transportation strategies in the MTP can be an excellent opportunity for cities to reconsider existing zoning. MRCOG's Land Use Integration Committee was set up to better link transportation and land use strategies. The City of Albuquerque, for instance, could conduct station-area planning around any proposed new high capacity transit investment, like Bus Rapid Transit.

        The City of Albuquerque and Bernalillo County will begin an update to their comprehensive plan in 2014. The plan update may also result in a Unified Development Ordinance which would address issues such as parking requirements, density, and overly burdensome regulations in some of the sector development plans.

        The City recently updated its zoning code to allow for up to 75 units/acre of multi-family development in C-1 and C-2 zoning within 660' of transit corridors, or in designated activity centers or Metropolitan Redevelopment Areas. The policy change removes some barriers to development, including an expedited review process. There are signs the policy change is being utilized, but it is still early in the process.

    2. **Responsibility of:** Municipalities.

    3. **Timeframe:** A comprehensive plan update will occur in the near-term. The timing of the update will allow for recommendations from the 2040 MTP to be fully integrated. The results from an emissions standpoint would not be realized until the long-term.

    4. **Rough Cost Estimate:** NA.

5. **Other Benefits:**
    a. Promotes development in centers and corridors
    b. Minimizes footprint for new development
    c. Encourages a mix of land uses in appropriate locations
    d. Provides healthy travel options because of the reduction in distances for many trips

- **Encouragement of urban infill development** in areas that are already transportation-efficient or have the potential to become so through various means such as tax incentives for brownfield cleanup and public-private partnerships to create the right market conditions for development to thrive.

1. **Potential program in New Mexico:** The City of Albuquerque has identified Metropolitan Redevelopment Areas in which the City can purchase land, declare it blighted, and donate the properties to developers to stimulate reinvestment. This form of public-private partnership is leading to new development Downtown and along critical transit corridors.

    Accessory dwelling units are one way to gently increase density. Many sector plans have made them allowable; however, the City's zoning code does not currently allow for an additional kitchen in a detached unit. Changes may be considered in the upcoming Unified Development Ordinance, or through an amendment to the 2C zoning classification.

    The City of Albuquerque's Development Process Manual provides standard guidelines for development and contains parking and other requirements that can make infill development challenging. The DPM may be revised to create more flexible design standards to encourage infill.

    Impact fees in most parts of the region have been waived or substantially reduced in response to the recession to encourage near-term development.

    The Village of Los Lunas has established mixed-use districts around transit stations but has not observed resulting investments. The Village is investing in alternative modes and civic infrastructure in those areas to try to stimulate development.

2. **Responsibility of:** Local jurisdictions including the City of Albuquerque and Bernalillo County, private developers, local Chamber of Commerce, and the Urban Land Institute could be partners in creating an effective infill development encouragement strategy in the old urban core.

3. **Timeframe:** Medium-term.

4. **Rough Cost Estimate:** NA.

5. **Other Benefits:**
    a. Promotes development in centers and corridors
    b. Minimizes footprint for new development
    c. Encourages a mix of uses

- **Transit-oriented development** entails planning for new neighborhoods along existing or proposed high capacity transit lines to encourage transit usage and allow some of the characteristics found in older walkable transit-oriented neighborhoods.

  1. **Potential program in New Mexico:** Limited transit-oriented planning has been undertaken at the municipal level. The Albuquerque-Bernalillo County Comprehensive Plan does identify transit centers and corridors around which higher density development may be pursued. However, development costs along many of these corridors are higher than the potential revenue.

     Rio Metro conducted a series of station area plans around Rail Runner stations, some of which have been implemented to a greater degree than others. There are also three ongoing BRT studies that contain land use components to understand redevelopment potential along the proposed transit lines. These three potential BRT lines along with the Rail Runner Commuter Rail can be the resource around which new development in the region can be targeted. These three lines are a) the Central Avenue Rapid Ride, b) Paseo del Norte, and 3) UNM-Sunport. Much of these corridors traverse existing developed neighborhoods but there are some potential alignments that include areas with development potential. These new developments can be carefully planned for high residential densities, land use mix, and well-connected walking paths.

     There have not been many coherent long-range transit planning efforts to date. However, the 2040 MTP can be a first step towards identifying the role transit can play in the region. Rio Metro is also about to undertake a visioning process to determine its long-term priorities.

  2. **Responsibility of:** The City of Albuquerque, private developers, local Chamber of Commerce, and the Urban Land Institute and Rio Metro could be partners in creating a strategy for the development of land around Rail Runner and proposed BRT station areas.

  3. **Timeframe:** Medium-term.

  4. **Rough cost estimate:** NA.

  5. **Other benefits:**
     a. Expands transportation options
     b. Promotes development in centers in corridors
     c. Considers water resources
     d. Minimizes footprint for new development
     e. Encourages a strategic mix of land uses
     f. Offers affordable housing and transportation options
     g. Improves access to employment sites, services, and recreational opportunities
     h. Provides healthy transportation options by enabling more nonmotorized trips to and from transit

- **Building design standards** that require new and retrofitted buildings to have “pedestrian-friendly” design elements, such as short building setbacks and high window to façade ratios.

1. **Potential program in New Mexico:** While the responsibility of regulating building design standards lies with the most local jurisdictions and not in regional planning, the Metropolitan Transportation Plan could identify pedestrian commercial corridors along transit lines and recommend design elements that support a healthy pedestrian environment. MRCOG has developed a Pedestrian Composite Index that measures barriers and generators of pedestrian activity along a corridor, while the under-development LRTS guide will provide guidance on more pedestrian-friendly design. Ultimately, the local jurisdictions would need to develop such a code change to require new buildings to be designed with a pedestrian orientation. These design elements are best if they are vague enough to allow for a variety of approaches to building design so long as they retain a few important features that help make a street inviting to walk along. The MTP could recommend that efforts to revise the zoning code to include some guidance or requirements for pedestrian-friendly design in a future Unified Development Ordinance.

2. **Responsibility of:** Local municipalities.

3. **Timeframe:** Short-term.

4. **Rough cost estimate:** NA.

5. **Other benefits:**
    a. Expands transportation options

- Development of **<u>urban growth boundaries or infrastructure dependent growth policies</u>** that limit the areas within which future urban development can occur can keep VMT growth down by supporting higher-density infill development.

1. **Potential program in New Mexico:** The Albuquerque metropolitan area is already partially bounded by various sovereign Pueblos, Kirkland Air Force Base, and the Sandia and Manzano Mountains. The existence of these undevelopable areas helps to hold in some development within a certain footprint. However, it has also led most development to expand out to the west of the urban core across the Rio Grande where there are few geographic limits to new development. This is a development pattern that is difficult to service with transportation infrastructure because of the presence of the river. In addition, the pattern of development in this area has been highly dispersed and unconnected. The drawbacks to such a land use development pattern include traffic congestion, since a disproportionate amount of traffic must use a few main arterials, and inefficient water consumption. The City of Albuquerque and Bernalillo County have an opportunity to guide development more carefully through their comprehensive planning process and can consider such tactics.

    Urban growth boundaries may not be viable in New Mexico. However, the region can explore concentrating growth in urban growth investment areas where infrastructure already exists and through general infrastructure-dependent growth policies. For example, Albuquerque's water utility authority only serves certain water zones that are based on elevation because it is a gravitational system. Similarly, the water authority will only authorize leapfrog developments that have a well. Rio Rancho has a similar system of water zones and development does not occur when there is no water available. The combination of water zones, tribal lands, and physical boundaries therefore create a series of de-facto growth boundaries.

The notion of return on investment of infrastructure is also relevant and agencies are increasingly limited in available funding for infrastructure maintenance and improvements. One approach the region could take is to enable local municipalities to better account for the lifecycle costs of infrastructure to support different kinds of development, not just the costs of initial construction which are often borne by developers.

2. **Responsibility of:** Bernalillo County and cities.

3. **Timeframe:** Medium-term.

4. **Rough cost estimate:** Infrastructure-dependent growth policies and urban growth boundaries both may result in lower costs for providing public infrastructure to serve growing communities. However, urban growth boundaries, when not applied with aggressive affordable housing programs, may result in higher housing costs.

5. **Other Benefits:**
    a. Maintains existing infrastructure
    b. Considers water resources
    c. Prepares for climate uncertainties
    d. Minimizes footprint for new development

Integrating Transportation Investments with Land Use Strategies

For land use strategies like those described above to reduce energy consumption and GHG emissions, they must be complemented with investments in transportation infrastructure that support the use of modes of transportation other than driving in single-occupant vehicles (SOV). Some of these strategies could be pursued without complimentary land use strategies but they will have less impact on per-capita vehicle miles traveled if the automobile orientation of the land use in the region does not change. These investments may include:

- **Bicycle and pedestrian infrastructure improvements** to increase the appeal and safety of walking and bicycling. These investments may involve retrofitting existing streets to include sidewalks and safer roadway crossings for pedestrians. The investments could also include developing a network of on-road bicycle facilities like bike lanes, cycle tracks, and traffic calming complemented by the construction of off-road bicycle trails. Retrofitting the urban environment for safer and more comfortable walking and bicycling will also improve the conditions for successful transit operations as more people would be likely to take transit if there were safe and comfortable pathways to it.

    1. **Potential program in New Mexico:** MRCOG already has a good base from which to identify investments in better roads and trails for bicycle commuting and walking through its Project Prioritization Process. The last MTP included a proposed bicycle system which has been mapped. This system includes the existing network plus planned investments. It also identifies gaps and barriers for which no treatment has been proposed but that require attention:

http://www.mrcog-nm.gov/images/stories/pdf/transportation/2035_mtp/Final_Approved/2035_Poster_LRBS_Adopted_Doc.pdf. The region can improve its bicycling network for transportation by prioritizing these investments, particularly those that improve connectivity to areas of greater land use concentration like TODs or other focus areas that the plan identifies.

2. **Responsibility of:** City public works departments and planning departments will have primary responsibility for implementing the bicycle plan. MRCOG plays an important role in the development of a bicycle system by programming Federal funding for transportation projects. These projects may receive STP, CMAQ HSIP or TAP funds from MAP-21, but they can also be funded through local initiatives.

3. **Timeframe:** Medium-term. Bicycle and pedestrian projects can be programmed in the TIP upon completion of the MTP and be developed as early as 2020.

4. **Rough cost estimate:** Trails have a moderate to high cost so should be carefully considered before prioritizing investment in them. Better allocation of space on roads with the addition of bike lanes through lane narrowing or road diets and other on-road treatments are comparatively inexpensive ways to improve the bicycling environment in the city though they may not appeal to as wide a range of the bicycling public. Albuquerque already has experience with these kinds of treatments that both make the bicycling network safer but also help to identify it to potential bicyclists.

5. **Other benefits:**
    a. Manages congestion and enhances operations
    b. Expands transportation choices
    c. Improves access to employment sites, services and recreational opportunities
    d. Provides safe travel options
    e. Provides healthy travel options
    f. Offers affordable transportation and housing options

- **Improving public transportation** with high-frequency, reliable, and fixed route transit service. Investments in expanding public transportation may include a denser network of bus service operating at higher frequencies, or may include the construction of a light rail (LRT) or bus rapid transit (BRT) network to serve high-density mixed-use areas and connect major employment centers, activity centers, and residential areas. Investments in fixed public transit like BRT or LRT have been shown to better influence land use development than relying solely on improving regular bus operations, but both improve the effectiveness of the transit system to meet regional travel needs.

1. **Potential program in New Mexico:** The Albuquerque metro area has seen a dramatic rise in overall public transit usage in the last decade, which indicates that transit can serve a critical role in reducing dependency on single-occupancy vehicles in the region. The Rail Runner provides long-distance north-south commuter service from communities south of Albuquerque to Santa Fe, while three BRT-like Rapid Ride routes were introduced by ABQ Ride between 2004 and 2009. Three BRT studies are ongoing (two led by the Rio Metro Regional Transit District and a third led by ABQ Ride).

The 2035 MTP established river crossing mode share goals where 10% of all trips across the river should be made by transit by 2025 and 20% of all trips by 2035. To support that goal the Metropolitan Transportation Board approved a policy to sub-allocate 25% of Federal discretionary funds programmed through the Transportation Improvement Program to transit projects that support the mode share goals.

Rio Metro RTD is funded in part by a 1/8-cent GRT. The RTD has the authority to tax up to ½-cent to generate additional revenue, but any increase must be approved in a countywide vote.

Two of the three BRT studies could result in a Small Starts application for FTA funding in fall 2014. The scope of the application(s) is yet to be determined, although it is likely that only one proposal will be submitted for the region.

2. **Responsibility of:** Rio Metro and ABQ Ride are the transit providers who are responsible for the planning and operations of their systems. Successful applications for Federal funding include significant land use coordination to ensure that new BRT lines will result in transit-oriented development that will reduce per-capita VMT. Land use planning at this scale is the responsibility of city planning departments.

3. **Timeframe:** Medium term.

4. **Rough cost estimate:** Medium. BRT is proving to be a more popular concept in the region than light-rail. One advantage of BRT is that it has a relatively low implementation cost and can have many of the same benefits as rail. Proper BRT planning requires coordination between jurisdictions, public works departments and planning departments. Both Rio Metro and ABQ Ride receive FTA 5307 operating funds. Additional revenue for ABQ Ride comes from the City of Albuquerque while Rio Metro generates about $20 million per year in GRT revenue (one half is allocated for Rail Runner operations, while the other half funds regional bus transit and demand response services). The TIP sub-allocation now provides an additional $6.5 million annually in reliable capital funding.

5. **Other Benefits:**
   a. Expands transportation options
   b. Promotes development in centers and corridors
   c. Improves access to employment sites, services and recreational opportunities
   d. Offers affordable transportation and housing options

- Instituting **routine accommodation of bicycles and pedestrians or establishing a Complete Streets Policy** can ensure that future roadway construction and reconstruction investments result in better environments for walking and bicycling except in a handful of cases where they are not appropriate. This policy process approach is being adopted by many cities, counties and states as a way to institutionalize multimodal approaches to transportation facility design.

1. **Potential program in New Mexico:** Complete Streets ensures roadways are designed with full consideration of the comfort and safety of all users and of all abilities. The Metropolitan Transportation Board passed a Complete Streets resolution in 2011 that directs creation of policy and roadway design guidelines. However, none of the member agencies have passed

the resolution for their jurisdictions. MRCOG has incorporated Complete Streets principles into its Project Prioritization Process which is utilized in the selection of projects for Federal funding. Projects that incorporate multi-modal aspects tend to receive higher evaluation scores and are more likely to receive funding.

The Future Albuquerque Area Bikeways and Streets (FAABS) document is being revised to include Complete Streets design guidance. The FAABS will be replaced by the Long-Range Transportation System (LRTS) Guide, which will likely be adopted for the 2040 MTP. LRTS is intended to provide guidance on roadway design based on the surrounding context, adjacent land uses, and the role of the facility in the regional transportation network.

2. **Responsibility of:** Since this is a policy-based strategy for creating multimodal streets, agencies at every level can institute these policies to apply to processes for which they are responsible. Cities and statewide transportation agencies can institute a checklist that requires documentation of the consideration of all users in each project development phase of every transportation project, and funding agencies like MRCOG can make multimodal consideration a requirement for receiving funding.

3. **Timeframe:** Short-term. This is an approach that can begin to show results once a good policy is developed.

4. **Rough cost estimate:** Low. One of the benefits of a Complete Streets approach to multimodal transportation development is that by incorporating bicycling and walking into routine project development, decisions about the proper type of bicycle and pedestrian infrastructure can take into account the full range costs and benefits early in the scoping of projects. Early planning like this typically results in more cost-efficient multimodal transportation investments than adding in infrastructure after a road is built.

5. **Other Benefits:**
    a. Maintains existing infrastructure
    b. Expands transportation options
    c. Improves access to employment sites, services and recreational opportunities
    d. Provides safe travel options
    e. Provides healthy travel options

Transportation and land use strategies present the classic chicken and egg conundrum: more transportation-efficient land use patterns will only have a marginal influence on vehicle travel without improving public transit and walking and bicycling conditions; however, improvements in transit and non-motorized conditions will not significantly affect travel behavior if future land use retains the automobile orientation of the status quo. Pursuing an integrated land use and transportation plan that ties future transit and non-motorized transportation investments with transportation-efficient land use patterns will likely have a great effect on per capita GHG emission rates in the future. However, it will take many years for the full benefits of this approach to be realized. In other words, these strategies may be the most effective in the long-term to reduce per capita GHG emissions in the region, but only pursuing these strategies will not likely show much benefit in the short-term (2020) and modest benefit in the medium-term (2030). MRCOG has the robust capability to test these land use and transportation strategies in their modelling environment using a sophisticated land use model (UrbanSim) and a travel demand model (Cube Voyager).

Transportation Demand Management (TDM) Strategies

TDM strategies seek to reduce the demand for driving single-occupant vehicles through various mechanisms that include incentives to choose alternatives or actions that influence the relative attractiveness or price of travel by SOVs versus alternatives. TDM strategies often accompany an investment in an alternative transportation mode such as the provision of a High Occupant Vehicle (HOV) or High Occupant Toll (HOT) lane or the construction of a new transit line. TDM strategies are most effective in reducing VMT when implemented as a suite of strategies as opposed to standalone strategies. While these strategies will not by themselves have as much impact on vehicle travel as integrated land use and transportation strategies discussed above, they can be implemented relatively quickly and at a low cost and can begin to show some results much sooner than more ambitious plans. TDM strategies include:

- **Road pricing** (sometimes referred to as "congestion pricing") partially monetizes the cost of adding to a congested corridor or area. A handful of large cities have implemented cordon pricing in their central districts, which are typically historic pre-automobile neighborhoods in order to reduce the number of vehicles travelling in them. These efforts, which can be found in London and Stockholm, charge drivers a variable amount to pass through a cordon into the central district. They have been successful in reducing traffic and resulting congestion and pollution and increasing alternatives to driving in those few places where they have been implemented.

  Cordon pricing has not been adopted in the United States but several regions here have constructed HOT lane systems. These systems, which can be found in Southern California, Denver, and Minneapolis-Saint Paul among others, charge SOV drivers a variable amount to use a congestion-free lane on the freeway that is free to use for HOVs like carpools or transit vehicles. The lane is kept free of congestion by increasing the price to SOVs using the lane when there is higher demand for it and lowering it to little or nothing when the highway is not congested. Road pricing strategies have been proven to be effective in reducing emissions at different amounts depending on the context, by incentivizing travel by HOVs, and by marginally reducing congestion. Some regions, such as Minneapolis-Saint Paul are pursuing regional highway strategies that restrict any expansion of the highway system to only priced lanes. These strategies do not attempt to solve congestion through highway building but instead aim to provide a congestion-free alternative to those who value it enough to pay when faced with the choice. They also can complement transit improvements by providing congestion-free travel for express buses that do not pay to use the lane and can incentivize people to make ridesharing arrangements when traveling in the peak period.

  In sum, road pricing strategies provide for a more efficient use of the highway system and can be an effective means to incentivize travel alternatives. They can also be implemented relatively quickly compared to many transportation system investment strategies if an existing lane is converted to a HOT lane. The Urban Land Institute's Moving Cooler report indicated pricing as one of the most promising methods for reducing GHG emissions when an existing general purpose lane is converted to a HOT lane. MRCOG has the ability to evaluate the effect of implementing HOT lanes through its travel demand model.

1. **Potential program in New Mexico**: Because the Albuquerque region does not have an extensive amount of congestion on its freeway system, this type of strategy may not make sense in the short-term but can be an approach to consider for future highway investment. Instead of expanding the number of general-purpose lanes on the freeways to accommodate traffic growth, the region could instead only construct new lanes as part of a managed system that is restricted to HOVs and those willing to pay a variable rate toll. NMDOT is looking at a potential future managed lane system to handle the increased freight traffic expected through the Albuquerque area.

2. **Responsibility of**: New Mexico Department of Transportation.

3. **Timeframe**: Medium and long-term. Priced lanes only work as a partial solution for congested corridors.

4. **Rough cost estimate**: Medium. Pursuing a managed lane strategy is less expensive than pursuing a highway expansion strategy. These strategies allow for a congestion-free alternative to exist without continuously building more miles of pavement, which is expensive to build and to maintain. The revenue from the priced lane can be used to fund its management and to provide express transit service that uses the lane.

5. **Other Benefits:**
    a. Maintains existing infrastructure
    b. Manage congestion and enhance operations
    c. Expands transportation options
    d. Supports efficient freight movement
    e. Improves network efficiency to enhance the flow of goods and services

- **<u>High Occupant Vehicle (HOV) facilities</u>** include HOV lanes on freeways and carpool incentive programs at parking garages. HOV lanes are similar to HOT lanes described above except that they are not priced and are only available for use by vehicles that have a certain number of occupants. Some regions have 2-person HOV lanes, while others have 3-person HOV lanes. The severity of congestion on the corridor typically determines the passenger threshold of an HOV lane. HOV lanes are also used by transit vehicles. Because most vehicle travel is by single-occupant vehicles, the HOV lane is typically a more reliable and faster alternative to the general purpose lanes, but unlike HOT lanes, they can become congested if they experience enough demand.

  Areas with high demand for parking and limited space may also provide special rates or parking spaces to registered carpools. These kinds of programs are typically managed by an employer-based transportation program and are common on university campuses where the university controls transportation and land use. These programs offer lower rates to registered carpools at preferred parking locations.

1. **Potential program in New Mexico:** HOV lanes have been studied at the project level by NMDOT on various occasions along portions of the Interstate system in the Albuquerque metro area. This bottom-up approach generally leads to the conclusion that HOV facilities on a finite portion of the Interstate would not be appropriate. However, if the region were to develop a plan for a connected HOV network to handle projected travel demand

increases, implementation would be more feasible and allow for it to occur on an incremental basis if necessary. MRCOG's regional travel demand model could be used to identify the most feasible HOV network based on projected traffic and congestion levels.

NMDOT is realistically considering managed lanes as an option on I-40 through Albuquerque due to the high level of projected demand, particularly for freight travel. Signage would indicate depending on the time of day if lanes are open to all users, trucks only, or potentially HOV only.

2. **Responsibility of:** NMDOT, with support from MRCOG and ABQ Ride or Rio Metro.

3. **Timeframe:** Medium.

4. **Rough cost estimate:** Medium-High.

5. **Other benefits:**
    a. Maintains existing infrastructure
    b. Manages congestion and enhances operations
    c. Expand transportation options
    d. Improves network efficiency to enhance the flow of goods and services

- **A parking management and parking pricing** strategy is similar to that of road pricing in that it uses market feedback principles to result in a more efficient use of space, in this case for parked cars rather than cars traveling along the roadway. Parking spaces are not free to build or to maintain but this cost is not always passed directly on to users of parking spaces for various reasons including zoning code regulations that require developers of buildings to include a minimum number of free parking spaces. Such policies effectively encourage driving by subsidizing a portion of the trip for SOVs. Cities could instead adopt policies and regulations that reverse this incentive. An emerging policy idea includes "performance-managed parking" in which the availability of unoccupied spaces is at 15 percent during peak periods through variable pricing and "smart parking" in which technologies provide drivers real-time information on space availability. Parking management and pricing strategies likely have a mixed record in terms of reducing GHG emissions. They are necessary components of transit-oriented developments (as described above) and encourage more dense development. Reducing parking availability may marginally increase emissions if it results in drivers spending more time searching for parking, but this may be able to be managed with other services like real-time information.

1. **Potential program in New Mexico:** Managed parking is appropriate in transit-oriented development districts, downtowns, universities and any other location with a high demand for travel and little space for parking. This is a strategy that can go along with a TOD plan.

   The most logical locations for parking management programs in the Albuquerque metropolitan area are the UNM/CNM district and Downtown. In particular, the Downtown 2010 Sector Development Plan eliminates all parking requirements within the planning area. However, parking is still requested by developers and lenders. Other employment centers and shopping districts feature a generous supply of parking. Due to the lack of easily accessible parking, many businesses have decided to relocate from Downtown to more suburban-style office parks where parking is abundant.

A more structural approach could be to reduce required parking demands for new development region-wide or eliminate parking requirements altogether, thus limiting oversupply and making overall parking management strategies more effective. In addition, incentives could be offered to redevelop existing surface lots.

2. **Responsibility of:** City government, business improvement districts.

3. **Timeframe:** Short-term.

4. **Rough cost estimate:** Low.

5. **Other benefits:**
    a. Maintains existing infrastructure
    b. Improves network efficiency to enhance the flow of goods and services
    c. Promotes development in centers and corridors
    d. Minimizes footprint for new development
    e. Encourage a mix of land uses

- **Car sharing** is a successful recent phenomenon in the United States but its adoption rates vary considerably by location. There are several models of car sharing but they all share in common the use of one or more vehicles by members of a car sharing organization. Car sharing effectively reduces the demand for car ownership allowing individual members of a car sharing organization the ability to forego the purchase of a car or providing multiple driver households an alternative to purchasing a second vehicle. These arrangements can save households significant amounts of money and support use of alternative travel modes like transit and bicycling as people who belong to these organizations do not drive as often as car owners. Car sharing is a service provided by the private sector but the public can help these organizations to succeed by offering incentives such as free municipal parking spaces.

1. **Potential program in New Mexico:** Car sharing companies have some small operations in Albuquerque such as Enterprise at the University of New Mexico. The City of Albuquerque could help to create better market conditions for more car sharing in the region by offering car sharing services free parking spaces in busy areas and at transit stations. Government agencies can also participate as employer members of car sharing services in place of an agency vehicle fleet.

2. **Responsibility of:** Car sharing is always a private enterprise and there are both for-profit and non-profit models that have proven to be successful in a range of cities. City government and business improvement districts can help to provide some incentives for car sharing adoption.

3. **Timeframe:** Short-term.

4. **Rough cost estimate:** Low.

5. **Other benefits:**
   a. Expands transportation options
   b. Promotes development in centers and corridors
   c. Minimizes footprint of new development
   d. Ensures affordable transportation and housing options

- **<u>Bike sharing</u>** programs are flourishing in communities throughout the United States. These systems allow users to purchase a subscription or a daily pass which allows them access to a fleet of bicycles located within a defined area of a city. There are a handful of bike sharing models but most are public-private partnerships that cities and regions can facilitate through funding and/or supporting the installation of infrastructure.

1. **Potential program in New Mexico:** Bike sharing systems are only successful when there is a high enough density of bicycles in its service area. The region may want to explore supporting the development of a bike sharing program in Downtown and the university area. Eventually, the transit system could be integrated with a bike share program in transit-oriented developments so that transit riders could use the bikes to complete the last legs of their journeys.

   A bike share program was nearly implemented in Albuquerque in 2008 with a program scope and operator identified. Ultimately the program was not implemented and few formal discussions have followed in the past five years. Interest has been raised recently by City Council members as well as the Albuquerque/Bernalillo County Air Quality Control Board. A privately funded and operated program may be the most feasibly approach near-term.

2. **Responsibility of:** Bike sharing systems are privately operated but require a lot of coordination with city public works departments and can be in partnership with the transit agency.

3. **Timeframe:** Short-term.

4. **Rough cost estimate:** Low for public agencies.

5. **Other benefits:**
   a. Expands transportation options
   b. Improve access to services and recreational opportunities
   c. Provides healthy transportation options
   d. Ensures affordable transportation and housing options

- **<u>Ridesharing</u>** is the sharing of one vehicle by more than one individual and takes many forms. Public agencies can encourage ridesharing through implementing road pricing which gives drivers an incentive to carry passengers during peak hours. The most widespread ridesharing in the United States occurs along toll corridors such as the Bay Bridge in Oakland-SF, California.

1. **Potential Program in New Mexico:** MRCOG is not aware of any formal ridesharing programs in the region. However, there are several new technologies that use social media that are beginning to show promise in facilitating ride-matching so organizations that operate TDM

programs such as the University of New Mexico and the Rio Metro TDM program may want to explore this area further.

2. **Responsibility of:** Rio Metro, University of New Mexico, private firms.

3. **Timeframe:** Short-medium term.

4. **Rough cost estimate:** Low.

5. **Other benefits:**
    a. Manage congestion and enhance operations:
    b. Ensures affordable transportation and housing options

- **Employer commuter programs and transportation management associations/organizations** (TMAs, TMOs). Public agencies can directly provide or encourage ridesharing and other travel modes by facilitating the activities of transportation management associations (TMA). TMAs are associations of employers in an area that has congestion and/or limited parking. These organizations promote TDM strategies to encourage ridesharing, the use of transit and other alternatives to SOVs through incentives such as free or reduced-cost parking for carpools, incentives for buying transit passes, and other programs aimed at easing the transition to commuting by alternative modes. Some states, such as Washington, require large employers to enact a commute trip reduction program using these kinds of incentives.

1. **Potential program in New Mexico:** ABQ Ride and Rio Metro operate Smart Business Partnership programs, which both incorporate many TDM-related components. The programs began as a partnership but progress has not been made on creating a unified TDM program between the two agencies.

    The Rio Metro Smart Business Partnership program includes over 60 employers and offers three levels of participation. Businesses are asked to provide transit information and/or bike maps, alternative transportation options, incentives for carpooling, and other measures in exchange for free advertising on the Rail Runner and other forms of recognition. The program does not include discounted passes or a guaranteed ride home program for transit commuters. Rio Metro is in the process of updating its Smart Business Partnership program and increasing emphasis in newly served markets. Ticket processing is also being updated which may allow for more flexibility in passes, including discounts and special offers.

    ABQ Ride offers discount passes to employers through its version of the Smart Business Partnership program. The program, which has 161 participating government agencies and private businesses, only requires interested parties to sign-up but does not require any additional efforts to participate. ABQ Ride does offer a guaranteed ride home program for regular transit users who need alternative transportation in the case of an emergency.

    Other Rio Metro efforts include marketing, a bike locker program, a summer youth pass, and special events. The bike locker program includes 130 units across 6-8 stations which are available for $25 for six months. Usage rates vary with a wait list in several locations. The summer youth pass offers a highly discounted pass for riders age 10-17 during the summer months on ABQ Ride, the Rail Runner, and Santa Fe Trails transit system. Participation was low in 2013 but the pass will be reestablished in 2014. Special events include National Train Day, a Christmas-themed ride to Santa's Village, and additional service for events such as the Bernalillo Wine Festival. Rio Metro is currently developing a vision for its TDM program for 2014.

The City of Albuquerque also operates a bicycle TDM program and a bicycle safety education program to encourage use of alternative modes. The TDM program installs bike lockers and provides bicycle route maps to area businesses, and installs other bicycle parking facilities in public spaces.

MRCOG is not aware of location or employer-based TDM programs in the region, other than the University of New Mexico. It may be advantageous for the business areas from the downtown area to the Central Avenue corridor to develop a locally-oriented commuter services program to market ridesharing, transit, bicycling, and walking. The cities or county can also develop an ordinance to require large employers or building developers to institute commute trip reduction programs to maintain a certain level of vehicle trips as a condition for development approval.

2. **Responsibility of:** Transit agencies, business improvement districts, local government.

3. **Timeframe:** Short.

4. **Rough cost estimate:** Low.

5. **Other benefits:**
   a. Promotes development in centers and corridors
   b. Offers affordable transportation and housing options

- **Providing transit incentives** such as reduced transit fares and transit promotions can result in GHG emission reductions when they result in more individuals switching to transit from driving, particularly during the most congested period of the day. One way that some regions have achieved this is to provide discounted transit packages to major employers, TMO/TMAs, and schools or to major events.

  1. **Potential program in New Mexico:** Much of the jump in transit ridership in the Albuquerque region in the last ten years can be attributed to the subsidized transit passes for students and staff at the University of New Mexico and Central New Mexico Community College.

     Reduced transit fares can also be applied to other kinds of well-served locations with high concentrations of employees. However, there may not be significant room to reduce fares beyond current levels. Fares for ABQ Ride are quite low compared to other transit providers ($1 per fare; $2 day passes; $30 monthly pass). Since 39% of ABQ Ride users are students, and most of whom utilize free passes, farebox revenue is a concern. Similarly, farebox revenue for the Rail Runner accounts for only 11% of operating costs. Fares were increased in spring 2012, resulting in a drop in ridership but a larger increase in revenue.

ABQ Ride does offer discount passes to employers as part of a TDM program. There are opportunities to expand this program and for Rio Metro to offer discount passes on the Rail Runner as part of its Smart Business Partnership program.

2. **Responsibility of:** ABQ Rides and Rio Metro.

3. **Timeframe:** Short.

4. **Rough cost estimate:** These types of programs must be approached carefully as the reduced revenue from the farebox can be unsustainable if not applied in the most optimal way. Since much Federal transit operating assistance is based on ridership, however, increasing your riders through reducing the fares can allow the region to receive more Federal funding to help offset the reduction in farebox revenue.

5. **Other benefits:**
    a. Expands transportation options
    b. Improves access to employment sites, services and recreational opportunities
    c. Ensures affordable transportation and housing options

- **A statewide mileage-based user fee or "wheels" tax** on automobiles instead of a fuel tax has not been successfully implemented in the United States but is being studied by a handful of states including Oregon and has been recently considered in the San Francisco Bay area. A mileage-based tax would charge drivers a fee based on the amount of miles they travelled rather than the amount of gasoline they purchase. The idea behind this strategy is twofold: to better tie the fee charged to users to their use of the system (the miles they travelled on it) and to create a more sustainable transportation funding source. Because it has not been widely adopted throughout the world, the effect of such a funding scheme on VMT and emissions is unknown but several preliminary studies indicate that there would be a significant effect.

1. **Potential program in New Mexico:** This kind of strategy has not been implemented to a great effect anywhere in the United States but New Mexico could begin testing the feasibility of a mileage-based fee for driving versus a fuel consumption tax. The Statewide Long-Range Transportation Plan is considering alternative financing approaches and acknowledges the unsustainability of reliance solely on gas tax revenue.

2. **Responsibility of:** The fuel tax is collected by the State of New Mexico so any change to revenue collection in this area would need to be the purview of the State.

3. **Timeframe:** Medium term.

4. **Rough cost estimate:** NA.

5. **Other benefits:**
    a. Maintains existing infrastructure
    b. Manages congestion and enhances operations
    c. Supports efficient freight movement
    d. Improves network efficiency to enhance the flow of goods and services

Transportation System Management (TSM) Strategies

Transportation system management (TSM) refers to a set of strategies that largely aim to reduce GHG emissions by reducing congestion, primarily by improving transportation system efficiency. Congestion can lead to greater levels of GHG emissions from vehicles because they release more emissions when idling than when travelling. Some TSM strategies are designed to reduce total and systemic congestion and improve system-wide efficiency, while other strategies target particularly problematic areas where improvements could greatly affect congestion, safety, efficiency, and GHG emissions.

- **Traffic signal enhancement** is the process of improving the operations, maintenance, timing, and location of traffic signals to promote smoother traffic flow, which simultaneously reduces GHG emissions. The reason for this effect is that stop-and-go traffic is less fuel-efficient and produces more emissions than free flow traffic at speeds below 50 mph. Fuel economy begins to worsen at speeds much higher than this level. Traffic signal optimization includes the coordination of signals to maximize the green light time for vehicles traveling at the speed limit. Optimization programs include dynamic optimization whereby a traffic management center uses real-time traffic data to adapt signal timing to changing conditions. Traffic signal optimization programs are popular with the public and produce many benefits but can be challenging to coordinate across different roadway jurisdictions. GHG emissions reductions have been shown to be in the range of six to 15 percent on corridors where the effect of implementing optimization has occurred, but varies considerably based on the traffic conditions and urban context.

  Strategies such as traffic signal enhancement that reduce the travel time for vehicles can have the effect of inducing more vehicle travel as it has the same overall effect on a transportation corridor as adding capacity. However, pursuing strategies like traffic signal enhancement along highly traveled corridors can reduce the need to provide additional capacity on the regional highway system, which results in more efficient use of existing infrastructure. The effect on energy consumption and emissions would therefore be highest when traffic signal enhancement is pursued as part of a congestion management process in place of highway expansion.

  1. **Potential program in New Mexico:** MRCOG has organized an Intelligent Transportation Systems (ITS) Subcommittee that is charged with the task to maintain a regional ITS architecture and to advise on the deployment of regionally-significant ITS elements. Signal timing plans are most effective if they are operated exclusively by one jurisdiction or through inter-jurisdictional coordination because roads of different jurisdiction intersect with one another and major roads travel through multiple cities. A Regional Traffic Management Center is being established which should help in the coordination of traffic signals across jurisdictional lines. The TMC is designed to integrate corridor and incident management plans, coordinate monitoring systems and incident response, and centralize traveler information services.

     Adaptive traffic signals were recently installed on Alameda Blvd, a key regional river crossing and the most congested corridor in the region. The project led to clear reductions in delay and generated interest among some agencies in wider implementation. Funding for regional projects could be allocated through the TIP to install and maintain adaptive signals on key corridors, or support a regional signal optimization program. This effort could be overseen by the existing MRCOG ITS subcommittee.

2. **Responsibility of:** Signal timing plans are carried out by the jurisdiction who owns the signals. A new regional TMC will co-locate traffic engineering staff from multiple jurisdictions and should allow for greater coordination in signal timing plans. There is also room for a regional body such as MRCOG to prioritize ITS-related investments.

3. **Timeframe:** A coordinated traffic signal program begins with a traffic signal timing plan which is followed by the purchase of equipment or the installation of a traffic management center. Federal funds are available for the TMC in 2016-17, although efforts are being made to advance the construction.

4. **Rough cost estimate:** Traffic signal optimization programs are low cost compared to other congestion relieving methods like road construction. A typical signal optimization program would include the purchase of a traffic signal controller at a cost of about $10,000 per intersection. The cost to update it including staff may cost roughly $3,000 per year per intersection. Funding is a concern for both implementation and maintenance of regional systems, such as adaptive signals. Regional funds could be applied to address concerns over increased maintenance costs.

5. **Other benefits:**
    a. Maintains existing infrastructure
    b. Manages congestion and enhances operations
    c. Supports efficient freight movement
    d. Improves network efficiency to enhance the flow of goods and services

- **<u>Incident management</u>** is the process of quickly detecting and clearing incidents on freeways that are causing congestion such as accidents or breakdowns. Such programs can reduce the time travelers sit in congested conditions because of incidents and therefore reduce fuel consumption and GHG emissions. These programs can be managed by state DOTs or cities and can be funded by MPOs. Such programs involve law enforcement and emergency service officials.

1. **Potential program in New Mexico:** Successful incident management programs involve a significant degree of interdisciplinary and interagency coordination. These programs include the involvement of law enforcement, emergency services, towing companies, departments of transportation, emergency management agencies, insurance companies and trucking companies. If New Mexico wished to improve its incident response in the metropolitan area, it would be best to begin with a task force to help all parties understand their individual requirements and mandates as they can sometimes be in conflict.

    NMDOT has pursued various initiatives over the last decade with less than ideal participation from first responders. Draft incident management plans have been prepared for various NMDOT facilities, including the Interstates, but have not been adopted by stakeholder agencies. A recent draft plan for I-40 considers regional and local detour routes for commercial and passenger vehicles for incidents at various points, including those affecting the river-crossing portion of the Interstate. The inauguration of the regional TMC could help ensure that incident management plans become adopted by local agencies and are integrated into first responder practices.

NMDOT offer courtesy patrol service along I-25 and I-40, as well as Paseo del Norte. There are discussions on expanding the service to other corridors in the metropolitan area.

2. **Responsibility of:** MRCOG could convene a task force of representatives of each of the agencies and private sector parties that would need to be involved in an incident management program. Ultimately such a program would likely reside at the New Mexico Department of Transportation as they have jurisdiction over the interstate system but the task force may identify a different owner of the program if local conditions warranted it.

3. **Timeframe:** Short-term. Such a program could get off the ground relatively quickly as it requires no construction.

4. **Rough estimate of cost:** The cost would be relatively low compared to the benefit to reducing incidental congestion. The program could be set up so that the public sector could recover some of its costs through the insurance policies of at-fault drivers. These programs are eligible for some Federal transportation funding.

5. **Other benefits:**
    a. Manages congestion and enhances operations
    b. Improves network efficiency to enhance the flow of goods and services
    c. Provides safe and healthy travel options

- **<u>Intersection improvements</u>** such as turn lanes and roundabouts are primarily constructed to reduce serious injury crashes but they can reduce traffic idling and congestion. Roundabouts are being widely adopted throughout the United States because they can often manage to move traffic more efficiently and at lower emissions than traffic signals. Roundabouts are circular road junctions in which traffic enters a continuous one-way stream around a central island. Roundabouts reduce idle times and improve traffic flow, thereby reducing fuel consumption and emissions. To estimate the fuel savings from roundabouts, it is necessary to know the fuel consumption from the replaced intersection as well as the type of intersection being replaced.

1. **Potential program in New Mexico:** Roundabouts already exist in the region. Bernalillo County, Rio Rancho, Albuquerque, and the New Mexico DOT have experience with planning, designing, and constructing them. They are frequently controversial because they require some adjustment among drivers unfamiliar with how to navigate them and they have a few drawbacks as opposed to traditional traffic signals. Proposed roundabouts at two intersections in Albuquerque have been the subject of intense scrutiny and a mix of both neighborhood support and opposition. Typically, roundabouts are constructed because they reduce severe T-bone accidents as they require all cars to enter the intersection at an angle and at a slow speed. However, they also reduce congestion and have air quality benefits that are typically not the primary reason they are constructed. Guidance on roundabouts will be provided at the state-level as part of the Strategic Highway Safety Plan.

2. **Responsibility of:** Roundabouts may be funded using local or Federal funds. In the latter case, MRCOG would be involved in the administration of funds and the selection of projects through a competitive process. They are typically going to be the responsibility of the local jurisdiction or New Mexico DOT if located on a state road. The cities of Albuquerque and Rio

Rancho may also have intersections that could be candidates for roundabouts.

3. **Timeframe:** Short to medium-term. Roundabouts require a fair amount of construction and it is not uncommon for them to require a significant amount of right-of-way purchase, which can add to the time it takes to build them and their cost.

4. **Rough estimate of cost:** The cost of installing roundabouts can be similar to modifying a traditional signalized intersection if that modification includes construction of turn lanes, and they have lower maintenance costs than signalized intersections. A typical intersection would cost in the range of $500,000 to $1,500,000 depending on complexity and land acquisition requirements.

5. **Other benefits:**
    a. Manages congestion and enhances operations
    b. Improves network efficiency to enhance the flow of goods and services
    c. Provides safe travel options

- <u>**Establishing roadway connectivity standards**</u> can help to improve the efficiency of the roadway network, reduce VMT, and result in less congestion on arterial roads. Roadway network designs that feature cul-de-sacs instead of a grid-like pattern are inefficient at distributing traffic and overburden regional transportation facilities. Cities can establish standards that require new development to be better connected and can also pursue strategies to improve connectivity in existing developments.

1. **Potential program in New Mexico:** Several cities throughout the country have established roadway connectivity standards for all new developments. Such standards are best developed with participation from the real estate development interests in the region because they can have an impact on their business models. A roadway connectivity standard may be a requirement that limits block area size or block length size and limiting the road length that serves new cul-de-sacs. Another more flexible connectivity standard that a city could require is to establish a connectivity index and apply it to an approval process for new development.

2. **Responsibility of:** Cities have the authority to impose ordinances on new developments.

3. **Timeframe:** Short to medium-term. If a city were to pass a connectivity standard ordinance for new development, it could take effect in short order.

4. **Rough estimate of cost:** A more connected roadway network should result in less of a burden on regional transportation infrastructure, which could lower transportation costs.

5. **Other benefits:**
    a. Manages congestion and enhances operations
    b. Improves network efficiency to enhance the flow of goods and services

Vehicle Improvement Strategies

Vehicle improvement strategies seek to reduce GHG emissions by improving the efficiency of the vehicle fleet on the road in the region. These strategies typically involve influencing the market for cars and trucks. States can explore programs like vehicle scrappage programs (vehicle buy-back), tax incentives for cleaner vehicles, and taxing inefficient vehicles while subsidizing efficient ones. Most of these programs are effective at the State or Federal level but can be explored by MRCOG as strategies to advocate in New Mexico. Their effect on GHG emissions is difficult to quantify because so many factors influence consumer behavior. Three specific strategies could be considered by the region for funding eligibility to reduce GHG emissions:

- **Electric vehicle infrastructure support:** Many regions throughout the country have taken steps to support the market for electric and hybrid-electric vehicles. Such support has taken the form of tax incentives on the purchase of electric vehicles or the private sector installation of electric vehicle charging stations as well as direct infrastructure investments like installation of electric vehicle charging stations at strategic locations.

- **Heavy-duty vehicle retrofit**: Heavy trucks and other large vehicles like school buses are highly inefficient vehicles compared to passenger cars and have been the subject of many emerging emissions reduction strategies. Effective retrofits include changes to the tires to reduce roll resistance and changes to the body to reduce drag, as well as programs to switch to cleaner fuel vehicles or engines. States can pass regulations requiring the use of retrofits or subsidize retrofits to voluntarily encourage their use. California regions have the most extensive experience with programs to subsidize retrofits but many other regions have implemented them and they are eligible for Federal transportation funds.

- **Truck-stop electrification (TSE) technologies** provide long-haul truckers with heating, cooling, and other amenities at truck stops without requiring vehicle idling, thereby reducing GHG emissions. Agencies can encourage the adoption of TSE through funding and partnerships with private companies. Such a strategy could be effective if the region has a significant amount of pass-through freight traffic using the region's highways. State DOTs, MPOs, and other agencies (e.g., state environmental protection or energy agencies) can explore providing funding and strategic planning support to truck stop operators and truck operators to implement on-board and off-board TSE.

   1. **Potential program in New Mexico:** These above strategies as well as other potential vehicle improvement strategies can be carried out without government support. However, the adoption of such strategies is likely to be difficult when there is not a financial incentive for operators of large trucks and buses to retrofit them.

      The City of Albuquerque's Environmental Health Department manages the air quality program for Albuquerque and Bernalillo County, while the State of New Mexico's Environment Department manages those responsibilities for the rest of the state as mandated by the Environmental Protection Agency. Both the Albuquerque program and the State program could support direct vehicle improvement strategies, such as these heavy-duty vehicle strategies, through new funding if it were made available. There are a growing number of diesel retrofit strategies and the City of Albuquerque has taken advantage of an EPA grant to retrofit solid waste trucks. However, there is limited funding for these types of programs.

Albuquerque is under a Limited Maintenance Plan for carbon monoxide which expires in 2016 because the area has maintained attainment status for 20 years. The current pollutant of concern for the area is ozone, not because of nonattainment issues, but because current readings are approaching the legal standard. If or when the area goes into nonattainment status a plan may be required to be submitted and approved by EPA under which the area expects to bring the area back into attainment. Depending on the severity of the ozone violation, the City of Albuquerque Air Quality Program may have 3 years from designation of nonattainment to develop and submit the plan. Bernalillo County may be an excellent candidate to participate in EPA's Ozone Advance program. This program is designed for regions that are near the ozone threshold that wish to take proactive steps to limit ozone. The program requires a region to identify ozone monitors throughout the region, specify the area boundaries and put together an action plan identifying measures, dates of implementation, and responsible parties for implementation, both public and private. EPA administers a Clean Diesel grant program under the Diesel Emissions Reduction Act (DERA) and regions with Ozone Advance Programs get extra points when they apply for these grants.

Some strategies listed in this document, as well as direct vehicle improvement strategies potentially could be listed in action plans as control measures. Being designated as non-attainment for certain pollutants allows the area to be eligible for regional transportation funding (likely CMAQ) for MRCOG to distribute, should that funding be made available.

2. **Responsibility of:** Primarily the City of Albuquerque, working in conjunction with MRCOG and New Mexico Environment Department.

3. **Timeframe:** four years out from date of designation (unknown at this time).

4. **Rough estimate of cost:** These strategies are seen as fairly cost-effective strategies for the explicit purpose of reducing emissions but they do not have additional transportation benefits such as reducing congestion or providing mobility options. Also many retrofit strategies have primarily been designed to reduce particulate matter pollutants from vehicles and the GHG emissions reduction benefits are less well-known.

5. **Other benefits:** These strategies are entirely geared toward reducing emissions but have other benefits in that they reduce local air pollution as well as GHG emissions.

Other Considerations

As discussed earlier, the type of transportation available affects the type of land use that will flourish in an area and vice versa. Therefore, transportation investment strategies can indirectly affect the amount of energy consumption and therefore emissions levels from non-transportation sources like buildings. The region may be interested in measuring the effect of land use and transportation strategies not only on the transportation emissions reductions but also from the reductions from different types of land use.

Finally, agencies in charge of maintaining and constructing transportation facilities can pursue management strategies that can reduce energy consumption and GHG emissions through changes to their operations. Two strategies that the region and State could explore are to set goals for reducing the emissions from construction activities and to institute programs to reduce energy consumption from street lighting or providing excess space for renewable energy generation.

- **Construction activities** produce a significant amount of GHG emissions. It may be advantageous to subtract an estimate of these emissions from any benefit that is expected from a transportation investment when it involves a lot of construction. For instance, roundabouts are proven to reduce idling and thereby improve fuel efficiency and reduce GHG emissions but they involve a lot of heavy construction as opposed to other strategies that improve intersections like signal enhancements. These construction activities produce a lot of emissions by themselves. Agencies can reduce the emissions from construction activities by pursuing policies that eliminate truck idling, switch to more efficient transportation equipment and to use materials that require less energy to produce or to install.

    1. **Potential program in New Mexico:** Public agencies in New Mexico can reduce the emissions from construction activities by instituting programs to reduce high emissions construction vehicles as well as pavement and structural materials.

    2. **Responsibility of:** New Mexico DOT, city and county public works departments.

    3. **Timeframe:** Short.

    4. **Rough estimate of cost:** Low-medium.

    5. **Other benefits:** This kind of strategy is entirely geared toward reducing emissions.

- There are an increasing number of strategies available to state and local governments to **reduce emissions associated with electricity generation from fossil fuel use**. A few of these strategies include reducing facility energy intensity by implementing new energy conservation projects; conducting regular energy assessments; re-commissioning dated technologies to ensure efficient facility operations; and pursuing renewable energy generation during renovation and new construction projects.

    1. **Potential program in New Mexico:** Agencies in New Mexico could follow the lead of other cities in more efficient energy use in their operations. Several cities and agencies nationwide, such as the City of Los Angeles, have implemented programs to replace older model streetlights with more energy-efficient LED technology streetlight fixtures. Los Angeles has nearly completed retrofitting its streetlights—an effort that should continue to deliver cost savings beyond the seven years it is expected to take to pay for itself, while also reducing carbon dioxide emissions by about 40,000 tons per year. The program was paid for through a combination of loans and city funds.

       Similarly, some transportation agencies are exploring the feasibility of using highway right of way to generate electricity from renewable resources. The FHWA Office of Real Estate Services has created a website and map, that compiles information on the existing highway renewable energy projects across the country. The approaches that early adopters of highway renewable energy projects have taken and the goals they set out to achieve for such projects have varied. Nevertheless, renewable energy generation in the highway context is a potential GHG mitigation strategy that transportation agencies in New Mexico could consider. Potential first steps could be to assess an agency's land holdings to identify promising sites and to begin developing partnerships with area utility companies.

2. **Responsibility of:** New Mexico DOT, city and county public works departments.

3. **Timeframe:** Short (7-10 years).

4. **Rough estimate of cost:** Low. The City of Los Angeles streetlight retrofit is expected to save the city lifecycle costs over conventional street lighting.

5. **Other benefits:** This kind of strategy is entirely geared toward reducing emissions. However, improving the energy mix of the region can help it to be more resilient to potential impacts to energy supply in the future.

Appendix A: Summary of potential GHG-mitigation strategies in Central New Mexico

The following table summarizes several of the strategies discussed in the document cross-walked with co-benefits based on MRCOG's Draft 2040 Metropolitan Transportation Plan Goals & Objectives. This table also includes the type of evaluation method likely to be useful for each strategy.

Strategy	Responsibility	Timeframe	Evaluation	Scale	Notes	Co-benefits*
New BRT Lines	Rio Metro, ABQ Ride	Medium	Model	Corridor Specific	The region has identified 3 potential BRT corridors that would complement the Rail Runner service. The exact locations of these corridors for inclusion in the 2040 MTP would need to be agreed upon.	
Increased transit frequency	Rio Metro, ABQ Ride	Medium	Model	Regional	An alternative strategy to increase transit ridership. This strategy would require the identification of additional transit funding.	
Complete Streets policy adoption	Cities, counties, NMDOT	Short	Off-model	Regional	MRCOG has such a policy and could influence this discussion through funding incentives.	
Additional Bicycle Facilities	Cities, MRCOG	Medium	Off-model	Corridor Specific	MRCOG identified and mapped the LRBS that includes the existing network completed by the construction of additional facilities.	
Create Transit Oriented Development Districts	City of Albuquerque, private developers, Rio Metro	Medium-Long	Model	Location/ Corridor Specific	There has been some work completed through a partnership between the Urban Land Institute and local government agencies to identify areas of TOD potential along the planned BRT and Rail Runner corridors. These locations would have to be identified and refined during the planning for the 2040 MTP and would need to include input from the City, Rio Metro and private developers. The components of successful TOD include a connected pattern of pedestrian-friendly streets, building code changes and a higher density of mixed commercial/residential land use.	

Strategy	Responsibility	Timeframe	Evaluation	Scale	Notes	Co-benefits*
Infill Development/ Zoning Changes	Cities	Short-Medium	Model	Regional/ Location Specific	Many land development patterns that would reduce vehicle travel, such as infill development, the encouragement of accessory dwelling units, and transit-oriented development, could be better encouraged through zoning changes and updates to Albuquerque's Development Process Manual.	
HOV Network/ HOT or Managed Lane Network	New Mexico Department of Transportation	Medium	Model	Corridor Specific	As opposed to expanding general-purpose lanes on the region's freeway system, the NMDOT will consider management of existing lanes and the expansion of managed lanes for freight or HOV travel on I-40 and I-25. The MTP can be an opportunity to identify a network of managed lanes, which would make sense in the parts of the freeway system that are expected to experience the most congestion.	
Traffic Signal Enhancement	Cities, counties, NMDOT, MRCOG's ITS Subcommittee	Short-Medium	Off-model	Regional	A Regional Traffic Management Center is being established to coordinate traffic signals across jurisdictions. The TMC will integrate corridor and incident management plans, coordinate monitoring systems and incident response, and centralize traveler information services. Adaptive traffic signals were recently installed on Alameda Blvd, which resulted in reduced delay.	
Intersection Improvements/ Roundabouts	Cities, counties, NMDOT	Short-Medium	Off-model	Regional/ Location Specific	Bernalillo County, Rio Rancho, Albuquerque and the NMDOT all have experience with designing and constructing roundabouts. Guidance on roundabouts will be provided by the state as part of the state's Strategic Highway Safety Plan.	
Incident Management	NMDOT, MRCOG, law enforcement, emergency services	Short	Off-model	Corridor Specific	Incident management plans have been prepared for various NMDOT facilities but have not been adopted yet. The inauguration of the regional TMC may be an opportunity to adopt these plans and integrate them into first responder practices.	

Strategy	Responsibility	Timeframe	Evaluation	Scale	Notes	Co-benefits*
Commute trip reduction strategies using TDM	Rio Metro, UNM, private firms, City of Albuquerque	Short	Off-model	Regional/ Location Specific	Rio Metro has a TDM program that markets alternative transportation and provides some infrastructure to support it. Rio Metro is in the process of updating its Smart Business Partnership program and exploring new markets. The City of Albuquerque also has a TDM program focused on encouraging bicycling. The downtown-Central Avenue area could be a candidate for the establishment of a transportation management association of businesses to market alternatives to driving alone.	
Mileage-based fee	State of New Mexico	Medium	Off-model	Regional	The current method of funding transportation through fuel taxes is becoming unsustainable as vehicles become more fuel-efficient. A mileage-based or “wheels” tax has not been implemented anywhere in the United States yet but is being carefully studied in a handful of locations. The Statewide Long-Range Transportation Plan is considering alternative financing approaches.	
Bike Sharing Program	Private firms, City of Albuquerque and UNM	Short	Off-model	Location Specific	There have been recent discussions about establishing a bike share program, most likely located near UNM and the downtown area. This program would have to be privately operated but could receive some infrastructure and programmatic support from local agencies.	

Strategy	Responsibility	Timeframe	Evaluation	Scale	Notes	Co-benefits*
Vehicle Improvement Strategies	City of Albuquerque, NM Environmental Health Dept	Short	Off-model	Regional	The City of Albuquerque's Environmental Health Division has the capability and interest in expanding the vehicle inspection program, and pursuing other strategies to replace high-emission vehicles with low-emission ones. The primary impediment to implementing some of these strategies is lack of funding. There is a possibility that the region may exceed national standards for ozone, which would result in requirements to adopt control measures to be developed in cooperation with MRCOG and the State of New Mexico.	
Roadway Connectivity Standards	Cities, counties, with cooperation from private developers	Short	Off-model	Regional	A city could establish roadway connectivity standards for all new developments and re-development. A roadway connectivity standard may be a requirement that limits block area size or block length size and limits the road network that can serve new cul-de-sacs or a city could establish a connectivity index and apply it to a development approval process.	
Reducing Non-renewable energy consumption	Public agencies (cities, NMDOT, counties)	Short-Medium	Off-model	Regional	One option for transportation agencies to consider in order to reduce energy consumption from non-renewable energy includes retrofitting street lights to be energy-efficient LED lighting. Another option is to explore using highway right of way to generate electricity from renewable resources like solar.	
Infrastructure-dependent growth policies	Cities, counties	Short-Medium	Off-model	Regional	The region can concentrate growth in urban areas where infrastructure already exists and through general infrastructure-dependent growth policies based on water services and lifecycle cost analysis of providing and maintaining new infrastructure.	

***Co-benefits Color Key**

Maintain Existing Infrastructure	dark red
Manage Congestion and Enhance Operations	red
Expand Multimodal Transportation Options	orange
Support Efficient Freight Movement	yellow
Promote Development in Activity Centers and Key Corridors	purple
Enhance the Flow of Goods and Services	pink
Ensure Affordable Housing and Transportation Options	black
Conserve Water Resources	dark blue
Prepare for Climate Uncertainties	light blue
Minimize Footprint of New Development	green
Improve Access to Employment Sites, Services and Recreational Opportunities	peach
Encourage a Mix of Land Uses in Appropriate Locations	grid pattern
Provide Safe Travel Options	light gray
Provide Healthy Travel Options	black diagonal stripes

Appendix G

Potential Impacts of GHG Emissions Strategies

CENTRAL NEW MEXICO CLIMATE CHANGE SCENARIO PLANNING PROJECT

ANALYSIS OF ADDITIONAL GREENHOUSE GAS MITIGATION STRATEGIES

November 19, 2014

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1 INTRODUCTION

This report evaluates several additional greenhouse gas (GHG) mitigation strategies that were not evaluated during the scenario evaluation phase of the Central New Mexico Climate Change Planning Project. Table 1 provides a list of potential GHG mitigation strategies that were identified by the Mid-Region Council of Governments (MRCOG) in the early phases of the project. The UNM research team evaluated the list and provided an initial ranking on the GHG mitigation potential of each strategy, whether the strategy was a short, medium, or long term measure, and how well the GHG mitigation potential of the strategy could be evaluated with the data and models currently available to MRCOG and UNM.

Four strategies with high GHG mitigation potential were previously evaluated (Table 1) using MRCOG's integrated land-use, travel demand, and emission factor models. These strategies changed land-use zoning to allow greater mixed-use, transit oriented, and infill development and also improved transit service by decreasing headways, expanding routes, and adding new bus rapid transit lines. The preferred scenario achieves 3.7 percent fewer vehicle miles traveled (VMT) and 5 percent fewer GHG emissions than the trend scenario in the year 2040. However, considering absolute changes from today (2012), VMT increased by 37 percent and GHG emissions increased by 18 percent. VMT grew faster than GHG emissions because the region's vehicle fleet is expected to become more energy efficient over time. While the decline in VMT and GHG emissions relative to the trend scenario are significant, to address climate change GHG emission will eventually need to fall below current levels. This report considers additional strategies that may help further reduce regional GHG emissions from the transportation sector.

In this report an additional set of high priority or potentially highly effective GHG mitigation strategies (Table 1) are considered that could be applied on top of the land-use and transit strategies included in the 2040 preferred scenario developed by MRCOG through the scenario planning process. The strategies in Table 1were selected by the UNM research team because they have a high GHG mitigation potential or because there was strong regional interest in evaluating the strategy. For example, incident management was rated by UNM, prior to conducting a detailed analysis, as having a relatively low GHG mitigation potential but is considered in this report since there is regional support for considering incident management to reduce traffic congestion. The lower priority set of strategies identified in Table 1 are likely to have only a small GHG mitigation potential, are not likely to be implemented in the Albuquerque metropolitan area, or are very difficult to evaluate. These strategies will be discussed in a second part to this report (forthcoming) in a more qualitative discussion. The GHG mitigation potential of the strategies evaluated in this report were quantified to the extent possible given the available evidence and resources (i.e., time and funding).

Table 1 Potential GHG Mitigation Strategies

Strategy	GHG Mitigation Potential	Analysis Capability
Analysis Completed During the Scenario Planning Phase		
Zoning changes	●●●●● L	●●●●● U
Infill development	●●●●○ L	●●●●○ U
Transit oriented development	●●●●○ L	●●●●○ U,C
Improving public transportation	●●●○○ S	●●●○○ C
Higher Priority or Higher Potential GHG Mitigation Effectiveness (Evaluated in This Report)		
Urban growth boundaries	●●●●● M	●●●●● U
"Wheels" tax (VMT charging) & Gas Tax	●●●●● S	●●●●○ C
Bicycle and pedestrian infrastructure improvements	●●●○○ S	●●○○○ O,P,Q

Incident management	●●○○○ S	●○○○○ Q
Traffic signal enhancement	●●●○○ S	●●●○○ C,P
Establishing roadway connectivity standards	●●●○○ L	●●●●○ C
Lower Priority or Lower Potential GHG Mitigation Effectiveness (Evaluated in Follow-on Report)		
Bike sharing	●○○○○ S	●○○○○ Q
HOV facilities	●○○○○ M	●○○○○ Q,P
Building design standards	●●○○○ L	●○○○○ Q
Establishing a complete streets policy	●●○○○ L	●○○○○ Q
Road pricing (HOT lanes/congestion charging)	●●●○○ S	●●○○○ C,P
Parking management	●●●○○ S	●●●○○ C
Car sharing	●○○○○ S	●○○○○ Q
Ride sharing	●○○○○ S	●●●○○ Q,C
Travel demand management-educational	●○○○○ S	●○○○○ Q
Travel demand management-transit incentives	●●●○○ S	●●○○○ Q,P
Intersection improvement	●○○○○ S	●●●●○ P,C
Electric vehicle infrastructure support	●●○○○ M	●○○○○ Q,M
Heavy-duty vehicle retrofit	●○○○○ M	●●●●○ Q,M
Truck-stop electrification technologies	●○○○○ S	●●○○○ M

●○○○○ → ●●●●●
Low High

L = long term
M = medium term
S = short term

U = UrbanSim, C = CUBE,
M = MOVES, O = Off Model,
P = Post Process, Q = Qualitative

The additional GHG mitigation strategies considered in this report were only evaluated for their ability to reduce GHG emissions. How they may affect other regional goals or transportation system performance metrics was not considered. Most strategies reduce GHG emissions by reducing travel demand or improving traffic flow and are therefore expected to generally improve the region's traffic conditions. Many of the GHG mitigation strategies also produce benefits in addition to reducing GHG emissions. For example, an urban growth boundary preserves open space and may protect valuable ecosystem services or agricultural land. Multi-use paths not only help mitigate GHG emissions by encouraging bicycle trips but may also increase cyclist's safety and enjoyment and provide a place for non-motorized recreation and exercise. These types of additional benefits are not considered in this report. While this report may indicate little or no GHG mitigation potential for a particular strategy, that does not necessarily mean the strategy is poor public policy – it only means that the strategy is unlikely to mitigate GHG emissions.

Each strategy is evaluated for its effectiveness at mitigating regional GHG emissions. Some strategies may be highly effective at reducing per trip GHG emissions but not at reducing regional GHG emissions. For example, riding a bicycle produces no direct GHG emissions (a 100 percent reduction from driving a car) but only a small portion of trips occur using bicycles (about 2 percent) so the regional effect on GHG emissions of a strategy that doubles bicycle model share would still be relatively small. It is also important not to confuse effectiveness with the efficiency of a strategy. If a strategy to increase the share of trips made by bicycle has a very low cost per quantity of GHG reduction then that strategy may be very efficient even though it is not particularly effective on a regional scale. This report only considers the effectiveness of GHG mitigation strategies but not their efficiency. Evaluating the efficiency of each strategy requires a cost analysis that is beyond the scope of the present study.

Finally, this report uses the terms GHG and carbon dioxide equivalents (CO_2-eq) somewhat interchangeably. CO_2-eq is calculated by transforming the quantity of non-carbon dioxide GHGs such as methane, nitrous oxide, and hydrofluorocarbons into an equivalent quantity of carbon dioxide based on their global warming potentials[1]. These calculations where performed automatically by US EPA's Motor Vehicle Emission Simulator (MOVES) model.

2 Evaluation of High Priority Strategies or Strategies with Higher Potential GHG Mitigation Effectiveness

2.1 Urban Growth Boundaries

The land-use plans developed during the scenario planning phase of this project evaluated changes to existing zoning allowances and the land-use simulation model also included policy shifters designed as a proxy for the effect of municipal infill and transit oriented development incentives. Both of these strategies, zoning and policy incentives, guided more development away from the region's periphery and into more developed areas. Except for areas where development is currently not allowed, mostly protected open spaces, parks, and national forests, the preferred scenario developed through the scenario planning process did not prohibit the current trend of low to medium density suburban development at the urban fringe (i.e., urban sprawl). Rather, the land-use and transit strategies were designed to provide incentives aimed at reducing or slowing sprawl. Growth boundaries aim to address sprawl more directly by prohibiting development beyond a predetermined boundary defining the urban area. This strategy was selected by the UNM project team for its potential to further constrain suburban development patterns and increase density in areas that are already developed. While there is currently no plan to implement a growth boundary in the metropolitan area, this scenario is evaluated because it could be highly effective.

The effectiveness of an urban growth boundary in the Albuquerque metropolitan area is evaluated by identifying areas beyond the region's existing development footprint and then prohibiting any further development in those areas. The growth boundary is modeled using only MRCOG's travel demand model. The UrbanSim land-use model is not used. Using only the travel demand model simplifies the analysis since any zoning changes that would be required to accommodate more growth in the existing development footprint do not need to be identified to evaluate the potential VMT and GHG reduction benefits at this point[2].

The existing development footprint is defined as any travel analysis zone[3] (TAZ) with population density greater than 0.5 persons per acre. This criterion was developed based on a visual analysis of aerial photography available through ArcGIS that shows the approximate extent of current development and mapping the current population density of each TAZ. Based on this visual analysis 0.5 persons per acre appeared to be a reasonable proxy for mostly developed TAZs. A growth boundary was then drawn to create contiguous core urban areas of existing development. Contiguous areas were created by reclassifying as developed, TAZs that did not meet the development criterion defined above if they were surrounded on all sides by TAZs that met the development criterion. A similar process was used to reclassify developed TAZs as undeveloped if they were surrounded by undeveloped TAZs (i.e., leap-frog development). The final growth boundary is shown in Figure 1.

[1] List of global warming potentials for GHGs: http://unfccc.int/ghg_data/items/3825.php
[2] A careful analysis of zoning changes required for accommodating more urban growth should be conducted if a growth boundary will be developed or seriously considered. UrbanSim provides a good platform for conducting a more refined analysis.
[3] Travel analysis zones are used to aggregate population, housing, and employment data for use in the travel demand model. The travel demand model uses these data to predict the number of trips within and between each zone. Travel analysis zones are similar, and in many cases identical, to census tracks.

Population, housing and employment growth that was forecast to occur beyond the growth boundary in the 2040 preferred scenario is redistributed within the growth boundary. Figure 1 shows the preferred scenario population growth that occurs within and beyond the growth boundary. Growth occurring beyond the boundary is redistributed within the boundary by adding population, households, students, and employment to TAZs in proportion to each TAZ's current share of each of these attributes. This procedure directs more growth to higher density areas and less growth to lower density areas. The intent is to maintain the existing pattern of development and character of neighborhoods within the growth boundary.

The updated TAZ data replaces the TAZ level population and employment data in the preferred scenario travel demand modeling files; all other inputs and parameters are unchanged. MRCOG's travel demand model is run with the updated data and the output is evaluated using the MOVES emission factor model to determine changes in GHG emissions that occur from changes in mode share, traffic speed, and the number and distance of trips. The MOVES GHG analysis follows the same procedure that was used by UNM in the scenario evaluation phase of the project.

The growth boundary reduces regional VMT per capita by 2 percent (19.6 VMT per captia) and GHG emissions by 3.8 percent (511.6 tonnes per day CO_2-eq). These reductions are on top of the reductions achieved through changes to land-use zoning and transit investments in the preferred scenario. These are significant reductions considering that the 2040 preferred scenario results in a 5 percent reduction in GHG emissions from the 2040 trend scenario. If a growth boundary were given serious consideration, more detailed analysis is required to ensure that existing land-use policies and re-development opportunities could absorb the new growth.

An actual growth boundary could also be drawn more restrictively or more loosely than what was assumed here which would then affect the boundary's GHG mitigation potential. Growth boundaries could also be defined to protect sensitive ecological areas, natural and cultural resources, and prevent development in areas that have a high flood or fire risks, providing additional benefits beyond GHG mitigation. Growth boundaries could also be defined to limit the intensity or type of development outside of the urbanized area; for example, allowing agricultural land-uses but not residential or commercial development which provides some flexibility and economic development opportunity. Additionally, a more detailed growth boundary analysis should consider the potential for leap frog development beyond the boundary in locations that are outside of the control of regional municipalities participating in the growth boundary.

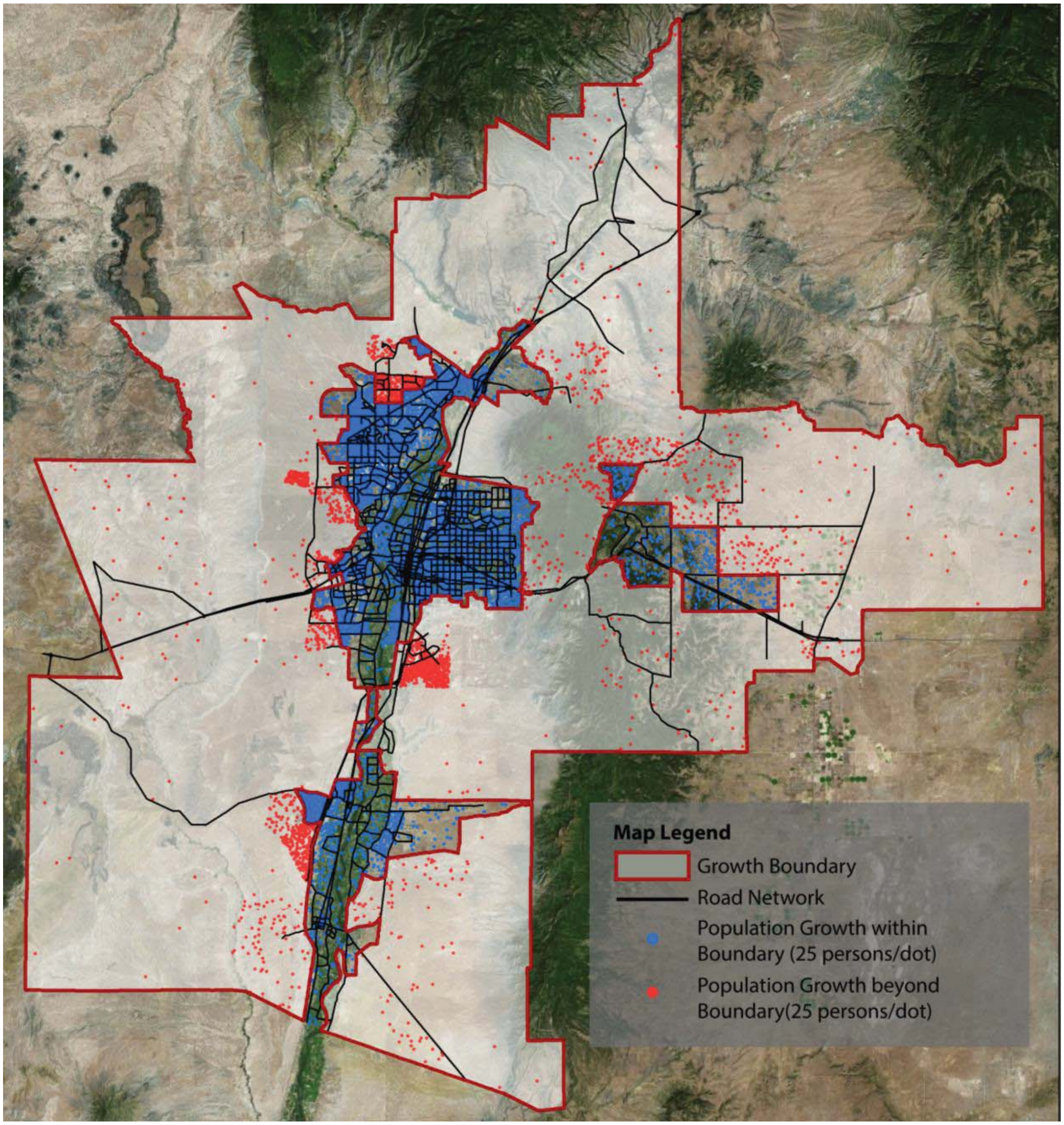

Figure 1 Growth Boundary and Population Growth from 2012 to 2040 for the Preferred Scenario (points show the location of modeled population growth from 2012 to 2040 under the Preferred Scenario without a growth boundary)

2.2 "Wheels" Tax (VMT Charging) and Gasoline Tax

Like all goods and services, demand for travel declines when price increases. A "wheels tax" or "VMT charge" is a per mile tax that could replace or supplement the current gasoline excise tax (gas tax). Any increase in the gasoline tax or adoption of a new VMT tax would have to be made at the state or federal level and is outside of the control of municipal governments and metropolitan planning organizations like MRCOG. Oregon and California have both recently adopted new state legislation setting up VMT tax pilot programs (Oregon Senate Bill 810 and California Senate Bill 1077) and several states have recently increased their gas tax.

A new VMT tax could be set so that the average tax collected equals today's gas tax. Under this scenario, individuals who drive vehicles that are more fuel-efficient than average would end up paying more tax, while those with less fuel-efficient vehicles would pay less tax. A distance-based tax would be more predictable and stable than the current gas tax, which has been eroded over time by the increasing fuel economy of vehicles and the introduction of alternatively fueled vehicles such as natural gas and electric vehicles. A VMT tax would provide a more reliable source of transportation funding than the current gas tax. Raising the VMT tax, rather than the gas tax, would also be a more direct and equitable approach for reducing travel demand since each driver pays the same amount per mile driven regardless of their vehicle's fuel efficiency. There are also benefits to increasing the gas tax. Over time, an equivalent gas tax would affect travel behavior differently than a VMT tax since it would encourage drivers to minimize fuel consumption rather than just travel. Purchasing a more fuel-efficient vehicle or an alternatively fueled vehicle can minimize fuel consumption and the amount of tax paid. A gas tax is a more direct and efficient method for discouraging the production of GHGs since fuel consumption produces GHG emissions and not travel. An optimal approach for controlling GHG emissions and congestion would include a carbon tax to account for the expected future costs caused by GHG emissions and a VMT tax to pay for transportation infrastructure and externalities related to driving such as congestion.

The evaluation in this section considers the adoption of a VMT tax that is on average higher than today's gas tax to achieve greater GHG mitigation. However, the travel demand model used to evaluate how a VMT tax would affect GHG emissions cannot distinguish between a higher gasoline tax and a VMT tax. The model simply considers the average per mile increase in vehicle operating costs. That is, the model does not consider how fuel prices affect vehicle purchase decisions or decisions about where to live. Therefore, this analysis considers both the effectiveness of raising the current gasoline excise tax or introducing a new VMT tax that replaces the gasoline excise tax. In the short run there will be little difference between the GHG mitigation potential of the two tax options but over the long run they will have different affects on consumer and travel behavior which will affect the efficiency of GHG mitigation.

A range of VMT tax rates are considered which are higher than the equivalent per mile rate of the current combined New Mexico ($0.1888 per gallon) and federal ($0.1840 per gallon) gasoline excise tax. Using an average fleet fuel economy of 20.6 miles per gallon (assumption used in the MRCOG travel demand model (Systra Mobility 2010)), the VMT tax rate equivalent of the current gas tax is $0.018 per mile. The main purpose of state and federal gas tax is to generate revenue for state and federal highway trust funds that provide funds for roadway construction and maintenance. These taxes are not designed as Pigouvian taxes, designed to internalize external costs that are produced by driving or using gasoline such as traffic congestion, noise, accidents, toxic air pollution, and GHG emissions. From an economic perspective, an optimal tax would include the marginal cost of damages that occur from each of these externalities and the cost of providing and maintaining transportation infrastructure. Additional revenue raised through a new VMT tax or higher gas tax could be used to increase investment in transportation infrastructure, mitigate the harmful effects of externalities (e.g., re-align roadways at risk from flooding due to climate change), or reduce other taxes (e.g., the income tax or gross receipts tax).

A range of VMT tax rates (Table 2) are used in this analysis since estimating the marginal cost of each externality is very challenging, particularly the cost of damages from future global warming caused by today's GHG emissions. The range of VMT tax rates considered brackets Parry and Small's (2005) calculation of the optimal VMT tax rate which they estimate is $0.18 per mile in 2008 dollars. Their optimal tax rate considers roadway infrastructure costs and the full range of externalities and is one of the more comprehensive estimates currently available.

MRCOG's travel demand model is used to evaluate the VMT taxes by adjusting the model's per mile vehicle operating cost parameter setting. Currently, the model uses a vehicle operating cost of $0.164 per mile in 2008 dollars (Systra Mobility 2010) which includes $0.018 in state and federal gas tax. The current vehicle operating cost assumes that the region's vehicle fleet achieves an average fuel economy of 20.6 miles per gallon and that a gallon of gasoline costs $3.38 per gallon. The VMT tax rates in Table 2 are added to the current operating costs. The travel demand model is used to evaluate the 2040 preferred scenario at each of the higher per mile operating costs. GHG emissions are estimated from the model output with MOVES using the same methods that were used in the scenario evaluation phase of the project.

The modeling results shown in Table 2 indicate that a VMT tax set at a rate higher than the equivalent average per mile cost of the current gasoline excise tax can reduce GHG emissions. The effectiveness of a VMT tax or higher gasoline tax depends on the ability to raise fuel or VMT taxes. The reductions in GHG emissions in Table 2 occur with tax rates that are much higher than today's and would likely face significant political and popular opposition. The effect of a smaller (or larger) VMT tax on GHG emissions can be evaluated by using elasticities derived from the modeling results. The price elasticity of CO_2-eq ranges from -0.26 to -0.32. Using the median elasticity (-0.29) and a more modest 25 percent increase in the current gasoline tax (approximately a half cent per mile VMT tax, a 2.7 percent increase in the cost of driving) GHG emissions would decrease by only 0.8 percent. Using the same elasticity, maintaining CO_2-eq emissions at 2012 levels (11,358 tonne/day) would require a VMT tax of $0.084 per mile in additional to today's gas tax, or equivalently, increasing the gas tax by $1.74 per gallon.

Table 2 Distance Based Tax Effects

Additional VMT Tax	Equivalent Gas Tax ($/gallon)	Daily VMT per Capita	CO_2-eq (tonne/day)	% Change in CO_2-eq from 2012
$0.00	$0.00	20.0	13,352	0%
$0.03	$0.62	19.4	12,572	-6%
$0.06	$1.24	18.5	11,959	-10%
$0.12	$2.47	17.1	10,968	-18%
$0.25	$5.15	15.0	9,616	-28%
$0.50	$10.30	12.3	7,955	-40%

The travel demand model has several limitations that may bias the results in Table 2 downwards. The location of trip destinations (trip length) and mode choice are sensitive to changes in vehicle operating costs imposed by the VMT tax or gasoline tax. These sensitivities are what drive the modeled GHG emission reductions. However, changing travel costs do not affect the number of trips made by each household or the location of households, businesses, and other travel productions and attractions in the model. Iterating the travel demand model with the land-use model would overcome these limitations.[4] Despite these limitations the elasticities calculated from the results fall within the range found in prior studies which range from -0.02 in the short run to -0.3 in the long run, with most long run results falling between -0.2 and -0.3 (Litman 2013). A more recent study evaluating the change in VMT as gas prices rose over the past decade in California estimates an elasticity of -0.22 (Gillingham 2014), similar to the range found in prior studies and the modeling results in Table 2.

[4] The land-use model was not available for this portion of the analysis.

2.3 Bicycle and Pedestrian Infrastructure Improvements

The land-use and transportation plans developed during the scenario planning phase of this project did not evaluate changes to bicycle and pedestrian infrastructure. This infrastructure is not defined in either the land-use or travel demand models. While the travel demand model does estimate the number of non-motorized trips (walking and cycling), the estimate is mostly influenced by household characteristics (income and vehicle availability), transportation costs, and trip distance. The presence of bicycle and pedestrian infrastructure such as bicycle lanes and wide sidewalks are not a factor in the travel demand model estimates, a common limitation of most region's travel demand models.

The logic embedded in the current travel demand model for predicting bicycle and pedestrian trips is based on a 1992 household travel survey conducted in the Albuquerque metropolitan area. In that survey respondents indicated how they traveled during the survey period. Some respondents indicated that they make some trips by walking or riding a bicycle. From the survey data, equations were developed that estimate the probability of choosing to make a trip by walking or riding a bicycle. The equations associate household and trip characteristics from survey respondents with their travel mode choices. The availability and quality of pedestrian and bicycle infrastructure in 1992 likely influenced the survey respondents travel choices. The availability and quality of bicycle and pedestrian infrastructure has since changed, and because the availability and quality of pedestrian and bicycle infrastructure are not factors in the mode choice equations within the travel demand model, current and future changes in these infrastructure are not accounted for in any way. This limitation is addressed by using the results of previous studies reported in the peer reviewed literature to estimate how the extent of new bicycle lanes and paths may affect VMT and GHG emissions.

2.3.1 Bicycle Infrastructure

The GHG mitigation potential of building additional bicycle facilities is evaluated by estimating the effect of building out the City of Albuquerque's 2014 draft bicycle plan (City of Albuquerque 2014). Comprehensive plans for building bicycle facilities in other parts of the region were either unavailable or not up to date. The City of Albuquerque's bicycle plan at full build out increases the length of bicycle lanes by 99 percent and multi-use paths by 75 percent (Table 3).

Elasticities that relate the extent of bicycle lanes and multi-use paths to bicycle mode share are obtained from a recent study by Buehler and Pucher (2012). Their study of the relationship between cycling rates and bicycle infrastructure in 90 U.S. cities is the most comprehensive study currently available. Their elasticities are derived from a regression analysis that relates bicycle commute mode share in each city to a number of explanatory variables including the extent of bicycle lanes and bicycle paths. The elasticity for bicycle lanes is 0.25 and is 0.091 for multi-use paths. These elasticities indicate that bicycle mode share increases less than proportionally with an increase in bicycle infrastructure. For example, the bicycle lane elasticity of 0.25 indicates that a 10 percent increase in the miles of bicycle lanes results in a 2.5 percent increase in bicycle mode share. These elasticities are used to estimate the change in bicycle mode share in Albuquerque from building new bicycle lanes and multi-use paths, which can then be used to estimate the change in the number of vehicle trips, VMT and GHG emissions.

While the elasticities from Buehler and Pucher (2012) represent the best available information at this time, there are a number of limitations. The elasticities are for bicycle commute mode share, there is no comparable information for other trip purposes. In this analysis these elasticities are applied to all trip purposes. The elasticities are also estimated at the mean level of each explanatory variable in their regression analysis. The elasticities therefore represent the relationship between providing more bicycle infrastructure and bicycle mode share under average conditions. It's unclear how conditions in

Albuquerque compare to the average conditions of the cities in Buehler and Pucher's study. For example, a higher than average traffic fatality rate or greater amount of sprawl would result in a lower elasticity while more temperate weather than average would increase the elasticity. While it is possible to compute elasticities using Buehler and Pucher's results that are more tailored to Albuquerque's characteristics the current analysis uses the average values given the time constraints for completing this analysis. Finally, Buehler and Pucher's study is a cross sectional design, it does not evaluate how bicycle mode share changes after the construction of bicycle facilities. Instead, their analysis considers how mode share varies with the amount of bicycle infrastructure (and other characteristics) across the cities in their sample. This type of analysis can find a correlation but cannot prove causation. It is possible that demand for cycling in some cities has caused those municipalities to provide more bicycle infrastructure. It is also possible that individuals who prefer to ride a bike have preferentially relocated to cities with good bicycle infrastructure (i.e. residential self selection bias). If either of these situations are occurring then the elasticities are biased upwards and the effect of providing more bicycle infrastructure is overstated.

Based on MRCOG's most recent 2013 household travel survey, approximately two percent of trips are made by bicycle in the region. The travel demand modeling results for the 2040 preferred scenario indicates that 6.1 percent of trips are non-motorized. For this analysis we assume that 2 percent of the modeled trips are bicycle trips and the remaining 4.1 percent are walking trips. Considering the percentage change in the miles of bicycle lanes and multi-use bicycle paths from completing Albuquerque's bicycle plan and using Buehler and Pucher's elasticities, bicycle mode share is estimated to increase from 2 percent to 2.6 percent in 2040 (Table 3).

Table 3 Bicycle Mode Share and GHG Reduction Calculations

	Bike Lanes	**Multi-Use Paths**
Mode Share Calculation		
Current Miles (2014)	197	154
Additional Miles	196	115
Current Bike Mode Share	2.0%	2.0%
Elasticity (mode share, facility miles)	0.25	.091
% Increase in Bike Mode Share	24.9%	6.8%
New Bike Mode Share	2.5%	2.1%
Emission Reduction Calculation		
Regional Trips (trips/day)	3,699,195	3,699,195
New Bicycle Trips (trips/day)	9,201	2,514
Average Trip Length (miles)	9.8	9.8
VMT Reduction (miles/day)	89,794	24,532
Average CO_2-eq Emission Factor (g/mi)	429.9	429.9
CO_2-eq Reduction (tonnes/day)	38.6	10.5

The reduction in vehicle trips is calculated by multiplying the change in bicycle mode share (0.6 percent) by 50 percent of the total number of trips estimated by the travel demand model. Fifty percent of the trips are used to account for the new bicycle facilities only being added to the City of Albuquerque, which is assumed to contain half of the region's trips. It is also assumed that all new bicycle trips substitute for vehicle trips and not for walking or transit trips. The average trip length of 9.8 miles derived from the travel demand model results is then used to estimate the change in VMT. The average system-wide vehicle speed, also derived from the travel demand model, is used to calculate an average CO_2-eq emission factor using MOVES, which is then multiplied by the change in VMT to estimate the change in CO_2-eq emissions (Table 3).

The results indicate that building out Albuquerque's bicycle plan, approximately doubling the amount of bicycle facilities in the city, would result in a 0.4 percent decrease in VMT and GHG emissions from the 2040 preferred scenario (total VMT is 27 million and CO_2-eq is 13,352 tonnes per day). There is a lot of uncertainty in these estimates; however, the results indicate that bicycle infrastructure can be effective. Even though the effect is small, the relatively low cost of creating most bicycle facilities may make this a relatively efficient GHG mitigation strategy.

2.3.2 Additional Bicycle Facility Evidence

There are few studies that provide strong evidence on the ability of bicycle facilities to reduce vehicle trips. The study by Buehler and Pucher (2012) is only suggestive due to its reliance on a cross sectional design and national commute mode share data. The UNM research team has recently completed a study in cooperation with MRCOG and the City of Albuquerque on the effectiveness of past investments in bicycle lanes and multi-use paths in the region (the study is currently under peer review for publication in Transportation Research Part A: Policy and Practice). The study asked cyclists if they used a bicycle lane or multi-use path on a regular utilitarian trip and what they would do if the bicycle lane or path did not exist.

The study found that most Albuquerque area cyclists use multi-use paths (74 percent) and bike lanes (92 percent). It was also found that 30 percent of multi-use path users would not continue to bike if the path they regularly use did not exist. Most would choose to drive instead. Similarly, 25 percent of bike lane users would not continue to bike if bike lanes were not available. The results indicate that bicycle facilities are effective at reducing vehicle trips, though most cyclists would continue to cycle regardless of bike lane or path availability. Like most prior studies, safety was overwhelmingly the main concern of cyclists. The study also suggests the bicycle lanes and multi-use paths play a role in attracting new cyclists by providing a safer environment to ride. While this study does not indicate how much VMT could be reduced if more bike lanes or multi-use paths were built, it does provide the most recent and direct evidence of how bicycle facilities affect vehicle trips.

2.3.3 Pedestrian Facilities

Improving the quality of pedestrian facilities and adding facilities where none currently exist was not evaluated. There is little information available about the current extent and quality of the region's existing pedestrian facilities or plans to improve facilities. There is also little evidence available to estimate the effect of higher quality pedestrian infrastructure. The final report will provide a qualitative discussion of available evidence.

2.4 Incident Management

The UNM research team in not aware of any studies that have quantified the GHG mitigation potential of highway incident management programs. This is the same conclusion recently reached by a research team at the University of California Davis and Irvine preparing a policy brief on incident management systems for the California Air Resources Board (Boarnet, Weinreich, and Handy 2013). Several studies have estimated the potential criteria air pollutant emission reduction benefits of specific incident management programs (Guin et al. 2007; Chang et al. 2002; Skabardonis et al. 1998; Skabardonis et al. 1995) but GHG emission reductions are not estimated. Furthermore, the prior studies have not provided results that are generalizable; they report the specific quantity of emission reduction rather than relative reductions attributable to specific program features or highway conditions.

The existing evidence suggests that incident management programs can reduce GHG emissions if they reduce delays and increase speed. As Figure 2 shows, the average CO_2 emission rate of the vehicle fleet declines rapidly as speeds increase from slow, congested, speeds towards typical free flow highway speeds. The magnitude of potential GHG reduction depends on traffic volume, congestion and the frequency of incidents. Very congested corridors with high traffic volume that experience frequent incidents would benefit the most from an incident management program; these corridors have the most potential for increasing average speed. Estimating the GHG mitigation potential of an incident management program would require estimating the change in delay or traffic speed with and without the program. At a minimum, information describing the current average incident duration, incident frequency, and resulting traffic impacts are required to understand baseline conditions. From the baseline conditions, hypothetical incident management systems that reduce the duration of incidents could be evaluated for their GHG mitigation potential.

One caveat noted by Boarnet, Weinreich, and Handy (2013) is that since an incident management program decreases average travel time, it will also tend to induce new travel demand in much the same way as adding highway capacity (Duranton and Turner 2011). Induced demand would be strongest where programs are most effective; corridors that are highly congested with frequent incidents. The frequency of incidents on these corridors, and the delays they cause, also reduce travel time reliability which in many cases has been found to be valued more than travel time (Carrion and Levinson 2012). Over time, induced demand driven by improvements in average speed and travel time reliability may partially, if not completely, erode the traffic flow and GHG mitigation benefits of an incident management program. Based on the existing evidence and the caveat noted above, an incident management program may have a small short run potential to mitigate GHG emissions which will likely erode over time due to induced demand. With the information that is currently available to the UNM research team it is not possible to quantify a range of potential GHG mitigation.

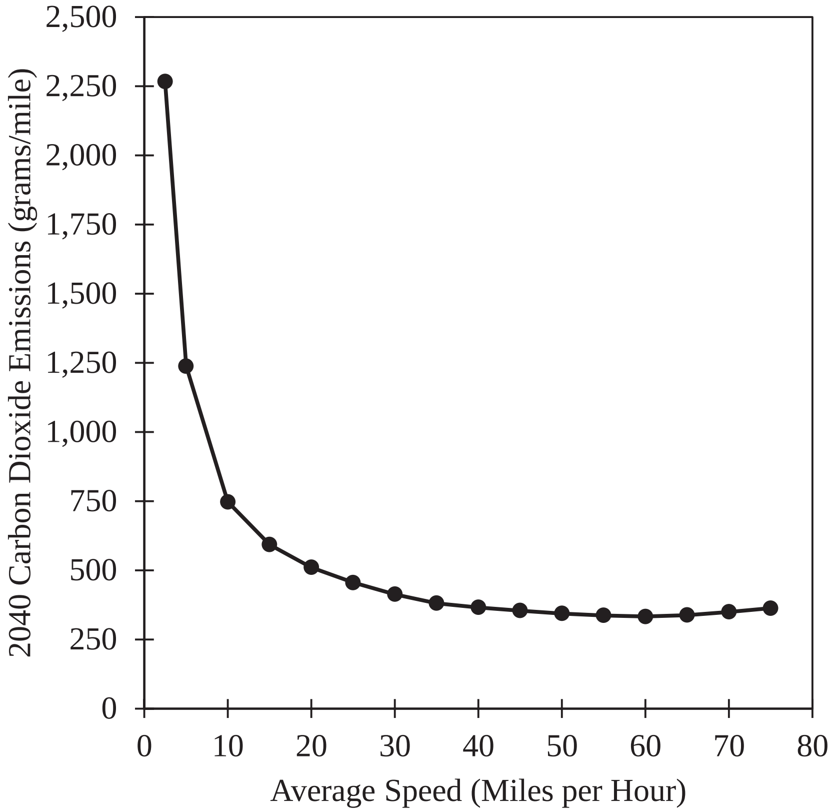

Figure 2 Fleet Average CO2 Emission Rate Vs. Average Speed from US EPA's MOVES Emission Factor Model

2.5 Traffic Signal Enhancement

There are many strategies and systems for improving traffic signal control to improve traffic flow. One strategy that is being adopted in the Albuquerque metropolitan region is adaptive signal control. Adaptive signal control continuously collects and evaluates traffic data from sensors along the roadway to optimize the timing of traffic signals to minimize signal delay. Prior research, as reviewed by Rodier et al. (2014) for the California Air Resources Board, finds that signal coordination can reduce GHG emissions by 1 to 10 percent. An additional study by De Coensel et al. (2012) estimates GHG reductions from 10 percent up to 40 percent under ideal conditions (that are unlikely in practice) using a simulation model. None of the studies consider the potential for induced demand, which in the long run could offset some or all of the control system's traffic flow and GHG mitigation benefits.

Recently, Bernalillo County installed an adaptive traffic control system on a portion of Alameda Boulevard in the Albuquerque metropolitan area. Traffic data was collected before and after the adaptive control system was installed. The control system has reduced morning peak travel time by 21 percent, evening peak travel time by 11 percent and increased off peak travel time by 1 percent (Sussman 2013). The UNM research team used the travel time reductions along with reported traffic speeds and flow rates to estimate the reduction in GHG emissions attributable to the new control system. MOVES was used to produce CO_2-eq emission factors based on average speeds before and after the control system was installed. The Alameda adaptive control system reduced GHG emissions by 5.9 percent along the improved section of roadway (Table 4).

To further investigate the GHG mitigation potential of adaptive traffic control systems, the reported percentage change in travel times from the Alameda study were applied to traffic traveling the entire Montgomery/Montano corridor and Coors Boulevard. These two heavily used roadways carry significant traffic volume, are much longer than the section of Alameda that was studied, have many signalized intersections, and do not currently have adaptive traffic control systems. These roads were selected to gauge if upgrading the signal systems on these relatively long and heavily used corridors would produce regionally significant GHG reductions.

Traffic flow and speed data for each roadway segment were obtained from the MRCOG travel demand model for the 2040 preferred scenario. Emission factors were obtained from MOVES for the average speed on each link before and after the speeds were adjusted to account for the expected improvements of an adaptive signal control system. The results indicate that applying adaptive traffic control systems to these two roads would result in a 3 percent to 4 percent reduction in GHG emissions from each road. Regionally, the effect is a 0.2 percent reduction in GHG emissions. The actual Alameda results and the results of applying a similar travel time reduction to the Coors and Montgomery/Montano fall around the median of GHG reductions reported in prior studies.

Table 4 Potential Changes in GHG Emissions from Implementing an Adaptive Traffic Control System

Road	Distance (miles)	CO_2-eq (tonnes/day)				
		Before	After	Change	% Change	% of 2040 Total
Alameda*	2.3	60.8	57.2	-3.6	-5.9%	-0.03%
Montgomery/Montano	12.8	288	276	-12.0	-4.2%	-0.09%
Coors	24.7	442	426	-15.6	-3.5%	-0.12%

* Only the portion of Alameda where adaptive traffic signals were installed was studied.

The estimated GHG mitigation potential of installing an adaptive traffic control system on Coors or Montgomery/Montano should be considered an order of magnitude estimated. There are many factors that affect these estimates, the largest being how effective an adaptive traffic control system would be on these longer and more complex corridors. The estimates in Table 4 do not account for broader network effects on improvements made to these specific roadways. For example, reduced travel times along improved corridors could cause bottlenecks in other parts of the network. Furthermore, like most prior studies, induced demand is not evaluated. A traffic simulation study that investigated an improvement to a signalized intersection by Stathopoulos and Noland (2003) find that induced demand is likely to eliminate initial emission reduction benefits. There have not been any empirical studies to support simulation findings but the results agree with travel demand theory and empirical evidence on induced demand from highway capacity projects (Duranton and Turner 2011). Adaptive traffic control systems increase a roadway's capacity and reduce travel time just as expanding highway capacity does. The decrease in travel time increases the attractiveness of the roadway and reduces the cost of making trips. The reduction in congestion is likely to result in additional travel demand combined with a return to congested conditions which may increase GHG emissions overtime, potentially reducing or eliminating the initial benefits of this strategy.

2.6 Roadway Connectivity

Regular street grids generally provide the shortest path from any one point to any other point in a street network while irregular street patterns, particularly those with cul-de-sacs and dead ends, increase the distance required to travel through the network. Street networks with regular grids are also more redundant, there are many alterative paths through the network which can reduce congestion and provide alternatives when there is an incident on a particular network link. Achieving shorter network distances between various origins and destinations can reduce VMT by reducing trip length and also increase walking, bicycle and transit mode share since these modes are most sensitive to distance. Regular grids or other street designs with a high level of redundancy that reduce traffic congestion could also mitigate GHG emissions by increasing traffic speeds (see Figure 2 for CO_2-eq – speed relationship).

Several prior studies have evaluated the effect of greater street network connectivity and travel demand (see Handy et al. (2014) for a comprehensive review). Prior studies generally indicate that better connectivity leads to less VMT and more bicycle, walking and transit trips (Handy et al. 2014; Ewing and Cervero 2010). However, results vary across studies which have been conducted at different times, in different places and have used various definitions of street connectivity. Ewing and Cervero (2010) completed a comprehensive review and meta-analysis of the existing evidence and report an average VMT elasticity of street connectivity using two common street connectivity definitions: percent of four-way intersections and intersection density. Both definitions have the same elasticity, -0.12.

A VMT elasticity of -0.12 for intersection density is used to evaluate four typical street network patterns in Albuquerque to illustrate the GHG reduction potential of greater street connectivity. Intersection density is used rather than the percentage of four way intersections because intersection density appears more robust to different street patterns. For example, in Figure 3 the NE Albuquerque and Downtown Albuquerque neighborhoods both have 100 percent four way intersections; however, the NE Albuquerque neighborhood has much lower intersection density because it has much longer block lengths. Longer block lengths increase average network distances between points. Intersection density metrics control for differences in block size.

Four different Albuquerque neighborhoods were selected that represent typical street network designs in the area (Figure 3). The intersection density of each neighborhood was calculated by including intersections on the boundary of each neighborhood but excluding intersections that only contained cul-de-sacs or dead ends since these provide no connectivity. The percentage change in intersection density was then calculated between the SW Albuquerque neighborhood which had the lowest interstation density and each of the other neighborhoods. The results shown in Table 5 indicate that increasing the density of street intersections from a typical suburban subdivision layout, which can be accomplished with different street patterns, may significantly reduce VMT and therefore GHG emissions. Additional GHG mitigation benefits may occur if the street pattern also reduces congestion, increasing average speed.

SW Albuquerque, density = 65.6

NE Albuquerque, density = 70.6

University/Nob Hill Area, density = 83.9

Downtown Albuquerque, density = 116.8

Figure 3 Examples of Different Albuquerque Area Street Network Designs and Intersection Density

Table 5 Intersection Density and VMT Calculation

Neighborhood	Area (km^2)	Intersections	Intersection Density	% Change in VMT from SW Albuquerque [a]
SW Albuquerque	0.78	51	65.6	0.0%
NW Albuquerque	0.71	50	70.6	-0.9%
University Area	0.67	56	83.9	-3.3%
Downtown Albuquerque	0.45	52	116.8	-9.4%

[a] VMT elasticity of intersection density used in calculation equals -0.12 (Ewing and Cervero 2010)

The regional effectiveness of adopting a street connectivity standard is difficult to quantify. The potential GHG mitigation beyond what is forecast for the 2040 preferred scenario is unclear since the travel demand model does not contain local streets. Local streets are represented by “centroid connectors” in the travel demand model that represent the average distance from households in a TAZ to a roadway link in the model (collectors, arterials, and highways). For TAZs in the metropolitan area that have not yet been developed and where no roadway network exists, it is unclear what assumptions were used to create the centroid connectors. For example, what street pattern was assumed in calculating the average distance and travel time from each TAZ to the nearest network link? Since the preferred scenario focuses more growth into already developed areas, new street connectivity standards, which would only affect new development, may only have a small regional GHG mitigation potential. However, changing the street pattern of yet to be built roadway networks should be a very low cost mitigation strategy and therefore may be a very efficient GHG mitigation strategy even if it is not regionally significant over the forecast horizon.

The estimates in Table 5 are also subject to many uncertainties. While there have been many studies of street network design and changes in travel behavior, it’s difficult to generalize these results including the meta-analysis by Ewing and Cervero (2010). The effect of intersection density likely depends on population and employment density, land-use mix, bicycle and pedestrian infrastructure, quality of transit service, and the extent of the network patterns (only a few blocks or is the whole city designed in a similar pattern?). There are also many unique street designs that do not match up well with designs considered in prior studies. For example, some neighborhood designs have greater pedestrian and bicycle connectivity than vehicle connectivity due to bicycle paths and features that block vehicle access. Figure 4 shows a typical network design in Davis, California. Most neighborhoods in Davis, excluding the downtown area, have irregular street network designs with many cul-de-sacs and dead ends; however, many of these neighborhoods also have a multi-use path network interlaced with the street network as shown in Figure 4. The multi-use path network adds connectivity to cul-de-sacs and dead ends for non-motorized modes, and in many places has grade separated railroad, street and highway crossings. Some neighborhoods in Albuquerque contain similar features, though on a much smaller and less frequent scale. For example, Albuquerque’s multi-use path network adds some connectivity to dead end streets and cul-de-sacs, but only a very small percentage of them. Some neighborhoods also have pedestrian access through sound and privacy walls that surround many of the region’s subdivisions.

Figure 4 Example of Network Design for Greater Pedestrian and Cyclist Connectivity (Red Lines are Bicycle and Pedestrian Paths, GIS Data from the City of Davis, California[5])

3 SUMMARY AND CONCLUSIONS

The strategies where GHG mitigation potential could be quantified are summarized in Table 6. Growth boundaries and VMT or gasoline taxes have the greatest potential for achieving significant additional GHG reductions. Bicycle infrastructure and traffic signal enhancement, while having a smaller effect, would face much less opposition in being implemented and provide popular co-benefits (recreation and less congestion). The mitigation potential of improved street connectivity and incident management programs could not be quantified but each strategy is expected to have a small GHG mitigation potential. Greater street connectivity for new developments comes at little to no cost (those less land for real estate development is a cost for developers) and could therefore be a very efficient policy even if only having a small mitigation potential. Improving street the connectively of existing neighborhoods could be very expensive if additional right of way is required.

[5] City of Davis GIS Data Library: http://maps.cityofdavis.org/library/

Table 6 Summary of GHG Mitigation Potential

	CO2-eq	Reduction
Growth Boundary	512	3.8%
VMT Tax 0.005 per mile[a]	107	0.8%
VMT Tax 0.03 per mile	780	5.8%
VMT Tax 0.12 per mile	2384	17.9%
Bicycle Infrastructure	49.1	0.4%
Traffic Signal Enhancement	27.6	0.2%

[a] Equal to a 25 percent increase in the current state and federal gasoline excise tax
[b] Building out the City of Albuquerque's 2014 Draft Bicycle Plan
[c] Implementing adaptive signal control on Montgomery, Montano, and Coors, and ignoring induced demand

The results in Table 6 also illustrate that by only adopting the relatively popular and low cost GHG mitigation strategies, GHG emissions in the region will still grow higher than today's level. Achieving GHG mitigation that reduces emissions from the the 13,352 tonnes/day expected under the preferred scenario in 2040 to today's level of 11,358 tonnes/day requires adopting a VMT tax between 6 and 8.4 cents per mile. The lower VMT tax rate corresponds to a scenario where all other strategies are also adopted while the higher tax corresponds to scenario where only a VMT tax is adopted. A growth boundary would significantly reduce GHG emissions but would still not be enough to hold GHG emission at today's level.

Finally, the analysis in this report and most other studies fail to account for induced demand. Induced demand should be expected to occur for any strategy that reduces travel time or improve travel time reliability without also charging a fee or tax to pay for the improvement. Improved traffic signaling and incident management programs suffer from this limitation which has the potential to significantly reduce or completely eliminate their GHG mitigation potential over the long term. Interim GHG emission reductions from these strategies may still be valuable compared to a baseline of not implementing them as long as they do not lock the region into greater vehicle dependency or come at the expense of more effective strategies. The most durable strategies for reducing GHG emissions include reducing vehicle travel demand, improving vehicle fuel efficiency, and promoting the adoption of alternatively fueled vehicles. This report focuses on reducing travel demand which can be accomplished through two general strategies. Reducing the need for vehicle trips, which in this project is accomplished by changing land-use patterns and improving transit options, and increasing the cost of travel through taxes, fees and tolls.

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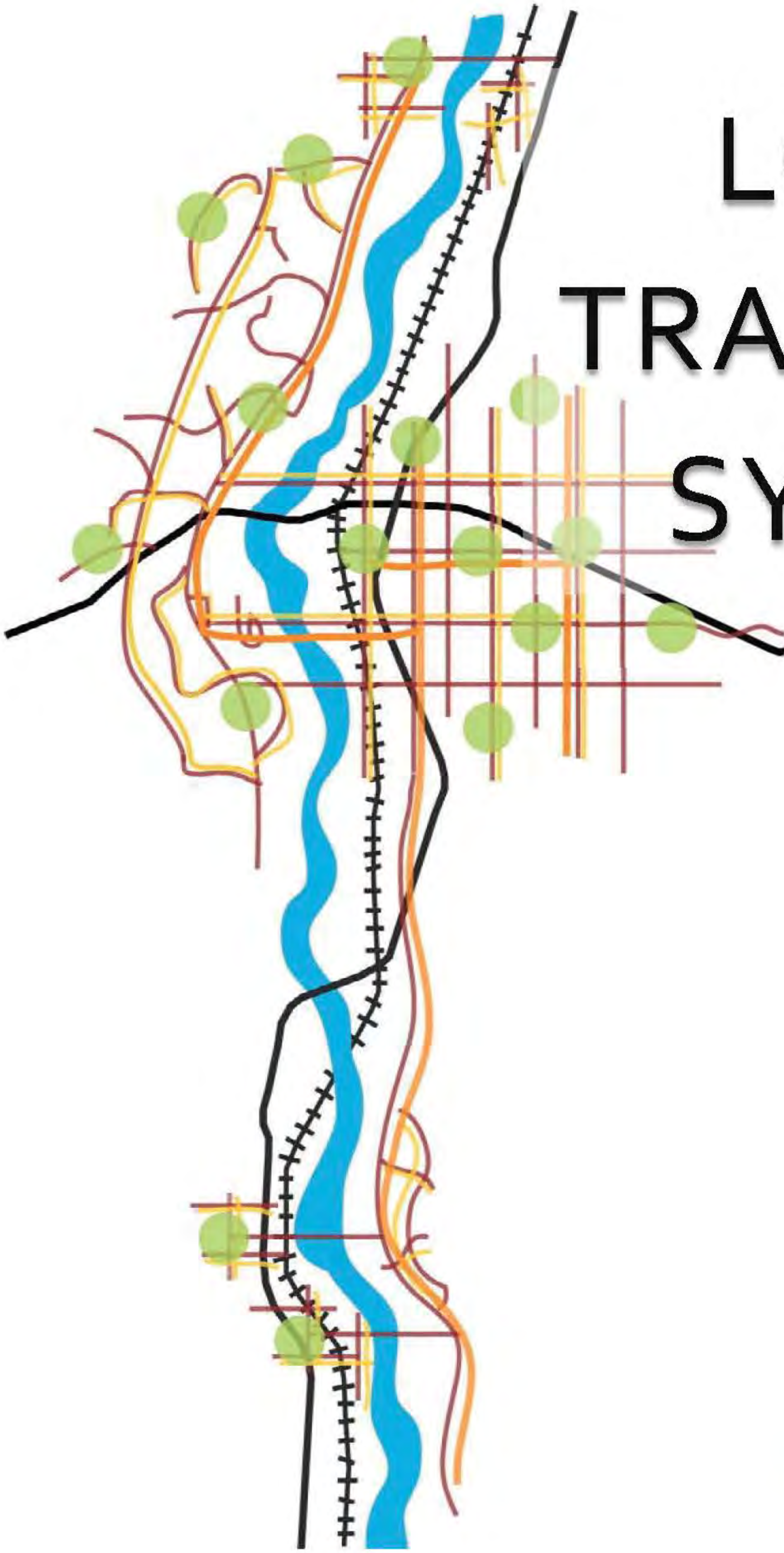
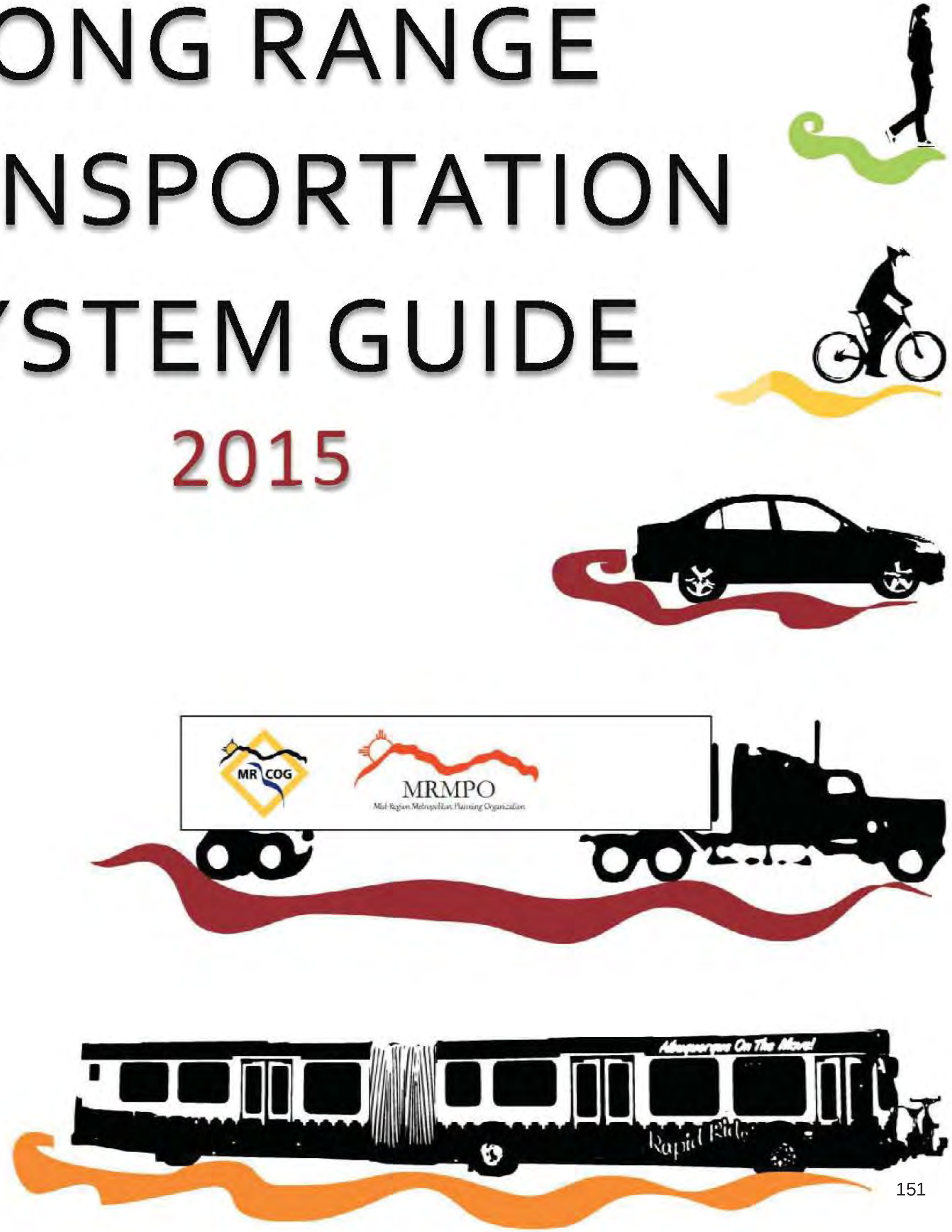
LONG RANGE TRANSPORTATION SYSTEM GUIDE

2015





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CONCEPTUAL DESIGN MATRICES

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ROADWAY DESIGN ELEMENTS

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STREETSIDE DESIGN ELEMENTS

Chapter 6: Describes additional pedestrian streetside design elements that should be considered for new and existing streets.

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Chapter 7: Examples show how existing roadway redesigns may be compared to fulfill Complete Streets planning goals.

PERFORMANCE MEASURES

Chapter 8: Provides a list of methods to evaluate performance, including multi-modal level of service indicators, connectivity measures, safety measures, and ways to evaluate land use integration and support.

Chapter 1

INTRODUCTION

Chapter 1

Introduction

The Mid-Region Metropolitan Planning Organization has developed the Long Range Transportation System Guide (LRTS Guide) to respond to the growing need for transportation networks to become more efficient at addressing congestion, providing multi-modal options for all users, supporting economic development, and improving public health. One of the key findings of the *2035 Metropolitan Transportation Plan* was that the strategy of adding roadway capacity was not sufficient to address congestion across the Albuquerque Metropolitan Planning Area (AMPA). The good news is there are promising alternative strategies that not only address congestion but also have economic and health benefits. These strategies involve creating "Complete Streets" and relating land use and transportation planning to improve conditions for all users.

The *2040 Metropolitan Transportation Plan*'s Preferred Scenario involves careful examination of how land use affects travel demand. The Preferred Scenario results in reductions in future travel demand through different types of growth that are publically acceptable throughout the region. The LRTS Guide provides recommendations on a second aspect of relating land use to transportation by providing conceptual roadway designs and networks that support adjacent land uses.

The LRTS Guide builds upon previous planning efforts. In 1965 the Long Range Major Street Plan laid out a gridded connected network of long range major route improvements. This map eventually became the Long Rang Roadway System and part of the Future Albuquerque Area Bikeways and Streets (FAABS) document. Now the LRTS Guide replaces the FAABS document and several of the prior elements have transitioned over. The FAABS document included a series of system maps: Long Range Roadway System, Long Range Bikeway System and the Long Range High Capacity Transit System. These system maps are now in the LRTS guide. They show where future roadways, bikeways, and transit lines are planned. It also provides a means to assess connectivity needs and ensure complete, efficient networks.

For future roadways, the LRTS guide builds upon the past right-of-way guidance from the FAABS document, but now incorporates multi-modal accommodations based on national best practices. The intent of this guidance for future roadways is to find the minimum right-of-way needed for good multi-modal accommodation. For current roadways, the LRTS guide provides methods to evaluate existing roadways for improved multi-modal accommodations, safety, and land use integration.

Finally, the LRTS Guide is part of the long range transportation planning process. It is incorporated into the *2040 Metropolitan Transportation Plan* and is developed to support the goals of the MTP. It will remain a part of the MTP and will be updated according to federal transportation planning processes.

1.1 GUIDING PRINCIPLES

The LRTS guide has five main guiding principles:

1. TRANSPORTATION AND LAND USE INTEGRATION

Integrating land use and transportation involves understanding how different land uses affect travel demand and providing roadway and network designs that are appropriate for the surrounding context.

Previously, right-of-way guidance was based only on how the roadway was anticipated to function in the future. The LRTS guide uses both the land use context and the roadway type to provide guidance on conceptual roadway design and right-of-way needs. The goal is to ensure that roadways support adjacent land uses as well as efficient regional travel. The LRTS Guide intends to avoid mistakes made in the past where incompatible land uses and roadway types were paired together. For example, locations with a high number of pedestrian crashes may indicate that adjacent land uses are generating the need for people to walk, while the roadway is primarily designed to support high speed automobile traffic.

Much of the AMPA's development occurred after WWII when development patterns favored automobile travel and the separation of land uses. This has led to roadways that primarily support automobile traffic (85 percent of all trips in the AMPA are completed in a passenger vehicle)[1]. However, there are many factors that support mitigating this trend. Of all the trips made by passenger vehicle, 11 percent are under a mile[1]. These short auto trips suggest that the area's roadways do not encourage walking or bicycling even though destinations are close.

[1] Mid-Region Travel Survey, 2014

Providing roadways that support the surrounding land uses not only reduces the number of short auto trips, but also allows for new investment and the incubation of quality public spaces.

2. COMPLETE STREETS

Complete Streets is a movement that stresses the need to accommodate all users of the roadway: pedestrians, bicyclists, transit users, and motorists. People of all ages and abilities are able to move safely along and across Complete Streets regardless of travel mode. The practice is not limited to design, but involves planning, programming, operating and maintaining transportation systems. Complete Streets also involve relating to the surrounding land use by finding the appropriate means of accommodation for the setting. A "complete" rural street will look and feel different than a "complete" urban one.

There are not enough resources to rebuild all roadways as Complete Streets. However, there are many opportunities to provide multi-modal accommodations that lead to a transportation network that works better for more people. These considerations vary for new roads and existing roads. For this reason, the LRTS Guide recommends recognizing Complete Streets opportunities at a variety of levels and provides Complete Streets considerations and processes to capitalize on these opportunities.

FIGURE 1.1: COMPLETE STREETS SUPPORT ALL USERS OF ALL ABILITIES

3. CONNECTIVITY

It can be a challenge for a single roadway to accommodate freight movement, high volume, and high speed traffic along with pedestrian and bicyclist needs. An important means of addressing multiple needs simultaneously is through creating “complete networks.” This means designing complete, layered transportation networks that allow people to reach desired destinations – although not always on the same roadway. Creating better connected networks for all modes of travel reduces the potential conflict between different users. Providing low-stress routes for pedestrians and bicyclists improves accessibility by allowing people who are concerned about safety from traffic to reach destinations. In addition, improving connectivity improves efficiency by making trips more direct and reduces congestion by providing multiple routes to destinations.

4. SUPPORT THE PRICIPLES OF THE 2040 PREFERRED SCENARIO

The LRTS Guide is intended to support the Preferred Scenario in the *2040 Metropolitan Transportation Plan*. The Preferred Scenario minimizes travel demand through more compact and mixed land uses, provides more jobs west of the Rio Grande, and looks to alternative modes (particularly transit) to provide more travel options. The development of the Preferred Scenario also involves responding to public concerns to develop a transportation system that not only addresses congestion, but also supports economic development and creates places where people want to be. Creating transportation systems that are context appropriate and meets the needs of all users is an important part of supporting the principles of the Preferred Scenario.

5. SUPPORT OTHER PLANS AND POLICIES

Much of the motivation behind this guide is a convergence of efforts. The LRTS Guide builds upon the comprehensive plans of the municipalities in the region. The centers and corridors concept from City of Albuquerque/Bernalillo County Comprehensive Plan provides a framework for LRTS system maps and activity centers. The City of Rio Rancho’s Comprehensive Plan explicitly calls for a Complete Streets Policy and the Village of Los Lunas Comprehensive Plan sets the vision for the village “to become less auto-dependent through the provision of more diverse travel options and land use patterns that support walkability, livability, and sustainability.” Throughout the region more plans are including Complete Streets principles. The LRTS Guide supports putting these concepts into practice and provides guidance for location-specific plans.

In response to the 2035 MTP, the Metropolitan Transportation Board issued a resolution requesting regional guidance on accommodation of all modes and integrating land use and transportation. Many aspects of this guide come from locally adopted plans, policies and development processes. In addition, the process provided in this manual will help guide Mid-Region Metropolitan Planning Organization (MRMPO) comments for development review.

1.2 ADOPTION & IMPLEMENTATION

The LRTS Guide is part of the Metropolitan Transportation Plan and will be updated to support subsequent MTPs. The principles, processes and systems in the LRTS Guide will be updated with the Metropolitan Transportation Plan and with close coordination with member agencies to ensure that it takes into account local agency efforts and adopted plans while also addressing regional transportation needs.

The Long Range Roadway System is referenced in City of Albuquerque's Development Process Manual and Bernalillo County's Streets Standards. By adopting the 2040 Metropolitan Transportation Plan, member governments are supporting the intent of the LRTS Guide. Member governments are encouraged to adopt the processes provided in this guide and provide feedback that will improve future iterations.

Implementation of the LRTS Guide will occur in a variety of ways from new roadway construction in newly developed areas, to projects on roadways with constrained rights-of-way. New roadways offer the most flexibility in rights-of-way requirements, but it is also essential to ensure adequate connectivity during this development phase. Projects on roadways with fully developed land uses offer the least flexibility, but depending on the land use and roadway type, can represent the highest need for multi-modal accommodation in the near-term.

Finally, the update of the City of Albuquerque /Bernalillo County Comprehensive Plan and the accompanying update of the zoning and development ordinances provide a good opportunity to integrate the LRTS Guide into these efforts.

Chapter 2

USING THIS DOCUMENT

Chapter 2

Using This Document

The LRTS Guide provides a Complete Streets planning process for systematically incorporating land use and multi-modal considerations at a variety of opportunities. This chapter contains the steps recommended to ensure that a variety of considerations are taken into account when planning and designing roadways and transportation networks. Guidance is also provided on the collection and evaluation of roadway and network measures to better understand different users and their needs, as well as the various benefits and tradeoffs involved with different roadway and network configurations.

The Complete Streets planning process outlined here involves six main steps that move from broad geographic considerations to specific segments. The steps are listed below:

1. Identify considerations and implementation opportunities for the plan or project. (this chapter)
2. Identify the land use character area from the Preferred Scenario. (Chapter 3)
3. Identify the roadway's regional role and opportunities to improve network connectivity. (Chapter 4)
4. Assess right-of-way needs and develop conceptual designs. (Chapter 5, 6)
5. Evaluate alternatives. (Chapter 7)
6. Collect and analyze performance measures. (Chapter 8)

2.1 IMPLEMENTATION OPPORTUNITIES

The LRTS Guide may be applied to a wide range of plans, studies and projects. Developing a master plan for an area with no infrastructure to resurfacing an existing roadway all provide opportunities to support surrounding land use and accommodate different transportation modes. However, the most appropriate type of implementation varies with each opportunity. For example, preserving network connectivity and right-of-way is critical in master plans for undeveloped areas, but evaluating a wide range of detailed roadway designs might not be as important. For roadway resurfacing maintenance, pursuing additional right-of-way is not appropriate, but evaluating the land use, the roadway type and if excess lane width could improve shoulders or bicycle lanes is very important.

Table 2.1 categorizes different implementation opportunities broadly by geographic shape and if a project involves an existing or future roadway. These categories have similar implementation types that are included in Table 2.1 as well.

Figure 2.1 shows the recommended Long Range Transportation Guide planning process.

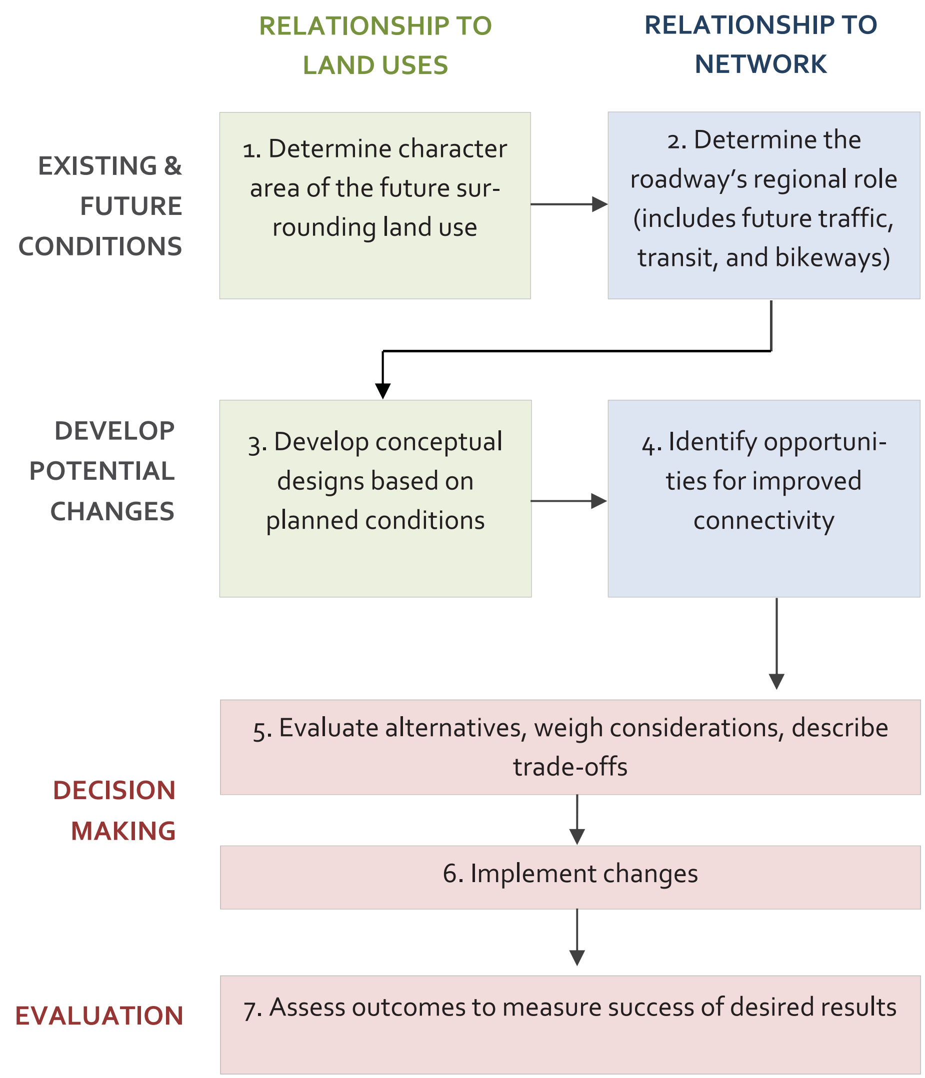


FIGURE 2.1: LRTS GUIDE PLANNING PROCESS

TABLE 2.1: IMPLEMENTATION OPPORTUNITIES & TYPES

IMPLEMENTATION OPPORTUNITY	IMPLEMENTATION TYPE
Sector Plans, Area Plans, Master Plans, Facility Plans These plans address large areas and provide a blueprint for roadways, trails and other facilities. Nearly all of these plans include future land use designations.	**1. Identify & coordinate with planned land use (Ch 3).** • *What are the future land use designations from local plans?* **2. Identify and preserve roadway and trail network connectivity (Ch 4 & 7).** • *Is there sufficient access to planned land uses?* • *Could a denser network of narrower roads be used instead of a sparse network of wider roads?* • *Does the layout of the roadway and trail network support future land use designations?* • *Does the network allow for pedestrians and bicyclists to take alternative roadways?* • *Does the network meet recommended connectivity measures and are there opportunities for improved connectivity?* **3. Develop conceptual roadway designs (Ch 5 & 6).** • *Does the conceptual design and network work together to accommodate all roadway users (although not necessarily on the same road)?*
Corridor Plans, Engineering & Feasibility Studies These efforts tend to focus on a segment of roadway and sometimes include a limited area that includes paralleling roadways.	**1. Identify & coordinate with planned land use (Ch 3).** • *What are the future land use designations from local plans?* **2. Identify and preserve connectivity through easements and parallel routes (Ch 4).** • *Is there sufficient access to planned land uses?* • *Can parallel routes improve access to adjacent land use and better accommodate pedestrians and bicyclists?* • *Are there any easements or other opportunities to improve pedestrian and bicyclist access and mobility?* **3. Develop conceptual roadway designs (Ch 5 & 6).** • *Does the conceptual roadway design and parallel roadways work together to accommodate all roadway users (although not necessarily on the same road)?* **4. Identify corridor issues and considerations (Ch 7 & 8).** • *How is the roadway currently performing?* • *Are there additional opportunities to address issues?*
New Roadway Construction New roadways are typically built in phases. Each phase should provide multi-modal options and support the land use developing around it.	**1. Identify & coordinate with planned land use (Ch 3).** • *What are the future land use designations from and local plans?* **2. Identify and preserve roadway and trail network connectivity (Ch 4).** • *Is there sufficient access to planned land uses?* • *Are approved access points being built along with the development of homes and businesses?* **3. Develop conceptual roadway design (Ch 5 & 6)** • *Does the design allow for all roadway users to be accommodated through each phase of the roadway being built?* **4. Identify corridor issues and considerations (Ch 7 & 8).** • *What are the long-term and short-term goals of the roadway?* • *Are there additional opportunities to address issues?* • *What are the performance measures to evaluate changes to the roadway?*

Roadway Redevelopment & Reconstruction These efforts involve changing an existing roadway or intersection. Typically, a corridor or feasibility study precedes these projects. Given that these roadways are already in use, this is also an opportunity to test out design alternatives with temporary features.	**1. Identify & coordinate with planned land use (Ch 3).** • *What are the future land use designations from local plans?* **2. Identify and preserve roadway and trail network connectivity (Ch 4).** • *Does this roadway provide an important connection between or within activity centers?* • *Are there any small opportunities to improve access to adjacent land use?* **3. Develop conceptual roadway design (Ch 5 & 6)** • *Which modes are prioritized based on the character area and roadway type?* • *Are there opportunities to improve accommodation for prioritized modes?* **4. Identify corridor issues and considerations (Ch 7 & 8).** • *How is the roadway currently performing?* • *Are there additional opportunities to address issues?* • *What are the performance measures to evaluate changes to the roadway?*
Roadway Resurfacing Maintenance Although these projects are limited and should not become full reconstruction projects, they provide unique opportunities to capitalize on small improvements that can make large impacts at much lower costs than a reconstruction project.	**1. Identify & coordinate with planned land use (Ch 3).** • *What are the future land use designations from local plans?* **2. Identify and preserve roadway and trail network connectivity (Ch 4).** • *Does this roadway provide an important connection between or within activity centers?* • *Are there any small opportunities to improve access to adjacent land use?* **3. Develop conceptual roadway design (Ch 5 & 6)** • *Which modes are prioritized based on the character area and roadway type?* • *Are there opportunities to improve accommodation for pedestrians and bicyclists by reducing driving lane widths?* • *Are shoulders being improved along with the rest of the roadway?* • *Are there missing sidewalks that can be filled in?* **4. Identify corridor issues and considerations (Ch 7 & 8)** • *How is the roadway currently performing?*

Chapter 3

CHARACTER AREAS

Chapter 3

Character Areas

Determining the character area is the first step of the LRTS process. The scenario planning effort has shown the significant effect land use patterns have when addressing transportation challenges of the future. Additionally, the design and operation of the roadway contributes as much to the context as the buildings in the area. For this reason, it is important to have a clear idea of the intended future character surrounding the roadway and then balance transportation demand with the critical need for the roadway to support the adjacent land use. This chapter describes four character areas and ways to determine each character area. Roadway network connectivity and conceptual design elements in chapters 4, 5 and 6 are based on these character areas.

3.1 LAND USE CONTEXT

Determining the surrounding character area presents a variety of challenges. Making a detailed assessment of the land use surrounding a roadway is new for many transportation professionals. Adding to the challenge is that this assessment needs to be for the *future* character area, not the current surroundings since the lifecycle of the roadway is often much longer than the surrounding environment. This requires examining locally adopted plans and zoning ordinances. The LRTS Guide provides a character area map that gives an overall idea of character areas. However, in practice, character areas are relatively small and it is impossible to determine them all at a regional level. This is why local plans and the local community vision need to be used when making this determination. This can be difficult since local governments have a wide range of land use designations. In order to help this process the LRTS Guide simplifies character areas into five categories: (1) activity centers, (2) urban, (3) suburban, (4) rural, and (5) rural main streets. Overall, this classification follows a transect-based model, moving from a continuum of rural to urban character areas, with increasing densities and intensity of uses (Figure 3.1). Rural main streets are overlaid on top of this transect model to indicate those places with higher pedestrian and/or commercial activity within town and village centers.

FIGURE 3.1: TRANSECT EXAMPLE
(SOURCE: CENTER FOR APPLIED TRANSECT STUDIES)

The LRTS Character Area map (pg. 19) provides a broad view of character areas in the region and a starting point for determining character area. This map was developed based on the final conceptual Preferred Scenario. Two of the main principles of this scenario are to provide more jobs west of the river and to promote activity centers that provide denser, mixed-use, walkable areas that can be connected by transit. The Preferred Scenario was created using stakeholder input and it provides a goal for the region, but it is not based on current zoning ordinances. In practice, adopted ordinances and plans should be used in order to assess character area. It is impossible at the regional level to come up with an exact model of the variety of contexts a long roadway will pass through.

However, there are measures that can help determine character area (see Table 3.1). Below are descriptions of these measures. Although all of these measures are correlated, it is best to try to determine at least two of them before making assigning a character area.

LAND USE MIX

Land use is a common criterion for characterizing development. Common land uses includes: (1) single family residential, (2) multi-family residential, (3) commercial retail, (4) commercial services, (5) public/institutional, and (6) parks/open space. An area where one can live, work, shop, go to school and have places to congregated is a typical activity center. That is why an activity center should include nearly all the land uses listed above. These land uses were tested out on block groups to understand how well these geographies scored. Table 3.1 provides general rules on how to measure this mixture. This table also provides land use mix scores based on an entropy formula using the six land use categories listed above. If geography dedicated one-sixth of its total area to each land use, the score would be 1. In practice, this does not happen and many block groups include all six uses, but do not have scores better than 0.30. The land use formula is:

$$land\ use\ mix\ score = -\frac{1}{\ln(6)}\sum_{i=1}^{6} p_i \ln(p_i)$$

Where p_i is the proportion that land use i contributes to the overall geography.

NET RESIDENTIAL DENSITY

Net residential density is another way to help characterize development. This is the number of dwelling units per residentially zoned acre. Caution must be used in areas with manufactured homes or group quarters where the land may not be zoned residential, but the Census data includes the number of dwelling units.

The net residential density for activity centers is 12 dwelling units per acre. This is a minimum density needed to support transit[2].

ACTIVITY DENSITY

Activity density is a measure of combined residential and commercial activity. It supplements the net residential density with employment activity.

[2] Public Transit and Land Use Policy, 1977

$$Activity\ Density = \frac{Population_i + Employment_i * X}{Acres_i}$$

For $Data\ Analysis\ Subzone\ i$, where

$$X = \frac{AMPA\ Population}{AMPA\ Employment}$$

The beneficial part of the activity density measure is that MRMPO provides these measures for the 2040 forecast. Caution must be used in a few instances where the acreage of the data analysis subzone (DASZ) overshadows the population and employment that take place within the zone. For example, Kirtland Air Force Base in Albuquerque and Merillat in Los Lunas have significant concentrated activity, but the DASZ encompasses much more area.

URBAN AND RURAL DESIGNATIONS

The term *rural* in this document refers to *rural character areas* within the federally designated Albuquerque Metropolitan Planning Area (AMPA). Rural character areas have low residential densities and they are interspersed with agriculture and rangeland. Two examples of rural character areas in the AMPA are the Village of Corrales and the Village of Tijeras.

Metropolitan planning organizations update federally-designated *rural* and *urban* boundaries based on decennial census populations. These designations then guide federal funding processes. This document addresses the Albuquerque Metropolitan Planning Area (AMPA) which is federally classified as *urban*. This document does not address the federally designated *rural* areas in Torrance and Sandoval Counties which fall under the Rural Transportation Planning Organization.

FIGURE 3.2: REGIONAL ACTIVITY CENTER – UPTOWN

3.2 ACTIVITY CENTERS

Activity centers exist in both urban and suburban contexts, although their form and surrounding land uses may vary. Activity centers prioritize pedestrian accessibility and are targeted for higher intensities of mixed-use development and enhanced transit connections. In addition, activity centers promote a "park once" approach where people driving to these locations can park once and walk to a variety of destinations.

The 2040 MTP has identified four types of activity centers. However, pedestrian priority activity centers identified in the Albuquerque/Bernalillo Comprehensive Plan and other local plans should also be taken into consideration.

REGIONAL ACTIVITY CENTERS

People across the region travel to regional activity centers to access jobs, education, and other services. These centers include transit connections and the potential to support mixed-use development.

REINVESTMENT CENTERS

Reinvestment centers are currently targeted for redevelopment. They often have connections to transit and some mixed-use elements. In some cases, these areas were major destination hubs in the past.

OPPORTUNITY CENTERS

Opportunity centers have been identified by local communities as areas that have room for additional development and that have the potential to become mixed-use destinations. Nearly all of these locations involve addressing transportation issues by incubating local mixed-use centers with high levels of employment so that nearby residents do not need to travel across the river or traverse other barriers for daily needs.

EMPLOYMENT CENTERS

Unlike the other types of activity centers, employment centers consist of a single large employer or business center with no plans for housing and they are not targeted future land use changes. These locations not addressed in the LRTS guide, but they are identified in the Preferred Scenario.

DOWNTOWN ALBUQUERQUE

Downtown Albuquerque is a unique area in many ways, because it functions as the urban core for the region and remains the region's most dense job center. It is both a regional activity center and reinvestment center. Increased investment in Downtown's pedestrian amenities, bicycle infrastructure, and civic spaces could catalyze further private investment and redevelopment of Downtown's vacant and/or under-utilized infrastructure.

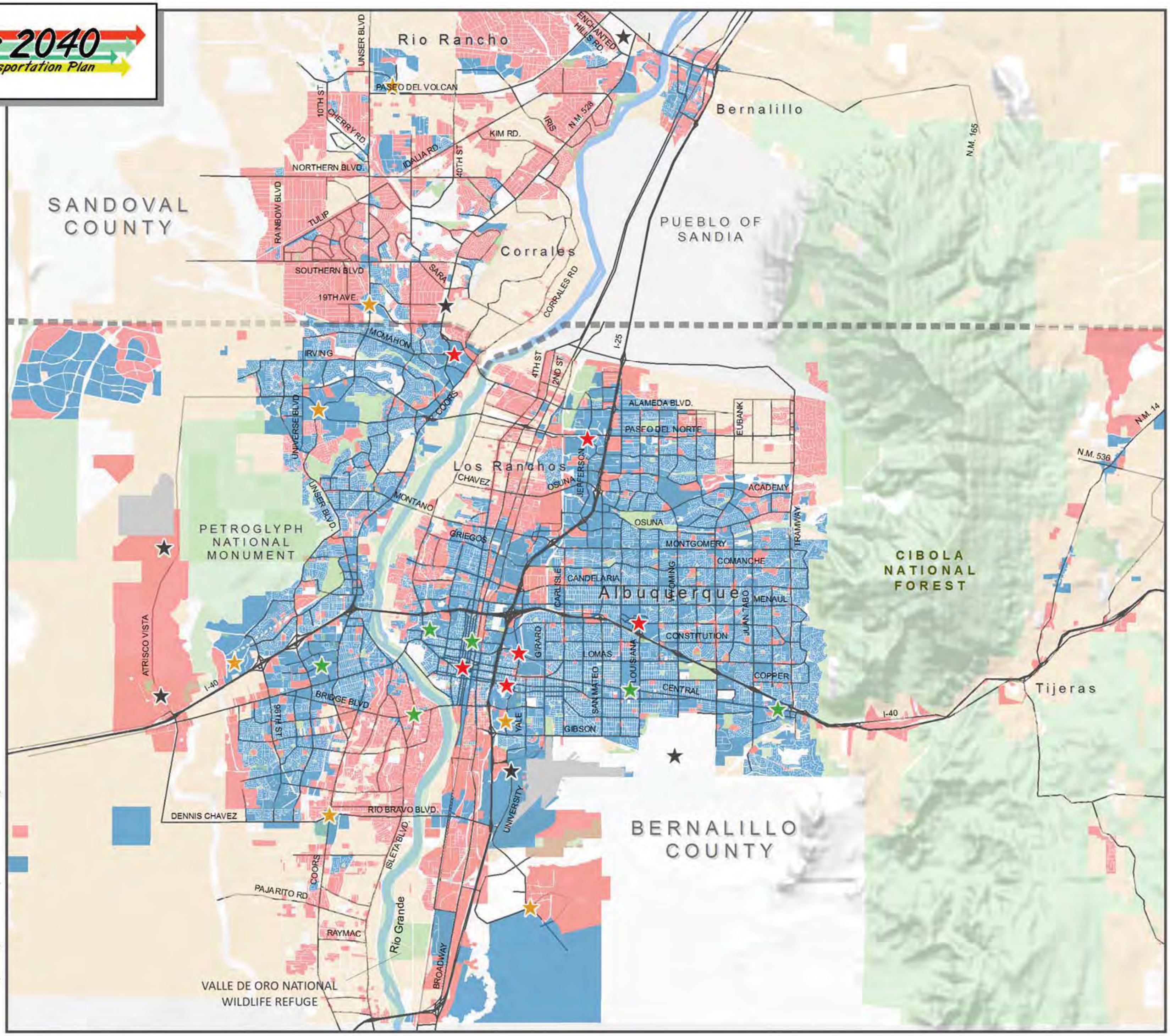
In March 2015, The Downtown Walkability Analysis was adopted by City of Albuquerque a policy for prioritizing multi-modal improvements in Downtown Albuquerque. This study was completed in fall of 2014 by Jeff Speck, the author of *Walkable City: How Downtown Can Save America One Step at a Time.* The Downtown Walkability Analysis is the recommended resource for improvements to streets in Downtown Albuquerque.

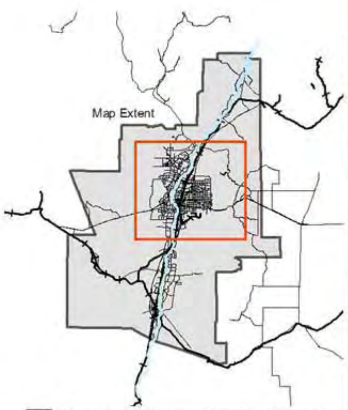
Futures 2040

Metropolitan Transportation Plan

Map 3.1: Long Range Transportation Systems (LRTS) Character Areas

- Regional Center
- Opportunity Center
- Reinvestment Center
- Employment Center
- Open Space
- Rural
- Suburban
- Urban
- County Boundaries
- Airports





Albuquerque Metropolitan Planning Area

Map 3.2: Long Range Transportation Systems (LRTS) Character Areas, Valencia County

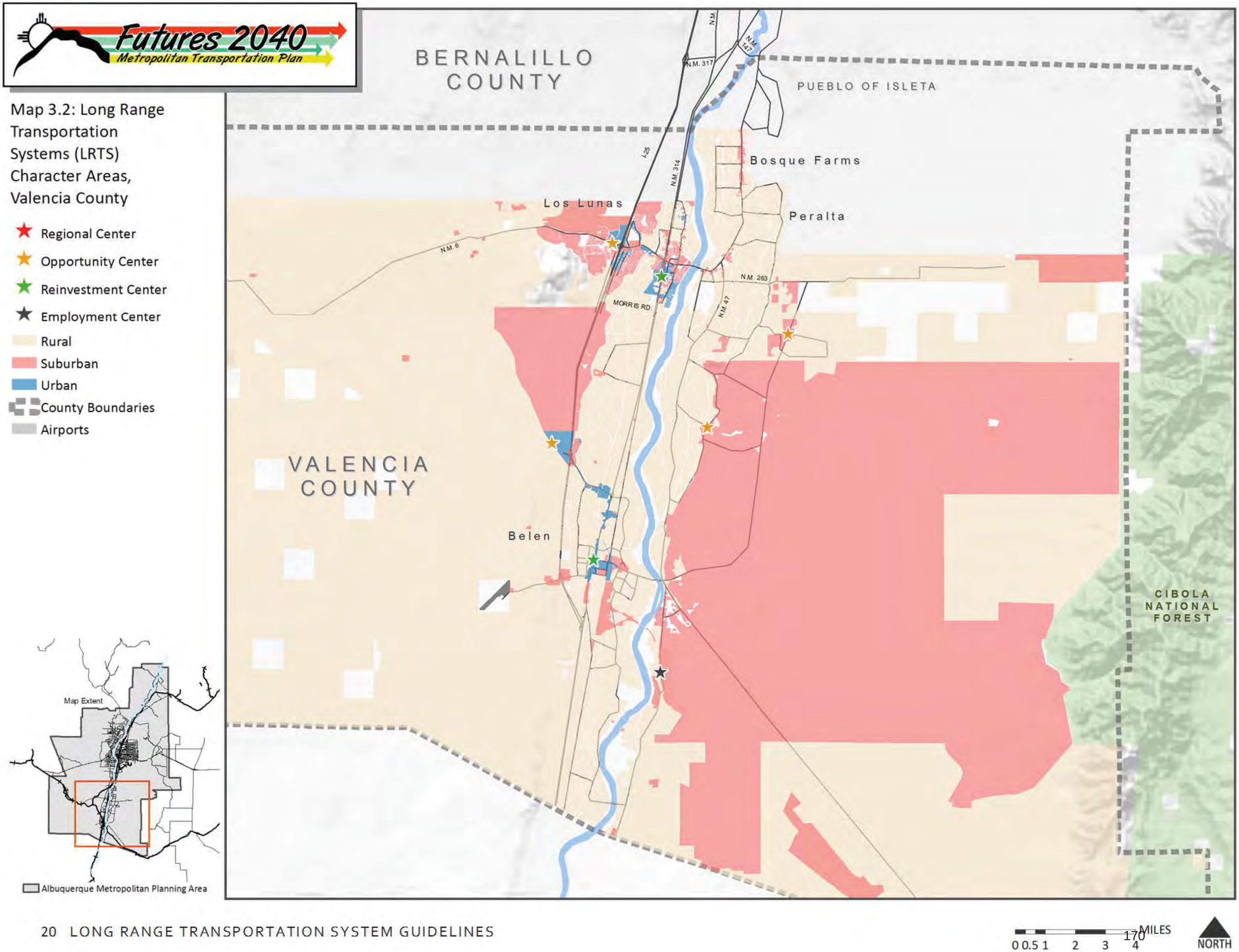


TABLE 3.1: CHARACTER AREAS

ACTIVITY CENTERS

Activity centers are designated in the 2040 MTP and the Albuquerque/Bernalillo County Comprehensive Plan. These areas exist in both urban and suburban areas but generally are planned to have a higher intensity of use than general urban or suburban areas. This includes increased pedestrian traffic, retail activity, or core job centers. The priority for activity centers is accessibility for all modes, with an increased emphasis on pedestrian comfort.

Land Use Mix: Activity Centers often have all of the following land uses: Multi-family, retail, services, parks (includes plazas), public buildings (includes schools), and often nearby single family units. (LU mix score > 0.22)
Planned Net Residential Density: > 12 dwelling units per acre
Future Activity Density Score: ≥ 25

Examples: Uptown (shown), Downtown Albuquerque, UNM area, Nob Hill, Cottonwood, and Journal Center

GENERAL URBAN

Urban areas are generally do not have as high of residential and employment densities as activity centers, but they have a fairly high number of different land uses within short distances.

Land Use Mix: Urban areas often have at least four of the following land uses: single family, multi-family, retail, services, parks, and public/institutional buildings such as schools.
(LU mix score > 0.16)
Planned Net Residential Density: ≥ 8 dwelling units per acre
Future Activity Density Score: ≥ 12

Examples: an Mateo & Lomas area (shown), Wyoming Blvd & Montgomery Blvd

GENERAL SUBURBAN

Suburban areas primarily contain single family residential land use with scattered commercial that support these residences. Future suburban areas should provide for pedestrian and bicycle access to commercial areas, schools, parks and transit.

Land Use Mix: The predominant single family land uses in suburban areas often include two or three of the following other land uses: multi-family, retail, services, parks, and public/institutional buildings such as schools. (LU mix score > 0.10)
Planned Net Residential Density: < 8 dwelling units per acre
Future Activity Density Score: < 12

Examples: Coors Blvd, Southern Blvd, Unser Blvd, Harper Rd

RURAL

The primary characteristic of rural areas is very low residential densities. Often rural areas develop into suburban areas. If an area is determined to be rural in the future there should be evidence that measures are in place to preserve low residential density.

Land Use Mix: Rural areas have very low residential densities and often include agricultural land, and/or open space. (LU mix score < 0.10)
Planned Net Residential Density: $\leq$ 3 dwelling units per acre
Future Activity Density Score: < 7

Examples: Isleta Blvd (shown), Rio Grande Blvd

RURAL MAIN STREETS

Main streets, like downtown streets, are places that traditionally support retail businesses and pedestrian activity. They often function as the heart of historic towns, or as the "living room" of a neighborhood where people come to shop, eat, and congregate. For this reason, special care needs to be taken to preserve pedestrian comfort and safety. (Also see *Special Streets* in section 5.7.)

Examples: NM 313 in Bernalillo (shown), Corrales Rd, 4th St at Guadalupe Plaza in Los Ranchos, NM 333 in Tijeras

Chapter 4

COMPLETE NETWORKS

Chapter 4

Complete Networks

Roadways play many roles from carrying freight long distances to inviting pedestrians to patronize sidewalk cafes. It is not possible for a single roadway to play all of these roles well at the same time. However, a well-connected system of roadways can meet these diverse challenges by assigning different responsibilities to different routes. No other factor affects a transportation system's overall efficiency more than roadway network connectivity. Roadway connectivity allows for more route options which disperses congestion and can help avoid major issues when a roadway is closed for construction, incidents, or events. The redundancy of routes is preferable for pedestrian and cyclists because they can directly reach their destinations while avoiding conflicts on major roads. In addition, regularly spaced roadways offer better opportunities for signal synchronization, increasing efficiency and travel times. Finally, the smaller blocks structure allows for development flexibility where land uses can evolve and adapt over time.

Unfortunately, roadways are now planned as fragmented systems with a focus on channeling traffic onto a few arterials. Typically, new developments create disconnected roadway layouts that are site-based and address the interests of a single landowner without taking into consideration the negative regional consequences of a disconnected roadway network. Such a network fails to capitalize on opportunities for local roads, collectors, and minor arterials to make meaningful connections.

The *2035 Metropolitan Transportation Plan* took the first step in seeing how a lack of connectivity can negatively affect future transportation. The *2040 Metropolitan Transportation Plan* takes the next step by recommending ways to address and improve network connectivity through the LRTS Guide. The intent is to provide guidance for creating complete networks that offer alternative low-speed, low-volume routes that help serve communities and the region.

4.1 NETWORK DESIGN

Ensuring high levels of connectivity through careful network planning has numerous benefits including:

- Offers direct routes, which decreases travel time and vehicle miles traveled (VMT).
- Improves air quality and health outcomes by reducing VMT and congestion.
- Reduces congestion by allowing surrounding roadways to absorb excess traffic from other routes.
- Encourages more walking and bicycling by creating shorter, more direct routes.
- Provides more direct access to businesses and residences.[3]

LAYERED NETWORKS

A gridded network of connected roadways is the best way of achieving high levels of connectivity and addressing the variety of needs of the regional transportation system.[4] Although large areas of the region have missed the opportunity to have a gridded roadway network, there are still many ways to improve connectivity and network efficiency. It is still possible to create layered networks for pedestrians, transit, bicyclists, drivers, and freight at a regional scale.

The Long Range System maps (pg.28-36) provide the designated layers for these different modes. Each map identifies current and future planned connections that will allow travel by different modes between major destinations. The maps communicate to the wide variety of stakeholders where proposed network connections are recommended. This helps ensure that important network links (and gaps) are not overlooked as opportunities to improve the roadway arise.

FIGURE 4.1: COMPARISON OF A 15 MINUTE WALK FROM A BUS STOP IN WITH A TRADITIONAL, GRIDDED NETWORK (LEFT) AND A CONVENTIONAL NETWORK (RIGHT)

The Long Range System maps provide a foundation for layered network connectivity; however, smaller opportunities for connections also exist. section 4.5 provides a variety of strategies to improve connectivity. Often these smaller connections are very effective for people traveling by foot or bicycle.

Finally, the region still has opportunities with new, larger developments to establish and preserve a gridded transportation system. These areas are included in the system maps to ensure that important connections are preserved from one development to the next.

[3] ITE. Planning Urban Roadway Systems; Ewing, Pedestrian- and Transit-Oriented Design, 59-60
[4] Ewing, 59

4.2 LONG RANGE ROADWAY SYSTEM

The Long Range Roadway System (LRRS) (pg. 28-29) provides future recommended roadways and their regional role. This system should be viewed as an aspirational network. That is, the map provides a basic, minimal future network that demonstrates how the region's transportation network is envisioned to function, with some roadways closer to their desired functionality than others. This network includes roadways that are not expected to be constructed within the timeframe of the 2040 MTP. These roadways are included in the Long Range Roadway System in order to help identify future need. Roadways beyond the scope of the 2040 MTP also provide a means to identify important regional connections. As new areas develop, additional connectivity needs will have to be assessed further (see section 4.5 for strategies to improve connectivity).

FUNCTIONAL CLASSIFICATION

This leads to an important distinction between LRRS and current functional classification. Just like the name implies, current functional classification is based on how the roadway currently functions. In addition, current functional classification determines eligibility for federal funding.

In contrast, the LRRS roadway typed build upon and move beyond functional classification by considering the character of the roadway and the role it plays in the regional system. The classifications used in the LRRS were developed with the needs of all users in mind and the types of trips the roadway serves. For example, the LRRS differentiates principal arterials into two groups (regional and community) to differentiate the types of trips these roadways accommodate. These designations can help determine the steps necessary to preserve and improve the transportation system.

REGIONAL PRINCIPAL ARTERIAL

Trips on regional principal arterials are primarily for traveling longer distances across the region. Regional principal arterials prioritize passenger vehicles and freight. In general, there are not many destinations along regional principal arterials. These roadways should have high levels of access management and many are currently included in the region's access management policy. Regional principal arterials tend to have higher speeds and more lanes. If there is a parallel regional and community principal arterial and a person wants to drive to a destination beyond the communities these arterials serve, then they most likely would take the regional principal arterial. For these reasons, regional principal arterials should only be planned along the edges of activity centers and not through them. Unfortunately, there are some developed activity centers that are bisected by regional principal arterials. In these cases, modal priorities along these roads need to be balanced.

COMMUNITY PRINCIPAL ARTERIAL

Although these roadways are given the functional classification of principal arterial, these corridors include many destinations with direct access from the arterial. Travel on community principal arterials tends to be over relatively short distances and to destinations with access directly on that arterial. Community principal arterials tend to have lower speeds and fewer lanes than regional principal arterials.

Community principal arterials do not prioritize one mode over another; instead they strive to achieve a balance through several strategies that can include slowing down motorized traffic or improving walking and bicycling facilities. Higher levels of congestion on community principal arterials is acceptable compared to regional principal arterials since community principal arterials bring people *to* areas and regional principal arterial take people *through*.

MINOR ARTERIAL

Minor arterials provide the connectivity of principal arterials, but they prioritize slower moving traffic, including bicyclists and pedestrians, to allow these modes additional options to reach destinations without needing to be on a principal arterial.

MAJOR COLLECTOR

Major collectors provide additional connectivity between destinations on arterials and neighborhoods. They prioritize bicyclists and pedestrians. Bicyclists should be able to use collectors for long segments of their trips while motorists primarily use them for short segments of their trips.

MINOR COLLECTOR

Minor collectors provide additional connectivity between destinations on arterials and neighborhoods.

4.3 LONG RANGE CONCEPTUAL TRANSIT SYSTEM

The Long Range Conceptual Transit System map (pg. 30) shows future planned transit corridors along with the existing bus and commuter rail service and rail stations.

As with the Long Range Roadway System, the Long Range Conceptual Transit System is design to support the principles of the 2040 Preferred Scenario. Specifically, the network seeks to connect activity centers and support future mixed-use corridors. Expanded transit would also provide increased river crossing options.

For more transit-related information, see section 5.5 Transit.

4.4 LONG RANGE BIKEWAY SYSTEM

The Long Range Bikeway System (LRBS) (pg. 31-36) includes both existing and future existing bikeways and trails. Proposed facilities include projects beyond the 2040 timeframe. The LRBS also identifies long distance routes that provide means for bicyclists to travel across and between jurisdictions in the region as well as other special alignments.

For descriptions of different bikeways, see section 5.6 Bikeway and Trail Infrastructure.

Table 4.1: Existing and Anticipated Miles of Bikeways and Trails

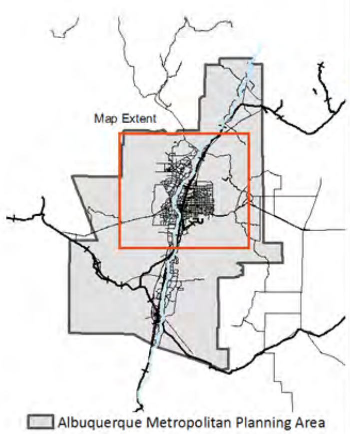
Facility Type	2004	2010	2014	Proposed 2040 Project Miles*	Total Proposed Full Build-Out
Paved Trail	145.20	206.20	274.80	97.34	695.02
Bicycle Lane	130.80	218.60	261.20	124.72	749.66
Route	124.50	156.30	415.1**	1.72	568.07
Bicycle Boulevard	0.00	6.20	6.16	0.00	21.92
Total	400.50	587.30	957.22	223.78	2,034.67

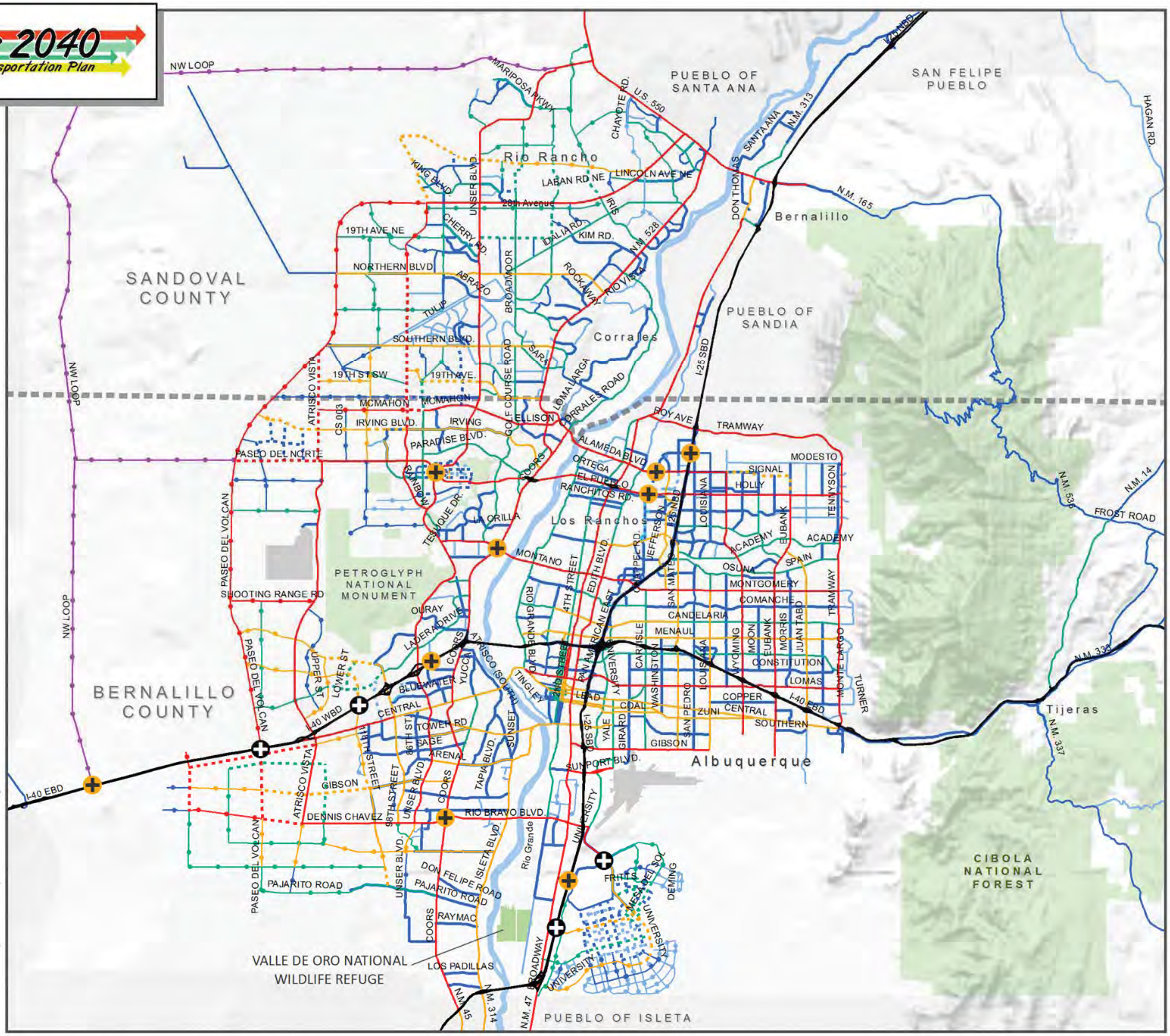
* Only includes 2040 MTP projects.
** Includes additional miles in Valencia County that were all not included on 2035 LRBS.

Futures 2040 Metropolitan Transportation Plan

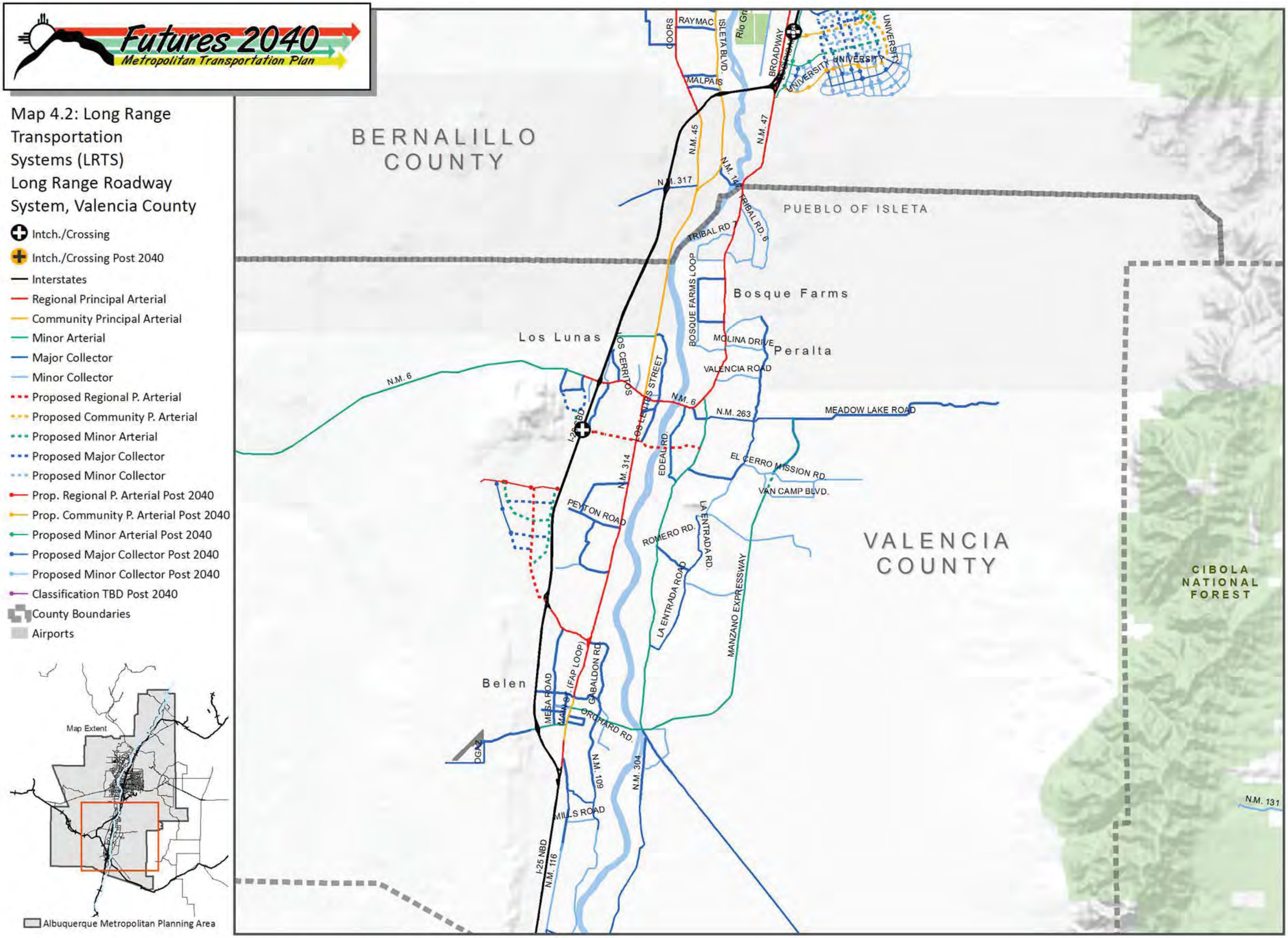
Map 4.1: Long Range Transportation Systems (LRTS) Long Range Roadway System

- Intch./Crossing
- Intch./Crossing Post 2040
- Interstates
- Regional Principal Arterial
- Community Principal Arterial
- Minor Arterial
- Major Collector
- Minor Collector
- Proposed Regional P. Arterial
- Proposed Community P. Arterial
- Proposed Minor Arterial
- Proposed Major Collector
- Proposed Minor Collector
- Prop. Regional P. Arterial Post 2040
- Prop. Community P. Arterial Post 2040
- Proposed Minor Arterial Post 2040
- Proposed Major Collector Post 2040
- Proposed Minor Collector Post 2040
- Classification TBD Post 2040
- County Boundaries
- Airports





Map 4.2: Long Range Transportation Systems (LRTS) Long Range Roadway System, Valencia County



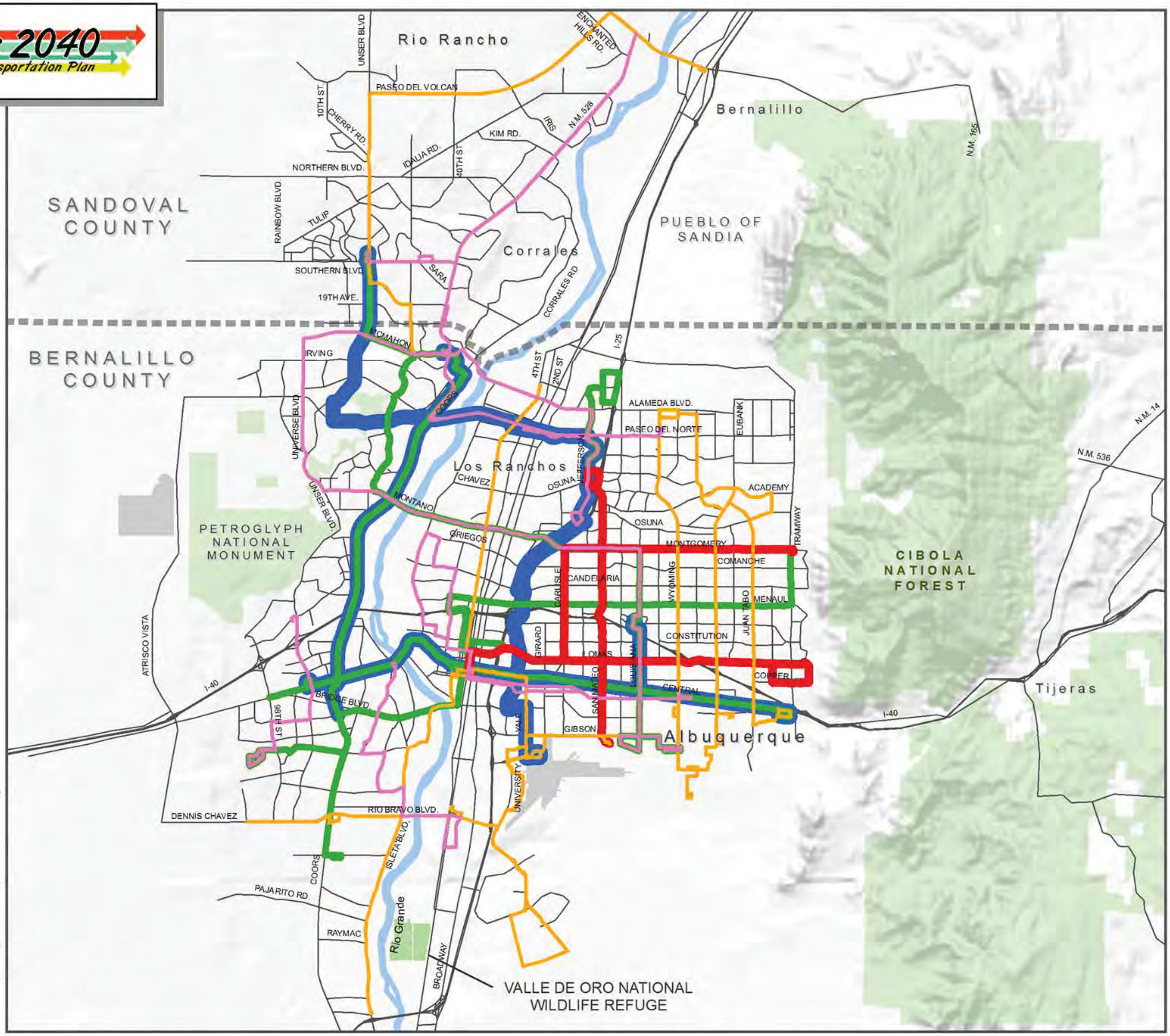
Futures 2040
Metropolitan Transportation Plan

Map 4.3: Long Range Transportation Systems (LRTS) Conceptual Transit System

- BRT (8-15 min)
- Rapid Ride (15 min)
- Primary (15 min)
- Secondary (25 min)
- Tertiary (30-40 min)

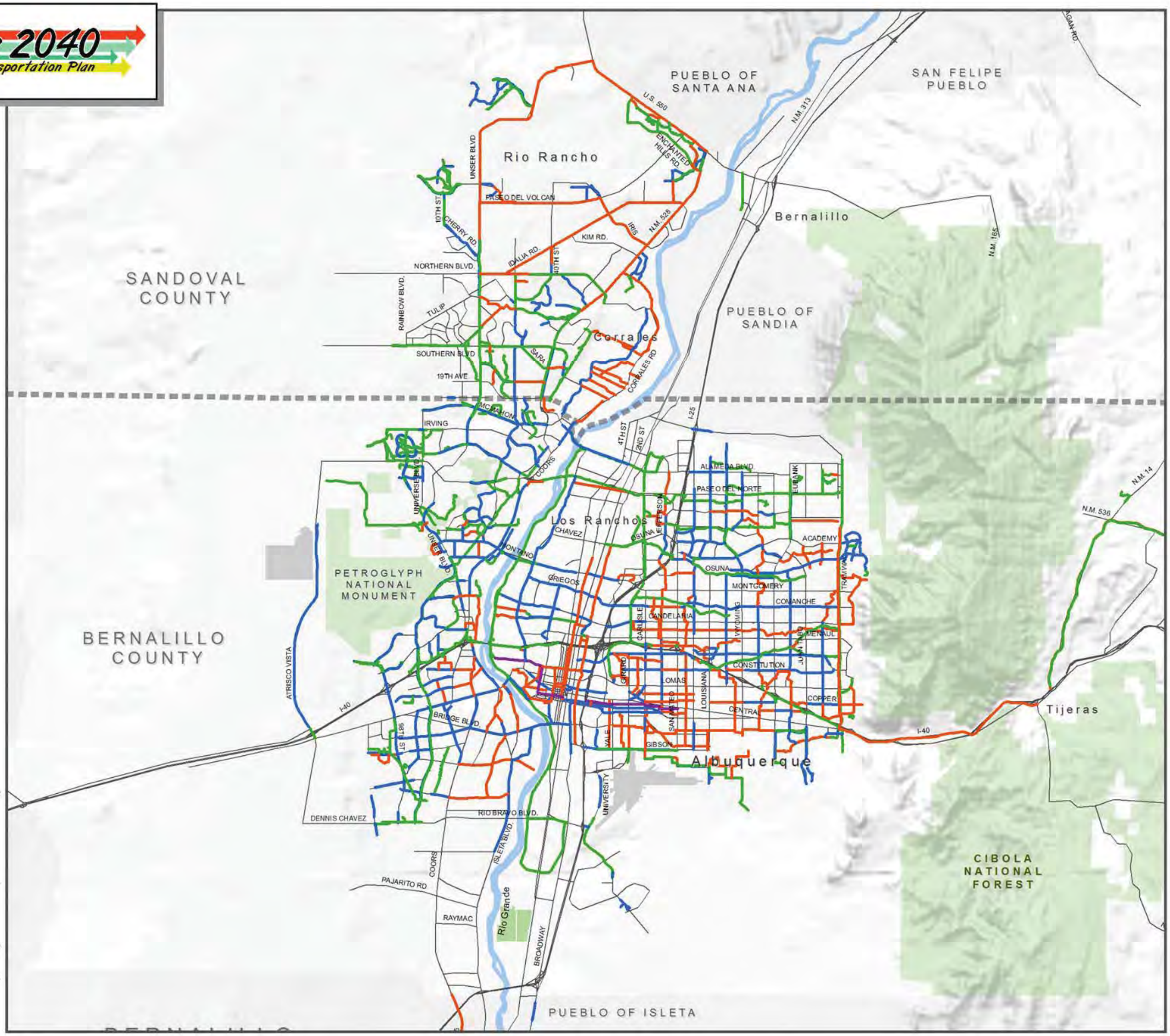
Base Map

- County Boundaries
- Airports



Map 4.4: Long Range Transportation Systems (LRTS) Existing Bikeways

- Paved Trail
- Bicycle Lane
- Bicycle Boulevard
- Bicycle Route
- County Boundaries
- Airports

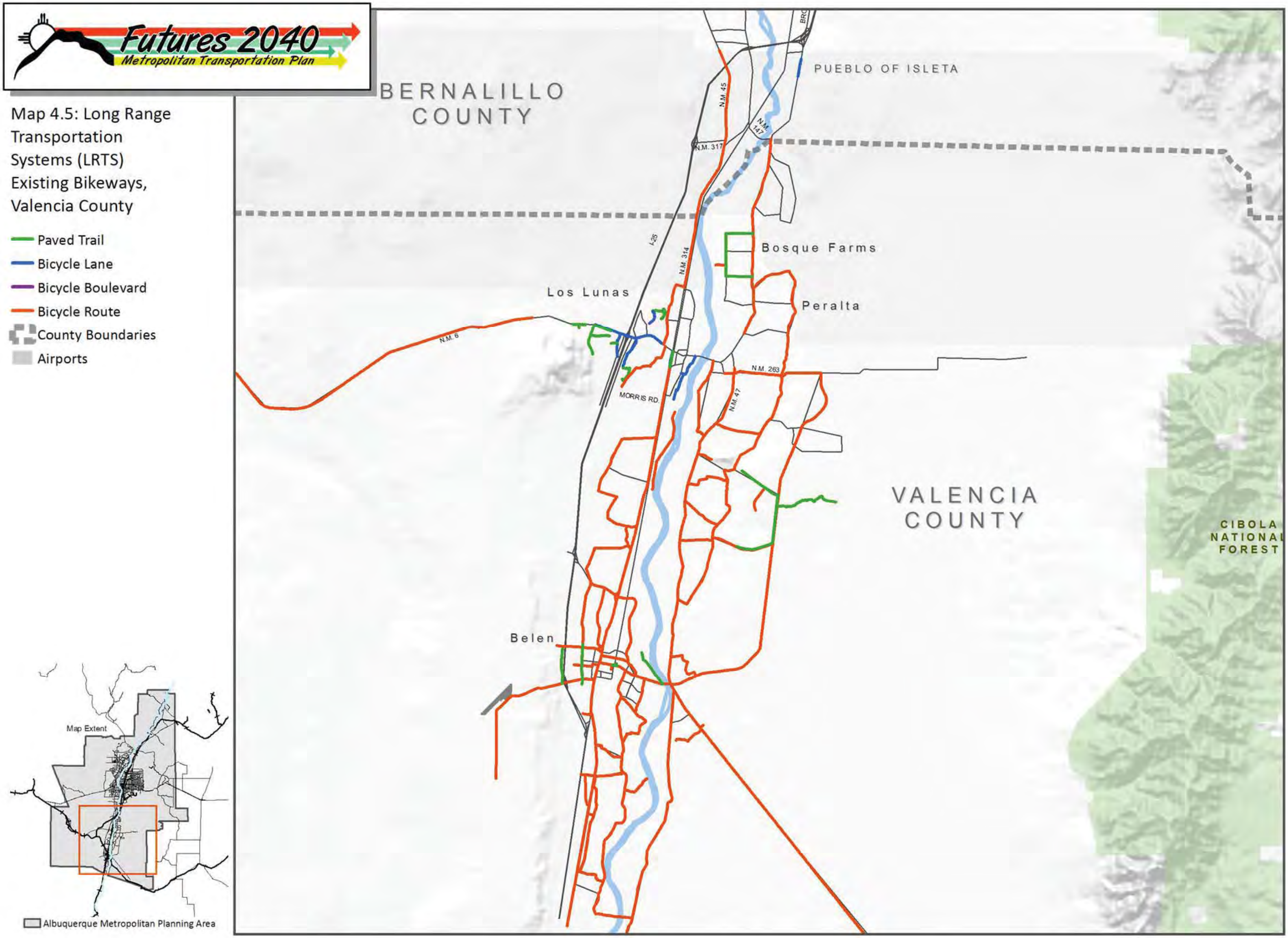


Albuquerque Metropolitan Planning Area

MILES 0 0.5 1 2 3 4

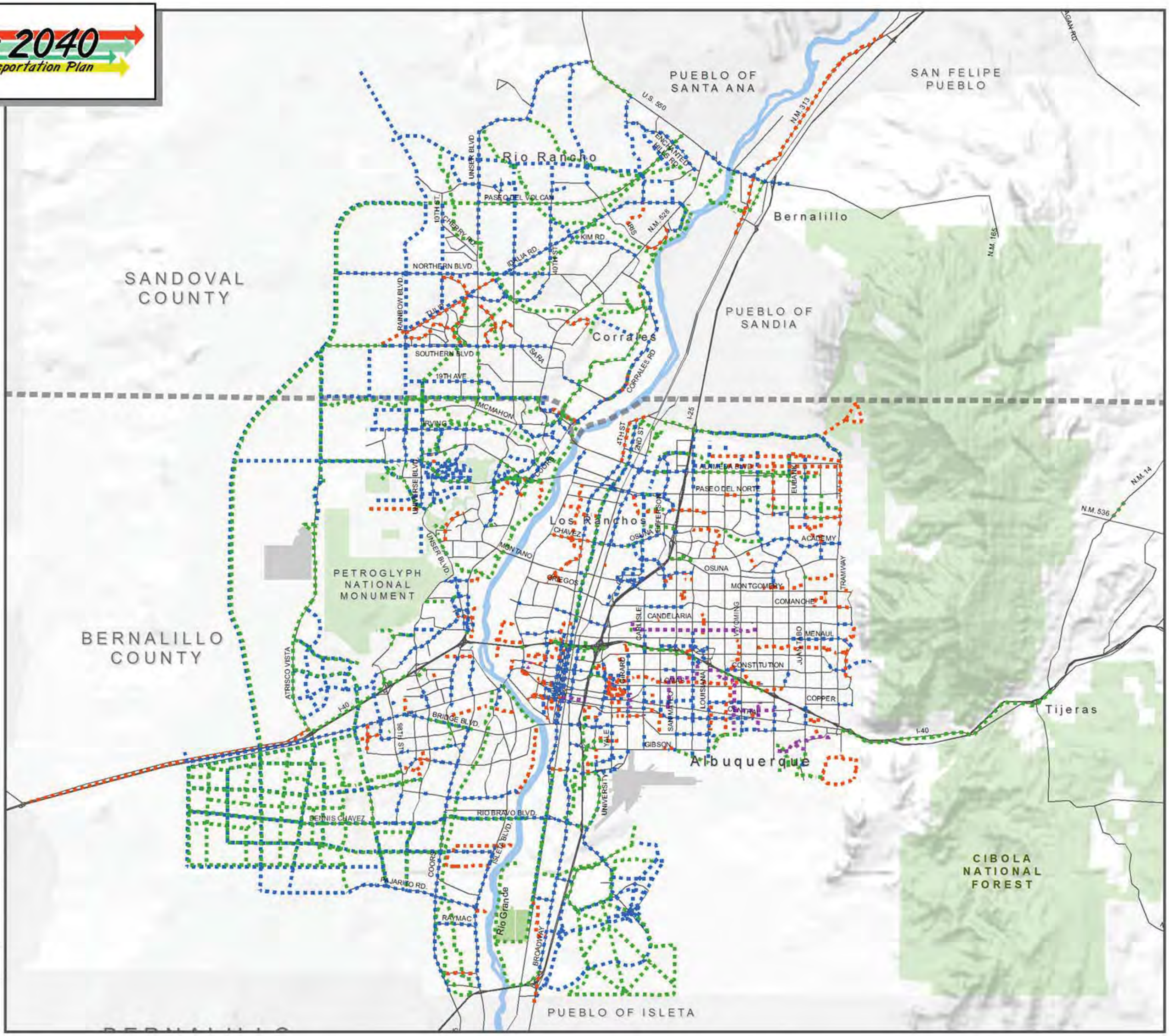
NORTH

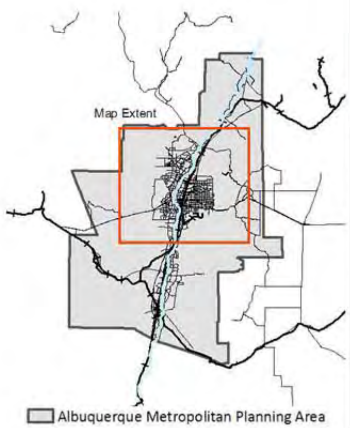
Map 4.5: Long Range Transportation Systems (LRTS) Existing Bikeways, Valencia County



Map 4.6: Long Range Transportation Systems (LRTS) Proposed Bikeway Network

- Paved Trail
- Bicycle Lane
- Bicycle Boulevard
- Bicycle Route
- County Boundaries
- Airports

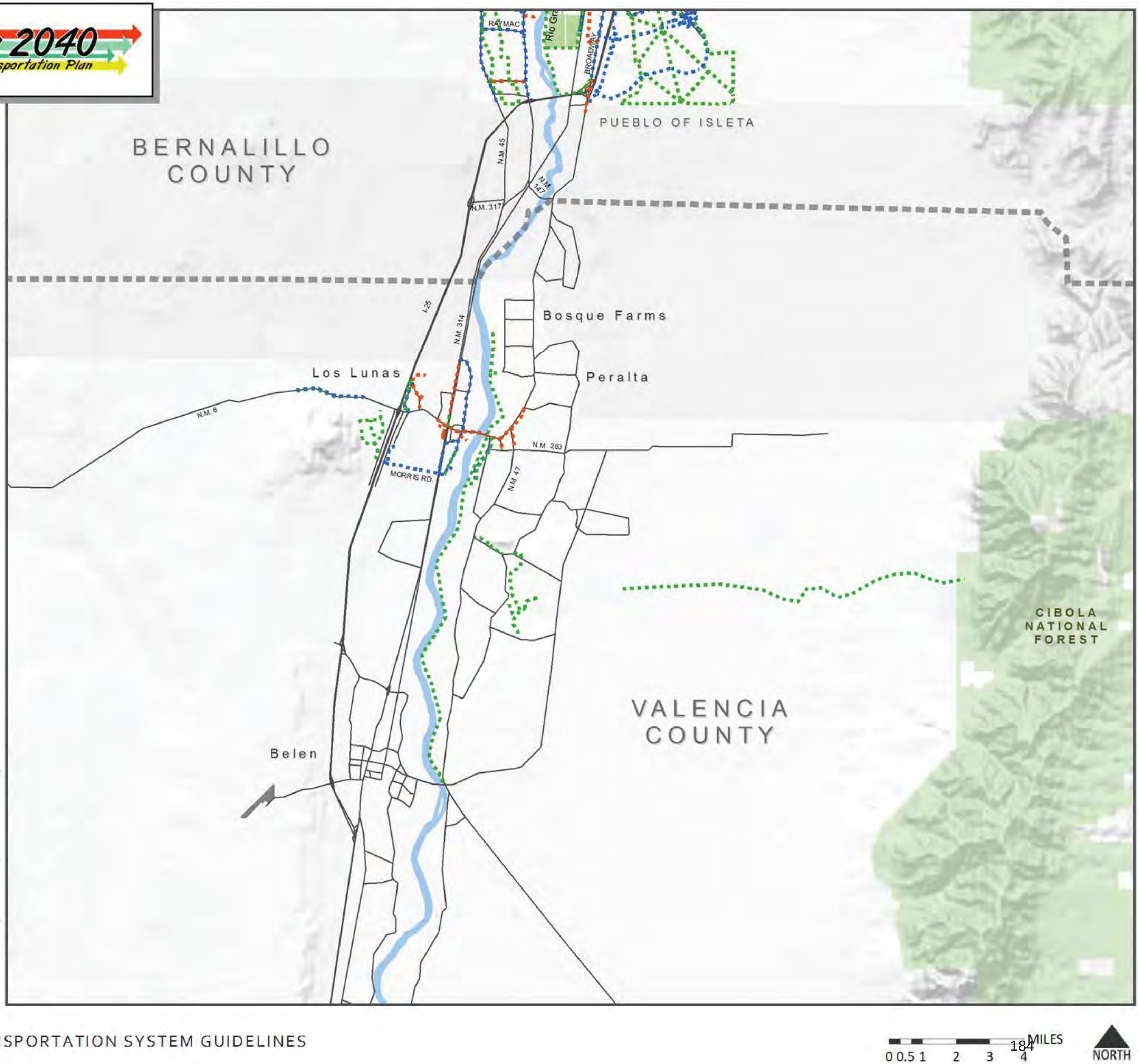


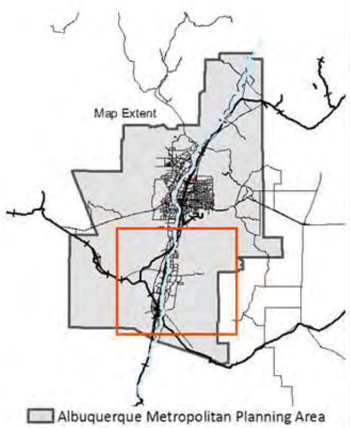


Futures 2040 Metropolitan Transportation Plan

Map 4.7: Long Range Transportation Systems (LRTS) Proposed Bikeway Network, Valencia County

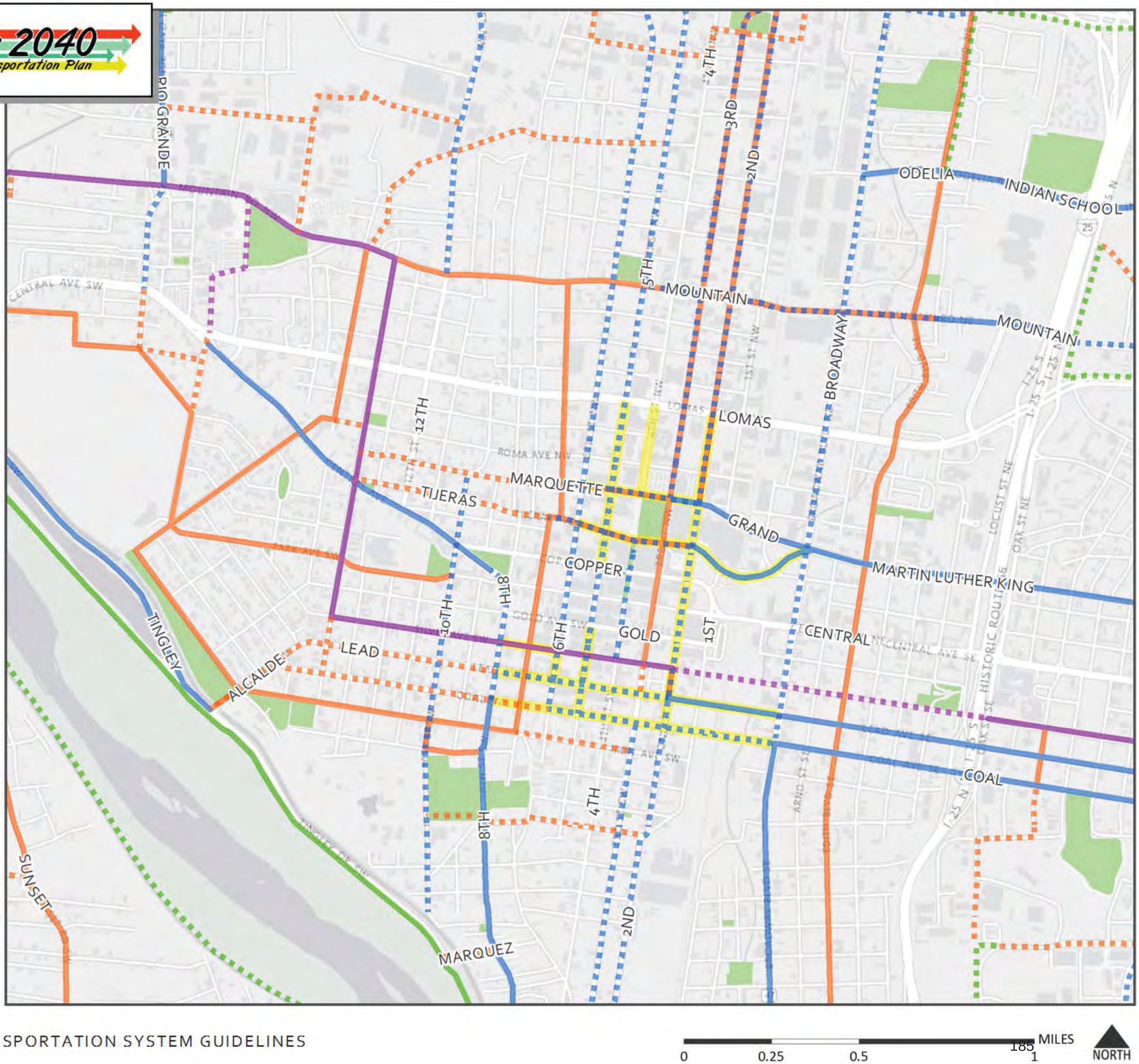
- Paved Trail
- Bicycle Lane
- Bicycle Boulevard
- Bicycle Route
- County Boundaries
- Airports

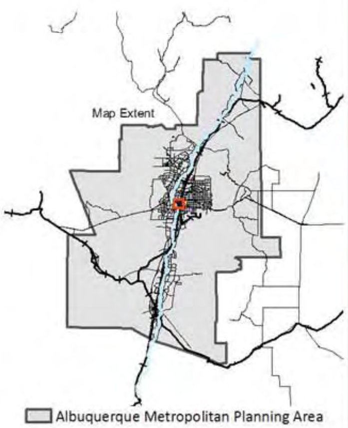


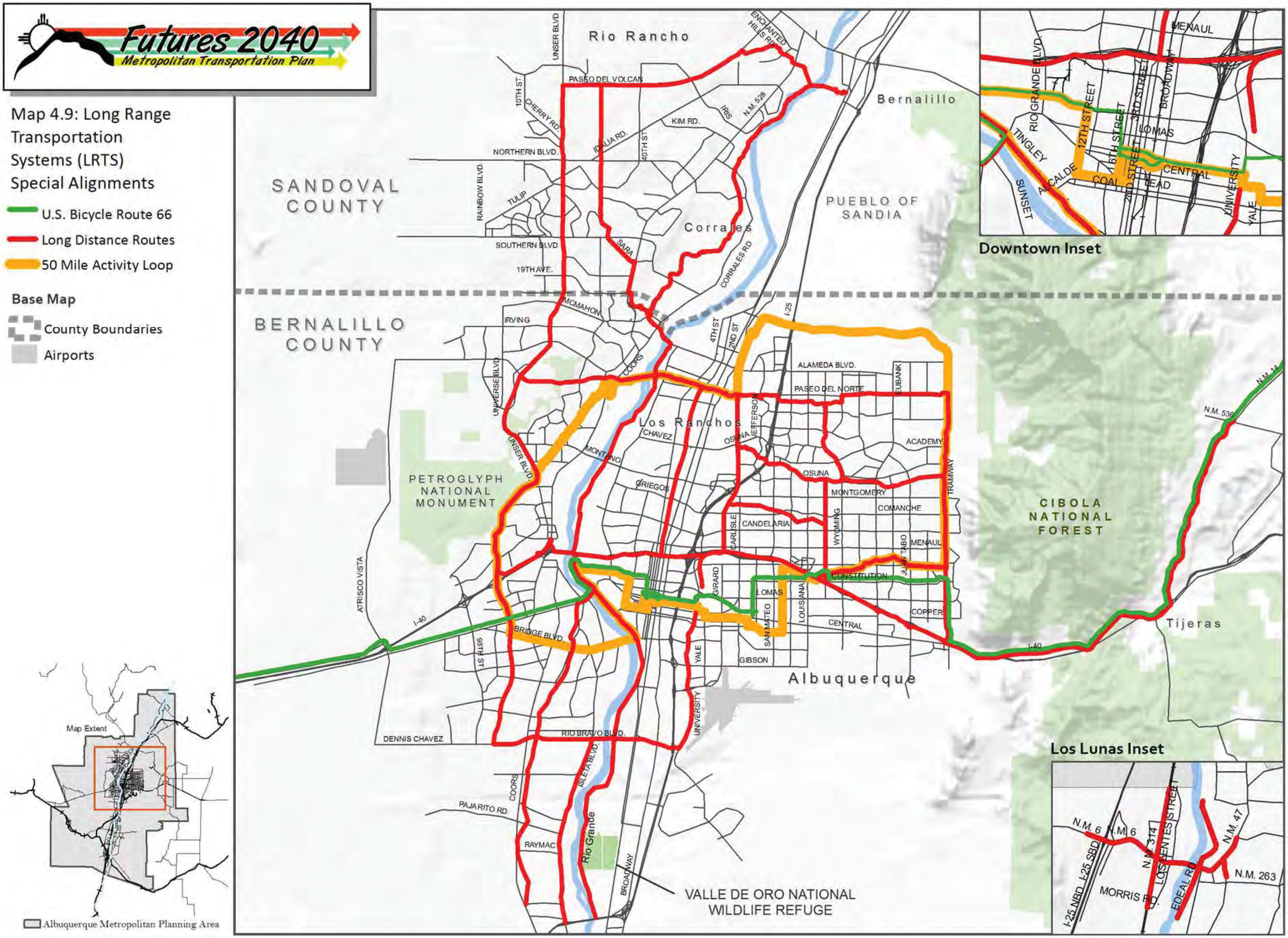


Map 4.8: Long Range Transportation Systems (LRTS) Existing and Proposed Bikeway Network, Downtown Albuquerque

- Proposed, Bicycle Boulevard
- Proposed, Bicycle Lane
- Proposed, Bicycle Route
- Proposed, Paved Trail
- Existing, Bicycle Boulevard
- Existing, Bicycle Lane
- Existing, Bicycle Route
- Existing, Paved Trail
- Cycle Track Study Area
- Parks






Futures 2040
Metropolitan Transportation Plan
Map 4.9: Long Range Transportation Systems (LRTS) Special Alignments
U.S. Bicycle Route 66
Long Distance Routes
50 Mile Activity Loop
Base Map
County Boundaries
Airports
Map Extent
Albuquerque Metropolitan Planning Area
SANDOVAL COUNTY
BERNALILLO COUNTY
Rio Rancho
Corrales
Bernalillo
PUEBLO OF SANDIA
Los Ranchos
Albuquerque
PETROGLYPH NATIONAL MONUMENT
CIBOLA NATIONAL FOREST
Tijeras
VALLE DE ORO NATIONAL WILDLIFE REFUGE
Rio Grande
Downtown Inset
Los Lunas Inset
MILES
0 0.5 1 2 3 4
NORTH

4.5 CONNECTIVITY STRATEGIES

Although past development practices have not provided adequate connectivity to address future transportation demand, there are a number of ways to improve connectivity in developing and existing areas.

1. CONSULT LONG RANGE SYSTEM MAPS

Consult the Long Range System maps for future planned roadways, bikeways, and transit corridors and their recommended connections.

2. PROVIDE ADEQUATE ROADWAY CONNECTIVITY

The Long Range Roadway System provides basic minimal connections. As new areas develop, additional connectivity needs to be assessed based on the planned land use and anticipated residential densities. Often rural areas to develop into suburban areas and in some cases suburban areas develop into urban. In areas with this potential, roadway connections within the area and to surrounding areas need to be preserved and developed in conjunction with land use development.

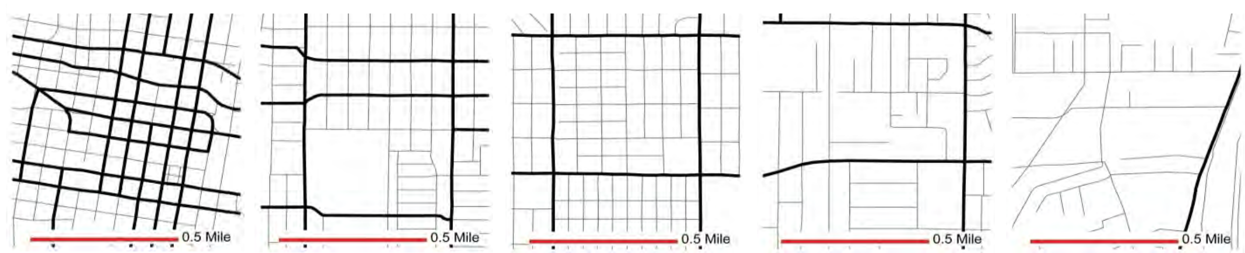
The following recommendations are based on two ITE documents: *Designing Urban Thoroughfares* and *Planning Urban Roadway Systems* and analysis of future travel demand. Descriptions of the connectivity measures are in section 8.3

Recommended Connectivity:

1. **Activity Centers:** Arterial and collector spacing less than a half-mile apart with a maximum 400' block length with over 90 four-leg intersections per square mile. Albuquerque's urban core is unique in the region. Figure 4.2 shows downtown Albuquerque in comparison to other networks. (Figure 4.2 example urban core: downtown Albuquerque, activity center: UNM area.)
2. **Urban:** Arterial and collector spacing at a half-mile apart with a maximum 600' block length and over 50 four-leg intersections per square mile. (Figure 4.2 example: NE Albuquerque)
3. **Suburban:** Arterial and collector spacing at approximately a mile apart, (but preferably less than a mile apart) with a maximum 800' block length and over 10 four-leg intersections per square mile. (Figure 4.2 example NE Albuquerque)
4. **Rural:** Arterial and collector spacing is often more than a mile apart with approximately 10 or less four-leg intersections per square mile. (Figure 4.2 example: S. Valley)

For all character areas: Dead-end streets and cul-de-sacs not allowed unless connections are physically infeasible.

FIGURE 4.2: CONNECTIVITY STANDARDS FOR DIFFERENT CHARACTER AREAS



URBAN CORE	ACTIVITY CENTER	URBAN	SUBURBAN	RURAL
Approx. 200 Four-leg intersections per square mile; closely spaced arterials & collectors.	Approx. 100 Four-leg intersections per square mile; arterials & collectors spaces less than 0.5 mile.	Approx. 80 Four-leg intersections per square mile; arterials & collectors spaces at approx. 0.5 mile.	Approx. 40 Four-leg intersections per square mile; arterials & collector spaced at approx. 1 mile.	Approx. 10 Four-leg intersections per square mile; arterials & collectors spaced more than 1 mile apart.

3. SUPPORT OVERALL NETWORK

New developments should show how all their proposed roadways and trail systems will make a contribution to the transportation system as a whole by providing routes that allow people to travel not only within the proposed development but also through it to adjacent developments. This involves balancing neighborhood and regional needs. In many cases, local road networks are planned to only serve the people who live on them, however neighborhood streets can provide excellent pedestrian and bicycle routes due to slower speeds and low traffic volumes.

Providing more ways for people to travel through the neighborhood allows for the traffic burden to be shared and allows for pedestrian and bicyclist connectivity. Providing this additional connectivity also requires improved traffic calming measures. However, traffic calming measures have great aesthetic potential making the neighborhood a more attractive place to live.

Local examples: The Cabezon neighborhood in Rio Rancho took advantage of every existing connection and preserved three connections with the neighborhood to the north of it.

5. ASSESS EASEMENTS

Assess drainage and utility easements as possible trails or local roads.

Local example: This image shows easements in dotted yellow along west Central Ave in the vicinity of Unser Blvd and Coors Blvd. This is an activity center targeted for reinvestment. The easements represent additional routes that can connect homes to the SW Transit Center and to shopping. These easements should be preserved and developed into trails or local roadways.

6. ENSURE ACCESS

Connect approved roadways between arterials to neighborhoods before land is developed to preserve future connectivity.

Local Example: This dead end street was originally intended to access Unser Blvd. However the connection was not made early in the development and neighbors now oppose the access. As the lot to the north develops into retail new access requests need to be made instead of capitalizing on a single access point that could serve both the neighborhood and the new development.

6. NEIGHBORHOOD ACCESS

Provide access to multi-purpose trails or sidewalks along arterials with bus rapid transit or priority transit that border neighborhoods but are inaccessible due to walls or drainage. These breaks in the wall connect pedestrians and bicyclists to trails and transit that otherwise is infeasible.

Local Example: This break in the wall allows the neighborhood access to a trail that makes regional connections along Unser Blvd in Rio Rancho.

Chapter 5

ROADWAY DESIGN GUIDELINES

Chapter 5

Roadway Design Guidelines

The following conceptual design recommendations for new roadways build upon character area, the roadway's regional role, and if the roadway is part of the Long Range Transit or Bikeway Systems. Once the surrounding context and the roadway's role in the network has been identified the next step is to determine the conceptual design. These recommendations provide basic guidance on right-of-way (ROW) set-aside width and a means for modal prioritization. The intent is to provide the minimum right-of-way width that also ensures good multimodal accommodation in order to avoid costly retrofits later on. Expressways and interstates are not included in this guidance.

The following design recommendations are flexible and were developed to be context sensitive. They have been created to provide a wider range of options to member agencies. As such, these design guidelines provide a range of options depending on transportation and land use context. Each roadway context includes basic roadway specifications such as the number of lanes, driving lane width, sidewalk widths, and bicycling infrastructure.

These design guidelines draw on the best practices recommended by leading design guides, including:

- Institute of Transportation Engineers (ITE)'s Designing Walkable Urban Thoroughfares
- AASHTO's Guide for the Development of Bicycle Facilities 4th Edition
- Pennsylvania DOT's Smart Transportation Handbook
- NACTO's Urban Street Design Guide and Urban Bicycle Design Guide

Further design guidance can be found in each of these guides (please refer to the Appendix for a complete list). Wherever possible, the recommendations are grounded in the latest research of best practices, but adapted to the Albuquerque Metropolitan Planning Region's unique context.

5.1 RIGHT OF WAY PRESERVATION FOR FUTURE ROADWAYS

The LRTS Guide provides a range of right-of-way (ROW) as well as recommended (ROW) for individual elements that may be included in the roadway. The minimum ROW standards ensure adequate space is set aside for pedestrians, bicyclists, transit, and motorists. The maximum ROW is provided for roadways where additional ROW may be warranted for elements that require significant space such as transit lanes or adjacent trails, although in most cases this maximum ROW is not required to accommodate all users.

TABLE 5.1: Right-of-Way Ranges

Regional Principal Arterial	106'-156'
Community Principal Arterial	96'-130'
Minor Arterial	82'-124'
Major Collector	62'-100'
Minor Collector	48'-84'

Right-of-way flexibility helps to manage the trade-offs between smaller and larger right-of-ways. Smaller rights-of-way have the advantage of allowing for more developable land, lowering maintenance and construction costs, and creating shorter pedestrian crossing distances. However, wider rights-of-way provide more flexibility for multi-modal accommodation and allow for medians, which improve roadway safety and improve mid-block crossings for pedestrians.

NUMBER OF LANES

A critical consideration when developing future roadways is the number of lanes needed for anticipated travel demand. There are two key recommendations.

1. The conceptual design matrices (section 5.7) provide the maximum number of lanes based on roadway type and character area. If the maximum number of lanes is not sufficient to meet projected demand, creating additional, connected, parallel routes is recommended instead of adding more lanes beyond the recommended maximum. Expressways and interstates are not included in this guidance.
2. The Trend Scenario provides the official travel demand forecast and it should be used to determine future needs. However, it is worthwhile to look at the differences between the Trend and Preferred Scenario travel demand. A major issue with using the Trend Scenario travel demand is induced demand. Building roadways now to accommodate traffic 20 years in the future encourages more trips making capacity improvements less effective. Taking induced demand into consideration as well as the character area and the demand from the Preferred Scenario is recommended when planning for future travel demand needs.

REDUCING RIGHT OF WAY REQUIREMENTS

In some cases, there may be opportunities to *reduce* the minimum ROW set aside. The following are options can be used to reduce the overall amount of ROW dedication for new roadways. These options can also be used to deal with constrained ROW on an existing roadway.

1. **Ensure connectivity:** Roadways do not have to be as wide if they are part of a complete network that disperses traffic along many different routes. Creating a network with multiple parallel roads means roads can be narrower, carry less traffic individually, and support additional modes, while maintaining overall network efficiency and capacity (see *section 4.5 Connectivity Strategies* for appropriate levels of connectivity).
2. **Fewer lanes:** Reducing the number of lanes along a roadway may be acceptable given projected or actual traffic volumes. Future roadways, especially those embedded in well-connected networks, do not have to include as many lanes to support the same overall traffic volume.

3. **Narrower lane widths:** Reducing the width of travel lanes can also reduce the ROW requirements. Generally, lane widths of 10 to 11 feet are recommended along urban roadways.
4. **Provide parallel bikeways:** Bicycling infrastructure does not need to be included along every roadway if there are parallel routes close by. Providing a bicycle route on a lower volume roadway may be a better option than trying to accommodate bicyclists on a principal arterial.

EXCEPTIONS & AMENDMENTS

In some cases, exceptions to the standard right-of-way requirements or changes to the system maps may be acceptable if there are existing constraints or additional considerations. Circumstances where exceptions may be necessary include:

- Environmental considerations
- Disproportionate costs
- ROW constraints on existing roadways
- Explicit preclusion of a certain use along the roadway, such as non-motorized travel
- Additional street design goals as listed in relevant sector plans.

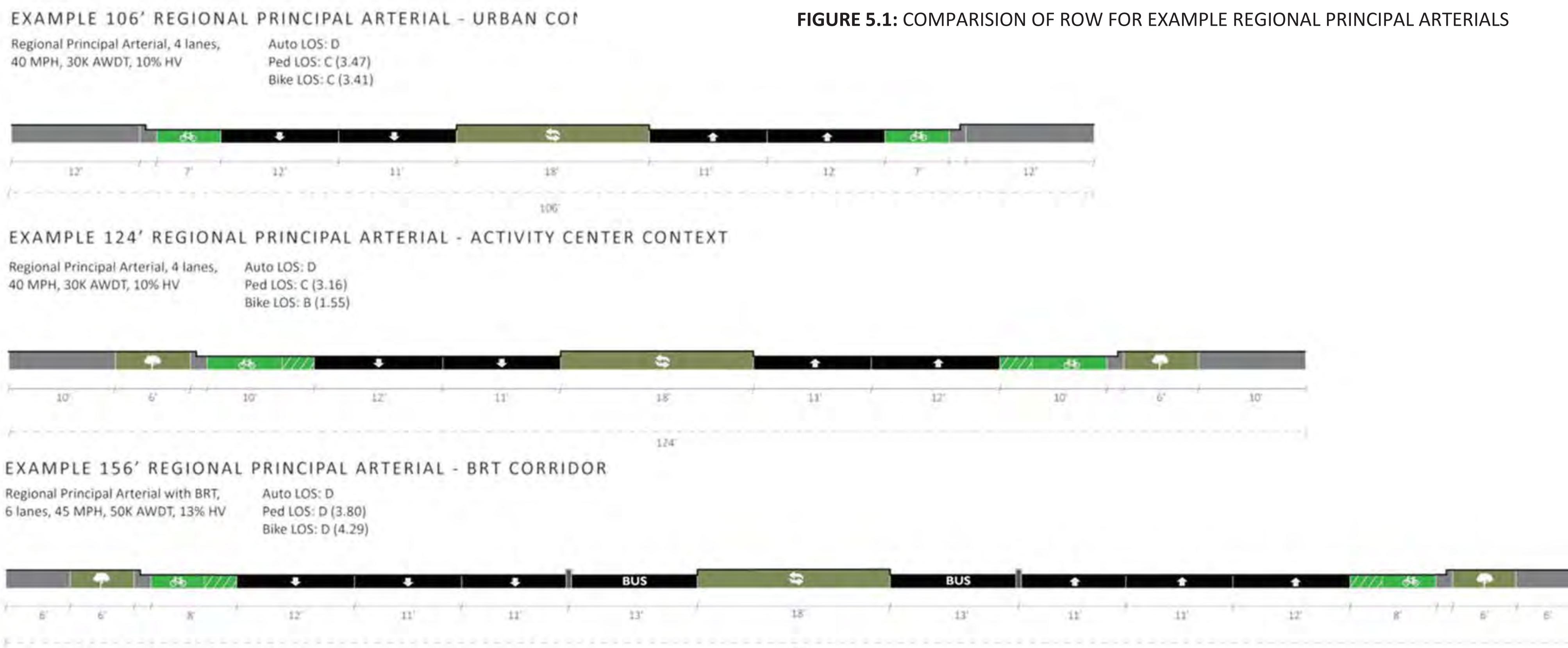


FIGURE 5.1: COMPARISION OF ROW FOR EXAMPLE REGIONAL PRINCIPAL ARTERIALS

5.2 TRAVELED WAY DESIGN ELEMENTS

Traveled way is the section of the roadway between curbs.

LANE WIDTH

A standard lane width of 10 to 11 feet is recommended along all urban areas with speeds 35 MPH or lower. In urban areas, lane widths of 10 to 11 feet provide the same levels of service as wider lanes,[5] while maintaining or improving the overall safety of wider lanes.[6] Narrower lanes also reduce impervious surface coverage; require less construction material; have lower maintenance expenses; and reduce crossing distances for pedestrians.[7] Using narrower lanes also provides extra room for other roadway users. For example, reducing the lane widths from 12 to 11 feet on a six lane road creates room for a 3 foot bike lane buffer on each side of the road, increasing bicycle level of service significantly.

[5] Potts, I.B., Harwood, D.W., & Richard, K.R. (2007). Relationship of lane width to safety for urban and suburban arterials. *Geometric design and the effects on traffic operations 2007*, 63-82. Washington, DC: Transportation Research Board

[6] NACTO Urban Street Design Guide 34; Harwood, D.W. (1990). *Effective utilization of street width on urban arterials* (NCHRP Report 330). Washington, DC: Transportation Research Board

[7] NACTO, 34

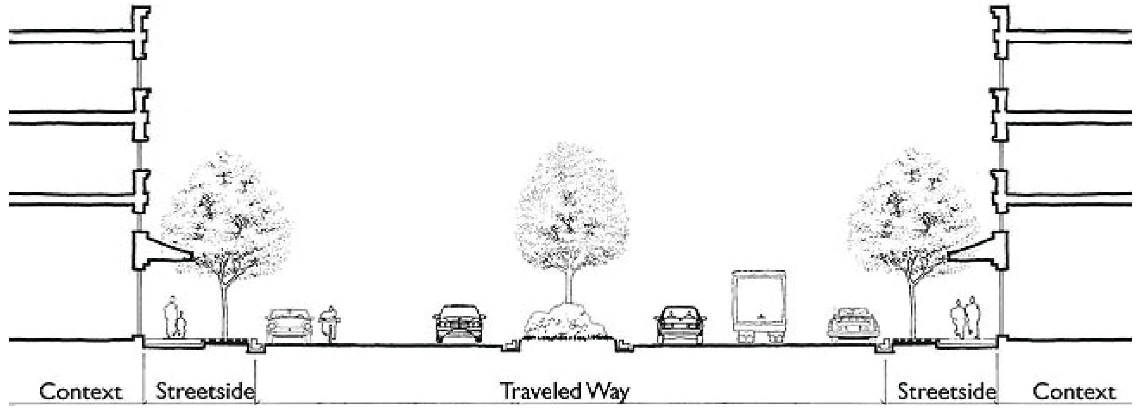


FIGURE 5.2: ELEMENTS OF THE TRAVELED WAY

Lane widths of 12 feet may be appropriate on roadways with speeds higher than 35 MPH higher, with higher percentages of heavy vehicles (including buses) and in rural contexts.[8] On slow collectors (30 mph and below), in constrained environments where there is not enough space for dedicated bicycle lanes, wider outside lanes improve bicycle level of service. Transit requires a minimum of 11 foot lane widths with 12 feet preferred.

Table 5.2 Lane Width

10’-11’ for speeds 25 MPH or lower
11’-12’ for speeds above 35 MPH, higher percentages of heavy vehicles and transit

[8] Highway Safety Manual 2010, 10-24: Lane widths under 12’ result in crash modification factors greater than 1.00

DESIGN SPEEDS

Roadway design, target, and posted speeds should be set together with the context of the area clearly in mind. Generally, speeds 35 MPH or below are appropriate in urban areas.[9] In areas with higher levels of pedestrian or bicycle activity, even lower speeds are appropriate (30 MPH or lower).

This is because higher design speeds require more “forgiving” roadway design features: wider lanes, larger turning radii, clear zones, channelized turn lanes, and larger intersection spacing. This in turn reduces the comfort and safety of the street for other users, and lowers multimodal level of service scores. In addition, high-

[9] ITE Designing Walkable Urban Thoroughfares, 108

er speeds are associated with more severe crashes, including more fatalities.[10]

Given these considerations, posted speed should be consistent with the targeted design speed, using proactive design strategies including traffic calming, narrower lanes, street trees, and shorter signal lengths.

MEDIANS

Medians have many benefits: they facilitate left turns, create pedestrian refuge areas, create an attractive landscape buffer, allow for the installation of street infrastructure (such as lighting), and can increase roadway safety.[11].

TABLE 5.3: Recommended Median Widths for Roadways 35 mph or less[12]

Median Type	Recommended Width
Access control	6'
Pedestrian refuge	8'
Street Trees and Lighting	10'
Single left turn lane:	
Collector median	14'
Arterial median	16-18'
Dual left turn lane:	22'
Dedicated transit lanes:	22-24'

[10] NACTO Urban Street Design Guide 140; ITE Designing Walkable Urban Thoroughfares 111
[11] Highway Safety Manual,
[12] ITE 141

FIGURE 5.3: ANGLED PARKING IN UPTOWN

ON-STREET PARKING

On-street parking supplements the parking demand of nearby businesses and residences. It also increases the comfort of pedestrians by providing an additional buffer between the sidewalk and traffic. Parked cars not only create a physical shield between pedestrians and the roadway, but also effectively slow traffic, which can enhance a street's walkability.[13]

However, there are trade-offs with on-street parking. They introduce a visual obstruction for pedestrians and vehicles crossing the roadway and they reduce the capacity of the adjacent lane. On-street parking introduces an additional hazard for bicyclists, due to drivers opening their doors into occupied bike lanes ("dooring") or due to motorists entering and exiting parking spaces.

The preferred width of parallel on-street parking is 8 feet wide. A minimum of 13 feet is needed to include both a parallel parking lane and an adjacent bicycle lane. Shared lane markings and buffered bicycle lanes (with the buffer

[13] ITE Designing Walkable Urban Thoroughfares, 109

between parked cars and the bicycle lane) are strategies to reduce the risk of "dooring."[14]

Angled parking should be considered on wide streets with low speeds and volumes and in activity areas. Back angle parking is recommended for all angled parking and particularly for roadways that also include a bike route or lane.

TABLE 5.3: Minimum Dimensions for Angled Parking[15]

Angle	Stall Length	Minimum Width of Adjacent Lane
45˚	17' 8"	12' 8"
50˚	18' 3'	13' 3"
55˚	18' 8"	13' 8"
60˚	19' 0"	14' 6"

5.3 SAFE INTERSECTIONS

Visibility and predictability are key considerations at intersections: all users should have a clear view of each other so they can safely negotiate the intersection without conflict. Often, designing safe intersections is a challenge because intersections introduce many conflict points between users: motorists are turning, pedestrians of all abilities are crossing the street, buses are unloading passengers, and bicyclists are attempting to negotiate a safe crossing. Intersections are also often places where otherwise good street design breaks down: bike lanes end to make way for right turn lanes, crosswalks are not provided at logical crossing points, generous curb radii promote high turning speeds, and crossing signals do not allow adequate time for slower pedestrians to cross safely.

Because intersections introduce many conflict points, the safety of the most vulnerable users – pedestrians and bicyclists – should be prioritized. Many times this means providing shorter crossing distances for pedestrians, slowing traffic speeds, and enhancing bicycle and pedestrian visibility.

FIGURE 5.4: PEDESTRIAN CROSSING AT CENTRAL AVENUE AND 8TH STREET ROUNDABOUT

INTERSECTION CROSSWALKS

Highly visible marked crosswalks are essential elements of safe crossings and should be provided at all approaches of signalized intersections. Unmarked crosswalks may be appropriate at unsignalized intersections with lower speeds, unless located near large pedestrian generators such schools, high volume transit stops and commercial areas. See section 6.3 for more information about mid-block crossings.

[14] NACTO Urban Bikeway Design Guide 9, 133
[15] ITE Designing Walkable Urban Thoroughfares 147

CURB DESIGN

Curb design at intersections is important because it demarcates the transition zone between pedestrians and motorists. Turning movements are one of the top causes of pedestrian crashes at intersections.[16] Often this can be attributed to higher turning speeds and reduced visibility. Large curb radii (curb returns) can exacerbate this problem by promoting higher speed turns and by increasing pedestrian crossing distances. Smaller curb radii can be used to slow vehicles making right turns. Additionally, channelized right turn lanes reduce driver visibility and introduce additional conflict points. This creates an unsafe environment for pedestrians and increases intersection crossing times.

CURB EXTENSIONS

One way to slow traffic at intersections is to use curb extensions (also known as bulb outs) to extend the line of the curb into the street. This slows traffic and makes crossing distances shorter.[17] Curb extensions also provide a larger waiting area for pedestrians, reduce curb radii, and provide room for more accessible, perpendicular curb ramps.

Curb extensions can be considered at intersections of streets with on-street parking, as well as at midblock crossings. Bus bulbs outs can be used at bus stops to define the location of the stop as well as provide a space for transit shelters.

FIGURE 5.5: EXAMPLE OF A LANDSCAPED CURB EXTENSION IN NOB HILL

SIGNALS AND SIGNAL TIMING

Modifications to signal timing can be used to better accommodate pedestrians, transit vehicles or bicyclists. For example, walk signal times can be changed to allow slower walkers, including the elderly, to cross the street in one cycle. Planning for these users requires calculating walk times based on an average pedestrian speed of 3.0 – 3.5 MPH. Waiting times can also be reduced in high volume pedestrian areas.

ROUNDABOUTS

Modern roundabouts have been shown to reduce the number of crashes and crash severity at intersections as compared to signal controlled intersections.[18] This is achieved by reducing the number of conflict points at intersections, while keeping traffic flowing, which can also increase overall intersection capacity.

However, roundabouts can make it harder for pedestrians to cross the intersection, by increasing walking distance and requiring drivers to yield to pedestrians. Blind pedestrians, who rely on sound, often cannot determine if a motorist is yielding in a roundabout crossing.

[16] Ewing, Pedestrian- and Transit-Oriented Design 43
[17] ITE Designing Walkable Urban Thoroughfares 195
[18] ITE Designing Walkable Urban Thoroughfares 190

5.4 TRAFFIC CALMING

Efforts should be made to slow traffic on streets with pedestrian or bicycle activity. This includes minor arterials and collectors. This is important because higher speeds are associated with more severe crashes, as well as higher likelihoods of pedestrian and bicyclist fatalities. There are several active measures to reduce speed, some of which are outlined in Figure 5.6.[19]

5.5 TRANSIT

Transit users are pedestrians before they board and when they arrive at their destination, meaning the provision of minimum levels of streetside pedestrian facilities between transit stops and nearby destinations are critical to support higher transit levels of service.

TRANSIT LANES

Dedicated transit lanes can be considered along major transit routes where congestion may increase headways and reduce transit level of service. Generally, dedicated bus lanes should be 12 feet wide and no less than 11'.

BUS RAPID TRANSIT

[19] AASHTO Guide for the Planning, Design, and Operation of Pedestrian Facilities, 40-41

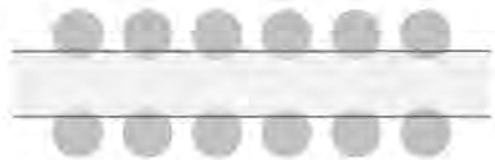
FIGURE 5.6: EXAMPLE TRAFFIC CALMING MEASURES. ADOPTED FROM NACTO URBAN STREET DESIGN GUIDE AND ITE DESIGNING WALKABLE URBAN THOROUGHFARES

ON-STREET PARKING

On-street parking creates a physical barrier between pedestrians and the roadways. It also visually narrows the roadway for drivers, slowing traffic.

CURB EXTENSIONS

Curb extensions can narrow the roadway, reduce crossing distances for pedestrians, and give a visual indication to drivers to slow down.

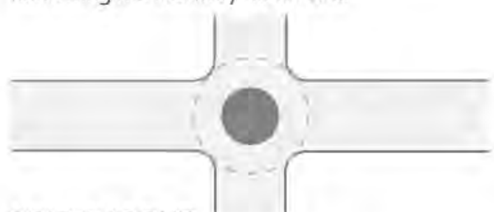


STREET TREES

Like on-street parking, street trees add a visual element to the edge of roadways, perceptually narrowing the roadway for drivers.

MEDIANS

Medians can visually narrow the roadway for drivers, as well as seperate opposing lanes of traffic.

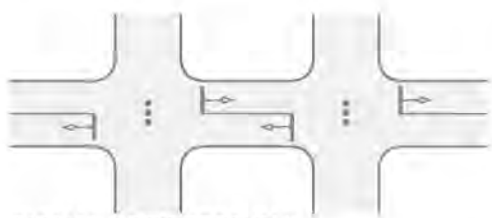


ROUNDABOUT

Roundabouts are a proven safety counter-measure for reducing speeds and conflict points at intersections.

ROADWAY NARROWING

Narrowing roadways by reducing the number of lanes, creating narrrower travel lanes, and adding streetside design elements can effectively slow traffic.



SIGNAL PROGRESSION

Signal progession can reduce target speeds along the roadway.

TWO-WAY TRAFFIC

Two way street traffic can slow traffic by making motorists drive more cautiously thorugh awareness of opposing traffic.

FIGURE 5.7: EXAMPLE OF BUS FACILITIES IN DOWNTOWN ALBUQUERQUE

Bus Rapid Transit generally requires dedicated lanes, at grade boarding platforms, signal prioritization, and off-board fare collection. In addition, most routes require median transit platforms, which unlike traditional bus stops, require significant space. The recommended added width for transit platforms is 10 feet for each side platform and 30 feet for center platforms.[20]

Although transit in general does not require dedicated transit lanes, dedicated space at intersections for queue jumps may be recommended as well as additional dedicated space at bus stops.

TRANSIT STOPS

Transit users are pedestrians before they board and after they arrive at their destination, meaning that the provision of pedestrian facilities between transit stops and nearby destinations is critical to support higher transit levels of service. This includes providing, at minimum, a place to sit. Higher levels of service can be achieved by providing comfortable bus shelters, service information, real-time service updates and improved pedestrian level of service.

5.6 BICYCLE & TRAIL INFRASTRUCTURE

Providing safe and well-connected bicycling infrastructure is crucial to encouraging more bicycling. There is a direct correlation between the amount of bicycling infrastructure that is built and the number of people who choose to bike.[21] However, constructing bicycling infrastructure that is safe and accessible to bicyclists of all abilities is often challenging, especially within a constrained right-of-way. In addition, design standards for bicycling infrastructure are rapidly evolving as cities experiment with different configurations to learn what works best.

[20] Bicycle Commuting and Facilities in Major U.S. Cities TRB 2003

[21] Alliance for Biking & Walking. (2014). Bicycling and Walking in the United States 2014 Benchmark Report.

AASHTO's *Guide for the Development of Bicycling Facilities 4th Edition* and NACTO's *Urban Bicycling Design Guide* provide excellent guidance on current best practices that expand on the considerations below.

BICYCLE LANES

Bicycle lanes provide an exclusive travel lane for bicyclists to use within the roadway. They are generally included on community principle arterials, minor arterials, and major collections with higher traffic volumes or higher speeds. Bicycle lanes create benefits for both bicyclists and motorists: they provide lateral separation between cyclists and traffic, which increases bicyclist comfort and safety; they enable bicyclists to travel at comfortable speeds without worrying about traffic; and they provide more predictability to both users with regard to positioning and interaction.

AASHTO's *Guide for the Development of Bicycle Facilities* provides a recommended width of 5 feet for bicycle lanes. The LRTS Guide recommends 5 feet (not inclusive of the gutter pan) on roadways with posted speeds of 30 mph or less. On roadways with higher speeds wider lanes are recommended. For roadways with posted speeds of 35 mph, bike lanes 6 feet wide are recommended. In urban areas with curb and gutter, bicycle lanes 7 feet wide with a 3 foot striped buffer are recommended. In addition, on streets with on-street parking, wider lanes may be appropriate to protect bicyclists from accidental "dooring."

FIGURE 5.8: BICYCLE LANE AND PEDESTRIAN CROSSING

BARRIER PROTECTED BICYCLE LANES (CYCLE TRACKS)

In the case of regional principal arterials and community principal arterials, as well as in areas of higher bicycle traffic, protected bicycle lanes (or cycle tracks) may be appropriate. Protected bicycle lanes increase the lateral separation between motorists and bicyclists by including a buffer/barrier area between the outside of the bicycle lane and the outside auto lane. This area is usually 3 feet, and may include buffered striping, plastic divider bollards, or other physical barriers. Protected bike lanes can also be considered in areas with on-street parking where the bicycle lane is between the parked cars and the curb.

Currently, there are no barrier protected bicycle lanes (cycle tracks) in the region; however, there are areas in downtown Albuquerque where this type of facility is being studied (please see Long Range Bikeway System).

FIGURE 5.9: MULTI-USE PATH ALONG PASEO DEL NORTE

BICYCLE BOULEVARDS & SHARED LANE MARKING (SHARROWS)

On streets with low traffic volumes (<3,000 ADWT) and with posted speeds 25 MPH or less, sharrows may be used to indicate the presence of bicyclists.[22] Sharrows are on-street markings that indicate a shared lane between motorists and bicycles. They remind both users to expect the presence of bicyclists, without having to add an exclusive bike lane (which is not always feasible in a constrained right-of-way).

Sharrows can be coupled with bicycle boulevards to create connecting, parallel routes for bicycle traffic away from higher volume roadways. Bicycle boulevards are streets that are designated to prioritize bicycle traffic. They utilize lower traffic speeds, traffic calming, unique signage, and pavement markings. Bicycle boulevards running parallel to major streets can increase the accessibility for riders who are less comfortable riding on these major roadways. They also provide a secondary option to create connected routes between primary bicycling routes and the full bicycling network.

MULTI-USE PATHS

The region's multi-use paths are very popular and several new trails are planned along regional principal arterials. However, there are many considerations and trade-offs in the development of trails alongside roadways. Trails along roadways involve significant safety considerations[23] and they require a substantial amount of right-of-way. In an effort to explore alternatives that provide facilities that are comfortable and attractive, while investigating options that require less space, trails may be substituted with cycle tracks and sidewalks with buffers in areas where this configuration is vetted as a reasonable alternative.

BIKEWAY INTERSECTION MARKINGS & SIGNAL DETECTION

Like crosswalks, bicycle intersection markings indicate to motorists the intended path (and implied presence) of cyclists. They also guide cyclists through intersections with additional conflict points or high levels of activity. This helps increase safety, especially where there is the potential conflict for cyclists and motorists making right hand turns.[24] One example of a newer practice is to install bike boxes at intersections with high volumes of traffic. These

[22] NACTO Urban Bikeway Design Guide, 136

[23] AASHTO Guide for the Development of Bicycle Facilities, 5-8

[24] NACTO Urban Bikeway Design Guide, 50

allow bicyclists to queue at the front of the intersection, between the crosswalk and cars, which increases their visibility to motorists. They can also facilitate safer left turns by bicyclists.[25]

Often bikeways are on roadways that do not have signal priority or that require a motor vehicle to be detected in order to for the signal to change. Bicycle detection at signalized intersections provides a means to address cyclists reasons for running red lights. Also bicyclist detection can be used to improve the intersection's safety by providing adequate time for the bicyclist to cross the intersection.

FIGURE 5.10: DOWNTOWN ALBUQUERQUE

5.7 SPECIAL STREETS

Depending on the land use context of the street, the roadway may also function as a special street – for example, as a multi-way boulevard in a commercial area. These special streets involve unique design considerations that involve more detailed considerations to support existing land uses and users. A few of the special streets referenced in this guide include:

1. **Downtown Streets** often handle higher pedestrian volumes, many turning movements, business deliveries, and higher density developments. For these reasons, special care must be taken to ensure that downtown streets support a safe and attractive environment that accommodates pedestrians and bicyclists while supporting surrounding land uses. Often this means keeping speeds low, installing traffic calming features such as curb extensions, and providing a robust network of bicycle infrastructure. Specific considerations include creating wider sidewalks, installing street trees, converting one-way streets to two way streets, adding on-street parking, and creating attractive, clearly visible transit amenities.
2. **Multi-way Boulevards** are a design option for wider, principal and minor arterial roadways to support more walkable, bicycle-friendly streets. The often support slower traffic, mixed land uses, and an attractive, pedestrian-oriented public realm. Multi-way boulevards include a central median and a central traveled way bordered by landscape buffers that separate the main thoroughfare from parallel access roads. Access roads often include on-street parking, bikeways, and pedestrian ameni-

[25] NACTO Urban Bikeway Design Guide, 50

FIGURE 5.11: RURAL MAINSTREET – LAS VEGAS, NM

ties. Street trees and other landscape design features are key elements of traditional multi-way boulevards.

3. **One-way street couplets** such as Lead and Coal can function together as a unified corridor for regional travel. These streets, working in concert, can carry a high volume of traffic (from all modes) within a narrower overall right of way. Such a configuration can allow for better accommodation of all modes without having to squeeze amenities for all modes within a single constrained right-of-way.
4. **Transit Corridors** are designed to accommodate high capacity transit services such as Bus Rapid Transit (BRT) along existing arterial streets. They often have dedicated travel lanes for buses, median transit stations, special signal timing, and expanded pedestrian amenities. Given the high number of riders on these lines, special care must be taken to facilitate safe crossings for pedestrians. Because dedicated bus lanes add to the right of way requirements of these streets, these streets can become quite wide making it challenging to balance the needs of all modes. However, new transit corridors have the opportunity to catalyze economic development along a corridor by offering expanded mode choices, connecting key job centers, increasing pedestrian traffic, and raising land values.

5.8 ROADWAY SPECIFICATIONS

The following street typology matrices provide conceptual design recommendations for new roadways based on functional classification and character area. These matrices provide basic guidance on right-of-way (ROW) set-aside widths for new streets within the Albuquerque Metropolitan Planning Area. Additional right-of-way may be required for special purposes such as intersection widening, drainage, slopes, and landscaping. However, the required right-of-way width may be reduced for a street in a fully or substantially developed area when a different right-of-way has been platted or otherwise publicly acquired for the street.

REGIONAL PRINCIPAL ARTERIAL

Regional principal arterials prioritize motor vehicle, transit, and freight movement. They are intended to support longer, regional trips. Generally, they carry a higher volume of traffic (15,000 – 50,000 AWDT), have higher speeds, and have larger right-of-way requirements. For these reasons, regional principal arterials should only be planned along the periphery of activity centers. In the cases where a regional principal arterial bisects an activity center, the roadway should slow down and be designed and operated like a community principal arterial.

DESIGN CONSIDERATIONS

1. These roads may carry high capacity transit (such as BRT) traveling longer distances. Dedicated transit lanes may be provided in these cases.
2. Given their higher speeds and volumes, bikeways should not be included on these roadways if there are existing parallel routes within 1,000 feet.
3. These streets may be designed as multi-way boulevards if traveling through areas with increased pedestrian traffic.

BICYCLE INFRASTRUCTURE

Option 1: Given that regional principal arterials carry high volumes of fast traffic, it is recommended to plan bikeways on parallel roadways within 1,000′ of a regional principal arterial, preferably on either side of the arterial

Option 2: Adjacent multi-use path and bicycle lanes and bicycle lane with striped buffer for roadways with higher speeds

Option 3: Bicycle lane with striped buffer for roadways with high speeds

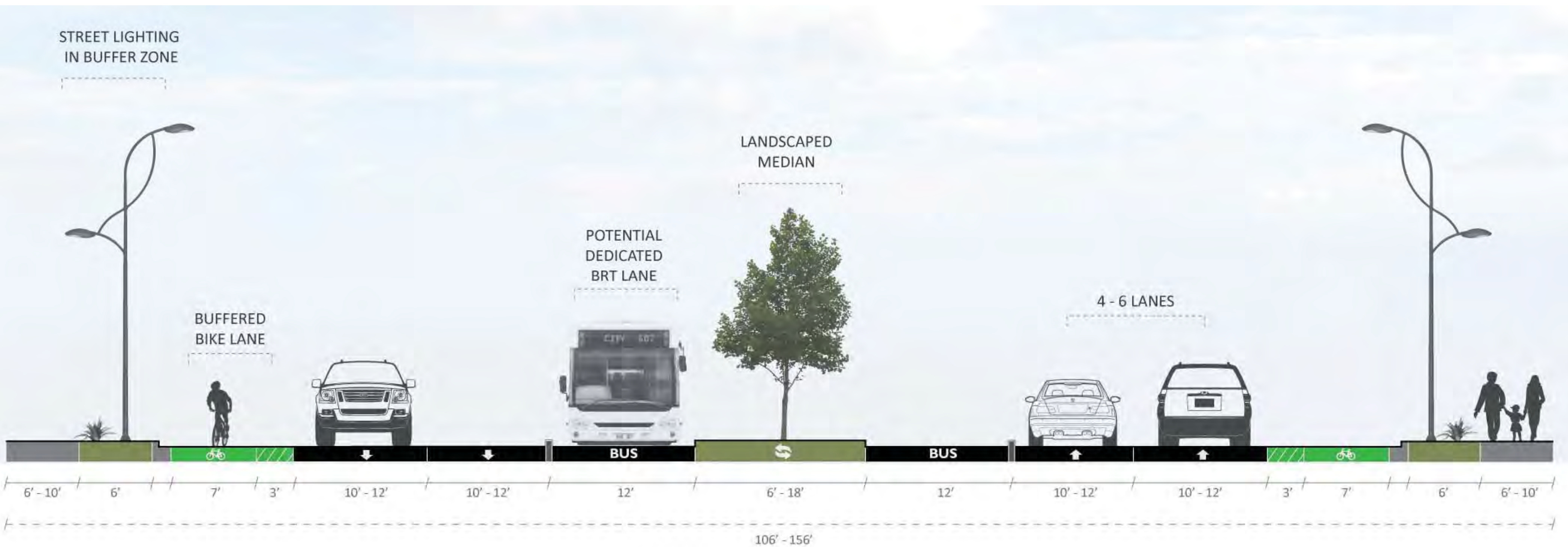


TABLE 5.4: REGIONAL PRINCIPAL ARTERIAL — ROW RANGE: 106'-156'

Character Area	ACTIVITY CENTER	URBAN	SUBURBAN	RURAL	MAIN STREET
Examples	Unser at Rio Rancho City Center	Coors & Montaño	Unser & Montaño	Sen. Dennis Chavez	N/A
STREETSIDE MINIMUMS (ONE SIDE)					
Landscape buffer	6'	6'	6'	8'-14' paved shoulder (both sides) and/or an 8-10' multi-use trail with a 5' buffer	*See Community Principal Arterial Main Street*
Clear Sidewalk width	10'	6'	6'		
Building Shy Zone (ingress/egress)*	2'	2'	2'		
Streetside Width (for one side only)	18'	14'	14'		
BIKEWAYS (ONE SIDE)					
Multi-Use Path	*See Long Range Bikeway System*			8'-14' paved shoulder (both sides) and/or an 8'-10' multi-use trail with a 5' buffer from the roadway	*See Community Principal Arterial Main Street*
Multi-Use Path Outside Buffer	5'	5'	5'		
Multi-Use Path Inside Buffer	3'	3'	3'		
Paved Multi-Use Path Width	10'-14'	10'-14'	10'-14'		
Barrier Protected Bicycle Lane (Cycle Track)	*See NACTO Urban Bikeway Design Guide for Cycle Tracks. Barrier protected cycle tracks may be considered in lieu of a multi-purpose trail as long as the roadway has sidewalks that meet the streetside minimums above.*				
Bicycle Lane (widths do not include gutter pan)	Posted Speed 30 mph or lower: 5' bicycle lane Posted Speed 35 mph: 6' bicycle lane Posted Speed >40 mph: 7' bicycle lane with 3' striped buffer				
TRANSIT					
Dedicated Bus Lane	*See Long Range Transit System: Include 24' for bus rapid transit routes.*				N/A
ROADWAY					
Maximum Number of Through Lanes	2-6	4-6	4-6	4-6	*See Community Principal Arterial Main Street*
Desired Operating Speed	30-35 MPH	30-35 MPH	40-55 MPH	35-55 MPH	
Lane Width	10'-11'	10'-12'	10'-12'	11'-12'	
Outside Lane Width (heavy vehicles)	12'	12'	12'	12'	
Parallel Parking	-	-	-	-	
Median/Center Turn Lane	6'-18'	6'-18'	6'-18'	6'-18'	

*Include 2' if buildings, walls, or other vertical structures are planned adjacent to public ROW. *Please see Building Shy Zone in Section 6.1.*

COMMUNITY PRINCIPAL ARTERIAL

Community principal arterials do not prioritize one mode over another; instead they strive to achieve a balance through several strategies. Although these roadways are given the functional classification of principal arterial, these corridors include many destinations with direct access from the arterial. Travel on community principal arterials tends to be over relatively short distances and to destinations with access directly on that arterial. Community principal arterials tend to have lower volumes (10,000 – 30,000 AWDT), lower speeds, and fewer lanes than regional principal arterials. Design options for community principal arterials include multi-way boulevards, or one-way couplets like Lead/Coal Ave.

DESIGN CONSIDERATIONS

1. These streets may be multi-way boulevards if traveling through areas with increased pedestrian traffic.
2. These routes may carry high capacity transit (BRT) traveling longer distances. Dedicated transit lanes may be provided in these cases.
3. On-street parking may be considered in activity centers or urban areas with commercial activity.
4. Depending on volume, fewer lanes may be necessary on these streets. Narrower lanes can be considered in activity areas with high pedestrian volumes.

BICYCLE INFRASTRUCTURE

Option 1: Barrier protected bicycle lane/cycle track in activity centers

Option 2: Bicycle lane with striped buffer for roadways with high speeds

Option 3: Use a gridded network and plan bikeway on parallel roadways within 1,000' of community principal arterial

Option 4: Adjacent multi-use path and bicycle lane with striped buffer for roadways with higher speeds

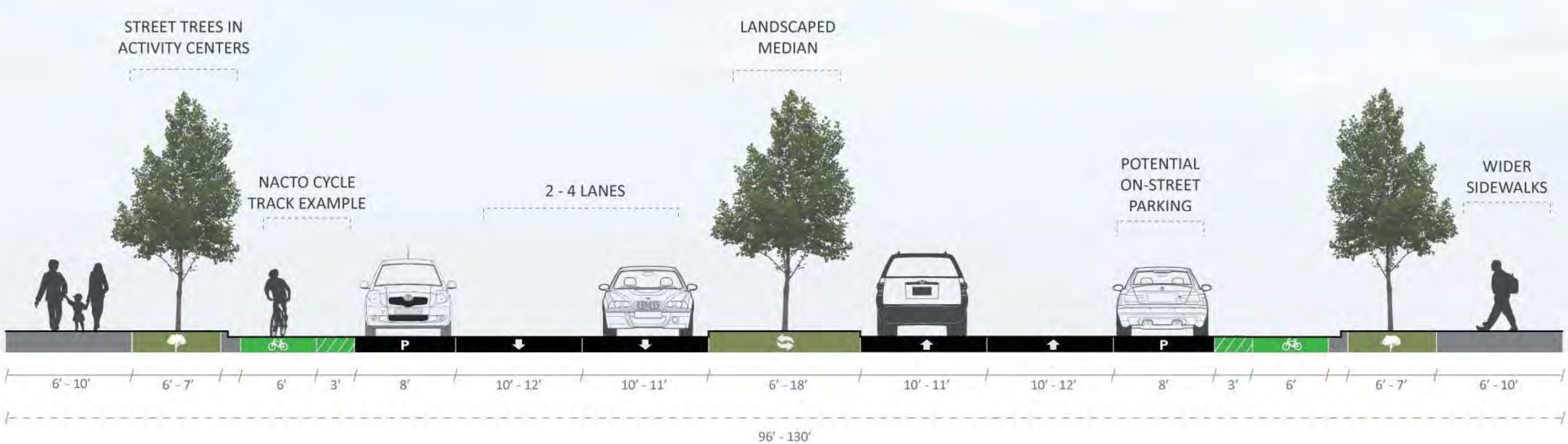


TABLE 5.5: COMMUNITY PRINCIPAL ARTERIAL

ROW RANGE: 96'-130'

Character Area	ACTIVITY CENTER	URBAN	SUBURBAN	RURAL	MAIN STREET
Examples	Central Ave	Osuna & Jefferson	Southern Blvd	Isleta Blvd	4^{th} St at Guadalupe Plaza
STREETSIDE MINIMUMS (ONE SIDE)					
Landscape buffer	7' (tree well)	6'	6'	8'-14' paved shoulder (both sides) and/or an 8-10' multi-use trail with a 5' buffer	6' (tree well)
Clear Sidewalk width	10'	10'	6'		6'
Building Shy Zone (ingress/egress)*	2'	2'	2'		-
Streetside Width (for one side only)	19'	18'	14'		12'
BIKEWAYS (ONE SIDE)					
Multi-Use Path	*See Long Range Bikeway System*			8'-14' paved shoulder (both sides) and/or an 8'-10' multi-use trail with a 5' buffer from the roadway	Consider a barrier protected bicycle lane/cycle track. Otherwise use a minimum 5' shoulder or bike lane.
Multi-Use Path Outside Buffer	N/A	5'	5'		
Multi-Use Path Inside Buffer	N/A	3'	3'		
Paved Multi-Use Path Width	N/A	10'-14'	10'-14'		
Barrier Protected Bicycle Lane (Cycle Track)	*See NACTO Urban Bikeway Design Guide for Cycle Tracks. Barrier protected cycle tracks may be considered in lieu of a multi-purpose trail as long as the roadway has sidewalks that meet the streetside minimums above.*				
Bicycle Lane (widths do not include gutter pan)	Posted Speed 30 mph or lower: 5' bicycle lane (min 13' for combined parallel parking and bike lane.) Posted Speed 35 mph: 6' bicycle lane Posted Speed >40 mph: 7' bicycle lane with 3' striped buffer				
TRANSIT					
Dedicated Bus Lane	*See Long Range Transit System: Include 24' for bus rapid transit routes.*				
ROADWAY					
Maximum Number of Through Lanes	2-4	2-4	4	2-4	2-4
Desired Operating Speed	25-30 MPH	30-35 MPH	35-40 MPH	30-40 MPH	25-30 MPH
Lane Width	10'-11'	10'-11'	10'-12'	10'-12'	10'-11'
Outside Lane Width (heavy vehicles)	12'	12'	12'	12'	12'
Parallel Parking	7'-8'	7'-8'	-	-	7'-8'
Median/Center Turn Lane	6'-18'	6'-18'	6'-18'	6'-18'	6'-18'

*Include 2' if buildings, walls, or other vertical structures are planned adjacent to public ROW. *Please see Building Shy Zone in Section 6.1.*

MINOR ARTERIAL

Minor Arterials provide the connectivity of principal arterials, but they prioritize slower moving traffic, bicyclists and pedestrians in order to give these modes other options to reach destinations without needing to be on a principal arterial. They generally have fewer lanes, lower speeds, and lower volumes (6,000 – 20,000 AWDT) than principal arterials. Given their lower speeds and volume, additional design elements may be worth considering on these streets, including on-street parking, bicycle lanes, expanded sidewalks, and landscape improvements.

DESIGN CONSIDERATIONS

1. On-street parking may be considered in activity centers or urban areas with commercial activity.
2. Depending on volume, fewer lanes may be necessary on these streets. Narrower lanes can be considered in activity centers with high pedestrian volumes.
3. Two through lanes with a central left turn lane may be desirable on these streets.
4. These streets provide opportunities to implement green infrastructure.

BICYCLE INFRASTRUCTURE

Option 1: Bicycle lane

Option 2: Barrier protected bicycle lane/cycle track in activity centers and/or high traffic areas

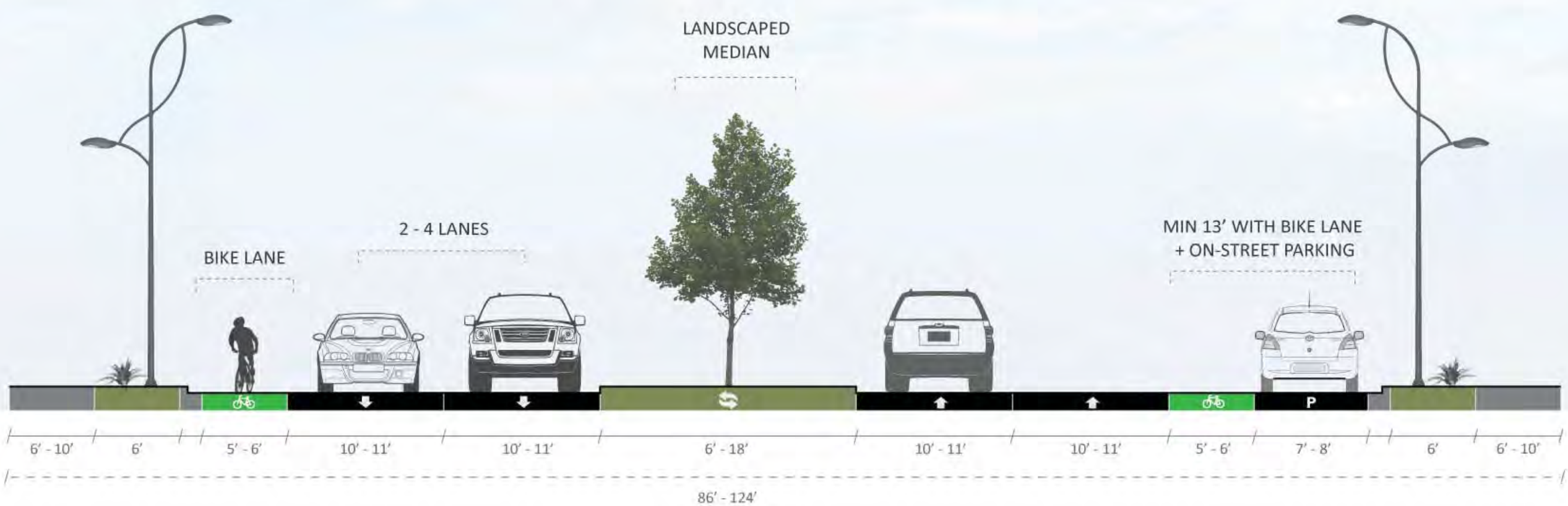


TABLE 5.6: MINOR ARTERIAL — ROW RANGE: 86'-124'

Character Area	ACTIVITY CENTER	URBAN	SUBURBAN	RURAL	MAIN STREET
Examples	Seven Bar Loop in Cottonwood	Candelaria	Harper or Sage	Rio Grande Blvd	Corrales Rd in village Center
STREETSIDE MINIMUMS (ONE SIDE)					
Landscape buffer	6' (tree well)	6'	5'	4' paved shoulder (both sides) and/or 5' buffer with 8' multi-use path (one side)	6' (tree well)
Clear Sidewalk width	10'	6'	6'		6'
Building Shy Zone (ingress/egress)*	2'	-	-		-
Streetside Width (for one side only)	18'	12'	11'		12'
BIKEWAYS (ONE SIDE)					
Multi-Use Path	*See Long Range Bikeway System*			4' paved shoulder (both sides) and/or 5' buffer with 8' multi-use path (one side)	4' shoulder
Multi-Use Path Outside Buffer	N/A	5'	5'		
Multi-Use Path Inside Buffer	N/A	3'	3'		
Paved Multi-Use Path Width	N/A	10'-12'	10'-12'		
Barrier Protected Bicycle Lane (Cycle Track)	*Consider in areas of high bicycle activity.*				
Bicycle Lane (widths do not include gutter pan)	Posted Speed 30 mph or lower: 5' bicycle lane (min 13' for combined parallel parking and bike lane.) Posted Speed 35 mph: 6' bicycle lane				
TRANSIT					
Dedicated Bus Lane	*See Long Range Transit System: Include 24' for bus rapid transit routes.*				
ROADWAY					
Maximum Number of Through Lanes	2-4	2-4	2-4	2-4	2
Desired Operating Speed	25-30 MPH	30-35 MPH	30-40 MPH	35-40 MPH	25-30 MPH
Lane Width	10'-11'	10'-11'	10'-11'	10'-11'	10'-11'
Outside Lane Width (heavy vehicles)	12' if on the Long Range Transit System as a current or future bus route.				
Parallel Parking	7'-8'	7'-8'	-	-	7'-8'
Median/Center Turn Lane	6'-14'	6'-14'	6'-18'	6'-18'	6'-18'

*Include 2' if buildings, walls, or other vertical structures are planned adjacent to public ROW. *Please see Building Shy Zone in Section 6.1.*

MAJOR COLLECTOR

Major Collectors provide additional needed connectivity between destinations on arterials and neighborhoods. They usually have 2 to 4 lanes, low traffic volumes (3,000 – 12,000 AWDT), and prioritize bicyclists and pedestrians. Bicyclists should be able to use collectors for long segments of their trips and motorists will generally use them for short segments of their trips. As with minor arterials, additional design considerations include adding on-street parking, bicycle lanes, expanded sidewalks, and landscape improvements (e.g., green infrastructure).

DESIGN CONSIDERATIONS

1. On-street parking may be considered in activity centers or urban areas with commercial activity.
2. Depending on volume, fewer lanes may be necessary on these streets. Narrower lanes can be considered in activity centers or locations with high pedestrian volumes.
3. Two through lanes with a central left turn lane may be desirable on these streets.
4. These streets provide opportunities to implement green infrastructure.

BICYCLE INFRASTRUCTURE

Option 1: Bicycle lane

Option 2: Sharrow/Shared Lane

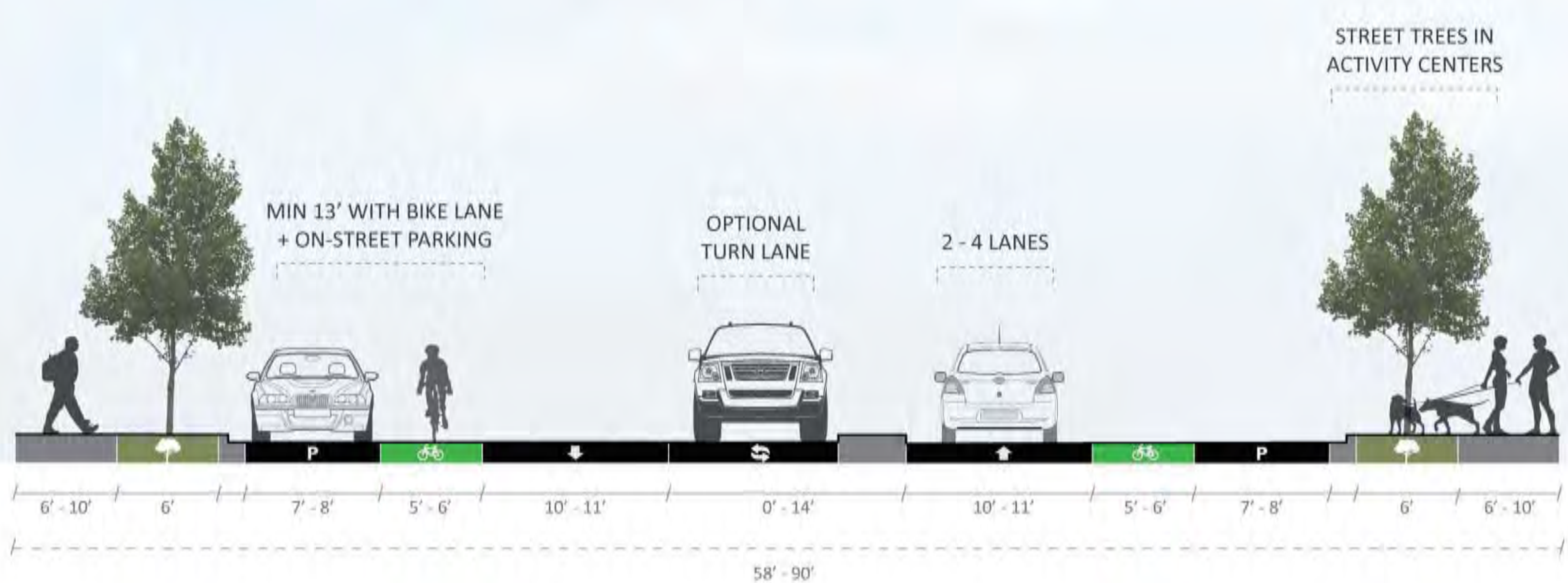


TABLE 5.7: MAJOR COLLECTOR

ROW RANGE: 58'-90'

Character Area	ACTIVITY CENTER	URBAN	SUBURBAN	RURAL	MAIN STREET
Examples	Seven Bar Loop in Cottonwood	Comanche	Meadowlark	Frost Rd	NM 333 in Tijeras
STREETSIDE MINIMUMS (ONE SIDE)					
Landscape buffer	6' (tree well)	6'	5'	4' paved shoulder (both sides) and/or 5' buffer with 8' multi-use path (one side)	6' (tree well)
Clear Sidewalk width	9'	6'	6'		6'
Building Shy Zone (ingress/egress)*	2'	-	-		-
Streetside Width (for one side only)	17'	12'	11'		12'
BIKEWAYS (ONE SIDE)					
Multi-Use Path	*See Long Range Bikeway System*			4' paved shoulder (both sides) and/or 5' buffer with 8' multi-use path (one side)	4' shoulder
Multi-Use Path Outside Buffer	N/A	N/A	5'		
Multi-Use Path Inside Buffer	N/A	N/A	3'		
Paved Multi-Use Path Width	N/A	N/A	10'-12'		
Shared Lane Marking (See NACTO Urban Bikeway Design Guide)	Appropriate for streets with posted speeds of 25 mph or lower and AWDT less than 3,000.				
Bicycle Lane (widths do not include gutter pan)	Posted Speed 30 mph or lower: 5' bicycle lane (min 13' for combined parallel parking and bike lane.) Posted Speed 35 mph: 6' bicycle lane				
ROADWAY					
Maximum Number of Through Lanes	2	2-4	2-4	2-4	2
Desired Operating Speed	25-30 MPH	25-35 MPH	30-35 MPH	35-40 MPH	25-30 MPH
Lane Width	10-11'	10'-11'	10'-11'	10'-11'	10'-11'
Outside Lane Width (heavy vehicles)	12' if on the Long Range Transit System as a current or future bus route.				
Parallel Parking	7'-8'	7'-8'	7'-8'	-	7'-8'
Median/Center Turn Lane	0'-14'	0'-14'	0'-14'	0'-14'	0'-14'

*Include 2' if buildings, walls, or other vertical structures are planned adjacent to public ROW. *Please see Building Shy Zone in Section 6.1*

MINOR COLLECTOR

Minor collectors provide additional connectivity between destinations on arterials and neighborhoods. They typically have low traffic volumes (under 6,000 AWDT), and prioritized access to residential areas and local businesses. In most cases, due to low speeds and low traffic volumes, bicyclists should be able to share the road comfortably using shared lane markings (sharrows); however, the streetside environment is similar to major collectors.

DESIGN CONSIDERATIONS

1. On-street parking may be considered in activity centers or urban areas with commercial activity.
2. These streets provide opportunities to implement green infrastructure.

BICYCLE INFRASTRUCTURE

Option 1: Sharrow/Shared Lane

Option 2: Bicycle lane

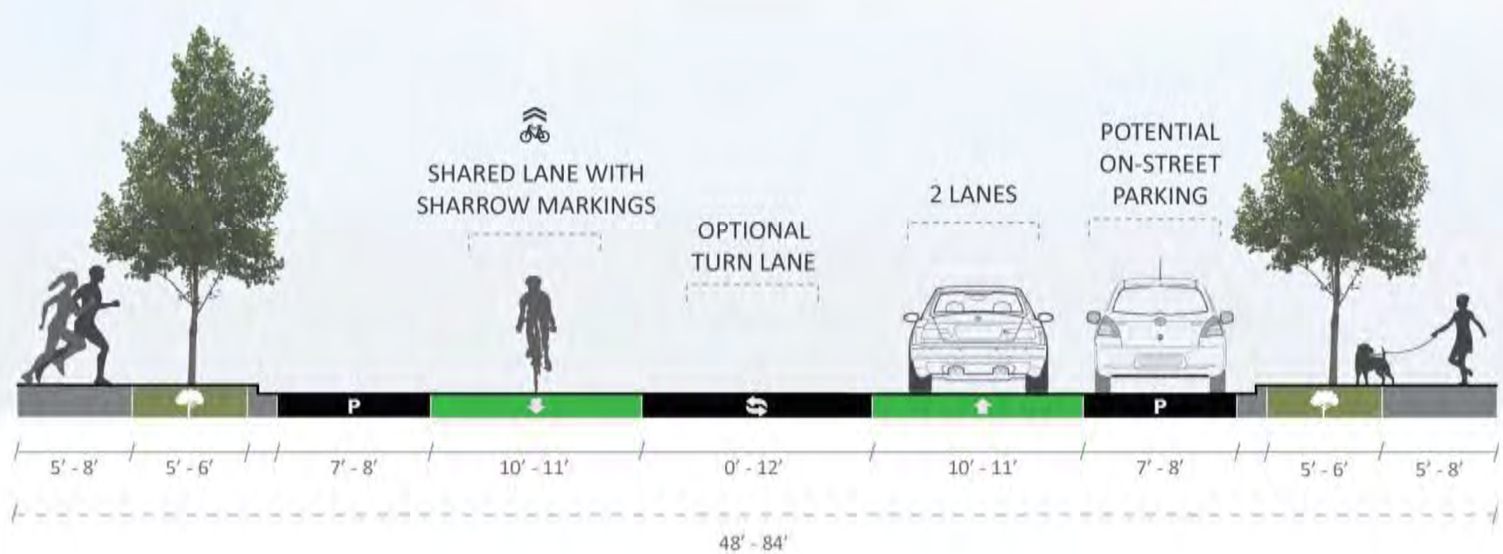


TABLE 5.8: MINOR COLLECTOR

ROW RANGE: 48'-84'

Character Area	ACTIVITY CENTER	URBAN	SUBURBAN	RURAL	MAIN STREET
Examples	Western end of Lead/Coal	Tingley Rd, Cutler Ave	Western Hills	Todos Juntos Rd, Jarales Rd	N/A
STREETSIDE MINIMUMS (ONE SIDE)					
Landscape buffer	6'	6'	5'	4' paved shoulder (both sides)	N/A
Clear Sidewalk width	8’	6'	5'		
Building Shy Zone (ingress/egress)*	2’	-	-		
Streetside Width (for one side only)	16’	12'	10'		
BIKEWAYS (ONE SIDE)					
Multi-Use Path	N/A			4' paved shoulder (both sides)	N/A
Multi-Use Path Outside Buffer	N/A				
Multi-Use Path Inside Buffer	N/A				
Paved Multi-Use Path Width	N/A				
Shared Lane Marking (See NACTO Urban Bikeway Design Guide)	Appropriate for streets with posted speeds of 25 mph or lower and AWDT less than 3,000.				
Bicycle Lane (widths do not include gutter pan)	Posted Speed 30 mph or lower: 5' bicycle lane (min 13’ for combined parallel parking and bike lane.)				
ROADWAY					
Maximum Number of Through Lanes	2	2	2	2	N/A
Desired Operating Speed	18-25 MPH	18-30 MPH	18-30 MPH	20-35 MPH	
Lane Width	10-11’	10’-11’	10’-11’	10’-11’	
Outside Lane Width (heavy vehicles)	12' if on the Long Range Transit System as a current or future bus route.				
Parallel Parking	7’-8’	7’-8’	7’-8’	-	
Center Turn Lane	0’-12’	0’-12’	0’-12’	0’-12’	

*Include 2’ if buildings, walls, or other vertical structures are planned adjacent to public ROW. *Please see Building Shy Zone in Section 6.1*

Chapter 6

STREETSIDE DESIGN ELEMENTS

Chapter 6

Streetside Design Elements

The *streetside* of a roadway refers to the pedestrian section of the roadway extending from the edge of private property to the face of the curb. This area not only provides for pedestrian travel, access to adjacent properties, and locations for transit amenities; the streetside also has significant economic and environmental potential. In many areas, the streetside offers the opportunity to become public spaces that bring added value to the street and support adjacent business. The streetside also provides a means to help manage and clean stormwater which helps address the growing environmental need to reuse water and provide a mechanism to clean stormwater before releasing it to the river.

The following section describes elements of the streetside, additional considerations for making walking safe, comfortable and interesting as well as how the streetside can create 'Green Streets' and aid in stormwater management.

6.1 SIDEWALKS AND BUFFERS

For urban and suburban character areas there are three basic elements for streetside guidance; the landscaped buffer, clear sidewalk width, and the building shy zone. The landscaped buffer provides both a separation from the roadway and a place for bus stops, signage, utilities and lighting. The pedestrian clear sidewalk width is sometimes referred to as the pedestrian throughway. All urban and suburban roadways should include these two elements in order to provide adequate pedestrian accommodation.

SIDEWALKS

Sidewalks are an essential component to providing pedestrian access to businesses, residences, and public spaces. Sidewalks are part of active transportation networks and should be included in all urban and suburban roads.

The City of Albuquerque's Development Process Manual requires 6 foot sidewalk widths. This is a comfortable width for two people to walk side by side and converse. Larger sidewalk widths should be included in areas of higher pedestrian traffic, such as activity centers, retail streets, active transit stops, and near schools. Creating an even walking surface is also important to facilitate comfortable pedestrian travel. For example, mul-

FIGURE 6.1: BUFFERED, LANDSCAPED SIDEWALK ALONG COAL AVE WITH WIDE CLEAR ZONES FOR WALKING

tiple curb cuts along a street that cut into the sidewalk can be consolidated to reduce the number of conflict points between entering and exiting vehicles and pedestrians while also creating a more even walking surface.

SIDEWALK BUFFERS

Buffers along sidewalks can be provided to increase pedestrian comfort by increasing the lateral separation between pedestrians and fast moving cars. These buffers can be landscaped and include street trees, green infrastructure, street infrastructure such as lighting or utility poles, and transit stops. They also provide space for driveway pads while allowing the sidewalk to remain level.

Although sidewalks are not necessary along most rural roads, a wide shoulder can be provided for bicyclists and pedestrians. In rural areas with increased activity, sidewalks can be considered, or right-of-way set aside for future sidewalks if development progresses.

BUILDING SHY ZONES

The building shy zone refers to area where buildings or walls adjoin the pedestrian clear sidewalk zone. The conceptual design matrices include two additional feet to the streetside width as a countermeasure to reduce conflicts from people exiting buildings and address the effect of people shying away from walls or other vertical structures which effectively reduces the clear sidewalk area. Activity centers and urban areas are most likely to have buildings that abut sidewalks. Walls alongside sidewalks is very common in the region. If buildings and walls are setback or if the clear sidewalk area abuts flat landscaping such as a lawn then the extra two feet of width is not necessary.

6.2 PEDESTRIAN AMENITIES

Well-designed pedestrian amenities are crucial to creating walkable places. Pedestrian amenities include more than providing ample sidewalks and buffers. In general, pedestrians need safe, comfortable, interesting, and well-connected places to walk.[26] Often, this means focusing on design details that engage all the senses. Although often considered as non-essential, these elements

[26] Walkable City, 2012

FIGURE 6.2: STREET LIGHTING AND STREET TREES IN DOWNTOWN ALBUQUERQUE

should be seen as crucial parts of the public right-of-way as they can lead to increased pedestrian activity. For this reason, elements including street trees, landscaping, and street furniture are just as important as providing enough sidewalk space.

STREET TREES

Street trees are a worthy addition to most roadways, especially those with high levels of pedestrian activity. The benefits of street trees are numerous. They provide shade, safety for pedestrians, privacy, enhanced aesthetics, improved air quality, increased stormwater runoff capture, and reduced urban heat island effect. They have also been shown to increase property values of adjacent properties.[27] In addition, a row of street trees, planted together, can form a beautiful, continuous canopy that visually frames the street.

STREET FURNITURE, LIGHTING & INFRASTRUCTURE

Including ample spaces for people to stop, sit, wait, and rest should be provided along streets with higher levels of pedestrian activity. Street furniture can encourage increased activity and interaction along the street, while increasing the comfort level of pedestrians. This in turn can encourage more walking.[28] Walkway lighting adds to safety and visibility at night.

ACTIVE PUBLIC SPACES

People are attracted to places with other people. Providing public spaces along the streets can bring vibrancy to otherwise lifeless streets by encouraging people to stop and interact. In contrast, "dead spaces" such as parking lots, vacant lots, and blank facades discourage public use, and lead to inactive, less interesting streets. Creating active public spaces can involve building small plazas or pocket parks, creating sitting areas, improving transit amenities, and installing public art.

[27] Ewing, Pedestrian- and Transit-Oriented Design, 65
[28] ITE Designing Walkable Urban Thoroughfares, 126

FIGURE 6.3: THE STREET AS ACTIVE PUBLIC SPACE

6.3 SAFE CROSSINGS

Midblock crossings are effective in areas with long block lengths, areas with a high level of pedestrian activity, and in places where many pedestrians currently cross due to efficiency.[29] Mid-block crossings are generally not necessary where block lengths are short or in areas with little pedestrian activity. Like intersection crossings, midblock crossings should emphasize slower speeds, visibility, and safety.

There is ample guidance on selected locations for mid-block crossings, which must be done with care. On some roadways, only marking a crosswalk is insufficient.[30] However, there are additional elements that have been found to be effec-

[29] NACTO Urban Streets Design Guide, 115
[30] Federal Highway Administration, Safety Effects of Marked Versus Unmarked Crosswalks at Uncontrolled Locations, 2005

FIGURE 6.4: PEDESTRIAN BEACON AND CURB EXTENSION IN BERNALILLO, NM

tive at improving pedestrian safety when used in conjunction with a marked crosswalk.

PEDESTRIAN CROSSING ISLANDS

Pedestrian crossing islands (refuges) can be considered for multi-lane arterials and collectors with medians.[31] These islands can allow pedestrians to cross the street in two stages and only worry about one direction of traffic at a time.

Refuges have been shown to reduce pedestrian crashes on multi-lane arterials.[32]

Median design can also calm traffic and facilitate slower, safer streets. For example, medians can be extended into the intersection beyond the crosswalk to protect pedestrians and slow drivers making left turns. In addition, medians with trees further helps to calm traffic and provide opportunities to capture increased storm water runoff.

PEDESTRIAN HYBRID BEACONS

Pedestrian beacons and signals can increase the visibility of a crossing. These beacons have been shown to decrease the number of crashes at mid-block crossings and can be considered on faster roadways.[33]

6.4 GREEN STREETS

Green streets incorporate green infrastructure or low-impact development (LID) practices into their design and functioning. They are designed to integrate natural systems with the built environment by utilizing ecosystem services to manage and mitigate the effects of stormwater runoff, water pollution, air pollution, and the urban heat island effect.

The quantified benefits of green infrastructure have led many cities to see green infrastructure as a worthy investment. They (1) clean and reduce the amount of storm water runoff; (2) shade and beautify streets; (3) increase property values; (4) create wildlife habitats; and (5) use passive irrigation to water native vegetation and street trees, limiting the amount of additional watering necessary.[34] Although originally developed for climates in the Northwest and Northeast, green infrastructure practices have begun to be implemented in

[31] Federal Highway Administration Proven Safety Countermeasures
http://safety.fhwa.dot.gov/provencountermeasures/

[32] Ewing, Pedestrian- and Transit-Oriented Design, 42

[33] Federal Highway Administration Proven Safety Countermeasures.

[34] MacAdam, James. (2010). Green Infrastructure for Southwestern Neighborhoods.

the Southwest. Tucson, for example, has a green streets policy that requires the City of Tucson Department of Transportation to integrate green infrastructure in every roadway development and redevelopment project.

One objection to implementing green infrastructure projects is additional costs for engineering, installation, and maintenance. However, studies have shown that in many cases, green infrastructure systems are competitive if not cheaper than conventional design practices.[35] In addition, green infrastructure supplements existing storm water infrastructure, which can reduce the need for costly expansion projects, resulting in smaller pipes, smaller processing facilities, and lower maintenance costs.

SOFT INFRASTRUCTURE

Green streets emphasize the benefits of "soft" infrastructure systems that utilize natural ecosystem services to manage stormwater runoff. This includes reducing impervious surface coverage and maximizing the coverage of landscaped areas to capture, slow, filter, and infiltrate runoff. Specific strategies include constructing narrower roadways, creating wider landscape buffers with native vegetation and groundcover, planting more street trees, and using pervious pavement where appropriate.

FIGURE 6.5: CURB CUT AND RAIN BASIN AFTER RAIN EVENT IN TUCSON, AZ

Most green infrastructure supplements existing stormwater systems. Systems are often designed to handle rainfall events up to a specific threshold – additional overflow water enters the existing stormwater system normally. They are usually designed like traditional "hard" infrastructure systems to manage specific rainfall events. Additional performance criteria can also be used to ensure that adequate drainage and infiltration occur, even after heavy rainfall.

CURB CUT DESIGN

Green street infrastructure can often be integrated with existing traffic calming devices and landscape buffers. Usually curb design alternatives can be used to channel stormwater into bioretention basins, infiltration planters, rain gardens, stormwater bump outs, and street trees (see Figure 6.5).[36]

[35] Environmental Planning Agency (EPA). (2014). The Economic Benefits of Green Infrastructure: A Case Study of Lancaster, PA http://water.epa.gov/polwaste/green/upload/2008_01_02_NPS_lid_costs07uments_reducingstormwatercosts-2.pdf

[36] MacAdam, James. (2010). Green Infrastructure for Southwestern Neighborhoods

Chapter 7

EVALUATING ALTERNATIVES

Chapter 7

Evaluating Alternatives

Picking transportation projects that will lead to the most benefit (for investment dollars spent) means thinking strategically about where and how improvements are implemented. For example, constructing new pedestrian amenities such as expanded sidewalks and improved street furniture, will not necessarily lead to more pedestrian activity. In other words, vibrant street life will not develop spontaneously in areas that lack good urban form which involve many factors including residential density, commercial activity and the relationship of the roadways to the surrounding buildings. Nor will a new bus rapid transit route necessarily be successful in areas that do not have the requisite density or potential to benefit from increased transit investment.

The good news is that projects from around the country have shown that street retrofits can lead to significant improvements.[37] Sometimes these projects are controversial because they involve a change in the status quo that can affect travel patterns. Many people may have a hard time envisioning a new configuration for the street, especially if they believe it will increase their travel times or contribute to congestion. Choosing designs that balance the needs of established roadway users is paramount to ensuring street retrofits are successful. However, retrofit projects can also create additional transportation options. They may also be linked to general planning goals to make an area more walkable, for example, or they may be tied to specific objectives such as reducing the number of crashes along an existing corridor.

7.1 CONSTRAINED RIGHTS OF WAY

In some cases, retrofit projects have inherent tradeoffs. For example, redesigning an existing roadway to accommodate all modes within a constrained ROW can be challenging, given established surrounding land uses, existing travel patterns, and current zoning. Allocating space for new users along such roadways can mean reducing space for others. Sometimes this can lead to an overall improvement in

[37] *Rethinking Streets*, University of Oregon

FIGURE 7.1: EXAMPLE OF A WALKING AUDIT AND SAFETY DEMONSTRATION

roadway performance, while maintaining vehicle throughput.[38] Determining trade-offs requires prioritizing the needs of various users, and evaluating the most important performance objectives and measures of success.

Using clear, evidence-based recommendations to accomodate users is the first step to ensure that reconstruction projects fulfill Complete Streets goals. These goals can be measured using various evaluation tools such as multi-modal level of service metrics, crash statistics, traffic models, and connectivity measures. Other evaluation tools (such as walking audits) can be used to determine how well the street currently meets the needs of users with different abilities. Analyses may find that some roads include too many lanes, could have lower posted speeds, or do not support existing or future land uses. (Details on these performance measures are outlined in Chapter 8.)

[38] ITE, Planning Urban Roadway Systems, 38

7.2 COMPLETE STREETS CHECKLIST

To help facilitate an improved transportation planning process, MRMPO has developed the *Complete Streets Checklist* to provide a baseline analysis of existing conditions, constraints, and opportunities along existing roadways (see Appendix). This checklist (1) establishes a baseline inventory of existing conditions along the roadway such as traffic counts and existing cross-sections; (2) identifies possible Complete Streets considerations and priorities; (3) identifies possible constraints; and (4) points to possible design opportunities. The collected data are then used as inputs for a multi-modal level of service metric that provides a comparison between roadway designs. The goal is that the checklist can be used to generate clear conceptual design priorities that can lead to the best overall multi-modal configuration.[39] The checklist includes the following sections, and utilizes the performance measures outlined in Chapter 8.

BASIC PROJECT INFORMATION

The checklist includes basic project information, such as project name, location, responsible agency, goals, and development phases.

[39] The checklist is not a prioritization process, but a way to evaluate alternative design options.

EXISTING CONDITIONS

This section includes existing conditions, such as character area, transportation context, future travel demand projections, the roadway's role and existing levels of service. The checklist includes a section where existing cross section elements and traffic counts can be recorded. These elements can be used to calculate multi-modal level of service (MMLOS), and compare conceptual designs. The intent is to collect a baseline inventory of existing data and identify the roadway's regional context.

PRIORITY CONSIDERATIONS

To help facilitate roadway projects[40] that will provide the most benefits, this section outlines various priority areas that may be important to consider. Each priority consideration addresses one component of Complete Streets. By selecting initial considerations to explore further, MRMPO and member agencies can begin to identify issues along the roadway such as pedestrian safety, walkability and congestion.

It also provides a way to understand existing constraints that limit the ability of a project to address identified needs. A few constraints may include: (1) constrained right-of-way; (2) conflicting plans and policies; (3) balancing user needs; (4) preservation of existing infrastructure; (5) environmental considerations.

1. **Expanded Choices and Community Involvement:** Would a reconfigured street have the opportunity to expand mode choices available to residents? Would the addition of bike lanes, or transit service be beneficial to the neighborhood? Would the project improve accessibly to jobs, especially for low income residents? Who will be involved in the design process and whose interests should be considered? What are some ways to increase involvement in the design process?
2. **Land Use Integration:** Does the street support a diverse range of land uses, activities, and users? Does the street run through an existing activity center? If so, does the street support the activity center's users? Would a reconfigured roadway potentially catalyze increased business investment along the street? Is community involvement a priority?
3. **Congestion and Efficiency:** Is addressing congestion a priority? Is the efficiency of the roadway a concern?
4. **Community Health:** Is improving community health outcomes a priority? Does the design encourage active transportation options? Does the project address environmental justice issues in the community, for example, gaps in the neighborhood's sidewalk, transit, or bicycle networks?
5. **Parking:** Is expanded on-street parking a priority?
6. **Walkability:** Does the street encourage and enable walkability? Can pedestrian needs be better accommodated with expanded sidewalks, safer crossings, landscape buffers, street trees, traffic calming, or other amenities?
7. **Bicycling:** Does the street enable safe bicycling? Are there gaps in the current bicycling infrastructure, such as impassible intersections or other barriers that could be fixed?
8. **Transit:** Does the street support high quality transit? For example, are comfortable transit shelters provided within walking distance of pedestrian catchment areas?
9. **Traffic Calming:** Is traffic safety an issue? How many crashes occur along the street? Are crashes attributable to design features of the street such as high speeds, low visibility or lack of traffic calming features?
10. **Green Streets:** How well does the street handle stormwater runoff and water quality? Are there ways to incorporate green infrastructure within the roadway?
11. **Connectivity:** Does the street's configuration support the goals of creating complete networks? Does the corridor link activity centers efficiently? Does the current configuration introduce barriers to travel for

[40] Roadway projects may include TIP projects, projects outlined in the MTP, or roadway projects and plans developed by member agencies.

certain users? Would the project expand connections between anchor institutions or job centers?

12. **Freight:** Is facilitating freight travel a priority for the roadway?

COMPLETE STREETS OPPORTUNITIES

After gathering information on existing conditions, and understanding the project's priority considerations, the checklist provides a list of conceptual design ideas that are linked to specific considerations. For example, if traffic calming has been identified as a priority along the roadway, several strategies are listed that may help achieve this goal. Selecting initial strategies to explore allows MRMPO and member agencies to identify possible design alternatives, which in turn can guide the planning process as it evolves.

A few sample retrofit strategies for existing streets include:

- **Narrow Travel Lanes:** restriping travel lanes from 12 feet to 10 feet can free up additional space for bike lanes, or expanded pedestrian amenities. Medians can also be reduced to add more space to the pedestrian sidewalks and surrounding area.
- **Lane Reduction:** Reducing the number of travel lanes ("road diets") involve reassigning space for traffic calming, expanded mode choices, and potentially better land use integration. Reducing the number of lanes on arterials from 6 to 4 lanes (4 to 3 lanes, with central turn lane on collectors) can free space to add protected bike lanes, on-street parking, and wider sidewalks. Road diets from 4-3 lanes can be considered on roadways with maximum volumes of 15,000 to 20,000 AWDT, as well as streets with safety concerns.[41]
- **Sidewalk and landscaping easements:** Private land owners can provide easements with the incentive that local government will install and, in some cases, maintain landscaping. This can expand the ROW space for streetside pedestrian amenities.

7.3 COMPARING DESIGNS

There are inherent tradeoffs with different roadway design choices. Often, these have direct effects on specific roadway users that should be balanced with the goals for the overall street network. For example, attempting to expand sidewalks, add generous bike lanes, and maintain the same number of travel lanes (or widths) along a constrained right-of-way may lead to a design that lowers the level of service for all users, instead of enhancing user options.

Therefore, before settling on a final conceptual roadway design, alternatives should be evaluated to see how well each meets specific performance goals. One way to review alternatives is to develop a comparison matrix to review the strengths and weaknesses of different roadway design alternatives. This can include an appraisal of expected performance outcomes for various modes, or can be tied to projected performance measures such as multimodal level of service (MMLOS).

To work through these tradeoffs and demonstrate how performance measures can be used, a few example comparisons are shown using Bridge Blvd, Zuni Rd and San Pedro Dr as examples. These comparisons utilize the *Complete Streets Checklist* to provide a baseline inventory of existing conditions. The collected data are then used as inputs for a multi-modal level of service metric that provides quantitative comparison between roadway designs.[42] These indicators are tied to specific physical design elements such as roadway width, traffic volume, traffic speed, sidewalk width, presence

[41] Peak hour volumes should also be considered. (Proven Safety Countermeasures, "Road Diet", Federal Highway Administration, Office of Safety, FHWA-SA-12-013, 2012.)

[42] A simplified model, developed by *Sprinkle Consulting*, has been used to produce the MMLOS scores for these comparisons.

of bicycle infrastructure, and the presence of on-street parking.

A more qualitative set of measures is also provided to show the relative merits of different roadway designs. These measures compare the merits of different design configurations using positive (+) and negative (-) valuations for each configuration's relative strengths or weaknesses. The goal is to provide a framework that allows the best design option to be chosen in a constrained right-of-way.

The following section illustrates the previously described methodology for comparing alternatives by comparing 3-5 alternative conceptual designs including the existing design for three roadways that have been identified for multi-modal improvements.

BRIDGE BLVD CORRIDOR PLAN

Bridge Boulevard is a community principal arterial handling approximately 26,000 AWDT between Isleta Blvd and Goff Blvd. This roadway was recently the subject of a corridor plan that proposed three different roadway alternatives. The main street conceptual design alternative was chosen and is evaluated. Overall, the project has the opportunity to expand mode choices, better integrate land uses, and calm traffic – all while taking into account future travel demand.

1. **Existing:** *4 travel lanes, 11-12 ft median, 5-6 ft sidewalks, 5-6 ft shoulder.* The existing configuration of Bridge features narrow sidewalks, wide travel lanes, and faster traffic. Although this roadway is classified as a community principal arterial, which should accommodate all modes, the current design mainly facilitates automobile traffic.
2. **Mainstreet Concept:** *4 travel lanes, 14 ft landscaped median, 6-12 ft sidewalks, 5 ft bike lane, 8' on street parking (one side).* This conceptual design from the recently updated Bridge Corridor Plan seeks to expand the sidewalks along Bridge, and create a wider landscaped median. The design retains the existing 5 foot bike lanes and travel lanes, but may also include on-street parking. This option promotes traffic calming, walkability, and access to businesses. It also requires less ROW than the other options presented in the Bridge Corridor Plan
3. **Buffered Bike Lanes:** *4 travel lanes, 12 ft landscaped median, 6 ft sidewalks with 6 ft landscape buffer, 8 ft buffered bike lanes, no parking.* This conceptual design focuses on bicycle traffic by creating 8 foot buffered bike lanes on both sides of the street. These lanes would increase bicycle level of service (BLOS) significantly, and could be narrowed in constrained rights-of-way. Like the mainstreet design, this configuration adds a landscaped median, and provides a 6 foot landscaped buffer between the sidewalk and street. This option requires approximately the same amount of right of way as the mainstreet option.
4. **Two-way Cycle Track:** *4 travel lanes, 12 ft landscaped median, 6 ft sidewalks with 6 ft landscape buffer, 13 ft two way cycle track (one side), 7' on street parking (one side).* This option seeks to increase bicyclists' comfort, safety, and BLOS by including a two-way cycle track along one side of the roadway. This cycle track could be coupled with on-street parking to buffer bicyclists from traffic and give them their own exclusive travel path. This option requires the most right-of-way, and may be the hardest to implement in Bridge's constrained right-of-way.

ZUNI ROAD RECONSTRUCTION

Zuni Road, a community principal arterial with an average 19,000 AWDT, is currently being evaluated for potential reconstruction that would reduce the number of travel lanes and increase multi-modal travel options. This project has the opportunity to increase safety, create new connections, and improve multi-modal level of service indicators. Although some segments of the road have ample right-of-way, some segments are constrained. The segment between Washington St and San Mateo Blvd is considered below.

1. **Existing:** *6 travel lanes, 18 foot median, 5 foot sidewalks.* The current configuration does not include bike lanes and has minimal sidewalks.
2. **Alternative 1:** *4 travel lanes, 6 ft bike lane, 10 ft sidewalk, 18 ft median, speed reduction to 30 mph.* This option improves multi-modal options by adding bike lanes and expanding sidewalks.
3. **Alternative 2:** *4 travel lanes, 9 ft buffered bike lane, 10 ft sidewalk, street trees, speed reduction to 30 mph.* This option adds a buffered bike lane to increase the bicycle LOS. Improved landscaped buffers with street trees would also be used to reduce storm water runoff.

SAN PEDRO ROAD DIET

San Pedro, a minor arterial with 15,000 AWDT, is being evaluated as a candidate for a road diet. In this scenario, the roadway will be reduced from four through lanes to two lanes and a center turn lane from Lomas to just south of I-40. This roadway reconstruction project creates opportunities to improve traffic flows (by including a central turn lane), expand mode choices, include on-street parking, and introduce traffic calming measures.

1. **Existing:** *4 travel lanes, no median, 6 ft sidewalks.* This configuration does not provide multi-modal options.
2. **Alternative 1:** *2 travel lanes, central turn lane and median, on-street parking, lower speeds.* This option adds on-street parking, which will help with traffic calming and improve access to businesses. It may also improve traffic flow with the introduction of a dedicated left turn lane.
3. **Alternative 2:** *2 travel lanes, no median, on-street parking, bike lane.* This configuration adds a bicycle lane and parking to the street. Although this option provides the most multi-modal options, it also introduces potential conflicts between users. Not including a dedicated left turn lane may affect traffic flow.
4. **Alternative 3:** *2 travel lanes, central turn lane and median, bike lane.* This option prioritizes biking over on-street parking. It may also improve traffic flow with the introduction of a dedicated left turn lane.
5. **Alternative 4:** *2 travel lanes, no median, on street parking, and sidewalk buffers with green infrastructure.* Adds expanded sidewalk buffers with green infrastructure to increase storm water runoff capture. Provides the best pedestrian improvements, but not including a dedicated left turn lane may affect traffic flow.

FIGURE 7.2: BRIDGE BLVD CONCEPTUAL DESIGN COMPARISION

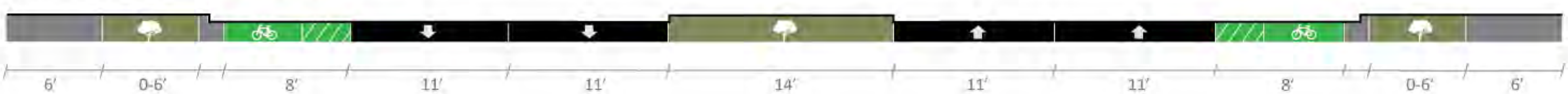
BRIDGE BLVD (Isleta to Goff) - 26,000 AWDT - 35 MPH

	ROW Width	AutoLOS	Transit LOS	Bicycle LOS	Pedestrian LOS	Walkability Index	Traffic Calming	Mode Choices	Parking	Land Use Integration	Green Streets	Cost	Strengths/ Weaknessess
Existing	78'	D	E	C (3.37)	C (3.47)	Minimal	-	-	-	-	-	+	1/10
Mainstreet	100'	D	C	C (3.06)	C (2.80)	Basic	+	+	+	+	-	-	7/4
Bike Lanes	100'	D	C	B (1.93)	C (3.11)	Basic	+	+	-	+	-	-	7/4
Cycle Track	104'	D	C	**A**	**C (2.53)**	Basic	+	+	+	+	-	-	**8/3**

EXISTING

MAINSTREET CONCEPT

BUFFERED BIKE LANES



TWO WAY CYCLE TRACK CONCEPT

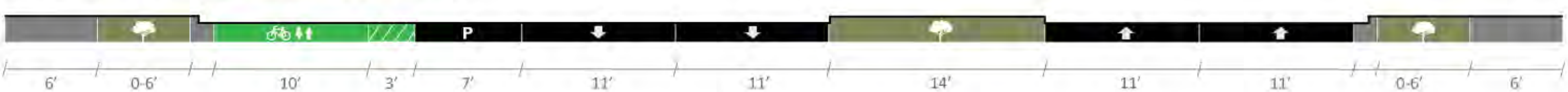


FIGURE 7.3: ZUNI ROAD CONCEPTUAL DESIGN COMPARISION

ZUNI ROAD (Washington to San Mateo) - 19,000 AWDT - 35 MPH

	ROW Width	AutoLOS	Transit LOS	Bicycle LOS	Pedestrian LOS	Walkability Index	Traffic Calming	Mode Choices	Parking	Land Use Integration	Green Streets	Cost	Strengths/ Weaknessess
Existing	~100'	C	E	3.79 D	2.98 C	Minimal	-	-	-	-	-	+	2/9
Alternative 1	~100'	C	C	1.93 B	2.68 C	Basic	+	+	-	+	-	+	**9/2**
Alternative 2	~100'	C	C	**0.37 A**	**2.32 C**	Basic	+	+	-	+	+	-	**9/2**

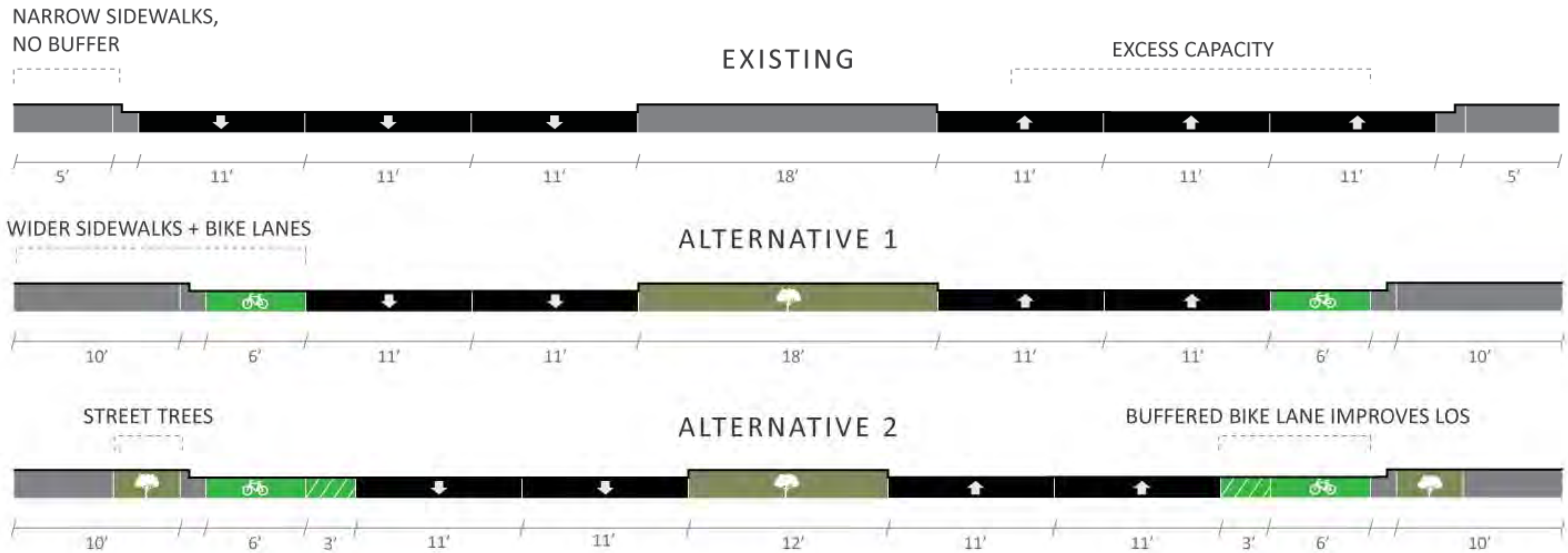


FIGURE 7.4: SAN PEDRO CONCEPTUAL DESIGN COMPARISION

SAN PEDRO (Marble to Haines) - 15,000 AWDT - 35 MPH

	ROW Width	Transit LOS	Auto LOS	Bicycle LOS	Pedestrian LOS	Walkability Index	Traffic Calming	Mode Choices	Parking	Land Use Integration	Green Streets	Cost	Strengths/ Weaknessess
Existing	61'	N/A	C	3.80 D	2.99 C	Basic	-	-	-	-	-	+	3/7
Alternative 1	61'	N/A	D	3.88 D	2.99 C	Moderate	+	-	+	+	+	+	7/3
Alternative 2	61'	N/A	D	3.06 C	2.87 C	Moderate	+	+	+	+	-	+	**8/2**
Alternative 3	61'	N/A	D	**2.22 B**	3.44 C	Moderate	+	+	-	+	+	+	**8/2**
Alternative 4	61'	N/A	D	3.88 D	**2.68 C**	Moderate	+	-	+	+	+	-	6/4

Chapter 8

PERFORMANCE MEASURES

Chapter 8

Performance Measures

Evaluating projects, before and after they are completed, is a crucial step in ensuring that roadways meet the needs of all users. Specific quantifiable performance measures can be used to provide insight into how well the design meets its original objectives. These performance measures can include multi-modal level of service, transit performance, safety, and connectivity. Using performance measures to evaluate innovative projects before and after can also provide evidence to support future projects.

INPUTS, OUTPUTS AND OUTCOMES

Increasingly, evaluation methodologies are focusing on *inputs, outputs, and outcomes*, which correspond to different stages in a transportation planning context.

Inputs refer to quantifiable investment, which can include money spent, policies passed, and number of community participants. *Outputs* refer to the direct, tangible results of these inputs, including miles of new roads built, miles of new bike routes, and new trees planted. *Outcomes* refer to how the roadway functions after it is built or reconstructed. This includes operating levels of service, changes in traffic volume, number of bicyclists, and number of crashes. An *inputs, outputs and outcomes* approach can be applied to evaluate specific projects, or it can be used to track the progress of larger scale planning objectives.

MONITORING PERFORMANCE

MRMPO collects data and performs analysis on a wide range of transportation projects. Specifically, the MPO evaluates overall system performance primarily as it relates to congestion and crash statistics. MRMPO has also developed tools to better model future land use scenarios, which can assist in making better future development decisions. As part of these efforts, the LRTS document is designed to complement the 2040 MTP by providing specific, measurable objectives that can be evaluated periodically to ensure the goals of this document and the 2040 MTP are being met.

The following are a set of performance methodologies that can be used to ensure that these guidelines promote multi-modal travel options, connectivity, walkable places, and complete networks. The intent is that these performance measures can be used to help inform decisions by MRMPO's member agencies, especially those agencies responsible for roadway and network design. They provide a clear set of methodologies that can be used to evaluate connectivity, multi-modal level of service, walkability, safety, and successful land use integration.

Many of these measures use an inputs, outputs, and outcomes-based approach that requires before and after data collection, as well as specific analytical tools (see table 8.1). MRMPO can provide the analytical tools and data to evaluate each of these measures as they change over time. Member agencies can use these tools to compare specific design configurations, or to ensure their ideas support the principles of the 2040 Preferred Scenario. Although such data collection, analysis, and ongoing evaluation can involve a long process, the benefits of evaluation for creating successful projects cannot be overstated.

TABLE 8.1: EVALUATION METHODOLOGY APPROACHES

	CONCEPT/DEFINITION	OBJECTIVE	PLANNING PHASES	EXAMPLE MEASURES
INPUTS	Inputs refer to quantifiable investments, which can include money spent, policies passed, and/or number of community participants. As a measure, they refer to data/goals that are used to inform the project process.	To ensure the strategic projects are picked that are resource efficient, context sensitive, and consistent with other plans and goals.	During project selection, comparison, inventory, and prioritization.	• Investment Dollars • High Activity Areas • Plan Consistency • Projected Land Uses • Character Areas
OUTPUTS	Outputs refer to the direct, tangible results of these inputs, including miles of new roads built, miles of new bike routes, and/or new trees planted. As a measure, refers to the expected, quantitative outcomes of the project, using projected and actual performance measures.	To model expected performance before projects are built to ensure they meet goals and objectives. Also, to help evaluate alternatives.	During project comparison, evaluation and design. Can also be used to evaluate projects after they are complete.	• Amount of New Construction • Levels of Service • Walkability Index • Intersection Density • Average Block Length • Directness Index
OUTCOMES	Outcomes refer to how the roadway functions after it is built or reconstructed. This includes operating levels of service, changes in traffic volume, number of bicyclists, and/or number of crashes.	To compare expected performance (from inputs, and built outputs) to actual results. To measure performance over time.	After projects are complete. Some models can project expected outcomes.	• Crash Rates • Congestion • Trips Generated by Mode • Increased Investment • New Development

8.1 MULTI-MODAL LEVEL OF SERVICE (MMLOS) INDICATORS

Several multi-modal level of service (MMLOS) models have been developed in the past decade to evaluate how well roadways accommodate all user groups. These include various models that seek to measure the level of comfort and safety of pedestrians, bicyclists and transit users in addition to motorists. Often these tools require additional planning studies and data collection that focus on pedestrian, bicyclist, and transit specific features of the roadway to calculate a MMLOS score. As with motor vehicle LOS, scores are based on an A to F scoring range.

Updated MMLOS models are included in the *Highway Capacity Manual (HCM)*, the *Transit Capacity and Quality of Service Manual*, and Florida DOT's *Quality/Level of Service Handbook*. A report produced by the Transportation Research Board entitled *National Cooperative Highway Research Program Report 616: Multi-Modal Level of Service Analysis for Urban Streets*, synthesizes these different models and shows how they may be applied to urban roadways.

Various studies have shown that users' perceptions of LOS vary greatly depending on user group and context (e.g., elderly pedestrians vs. recreational users). However, regression models from survey data have produced models that have been shown to accurately predict user's perceptions of comfort and safety.[43]

BICYCLE LEVEL OF SERVICE

Quantitative Output – Bicycle LOS Score

There are several methodologies to calculate bicycle level of service. Most of these measure variables such as presence of a bike lane, bike lane width, traffic speed and volume, presence of on-street parking, number of conflict points, and pavement condition. These measurements can be used to calculate BLOS for bicycle infrastructure along streets, as well as along multi-purpose paths. As can be expected, wider bike lanes are correlated with higher levels of service, although the presence of higher vehicle speeds (or heavier vehicles) may lower this score. Overall, bicycle level of service scores can be used to ensure bicycling facilities are adequate to fit the context of the street (e.g., by showing wider bike lanes should be used on streets with higher traffic volumes or on-street parking).

TRANSIT LEVEL OF SERVICE

Quantitative Output – Transit LOS Score

On-time transit performance is a key factor in transit level of service measures. This includes the frequency, reliability, service hours, and passenger loads of specific routes. In addition, current transit LOS models seek to not only measure the transit service quality, but also the quality of the environment these services operate in. These models take into consideration bus stop amenities, distance between stops, and stop security.

PEDESTRIAN LEVEL OF SERVICE

Quantitative Output – Pedestrian LOS Score

Various models have been developed to calculate pedestrian level of service based on studies of stated pedestrian preferences and actual behavior. These models often take into consideration basic design features such as sidewalk width, traffic speed and volume, pedestrian volume, presence of obstructions, and number of conflict points (e.g., driveways). Unlike vehicle level of service measures, pedestrian level of service is not necessarily dependent on volume or capacity considerations such as spacing between pedestrians, pedestrian walking speed, or delay at intersections. Other physical design elements are just as important and can lead to higher or lower pedestrian LOS scores. Like bicycle LOS, pedestrian LOS metrics allow pedestrian facilities to be sized correctly to the context of the street (e.g., including a landscape buffer along streets with more traffic or higher speeds).

[43] Transportation Research Board. (2008). Multi-modal Level of Service Analysis for Urban Streets. National Cooperative Higher Research Program Report 616. Washington, DC

8.2 WALKABILITY MEASURES

Walkability has been championed as a key to creating vibrant streets and neighborhoods. Scoring systems to measure walkability have been developed that expand on pedestrian level of service indicators to include additional considerations that are important to creating pedestrian friendly environments. Unlike pedestrian LOS indicators, walkability methodologies seek to address more subjective measures of pedestrian comfort, safety, interest, and destination choice. These methodologies acknowledge that pedestrians have a complex range of needs that vary among individuals. However, there are a few key indicators that have been shown to be important to most users and can be compiled to evaluate the walkability of an area.

WALKABILITY INDICES

Semi-Quantitative Output, Outcome – Walkability Index Score

Hall Planning and Engineering's *Walkability Index* measures 10 factors that can be compared using a semi-quantitative score sheet system that scores street segments on a 0-100 point system. These measures include:

1. Traffic Speed
2. Street Width
3. Presence of On-Street Parking
4. Sidewalk Width
5. Intersection Spacing Distance
6. Pedestrian Amenities
7. Building to Height Ratio
8. Land Use Mix
9. Façade Design
10. Transit and Bicycle Features

The strength of this system is that it relates basic, objective physical design features to actual pedestrian perceptions of comfort, safety, and interest. It also synthesizes existing variables that are traditionally inventoried in transportation projects to produce a score that can be used to compare different roadway segments. More walkable segments score above 50 points on this score sheet. For example, Central Ave, as it runs through Nob Hill (with its many pedestrian friendly features), scores approximately 75 points whereas Lomas from 14th Street to I-25 scores approximately 30 points.

PEDESTRIAN COMPOSITE INDEX

Quantitative Input – Pedestrian Composite Index Score

MRCOG uses the Pedestrian Composite Index (PCI) to rank areas of higher or lower pedestrian activity. This methodology evaluates an area's pedestrian generators such as schools, transit and restaurants compared against an area's pedestrian deterrents such as roadway speed, number of lanes and pedestrian crashes. As an analysis tool, it quantifies which streets have the most potential to generate pedestrian traffic, as well as those that deter pedestrian activity. These two numbers can then be compared to produce an index that reveals which areas could benefit the most from pedestrian improvements.[44]

8.3 CONNECTIVITY

Street connectivity is a crucial measure of network performance and has broad implications on how well individual streets function within the larger transportation network. As outlined in chapter 4: Complete Networks, there are numerous benefits to well-connected networks. They ensure efficiency, reduce congestion, reduce vehicle miles traveled, create direct routes for multiple users, encourage walking and bicycling, and provide more direct access to businesses.

There are several methodologies to measure the connectivity of different development patterns. Most of these methodologies compare physical features of the existing network, including block length, number of intersections, and route directness. These measures can provide replicable standards to compare connectivity between different development patterns. In addition, the benefits of connectivity can be measured individually as positive outcomes of well-connected networks.

[44] Please see PCI section in the 2040 MTP for more details.

INTERSECTION DENSITY

Quantitative Output – Four-leg Intersections per Square Mile

Four-leg intersection density describes the number of intersections with four adjoining streets per unit area (usually square miles). This is a useful measure of how well connected a road network is because it excludes dead end streets (e.g. cul-de-sacs) and t-intersections and indirectly measures average block length. Higher scores (greater than 100 intersections/square mile) generally indicate more favorable for creating walkable places.[45] For example, gridded networks generally have higher scores than traditional single-family subdivision layouts, but this also dependent on average block length and access points from major roadways to local developments.

Intersection density can be calculated by counting the number of true intersections in a given area, and dividing this by the area size, which is usually converted to square miles.

AVERAGE BLOCK LENGTH

Quantitative Output – Average Block Length

Average block length is an additional measure of connectivity that is especially relevant for pedestrians. In general, pedestrians value shorter block lengths, as they allow for pedestrians to pick more direct routes, and offer more opportunities to the cross the street. In urban areas, block lengths of 200 feet to 400 feet are ideal for promoting pedestrian-scaled environments.[46]

Average block length can be calculated by adding the block lengths of each block in a specified area, divided by the number of blocks.

DIRECT ROUTES AND TRIP DISTANCE

Quantitative Output, Outcome – Directness Index

Direct routes to destinations allow for shorter travel distances, which is extremely important for pedestrians who are only willing to walk short distances to reach their destinations. On average, studies have found that most people are only willing to walk between ¼ to ½ mile to reach a destination (such as a transit stop)[47]. If the distance is longer, they will not take the trip or choose an alternative mode. For this reason, having a network that offers direct routes, coupled with shorter block lengths, is essential to increase the walkability of an area. It is also an essential consideration when planning transit stops, which should be within walking distances of residences and businesses.

Although trip distance may appear to be short and direct on a map, actual trip distance may be much longer if streets do not connect and no direct route is available. This can increase on-the-ground trip distance significantly, and make walking inconvenient or simply too long for most pedestrians.

Route directness can be measured using a "directness" ratio that compares actual, on the ground travel distance divided by direct line travel distance. For walkability, a ratio of 1.5 or less is ideal.[48]

8.4 SAFETY

Evaluating crash statistics along existing roadways is important to understand where, why, and how crashes along different roadway segments occur. These statistics can reveal areas with higher overall crash rates, which can then be attributed to specific design features of the street that contribute to lower user safety. Such calculations

[45] Planning for Street Connectivity, 2003

[46] Ewing, Pedestrian- and Transit-Oriented Design, 28-30

[47] Mid-Region Travel Survey, 2014

[48] MRMPO uses the TRAM modeling tool to compare the travel times of various modes based on the network design. This tool can reveal the relative efficiency of a roadway network to support multiple users. For example, the TRAM model can be used to find the areas that can be reached in five minutes from the Alvarado Transportation Center by walking, bicycling, driving, or taking the bus. This allows for quantifying the number of people who can access certain services, how many services fall within a certain transportation shed, or how much ground a person can cover in a given time using various modes. TRAM analysis can be done at a regional, neighborhood, site-specific scale. In addition to mapping accessible areas for various modes at different time increments, TRAM can be used to contrast current and proposed road networks to identify alignments that provide the most access to users for different modes.

are especially important for improving intersection safety, where the majority of crashes occur.

NUMBER OF CRASHES AND CRASH RATES

Quantitative Outcome – Number of Crashes and Crash Rate

One method to evaluate intersection safety is to compare the number of crashes at each intersection to the volume of cars passing through the intersection in a given time period. Comparing these two factors generates a crash rate, showing the relative likelihood of a crash happening at a given intersection. This can be used to measure the relative safety of an intersection for motorists, pedestrians, and bicyclists by comparing reported crashes from all users.

In Bernalillo County, some of the intersections with the most pedestrian crashes also have a high crash rate, including San Mateo and Central, and Central and Louisiana. Other intersections of note include several downtown Albuquerque, including Gold and 2nd, Marquette and 5th, Central and 6th, Gold and 5th, and Gold and 6th. The high crash rates at these intersections point to a need to understand potential design or operating issues that have contributed to lower user safety. Such analysis can also point to "crash hotspots" where the likelihood of crashes happening is much higher.

PEDESTRIAN INTERSECTION SAFETY INDEX

Quantitative Output – Ped ISI Score

Another way to measure intersection safety for pedestrians is using the Federal Highway Administration's *Pedestrian Intersection Safety Index* (Ped ISI). This methodology uses six basic roadway attributes to determine an intersection's safety: 1) Whether the intersection is signalized or not; 2) whether the intersection includes a stop sign; 3) number of lanes; 4) 85th percentile speed; 5) average daily traffic (ADT); and 6) whether the intersection is surrounded by commercial land uses. The factors produce a score from 1-6, with higher numbers indicating less safe intersections based on a combination of these factors. For example, San Mateo, with 6 lanes, a posted speed limit of 40 and 30,000 ADT, scores a 3.6 (less safe), while Ridgecrest, with two lanes, a 25 MPH speed limit, and 2,200 ADT, scores a 1.73 (more safe).

8.5 LAND USE INTEGRATION AND SUPPORT

By supporting the users and activities of their adjacent land uses, roadways can help foster positive feedbacks that lead to a stronger integration between these land uses and the transportation network. The region has examples where the land use and roadways work together to support economic development and valuable public places (such as Nob Hill), however, the way these effects are measured is new and still developing. This section recommends three measures to begin the process of better understanding land use and transportation integration. The *Multi-Modal Approach to Economic Development in the Metropolitan Area Transportation Process* by the Federal Highway Administration provided ideas for these measures.

HIGH ACTIVITY AREAS

Quantitative Input – Activity Density Score

Roadway projects can look to catalyze investment in areas with high existing or potential future activity (i.e., higher densities and trip generation potential). MRMPO's Project Prioritization Process includes a simple methodology to calculate activity levels by comparing population density and employment density to a unit area.[49] The formula for activity density is:

$$\text{Activity Density} = \frac{\text{DASZ Population} + \left(\text{Employment} * \frac{\text{AMPA Population}}{\text{AMPA Employment}}\right)}{\text{DASZ Acreage}}$$

This formula can be used to measure both current activity and projected activity in terms of population and job density by Data Area Subzone

[49] Please see MRMPO's *Project Prioritization Process Guidelines for Large Urban Areas* (September 2014), page 69

(DASZ). In this way, activity density can provide a means to understand which areas are likely to see increased use and benefit the most from infrastructure investment. It can also be used to compare actual development over time.

INCREASED TRANSIT RIDERSHIP, PEDESTRIAN ACTIVITY, AND BICYCLE ACTIVITY

Quantitative Outcome – Trip Counts by Mode

Creating targeted transportation investment in high activity areas can help expand mode choices for all users, which allows people the opportunity to change their transportation behaviors. These modal shifts can be seen with an increasing percentage of trips being taken by pedestrians, bicyclists and transit riders in response to these expanded options. Such changes can be measured by counting the number of pedestrians, bicyclists, transit users, and motorists before and after projects are constructed. Trip generation models can also be used to project the expected number of motorists or transit users that will result from a project, although methods for calculating increased pedestrians and bicyclists are still being developed.

INCREASED INVESTMENT & BUSINESS SALES

Quantitative Outcome(s) – Change in Investment/Sales Dollars

In addition to increased trips and user activity, roadway projects can be evaluated as to how they stimulate increased investment along a corridor. Some ways to measure increased investment include:

1. **Increased Business Sales:** Local businesses may see increased sales along streets that redeveloped to support additional modes. For example, studies have shown that the addition of bike lanes and/or on street parking can lead to increased retail activity and sales.
2. **New Development Projects:** investment in roadway projects may spur new development along a corridor by increasing investment potential and market attractiveness. For example, new Bus Rapid Transit routes have been shown to increase investment along corridors, especially those that connect major job centers. New development can be seen in decreased vacancy rates, increased building permits, and new businesses along the street.
3. **Increased Property Values:** Roadways may increase property values of adjacent properties. For example, walkability improvements, including the installation of street trees, better lighting, and wider sidewalks, have been shown to increase property values along these streets as compared to streets without these improvements.[50]

[50] Ewing, Pedestrian- and Transit-Oriented Design, 65

Appendix

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COMPLETE STREETS CHECKLIST

MRMPO

Mid-Region Metropolitan Planning Organization

MR COG

COMPLETE STREETS CHECKLIST

To help facilitate an improved transportation planning process, MRMPO has developed the Complete Streets Checklist to provide a baseline analysis of existing conditions, constraints, and opportunities along existing roadways. The goal is that the checklist can be used to generate clear conceptual design priorities that can lead to the best overall multimodal configuration.

PROJECT NAME ____________ RESPONSIBLE AGENCY(S) ____________

LOCATION ____________ CHARACTER AREA ____________

ROADWAY CLASSIFICATION ____________ POSTED SPEED ____________

DEVELOPMENT PHASE

- ☐ Sector Plan, Area Plans, and Master Plans
- ☐ Corridor Plans & Studies
- ☐ Engineering & Feasibility Studies
- ☐ New Road Construction
- ☐ Redevelopment and Reconstruction Projects
- ☐ Roadway Resurfacing Maintenance

PROJECT MODE PRIORITIES

- ☐ Transit
- ☐ Bicyclists
- ☐ Pedestrians
- ☐ Freight
- ☐ Motor Vehicles

PROJECT DESCRIPTION

CROSS SECTION ELEMENTS

ELEMENT	DESCRIPTION	WIDTH
THROUGH DRIVE LANES		
MEDIAN		
PARKING		
BICYCLE INFRASTRUCTURE		
SIDEWALK BUFFERS		
SIDEWALKS		
SHOULDERS		
TOTAL		

1

EXISTING CONDITIONS

LAND USE		CURRENT	2040 PROJECTION
	PRIMARY LAND USES		
	LAND USE MIX		
	DU/ACRE		
	ACTIVITY DENSITY		
	PED COMPOSITE INDEX		

TRAFFIC		COUNT	2040 PROJECTION	MODE SHARE %
	AWDT			
	PEDESTRIANS			
	BICYCLISTS			
	FREIGHT			

NETWORKS		EXISTING	FUTURE	DESCRIPTION/CONDITION
	TRANSIT ROUTE			
	FREIGHT ROUTE			
	SIDEWALKS			
	BICYCLE ROUTE			

TRANSIT		WEEKDAY	WEEKEND	RIDERSHIP
	FREQUENCY			
	HOURS OF OPERATION			

CRASHES		CRASHES (LAST 5 YEARS)	FATAL	RATE
	AUTO			
	BICYCLES			
	PEDESTRIAN			

PERFORMANCE		SCORE		SCORE
	AUTO LOS		TRAVEL DELAY	
	TRANSIT LOS		BICYCLE LOS	
	PEDESTRIAN LOS		WALKABILITY INDEX	

ADDITIONAL EXISTING CONDITIONS

2

PRIORITY CONSIDERATIONS

PRIORITY	CONSIDERATION	YES/NO
EXPANDED CHOICES & INVOLVEMENT	Is there an opportunity to expand mode choices along the roadway?	
	Is community involvement a priority?	
	Are there existing plans that should be consulted?	
LAND USE INTEGRATION	Is economic development along the street a priority?	
	Does the street support a diverse range of land uses, activities, and users?	
	Does the street support the realization of the 2040 preferred scenario?	
CONGESTION & EFFICIENCY	Is addressing existing or future congestion a priority?	
	Is the efficiency of the roadway a concern?	
	Are roadway pavement conditions a concern?	
COMMUNITY HEALTH	Is improving community health outcomes a priority?	
	Does the design encourage active transportation options?	
	Are there gaps in the neighborhood's sidewalk, transit, or bicycle networks?	
	Does the project improve accessibly to jobs, especially for low income residents?	
PARKING	Is expanded parking a priority?	
	Is on-street parking a possibility?	
WALKABILITY	Are the area's sidewalks ADA Compliant?	
	Are crosswalks provided?	
	Are additional pedestrian amenities a priority?	
BICYCLING	Does the street enable safe bicycling?	
	Are there gaps in the current bicycling infrastructure, such as impassible intersections or other barriers?	
	Is bicycle safety a concern?	
TRANSIT	Is expanded transit service a priority?	
	Are improved transit amenities a priority?	
TRAFFIC CALMING	Is traffic calming a priority?	
	Are crash rates higher than other areas?	
	Is intersection crossing safety a concern?	
GREEN STREETS	How well does the street handle storm water runoff and water quality?	
	Are there ways to incorporate green infrastructure within the roadway?	
CONNECTIVITY	Does the street's configuration support the goals of creating complete networks?	
	Would the project expand connections between anchor institutions or job centers?	
	Does the current configuration introduce barriers to travel for certain users?	
FREIGHT	Is freight movement a priority along this roadway?	
	Is this a major freight route?	

COMPLETE STREETS GAPS

ADDITIONAL CONSTRAINTS

3

IMPLEMENTATION OPPORTUNITIES

PRIORITY	POTENTIAL STRATEGIES		FEASIBILITY
LAND USE INTEGRATION & DEVELOPMENT	☐ Walkability Improvements ☐ Façade Upgrades ☐ Infill Strategies	☐ Zoning Changes ☐ Establish BID, Main Street District, etc. ☐ Maintenance Plan	
CONGESTION & EFFICIENCY	☐ Lane Restriping ☐ Roundabouts ☐ Access Management	☐ Travel Demand Management ☐ ITS Solutions ☐ Signals and Signal Timing ☐ Additional Lanes	
COMMUNITY HEALTH	☐ Trail Connections ☐ Bike infrastructure improvements	☐ Fill in Sidewalks ☐ Active Public Spaces	
PARKING	☐ On-street Parking	☐ Public Parking	
WALKABILITY & URBAN DESIGN	☐ Wider Sidewalks ☐ Expanded Landscape Buffers ☐ Street Trees ☐ Improved Crosswalks ☐ Reduce Curb Cuts	☐ Street Furniture ☐ Active Public/Open Spaces ☐ Improved Street Lighting ☐ Public Art ☐ Unique Paving Materials	
BICYCLING	☐ Bike Lanes ☐ Buffered Bike Lanes (Cycle Tracks) ☐ Multi-use paths	☐ Bicycle Boulevards ☐ Intersection Markings ☐ Parallel Bike Route	
TRANSIT	☐ Bus Rapid Transit ☐ Expanded Service	☐ Improved Transit Stop Amenities	
TRAFFIC CALMING	☐ Lower Design/Posted Speed ☐ Narrower Lanes ☐ Lane Reduction ☐ Median Improvements	☐ Roundabouts ☐ Signals and Signal Timing ☐ Pedestrian Beacons ☐ Improved Signage and Lighting ☐ Shoulder Changes	
GREEN STREETS	☐ Street Trees ☐ Pervious Surfaces ☐ Bioretention Basins	☐ infiltration Planters ☐ Rain Gardens ☐ Median Design	
CONNECTIVITY	☐ Denser, grid like network ☐ Side Street Improvements ☐ Parallel Routes ☐ Improved Trail Connections	☐ Limit cul-de-sacs and Dead Ends ☐ Use shorter block lengths ☐ Pedestrian Connections to Adjacent Land Uses	
FREIGHT	☐ Truck Route Signage	☐ Designated Truck Route	

ADDITIONAL OPPORTUNITIES

4

Appendix I: 2040 MTO Public Meetings and Presentations

Date	General Theme / Presentation Title	Group	Location
11/1/2013	2040 MTP Kick-Off	Technical Coordinating Committee (TCC)	MRCOG
11/5/2013	2040 MTP Kick-Off	Valencia County	Los Lunas Transportation Center
11/6/2013	2040 MTP Kick-Off	Sandoval County	Bernalillo US 550 Transportation Center
11/7/2013	2040 MTP Kick-Off	Bernalillo County	MRCOG
11/8/2013	Growth and Transportation in Central NM	New Mexico Society of Professional Engineers	UNM
11/14/2013	2040 MTP Kick-Off	ABQ Ride Transit Advisory Board	Alvarado Transportation Center
11/18/2013	Scenario Planning	Bernalillo County Community Health Council	South Valley Multi-Purpose Senior Center
12/5/2013	2040 MTP: "Long Term Population Trends and Their Transportation Impacts"	Institute of Transportation Engineers (ITE) Holiday Luncheon	El Pinto Restaurant
1/6/2014	Complete Streets and Linking Transportation to Land Use: Two New Initiatives coming up in the 2040 MTP	51st Paving and Transportation Conference (UNM Civil Engineering Dept.)	Marriot Pyramid North Hotel and Convention Center
1/7/2014	Climate Change Scenario Planning	51st Paving and Transportation Conference	Marriot Pyramid Hotel and Convention Center
1/16/2014	2040 MTP Kick-Off	East Gateway Coalition of Associations	Manzano Multi-Generational Center
1/22/2014	2040 MTP Kick-Off	Kiwanis Club of Coronado	Weekly meeting at Egg & I
4/5/2014	2040 MTP	Walk MS Albuquerque	Old Town Albuquerque
4/11/2014	2040 MTP	NMASLA Multi-Modal Event	ABC Library Special Collection
4/16/2014	2040 MTP	Statewide Long-Range Transportation Plan Public Meeting	Indian Pueblo Cultural Center
4/17/2014	Integrating climate change and flood impacts into transportation planning	New Mexico Floodplain Managers Association	Clovis - Annual Conference

4/22/2014	2040 MTP	UNM Sustainability Fair	UNM Main Campus
4/27/2014	2040 MTP	La Montanita Earth Day Event	La Montanita Co-op
4/30/2014	2040 MTP Scenario Development	MRCOG Region/Bernalillo County	MRCOG
5/7/2014	2040 MTP Scenario Development	Sandoval County	Rio Rancho Haynes Community Center
5/8/2014	2040 MTP Scenario Development	South Valley Coalition of Neighborhood Associations	BCSO South Area Command
5/10/2014	2040 MTP Scenario Development	National Train Day	Alvarado Transportation Center
5/14/2014	2040 MTP Scenario Development	Valencia County	Belen Community Center
5/16/2014	2040 MTP Update - Outreach and Scenario Development	Metropolitan Transportation Board	MRCOG
5/16 and 5/17/2014	2040 MTP	Walkable and Livable Communities Institute Event and Presentation by Dan Burden	Mark Twain Elementary School
5/21/2014	2040 MTP, Scenario Planning, and Climate Change Project	NAIOP Members Only Breakfast	Uptown Marriot
5/22/2014	2040 MTP Scenario Development	MRCOG Region/Bernalillo County	MRCOG
6/5/2014	2040 MTP, Scenario Planning, and Rio Rancho Development	NAIOP Rio Rancho Roundtable	Rust Medical Center
6/10/2014	2040 MTP, Scenario Planning, and Climate Change Project	National Association of Regional Councils	Louisville, KY
6/26/2014	2040 MTP, transit, and scenario planning	Academy Hills Park Neighborhood Association	Heights Cumberland Presbyterian Church
7/14/2014	Climate Change Project and Scenario Planning	Urban Waters Partnership	MRCOG
8/20/2014	2040 MTP, Scenario Planning	ASCE - Northern NM Chapter	Albuquerque - Flying Star
9/19/2014	2040 MTP, Scenario Planning	Metropolitan Transportation Board	MRCOG
9/22/2014	2040 MTP, Scenario Planning	New Mexico APA Conference	Albuquerque

10/9/2014	Transportation Trends	ITE New Mexico Monthly Luncheon	El Pinto, Albuquerque
10/22/2014	MRMPO Scenario Planning Process	AMPO Annual Conference	Atlanta, GA
10/23/2014	Climate Change Project and Scenario Planning	AMPO Annual Conference	Atlanta, GA
10/28/2014	2040 MTP, Scenario Planning	New Mexico Infrastructure Financing Conference	Buffalo Thunder Resort
11/2/2014	2040 MTP Public Outreach	Bernalillo County Dia de los Muertos Marigold Parade and Health Fair	Gateway Park, Isleta Blvd.
12/5/2014	2040 MTP, Scenario Planning	CNM Sustainability Lecture Series	CNM
1/5/2015	2040 MTP, Scenario Planning	NM Paving and Transportation Conference	Marriot Pyramid Hotel and Convention Center
1/5/2015	Transportation Trends and Changing Preferences	NM Paving and Transportation Conference	Marriot Pyramid Hotel and Convention Center
1/8/2015	Draft MTP findings	Public Meeting - Round #3	Rio Rancho / Sandoval County
1/13/2015	Draft MTP findings	Public Meeting - Round #3	Belen / Valencia County
1/14/2015	Draft MTP findings	Society of American Military Engineers	Chama River Brewing Company
1/15/2015	Draft MTP findings	Public Meeting - Round #3	Albuquerque / Bernalillo County
1/16/2015	Draft MTP findings	Metropolitan Transportation Board	MRCOG
1/16/2015	Draft MTP findings	Chamber of Commerce - Transportation Committee	Albuquerque CoC
3/6/2015	2040 MTP Summary	Technical Coordinating Committee (TCC)	MRCOG
3/10/2015	2040 MTP Process & Summary	RMRTD Visioning Workshop	Albuquerque
3/18/2015	2040 MTP	UNM Civil Engineering Seminar Series	UNM Civil Engineering Department
3/20/2015	2040 MTP Summary	Metropolitan Transportation Board	MRCOG
3/24/2015	2040 MTP Summary	Open House & Public Meeting	MRCOG

Appendix J

2040 MTP Questionnaire Summary Results

From October 2013 to January 2014, the Mid-Region Council of Governments (MRCOG) conducted a questionnaire to gather people's views on transportation in the Albuquerque Metropolitan Planning Area. This area includes southern Sandoval County (from Algodones continuing south), all of Bernalillo County and all off Valencia County. Results from this questionnaire will be incorporated in the 2040 Metropolitan Transportation Plan.

There are significant differences in people's reported satisfaction with the transportation system based on how many options they felt they have, their age, and their views on congestion. Overall, 31.7 percent of respondents are satisfied with the current transportation system. If people felt that they have many transportation options, their satisfaction with the current transportation system increases by 10.9 percentage points to 42.6 percent. For those who are 65 years and older, their satisfaction rate is 9.6 percentage points above average, while Millennials (ages 18-34) reported satisfaction rates that are 6.2 percentage points lower than average. Not surprisingly, if people viewed congestion as less severe also have significantly higher than average satisfaction rates with 7.4 percentage points above average.

Similar to results from the 2010 questionnaire effort, the more people used or had access to a particular mode the more they desired improvements for that mode. The mode that most people selected for improvement is the bus (56.8 percent want bus improvements), followed by bicycling (46.0 percent want improvements for bicycling) and walking (45.4 percent want improvements to walking).

When asked what issues respondents encounter when taking various transportation modes, respondents cite poor driver behavior as the biggest driving issue (69.5 percent) followed by traffic congestion (60.3 percent). The top reported bicycling issue is that "it doesn't feel safe from traffic" (62.4 percent), the top walking issue is that "distance is too far" (60.3 percent), the top train issue is that "the schedule does not meet my needs" (49.0 percent) and the top bus issue is that it "takes too much time" (46.0 percent). Compared to their older counterparts, Millennials (18 to 34 years old) tend to view bus travel times as too long and walking distances as too far.

The questionnaire was conducted mostly online. English and Spanish versions of the questionnaire were available, as well as a paper/postal mail version. The wide-spread participation can be attributed to outreach to member governments, business and neighborhood associations, educational institutions, special interest groups and the mass media. There were 1,371 respondents to the questionnaire. Of the people responding, 79 percent had not provided views on transportation questionnaire previously

The information collected will be used in the regional transportation planning process led by the Mid-Region Council of Governments (MRCOG), which includes the development of the 2040 Metropolitan Transportation Plan (MTP). MRCOG would like to thank all the participants for taking the time to make their voices heard.

DEMOGRAPHIC RESULTS

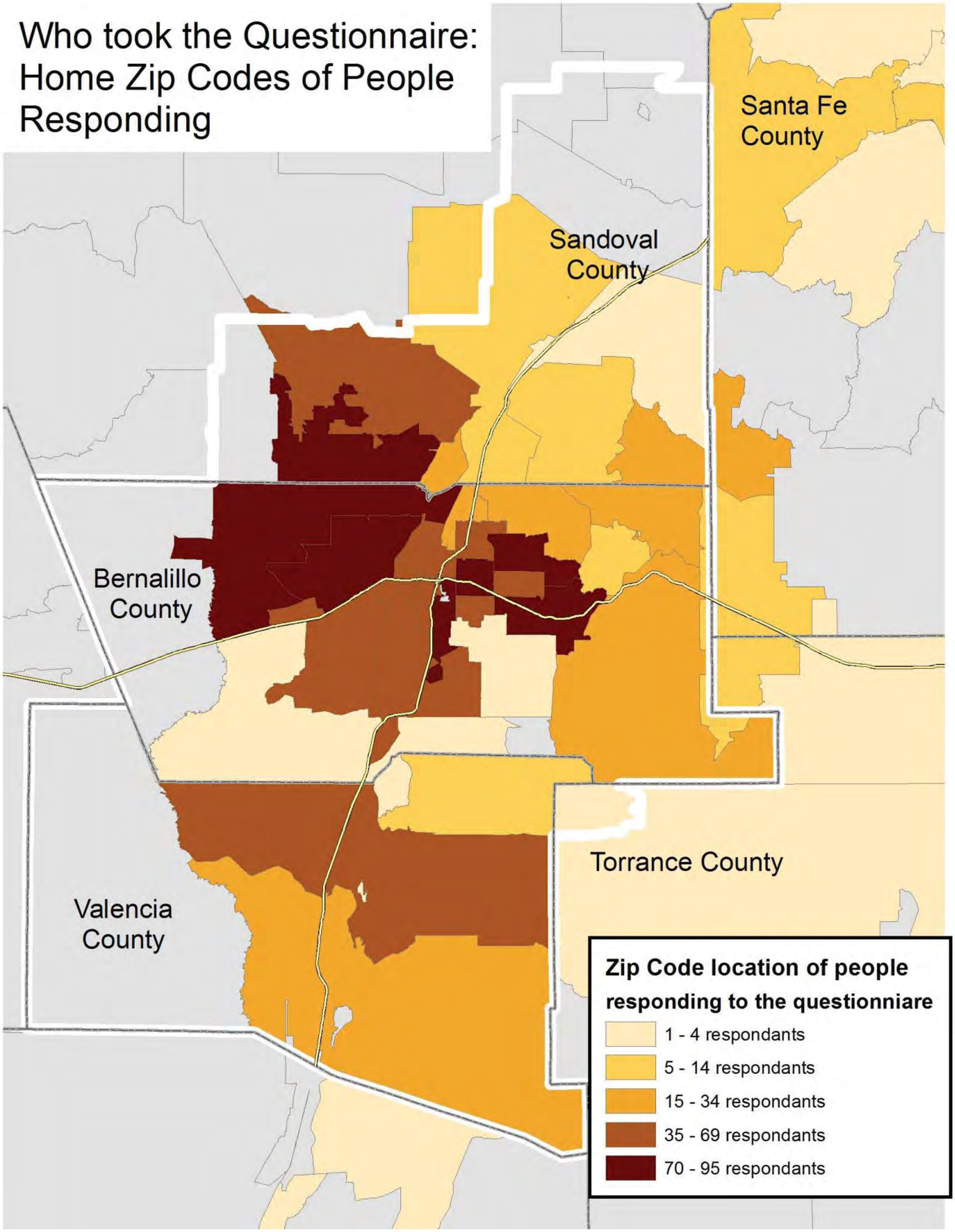
People were asked demographic questions to ensure that different segments of the population were being captured. The demographic profiles of questionnaire respondents were compared with the profile from the 2011 American Community Survey for the 3-county region of Bernalillo, Sandoval, and Valencia counties. The results show that as the plan progresses, efforts need to be made to better capture input from the Hispanic population, people with low household incomes and students.

Gender	Questionnaire Respondents	3-County Region, 2011 ACS	Difference
Male	52.7%	49.3%	3.4%
Female	43.5%	50.7%	-7.2%
No Response	3.8%		

Age (18 years and older)	Questionnaire Respondents	3-County Region, 2011 ACS	Difference
18-24 years	3.7%	13.0%	-9.4%
25-34 years	15.8%	18.5%	-2.7%
35-44 years	14.5%	16.7%	-2.2%
45-54 years	23.0%	18.5%	4.6%
55-64 years	24.8%	16.6%	8.2%
65 years and over	14.4%	16.7%	-2.3%
No Response	3.8%		

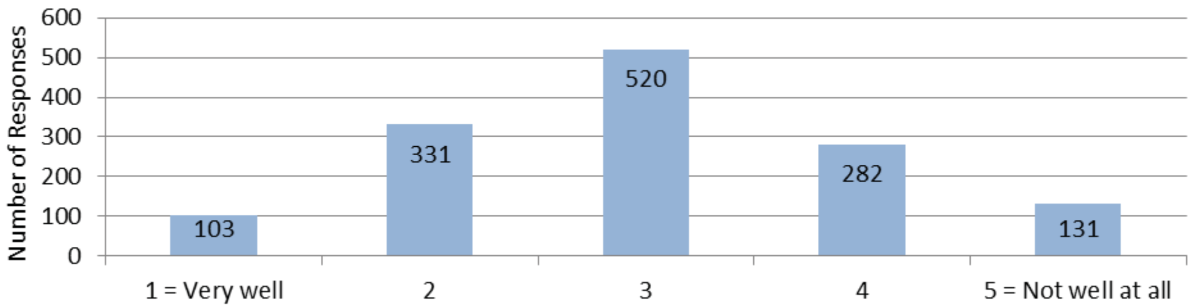
Race/Ethnicity	Questionnaire Respondents	3-County Region, 2011 ACS	Difference
White/Caucasian	68.1%	41.5%	26.6%
Hispanic/Latino	18.1%	47.2%	-29.1%
American Indian or Alaskan Native	2.2%	5.2%	-3.0%
Black or African American	1.5%	2.2%	-0.7%
Asian/Pacific Islander	0.8%	1.7%	-0.9%
Two or more races, or other race, non-Hispanic	1.8%	2.2%	-0.4%
Prefer not to answer & No Response	7.6%		

Household Income	Questionnaire Respondents	3-County Region, 2011 ACS	Difference
$0-$24,999	9.3%	28.9%	-19.7%
$25,000-$49,999	17.1%	25.2%	-8.0%
$50,000-$74,999	17.5%	18.0%	-0.5%
$75,000-$99,999	17.7%	10.0%	7.7%
$100,000-$124,999	12.8%	6.7%	6.0%
$125,000-$149,999	6.3%	4.1%	2.1%
$150,000-$199,999	7.7%	4.1%	3.7%
$200,000 and up	2.3%	3.0%	-0.8%
No Response	9.4%		


Who took the Questionnaire: Home Zip Codes of People Responding
Santa Fe County
Sandoval County
Bernalillo County
Torrance County
Valencia County
Zip Code location of people responding to the questionniare
1 - 4 respondants
5 - 14 respondants
15 - 34 respondants
35 - 69 respondants
70 - 95 respondants

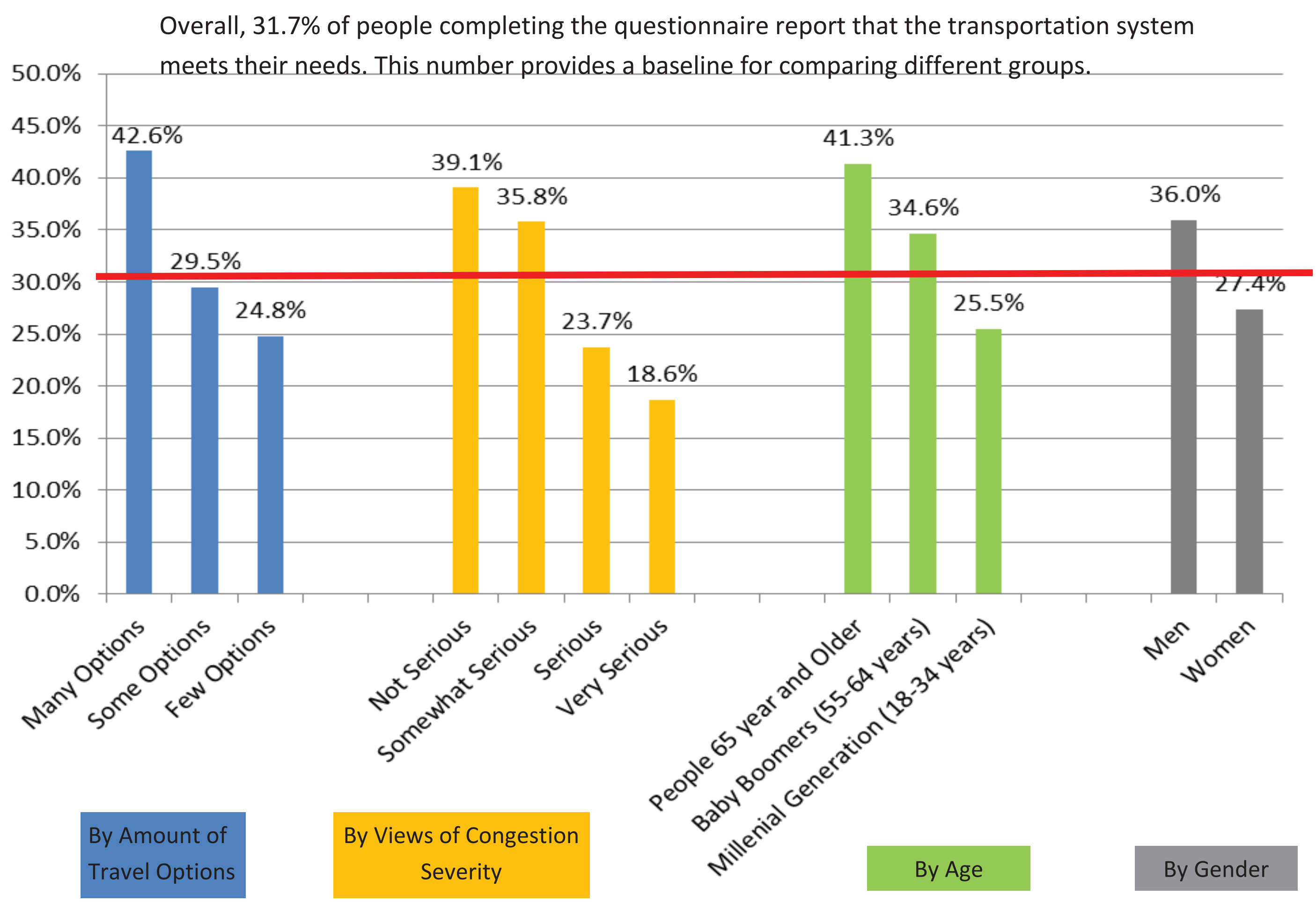
Satisfaction with the Transportation System

People were asked how well the transportation system meets their needs on a scale from 1 to 5 with 1 being "very well" and 5 being "not well at all." Similar to the transportation questionnaire developed for the 2035 MTP, people's overall responses resembled a bell curve and where a little over 30% of people responding felt that the transportation system met their needs in general (responded with a 1 or 2).



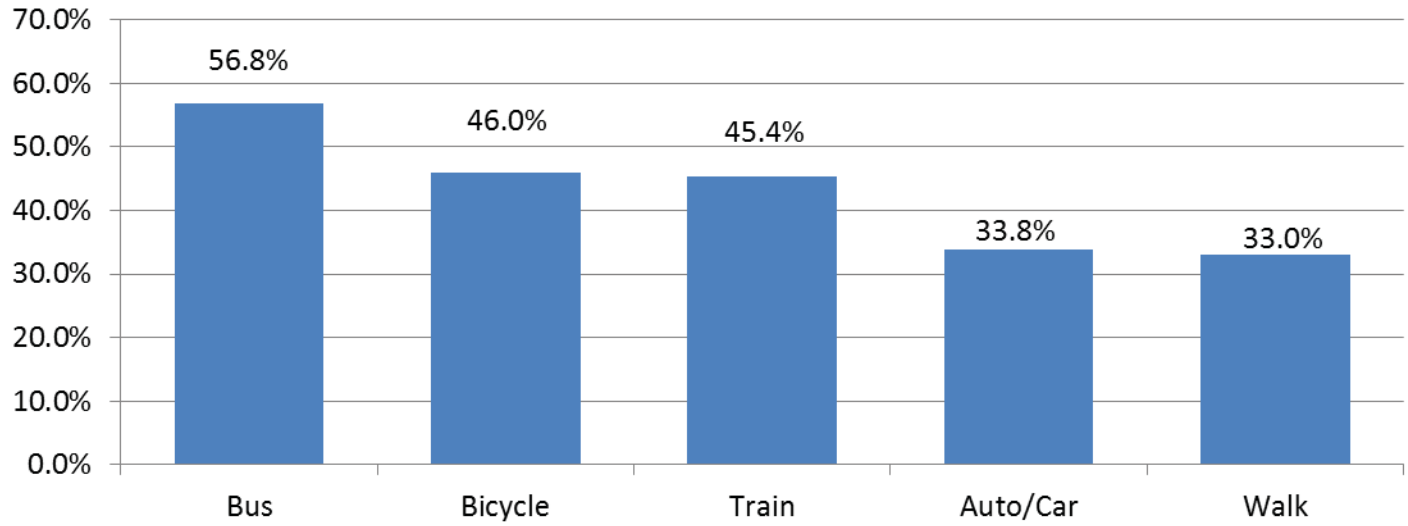
There were significant differences in people's reported satisfaction levels based on how they view congestion, the number of options they have, their age and gender. These differences were found to be significant also after controlling for other factors. The following chart shows these groups the and frequency that they responded to the satisfaction question with a 1 or 2 indicating that the transportation system meets their needs in general.

Percentage of People Responding that the Current Transportation System Meets Their Needs



Which Modes People would like to be Easier to Use

People were asked which modes they would like to be easier to use. This question was worded slightly differently in the questionnaire conducted for the 2035 MTP asking what modes people would like "better access to." Similar to results from the 2010 questionnaire effort, the more people used or had access to a particular mode the more they desired improvements for that mode. For example, people who had used some form of public transit in the past year also wanted improvements to the bus and train. People who live on Albuquerque's Westside or Sandoval County want better access for cars.



Bus	Bicycle	Train	Auto/Car	Walk
Bus improvements was the most selected option. Groups that that wanted bus improvements over others were people who used public transit in the last year, people with lower incomes, and people living on Albuquerque's Eastside.	People who felt like they had many options also wanted Improvements for bicycling. If people thought congestion was severe, they were not as interested in improving bicycling.	People who had taken public transit in the last year wanted easier access to the train. Women also wanted it to be easier to take the train. People living in Sandoval County or Albuquerque's Westside were not as interested in improving train	People who felt congestion was more severe, who live on Albuquerque's Westside, or Sandoval Co. wanted better access for cars. People who felt like they had many transportation options and if they used public transit in the past year were not interested in improving car access.	People who felt congestion was less severe and people who used public transit in the last year wanted to improve walking. People who were not interested in improving walking were those who live in the East Mountains, and those who commute to Albuquerque's Eastside from the Westside or Sandoval Co.

Views on Land Use Preferences

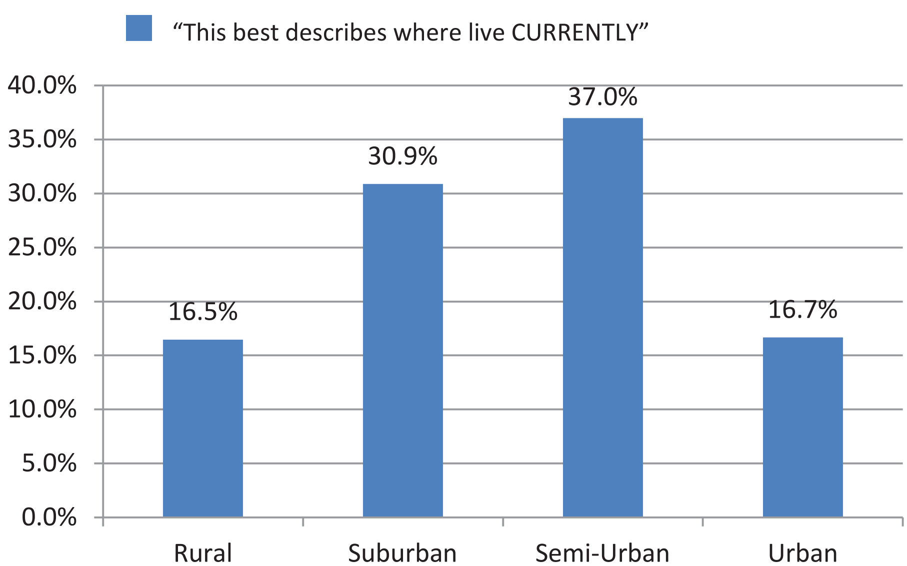
The Scenario Planning component in the 2040 MTP will examine if people are willing to live in more urban environments. People were asked where they live now and where they would like to live in the future in relation to an urban to rural setting. People responding to this question indicated that they would prefer to live in a location that is either more urban or more rural than where they live today.

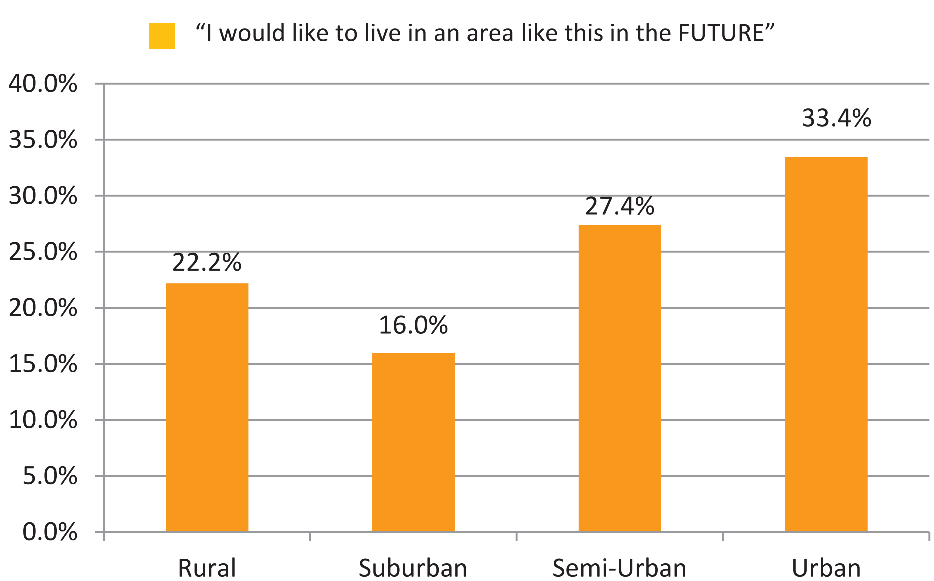
Setting Descriptions:

Rural: Outlying area that is generally distant from employment, schools, and shopping. A car is necessary for daily needs.

Suburban: Residential area that is separate from employment, schools, and shopping. Public transit, walking and bicycling are limited.

Semi-Urban: Moderate mix of employment, schools and shopping, etc. Some daily needs are accessible by public transit, walking and bicycling.





Appendix K

MTB Resolution (R-15-01 MTB)- Revised Transit Mode Share Goals for the 2040 MTP

RESOLUTION

of the

METROPOLITAN TRANSPORTATION BOARD

of the

MID-REGION COUNCIL OF GOVERNMENTS OF NEW MEXICO

(R-15-01 MTB)

Revising Transit Mode Share Goals for the 2040 Metropolitan Transportation Plan and Allocating Twenty-Five Percent of the Sub-Allocated Federal Funds Received by the Metropolitan Planning Organization to Projects Contributing to Achievement of the Goals

WHEREAS, 23 CFR Part 450 requires Metropolitan Planning Organizations (MPOs) to develop a long range, multimodal, financially constrained transportation plan for each metropolitan area; and

WHEREAS, the Metropolitan Transportation Board (MTB) of the Mid-Region Council of Governments (MRCOG) is the MPO for the Albuquerque Metropolitan Planning Area (AMPA); and

WHEREAS, the 2040 Metropolitan Transportation Plan (2040 MTP) is currently being developed in accordance with applicable federal planning regulation; and

WHEREAS, the Metropolitan Transportation Board approved on November 19, 2010, resolution R-10-16 MTB which established mode-share goals for daily travel demand over the Rio Grande in which ten percent of all river crossing trips would be achieved by transit by 2025 and twenty percent by 2035; and

WHEREAS, resolution R-10-16 MTB mandated twenty-five percent of the metropolitan area's suballocated funds (STP-U, STP-E and CMAQ-Mandatory) be programmed to projects that result in achieving the goals; and

WHEREAS, in the last four years numerous transit studies have taken place and identified high priority transit corridors; and

WHEREAS, additional analyses have been conducted on the distribution of transit riders and the conditions needed to support successful transit service, leading to a better understanding of transit priority routes; and

WHEREAS, since 2010, the AMPA has substantially expanded to a much larger geographic area and now includes additional river crossings where high capacity transit service is neither feasible or appropriate; and

WHEREAS, the federal transportation bill, Moving Ahead for Progress in the 21st Century (MAP-21) consolidated several funding categories; and

WHEREAS, regional planning scenarios have identified activity centers and transit corridors that should be target areas for further development; and

WHEREAS, new river crossings and new arterial roadways are unlikely to be constructed due to high costs and limited funding availability, environmental issues, and locational drawbacks; therefore, future investment of public funds requires less expensive, alternative modes of transportation to accommodate increased travel demand; and

WHEREAS, not all river crossings are good candidates for additional transit service and consist of parallel corridors that do not promote transit connectivity or result in a meaningful regional transit system; therefore, significant investment in transit along these corridors would not be consistent with the regional priorities under development in the 2040 MTP's preferred scenario; and

WHEREAS, the development of the 2040 MTP has identified a high priority transit network in which mode share goals should be applied to ensure consistency with recent studies and regional priorities being developed in the 2040 MTP's preferred scenario; and

WHEREAS, targeting a portion of the sub-allocated federal funds received by the Metropolitan Planning Organization to projects that result in a reduction of single occupancy vehicle trips along the high priority transit corridors and an increase in transit trips will help achieve the transit mode share goals.

NOW THEREFORE BE IT RESOLVED by the Metropolitan Transportation Board of the Mid-Region Council of Governments of New Mexico that:

1. The *Priority Transit Network* established in Attachment A is adopted as part of the MTP preferred scenario (as may be amended in subsequent plans).

2. Twenty percent (20%) of the aggregate trips along the corridors of the *Priority Transit Network* are to be achieved via transit by 2040.

3. Beginning in federal fiscal year 2016 and continuing each subsequent year, 25% of the sub-allocated federal funds programmed by the MPO (STP-Large Urban and CMAQ-Mandatory funds) be allocated to transit projects, or portions of projects with substantial dedicated transit infrastructure, that contribute to achieving the goal stated above.

4. Resolution R-10-16 MTB is superseded by this resolution.

PASSED, APPROVED, AND ADOPTED this 16th day of January 2015 by the Metropolitan Transportation Board of the Mid-Region Council of Governments of New Mexico.

Debbie O'Malley, Chair
Metropolitan Transportation Board

ATTEST:

Dewey V. Cave
Executive Director, Mid-Region Council of Governments
Executive Secretary, Metropolitan Transportation Board

Appendix L

Federal and State Funding Projections

Federal and State Funding Projections: FFY 2012 through FFY 2040

Fund Source	Actual or Programmed: FFY 2012 Actual	FFY 2013 Actual	FFY 2014 Actual	FFY 2015 Progm'd	Revenue Projections (in thousands of dollars): FFY 2016	FFY 2017	FFY 2018	FFY 2019	FFY 2020	TOTAL FEDERAL FFY 2012-2020	FFY 2021	FFY 2022	FFY 2023	FFY 2024	FFY 2025	TOTAL FEDERA L FFY 2021-	FFY 2026	FFY 2027	FY 2028	FFY 2029	FFY 2030	TOTAL FEDERA L FFY 2026-	FFY 2031	FFY 2032	FFY 2033	FFY 2034	FFY 2035	TOTAL FEDERA L FY 2031-	FFY 2036	FFY 2037	FFY 2038	FFY 2039	FFY 2040	TOTAL FEDERA L FY 2036-	ESTIMATED TOTAL Federal FY 2012-2040	EST. TOTAL AVAILABLE with Matching Funds
Total Debt Service "Restored" after final payment in 2027; same amounts provided by NMDOT for 2035 MTP.										$0.						$0.			$25,584.	$25,840.	$26,099.	$77,523.	$26,360.	$26,623.	$26,889.	$27,158.	$27,430.	$134,461.	$27,704.	$27,981.	$28,261.	$28,544.	$28,829.	$141,320.	$353,304.	$487,010.
Total SAFTEA-LU Funding	$46,381.	$16,021.	$5,097.	$0.						$67,500.						$0.						$0.						$0.						$0.	$67,500.	$79,002.
CMAQ-Flex	$0.	$4,486.	$0.	$0.	$427.	$0.	$0.	$0.	$0.	$4,913.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$4,913.	$5,750.
CMAQ-Mand	$0.	$4,945.	$11,666.	$4,883.	$4,883.	$4,883.	$4,883.	$4,883.	$4,883.	$45,911.	$4,883.	$4,932.	$4,981.	$5,031.	$5,082.	$24,910.	$5,132.	$5,184.	$5,236.	$5,288.	$5,341.	$26,181.	$5,394.	$5,448.	$5,503.	$5,558.	$5,613.	$27,516.	$5,669.	$5,726.	$5,783.	$5,841.	$5,900.	$28,920.	$153,437.	$179,584.
NHPP	$0.	$16,272.	$25,426.	$28,560.	$27,301.	$27,301.	$27,301.	$27,301.	$27,301.	$206,761.	$27,301.	$27,574.	$27,849.	$28,128.	$28,409.	$139,261.	$28,693.	$28,980.	$29,270.	$29,563.	$29,858.	$146,364.	$30,157.	$30,458.	$30,763.	$31,071.	$31,381.	$153,831.	$31,695.	$32,012.	$32,332.	$32,656.	$32,982.	$161,677.	$807,894.	$945,569.
STP-Flex	$0.	$6,884.	$9,739.	$3,948.	$2,922.	$2,922.	$2,922.	$2,922.	$2,922.	$35,183.	$2,922.	$2,952.	$2,981.	$3,011.	$3,041.	$14,908.	$3,072.	$3,102.	$3,133.	$3,165.	$3,196.	$15,668.	$3,228.	$3,261.	$3,293.	$3,326.	$3,359.	$16,467.	$3,393.	$3,427.	$3,461.	$3,496.	$3,531.	$17,307.	$99,534.	$116,495.
STP-Large Urban (STP-U)	$0.	$15,973.	$7,234.	$16,434.	$16,434.	$16,434.	$16,434.	$16,434.	$16,434.	$121,809.	$16,434.	$16,598.	$16,764.	$16,932.	$17,101.	$83,828.	$17,272.	$17,445.	$17,619.	$17,795.	$17,973.	$88,104.	$18,153.	$18,334.	$18,518.	$18,703.	$18,890.	$92,598.	$19,079.	$19,270.	$19,462.	$19,657.	$19,854.	$97,322.	$483,661.	$566,082.
STP-Small Urban (STP-S)	$0.	$993.	$150.	$3,745.	$3,745.	$3,745.	$3,745.	$3,745.	$3,745.	$23,614.	$3,745.	$3,783.	$3,820.	$3,859.	$3,897.	$19,104.	$3,936.	$3,976.	$4,015.	$4,056.	$4,096.	$20,079.	$4,137.	$4,178.	$4,220.	$4,262.	$4,305.	$21,103.	$4,348.	$4,392.	$4,435.	$4,480.	$4,525.	$22,180.	$106,080.	$124,158.
STP-Rural (STP-R)	$0.	$3.	$0.	$2,158.	$2,158.	$2,158.	$2,158.	$2,158.	$2,158.	$12,953.	$2,158.	$2,180.	$2,202.	$2,224.	$2,246.	$11,010.	$2,268.	$2,291.	$2,314.	$2,337.	$2,361.	$11,571.	$2,384.	$2,408.	$2,432.	$2,456.	$2,481.	$12,162.	$2,506.	$2,531.	$2,556.	$2,582.	$2,608.	$12,782.	$60,478.	$70,784.
STP-Bridge Off System (STBO)	$0.	$0.	$0.	$348.	$348.	$348.	$348.	$348.	$348.	$2,088.	$348.	$351.	$355.	$359.	$362.	$1,775.	$366.	$369.	$373.	$377.	$381.	$1,866.	$384.	$388.	$392.	$396.	$400.	$1,961.	$404.	$408.	$412.	$416.	$420.	$2,061.	$9,750.	$12,188.
Transp. Alt. Prog.-Flex	$0.	$0.	$0.	$211.	$211.	$211.	$211.	$211.	$211.	$1,268.	$211.	$213.	$216.	$218.	$220.	$1,078.	$222.	$224.	$227.	$229.	$231.	$1,133.	$233.	$236.	$238.	$241.	$243.	$1,191.	$245.	$248.	$250.	$253.	$255.	$1,251.	$5,921.	$6,930.
Transp. Alt. Prog.-Large Urban	$0.	$0.	$997.	$997.	$1,003.	$1,003.	$1,003.	$1,003.	$1,003.	$7,008.	$1,003.	$1,013.	$1,023.	$1,033.	$1,044.	$5,116.	$1,054.	$1,065.	$1,075.	$1,086.	$1,097.	$5,377.	$1,108.	$1,119.	$1,130.	$1,141.	$1,153.	$5,651.	$1,164.	$1,176.	$1,188.	$1,200.	$1,212.	$5,939.	$29,091.	$34,049.
Transp. Alt. Prog.-Small Urban	$0.	$0.	$0.	$86.	$86.	$86.	$86.	$86.	$86.	$514.	$86.	$87.	$87.	$88.	$89.	$437.	$90.	$91.	$92.	$93.	$94.	$459.	$95.	$96.	$97.	$98.	$99.	$483.	$100.	$100.	$102.	$103.	$104.	$508.	$2,401.	$2,811.
Transp. Alt. Prog.-Rural	$0.	$0.	$76.	$76.	$76.	$76.	$76.	$76.	$76.	$529.	$76.	$76.	$77.	$78.	$79.	$386.	$79.	$80.	$81.	$82.	$83.	$406.	$84.	$84.	$85.	$86.	$87.	$426.	$88.	$89.	$90.	$90.	$91.	$448.	$2,195.	$2,569.
TOTAL Federal Hwy	**$46,381.**	**$65,577.**	**$60,384.**	**$61,445.**	**$59,594.**	**$59,167.**	**$59,167.**	**$59,167.**	**$59,167.**	**$530,051.**	**$59,167.**	**$59,759.**	**$60,357.**	**$60,960.**	**$61,570.**	**$301,812.**	**$62,185.**	**$62,807.**	**$89,020.**	**$89,910.**	**$90,809.**	**$394,731.**	**$91,717.**	**$92,634.**	**$93,561.**	**$94,496.**	**$95,441.**	**$467,849.**	**$96,396.**	**$97,360.**	**$98,333.**	**$99,316.**	**$100,310.**	**$491,714.**	**$2,186,159.**	**$2,632,982.**
TTP-Pueblo de Cochiti	$0.	$0.	$355.	$347.	$362.	$362.	$362.	$362.	$362.	$2,515.	$362.	$366.	$370.	$373.	$377.	$1,849.	$381.	$385.	$389.	$393.	$396.	$1,943.	$400.	$404.	$408.	$413.	$417.	$2,042.	$421.	$425.	$429.	$434.	$438.	$2,147.	$10,496.	$10,496.
TTP-Pueblo of Isleta	$0.	$1,643.	$2,106.	$1,196.	$1,298.	$1,298.	$1,298.	$1,298.	$1,298.	$11,437.	$1,298.	$1,311.	$1,324.	$1,338.	$1,351.	$6,622.	$1,364.	$1,378.	$1,392.	$1,406.	$1,420.	$6,960.	$1,434.	$1,448.	$1,463.	$1,478.	$1,492.	$7,315.	$1,507.	$1,522.	$1,538.	$1,553.	$1,568.	$7,688.	$40,023.	$40,023.
TTP-Pueblo of Laguna	$0.	$0.	$10.	$10.	$10.	$10.	$10.	$10.	$10.	$70.	$10.	$10.	$10.	$10.	$10.	$51.	$11.	$11.	$11.	$11.	$11.	$54.	$11.	$11.	$11.	$11.	$11.	$56.	$12.	$12.	$12.	$12.	$12.	$59.	$290.	$290.
TTP-Pueblo of San Felipe	$0.	$0.	$644.	$674.	$720.	$720.	$720.	$720.	$720.	$4,918.	$720.	$727.	$734.	$742.	$749.	$3,673.	$757.	$764.	$772.	$780.	$787.	$3,860.	$795.	$803.	$811.	$819.	$828.	$4,057.	$836.	$844.	$853.	$861.	$870.	$4,264.	$20,771.	$20,771.
TTP-Pueblo of Sandia	$0.	$0.	$296.	$280.	$269.	$269.	$269.	$269.	$269.	$1,923.	$269.	$272.	$275.	$278.	$280.	$1,375.	$283.	$286.	$289.	$292.	$295.	$1,445.	$298.	$301.	$304.	$307.	$310.	$1,518.	$313.	$316.	$319.	$322.	$326.	$1,596.	$7,856.	$7,856.
TTP-Pueblo of Santa Ana	$0.	$0.	$225.	$248.	$272.	$272.	$272.	$272.	$272.	$1,836.	$272.	$275.	$278.	$281.	$284.	$1,390.	$286.	$289.	$292.	$295.	$298.	$1,461.	$301.	$304.	$307.	$310.	$313.	$1,535.	$316.	$319.	$323.	$326.	$329.	$1,613.	$7,835.	$7,835.
TTP-Pueblo of Santo Domingo	$0.	$0.	$581.	$657.	$735.	$735.	$735.	$735.	$735.	$4,916.	$735.	$743.	$750.	$758.	$765.	$3,752.	$773.	$781.	$789.	$796.	$804.	$3,943.	$812.	$821.	$829.	$837.	$845.	$4,144.	$854.	$862.	$871.	$880.	$889.	$4,356.	$21,111.	$21,111.
To-Hajiilee Navajo Reservation	$0.	$0.	$10.	$10.	$10.	$10.	$10.	$10.	$10.	$70.	$10.	$10.	$10.	$10.	$10.	$51.	$11.	$11.	$11.	$11.	$11.	$54.	$11.	$11.	$11.	$11.	$11.	$56.	$12.	$12.	$12.	$12.	$12.	$59.	$290.	$290.
TOTAL Tribal Transp. Prog	**$0.**	**$1,643.**	**$4,227.**	**$3,423.**	**$3,678.**	**$3,678.**	**$3,678.**	**$3,678.**	**$3,678.**	**$27,684.**	**$3,678.**	**$3,715.**	**$3,752.**	**$3,790.**	**$3,827.**	**$18,762.**	**$3,866.**	**$3,904.**	**$3,943.**	**$3,983.**	**$4,023.**	**$19,719.**	**$4,063.**	**$4,104.**	**$4,145.**	**$4,186.**	**$4,228.**	**$20,725.**	**$4,270.**	**$4,313.**	**$4,356.**	**$4,400.**	**$4,444.**	**$21,782.**	**$108,672.**	**$108,672.**
FLAP-Fed. Lands Acc. Prog.	$0.	$0.	$1,600.	$635.	$9,165.	$0.	$0.	$0.	$0.	$11,400.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$11,400.	$11,400.
FLHP-Forest Hwy	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.
FLHP-Park Roads	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.
FLHP-Wildlife Refuge Roads	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.
TOTAL Fed Lands Prg (non-TTP)	**$0.**	**$0.**	**$1,600.**	**$635.**	**$9,165.**	**$0.**	**$0.**	**$0.**	**$0.**	**$11,400.**	**$0.**	**$0.**	**$0.**	**$0.**	**$0.**	**$0.**	**$0.**	**$0.**	**$0.**	**$0.**	**$0.**	**$0.**	**$0.**	**$0.**	**$0.**	**$0.**	**$0.**	**$0.**	**$0.**	**$0.**	**$0.**	**$0.**	**$0.**	**$0.**	**$11,400.**	**$11,400.**
HPP	$11,599.	$11,065.	$0.	$10,400.	$0.	$0.	$0.	$0.	$0.	$33,064.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$33,064.	$38,698.
IM-Disc	$419.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$419.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$419.	$491.
STP-Disc	$0.	$0.	$0.	$863.	$0.	$0.	$0.	$0.	$0.	$863.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$863.	$1,028.
TOTAL Federal Priority Proj	**$12,019.**	**$11,065.**	**$0.**	**$11,263.**	**$0.**	**$0.**	**$0.**	**$0.**	**$0.**	**$34,346.**	**$0.**	**$0.**	**$0.**	**$0.**	**$0.**	**$0.**	**$0.**	**$0.**	**$0.**	**$0.**	**$0.**	**$0.**	**$0.**	**$0.**	**$0.**	**$0.**	**$0.**	**$0.**	**$0.**	**$0.**	**$0.**	**$0.**	**$0.**	**$0.**	**$34,346.**	**$40,218.**
Sect. 130 Railroad Crossing	$0.	$342.	$222.	$992.	$1,001.	$250.	$250.	$250.	$250.	$3,557.	$250.	$253.	$255.	$258.	$260.	$1,275.	$263.	$265.	$268.	$271.	$273.	$1,340.	$276.	$279.	$282.	$285.	$287.	$1,409.	$290.	$293.	$296.	$299.	$302.	$1,481.	$9,062.	$10,069.
Safe Routes to Schools	$0.	$75.	$52.	$0.	$0.	$0.	$0.	$0.	$0.	$127.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$127.	$127.
HSIP	$730.	$2,572.	$1,549.	$6,461.	$642.	$535.	$2,500.	$2,500.	$2,500.	$19,990.	$2,500.	$2,525.	$2,550.	$2,576.	$2,602.	$12,753.	$2,628.	$2,654.	$2,680.	$2,707.	$2,734.	$13,403.	$2,762.	$2,789.	$2,817.	$2,845.	$2,874.	$14,087.	$2,902.	$2,931.	$2,961.	$2,990.	$3,020.	$14,805.	$75,037.	$80,999.
TIGER	$263.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$263.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$263.	$269.
Misc Grants (TIGGER, HUD, etc.)	$4,175.	$459.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$4,634.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$4,634.	$4,750.
TCSP	$89.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$89.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$89.	$108.
WIPP/DOE	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.
TOTAL Fed. Special Prog.	**$5,257.**	**$3,449.**	**$1,823.**	**$7,453.**	**$1,643.**	**$785.**	**$2,750.**	**$2,750.**	**$2,750.**	**$28,660.**	**$2,750.**	**$2,778.**	**$2,805.**	**$2,833.**	**$2,862.**	**$14,028.**	**$2,890.**	**$2,919.**	**$2,948.**	**$2,978.**	**$3,008.**	**$14,743.**	**$3,038.**	**$3,068.**	**$3,099.**	**$3,130.**	**$3,161.**	**$15,495.**	**$3,193.**	**$3,225.**	**$3,257.**	**$3,289.**	**$3,322.**	**$16,286.**	**$89,212.**	**$96,322.**
FTA 5304 (Transit Planning)	$0.	$0.	$0.	$75.	$0.	$0.	$0.	$0.	$0.	$75.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$75.	$81.
FTA 5307 (Sm Urban Capital)	$0.	$0.	$0.	$0.	$400.	$400.	$800.	$800.	$672.	$3,072.	$692.	$705.	$719.	$734.	$749.	$3,599.	$763.	$779.	$794.	$810.	$826.	$3,973.	$843.	$860.	$877.	$895.	$912.	$4,387.	$931.	$949.	$968.	$988.	$1,007.	$4,843.	$19,873.	$24,841.
FTA 5307 (Sm Urban Oper)	$0.	$0.	$1,045.	$720.	$666.	$697.	$330.	$364.	$672.	$4,493.	$692.	$705.	$719.	$734.	$749.	$3,599.	$763.	$779.	$794.	$810.	$826.	$3,973.	$843.	$860.	$877.	$895.	$912.	$4,387.	$931.	$949.	$968.	$988.	$1,007.	$4,843.	$21,295.	$42,590.
FTA 5307 (Large Urban)	$15,226.	$17,769.	$26,756.	$19,097.	$19,100.	$19,482.	$19,871.	$20,268.	$20,477.	$178,046.	$20,974.	$21,393.	$21,821.	$22,257.	$22,702.	$109,147.	$23,156.	$23,620.	$24,092.	$24,574.	$25,065.	$120,507.	$25,567.	$26,078.	$26,599.	$27,131.	$27,674.	$133,050.	$28,228.	$28,792.	$29,368.	$29,955.	$30,554.	$146,897.	$687,647.	$859,558.
FTA 5309 (SAFTEA-LU Bus/Fac)	$120.	$623.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$743.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$743.	$798.
FTA 5309 (MAP-21 Starts)	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.
FTA 5311 (Capital)	$436.	$16.	$0.	$213.	$163.	$163.	$163.	$163.	$163.	$1,479.	$163.	$165.	$168.	$170.	$173.	$840.	$176.	$178.	$181.	$184.	$186.	$905.	$189.	$192.	$195.	$198.	$201.	$975.	$204.	$207.	$210.	$213.	$216.	$1,050.	$5,249.	$6,561.
FTA 5311 (Admin)	$295.	$177.	$0.	$113.	$114.	$116.	$118.	$120.	$122.	$1,175.	$123.	$125.	$127.	$129.	$131.	$635.	$133.	$135.	$137.	$139.	$141.	$685.	$143.	$145.	$147.	$150.	$152.	$737.	$154.	$157.	$159.	$161.	$164.	$794.	$4,027.	$5,034.
FTA 5311 (Operating)	$527.	$697.	$1,180.	$1,043.	$924.	$948.	$1,120.	$1,146.	$1,204.	$8,790.	$1,240.	$1,259.	$1,277.	$1,297.	$1,316.	$6,389.	$1,336.	$1,356.	$1,376.	$1,397.	$1,418.	$6,883.	$1,439.	$1,461.	$1,483.	$1,505.	$1,527.	$7,414.	$1,550.	$1,574.	$1,597.	$1,621.	$1,645.	$7,987.	$37,463.	$74,926.
FTA 5311(c) (Tribal)	$195.	$242.	$142.	$629.	$131.	$131.	$131.	$131.	$131.	$1,862.	$134.	$138.	$141.	$145.	$148.	$706.	$152.	$156.	$160.	$164.	$168.	$799.	$172.	$176.	$181.	$185.	$190.	$903.	$194.	$199.	$204.	$209.	$215.	$1,022.	$5,292.	$5,292.
FTA 5316 (JARC)	$632.	$648.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$1,280.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$1,280.	$1,600.
FTA 5317 (New Freedom)	$237.	$227.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$464.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$464.	$580.
FTA 5337	$0.	$0.	$3,854.	$5,500.	$5,665.	$5,835.	$6,010.	$6,190.	$6,376.	$39,430.	$6,567.	$6,666.	$6,765.	$6,867.	$6,970.	$33,835.	$7,075.	$7,181.	$7,288.	$7,398.	$7,509.	$36,450.	$7,621.	$7,736.	$7,852.	$7,969.	$8,089.	$39,267.	$8,210.	$8,333.	$8,458.	$8,585.	$8,714.	$42,302.	$191,283.	$239,104.
FTA 5339-Lg Urb (Bus/Facil)	$0.	$1,000.	$1,000.	$1,000.	$1,000.	$1,000.	$1,000.	$1,000.	$1,300.	$8,300.	$1,300.	$1,320.	$1,339.	$1,359.	$1,380.	$6,698.	$1,400.	$1,421.	$1,443.	$1,464.	$1,486.	$7,216.	$1,509.	$1,531.	$1,554.	$1,578.	$1,601.	$7,773.	$1,625.	$1,650.	$1,674.	$1,700.	$1,725.	$8,374.	$38,361.	$47,951.
FTA 5339-Sm Urb (Bus/Facil)	$0.	$0.	$0.	$70.	$71.	$72.	$73.	$74.	$75.	$436.	$76.	$78.	$79.	$80.	$81.	$394.	$82.	$84.	$85.	$86.	$87.	$425.	$89.	$90.	$91.	$93.	$94.	$457.	$96.	$97.	$99.	$100.	$101.	$493.	$2,204.	$2,755.
FTA Misc. (5312 & others)	$400.	$50.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$450.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$450.	$563.
TOTAL FTA Fed. Transit Adm.	**$18,067.**	**$21,449.**	**$33,977.**	**$28,460.**	**$28,234.**	**$28,844.**	**$29,616.**	**$30,256.**	**$31,190.**	**$250,094.**	**$31,961.**	**$32,553.**	**$33,157.**	**$33,772.**	**$34,399.**	**$165,841.**	**$35,037.**	**$35,687.**	**$36,350.**	**$37,025.**	**$37,713.**	**$181,814.**	**$38,414.**	**$39,129.**	**$39,856.**	**$40,598.**	**$41,353.**	**$199,350.**	**$42,123.**	**$42,907.**	**$43,706.**	**$44,520.**	**$45,350.**	**$218,606.**	**$1,015,705.**	**$1,312,233.**
NMDOT District 3 Maint. Funding	$7,900.	$10,300.	$11,100.	$11,700.	$11,700.	$11,934.	$12,173.	$12,416.	$12,664.	$101,887.	$12,918.	$13,176.	$13,440.	$13,708.	$13,983.	$67,224.	$14,262.	$14,547.	$14,838.	$15,135.	$15,438.	$74,221.	$15,747.	$16,062.	$16,383.	$16,710.	$17,045.	$81,946.	$17,386.	$17,733.	$18,088.	$18,450.	$18,819.	$90,475.	$415,755.	$415,755.
TOTAL District 3 Maint Funds	**$7,900.**	**$10,300.**	**$11,100.**	**$11,700.**	**$11,700.**	**$11,934.**	**$12,173.**	**$12,416.**	**$12,664.**	**$101,887.**	**$12,918.**	**$13,176.**	**$13,440.**	**$13,708.**	**$13,983.**	**$67,224.**	**$14,262.**	**$14,547.**	**$14,838.**	**$15,135.**	**$15,438.**	**$74,221.**	**$15,747.**	**$16,062.**	**$16,383.**	**$16,710.**	**$17,045.**	**$81,946.**	**$17,386.**	**$17,733.**	**$18,088.**	**$18,450.**	**$18,819.**	**$90,475.**	**$415,755.**	**$415,755.**
State General Fund	$0.	$500.	$2,000.	$0.	$0.	$0.	$5,888.	$5,888.	$5,888.	$20,164.	$5,888.	$5,947.	$6,006.	$6,066.	$6,127.	$30,035.	$6,188.	$6,250.	$6,313.	$6,376.	$6,440.	$31,567.	$6,504.	$6,569.	$6,635.	$6,701.	$6,768.	$33,177.	$6,836.	$6,904.	$6,973.	$7,043.	$7,113.	$34,869.	$149,812.	$149,812.
State Bond Fund	$0.	$0.	$0.	$0.	$0.	$28,000.	$0.	$0.	$0.	$28,000.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$28,000.	$28,000.
State Capital Outlay	$0.	$0.	$170.	$785.	$0.	$0.	$0.	$0.	$0.	$955.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$955.	$955.
State Maintenance Fund	$153.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$153.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$153.	$153.
State M.A.P.	$0.	$260.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$260.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$260.	$260.
State Road Fund	$0.	$0.	$488.	$0.	$0.	$0.	$0.	$0.	$0.	$488.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$488.	$488.
State Severance Tax	$383.	$29,768.	$1,068.	$1,582.	$0.	$0.	$0.	$0.	$0.	$32,801.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$32,801.	$32,801.
State Misc. (Z App, St Engr)	$0.	$0.	$1,930.	$0.	$0.	$0.	$0.	$0.	$0.	$1,930.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$1,930.	$1,930.
TOTAL State Funding	**$536.**	**$30,528.**	**$5,656.**	**$2,367.**	**$0.**	**$28,000.**	**$5,888.**	**$5,888.**	**$5,888.**	**$84,751.**	**$5,888.**	**$5,947.**	**$6,006.**	**$6,066.**	**$6,127.**	**$30,035.**	**$6,188.**	**$6,250.**	**$6,313.**	**$6,376.**	**$6,440.**	**$31,567.**	**$6,504.**	**$6,569.**	**$6,635.**	**$6,701.**	**$6,768.**	**$33,177.**	**$6,836.**	**$6,904.**	**$6,973.**	**$7,043.**	**$7,113.**	**$34,869.**	**$214,399.**	**$214,399.**
GRAND TOTAL FEDERAL & STATE FUNDS	**$90,160.**	**$144,011.**	**$118,767.**	**$126,746.**	**$114,014.**	**$132,409.**	**$113,272.**	**$114,156.**	**$115,338.**	**$1,068,873.**	**$116,362.**	**$117,927.**	**$119,517.**	**$121,130.**	**$122,767.**	**$597,702.**	**$124,429.**	**$126,116.**	**$153,413.**	**$155,407.**	**$157,430.**	**$716,795.**	**$159,483.**	**$161,565.**	**$163,678.**	**$165,821.**	**$167,996.**	**$818,543.**	**$170,203.**	**$172,442.**	**$174,713.**	**$177,018.**	**$179,357.**	**$873,733.**	**$4,075,647.**	**$4,831,979.**

NOTE 1: Amounts for federal categories in FY 2012 through 2014 are actual amounts obligated or awarded in each category.
NOTE 2: Estimates of federal funds use FFY 2015 obligation rate for all fiscal years.
NOTE 3: Reduction of funds due to debt service is reflected in all Federal Highway categories through 2027 but restored 2028 - 2040 and assumes no further debt service against future FHWA funds.
NOTE 4: Zero percent growth is maintained for all federal & state categories FFY 2015 through FFY 2021 except FTA funding.
NOTE 5: Amounts of FTA funds are from estimates by ABQ Ride, Rio Metro and NMDOT in consultation with FTA Region VI with annual growth rates per November 17, 2014 meeting.
NOTE 6: State funding projections were based on the annual 12 year average of State funding (not federal match or GRIP funding) appropriated to transportation projects in the metro area. The average amount was held flat through 2021 then increased at 1% per year.
NOTE 7: Tribal Transportation Program (TTP) amounts are from a report on the Federal Lands Program website projecting each tribal government's allocation in 2014, 2015 and 2016. Amounts are held flat through 2021 then increased at 1% per year.
NOTE 8: Tribal Transportation Program (TTP) amounts of $10,000 per year for Laguna and To'Hajiilee are guesstimates of the average annual amount spent withn the AMPA.

	Federal & State Revenue Projections 2012-2040						
	Revenue Projections (in thousands of dollars)						EST. TOTAL AVAILABLE with Matching Funds
Fund Source	TOTAL FFY 2012-2020	TOTAL FFY 2021-2025	TOTAL FFY 2026-2030	TOTAL FFY 2031-2035	TOTAL FFY 2036-2040	ESTIMATED TOTAL FFY 2012-2040	
TOTAL Federal Hwy	$530,051.	$301,812.	$394,731.	$467,849.	$491,714.	$2,186,159.	$2,632,982.
TOTAL Tribal Transp. Prog	$27,684.	$18,762.	$19,719.	$20,725.	$21,782.	$108,672.	$108,672.
TOTAL Fed Lands Prg (non-TTP)	$11,400.	$0.	$0.	$0.	$0.	$11,400.	$11,400.
TOTAL Federal Priority Proj	$34,346.	$0.	$0.	$0.	$0.	$34,346.	$40,218.
TOTAL Fed. Special Prog.	$28,660.	$14,028.	$14,743.	$15,495.	$16,286.	$89,212.	$96,322.
TOTAL FTA Fed. Transit Adm.	$250,094.	$165,841.	$181,814.	$199,350.	$218,606.	$1,015,705.	$1,312,233.
TOTAL District 3 Maint Funds	$101,887.	$67,224.	$74,221.	$81,946.	$90,475.	$415,755.	$415,755.
TOTAL State Funding	$84,751.	$30,035.	$31,567.	$33,177.	$34,869.	$214,399.	$214,399.
GRAND TOTAL FEDERAL & STATE FUNDS	$1,068,873.	$597,702.	$716,795.	$818,543.	$873,733.	$4,075,647.	$4,831,979.

Appendix M

Projected Local Funding

FUTURES 2040 - METROPOLITAN TRANSPORTATION PLAN: Projected Local Funding Available for Transportation Purposes 2012-2040

Jurisdiction and Source of Funding	FY 2012 Actual	FY 2013 Actual	FY 2014 Actual	FY 2015 ($1,000)	FY 2016 ($1,000)	FY 2017 ($1,000)	FY 2018 ($1,000)	FY 2019 ($1,000)	FY 2020 ($1,000)	Total for FY 2012-2020
Albuquerque, City of - (GO) General Obligation Bond Funds	$20,000.	$20,000.	$20,000.	$36,800.	$0.	$39,565.	$0.	$39,565.	$0.	$175,930.
Albuquerque, City of - (CCIP) Component Capital Improvement Program	$2,000.	$2,000.	$2,000.	$2,000.	$2,000.	$2,000.	$2,000.	$2,000.	$2,000.	$18,000.
Albuquerque, City of - 1/4¢ Transportation Tax	$19,000.	$19,000.	$19,000.	$19,000.	$19,000.	$19,000.	$19,000.	$19,000.	$19,000.	$171,000.
Albuquerque, City of - DMD - TOTAL	$41,000.	$41,000.	$41,000.	$57,800.	$21,000.	$60,565.	$21,000.	$60,565.	$21,000.	$364,930.
Albuquerque, City of - Other Local Revenue (excluding funds below)	$25,180.	$26,046.	$30,235.	$27,194.	$27,602.	$28,016.	$28,436.	$28,863.	$29,296.	$250,867.
Albuquerque, City of - GRT Bonds for Central Ave ART (BRT)	$0.	$0.	$0.	$0.	$13,000.	$0.	$0.	$0.	$0.	$13,000.
Albuquerque, City of - (CCIP) Component Capital Improvement Program	$0.	$5,500.	$0.	$4,400.	$0.	$4,488.	$0.	$4,578.	$0.	$18,966.
Albuquerque, City of - ABQ Ride Fare Box Revenue	$4,456.	$4,286.	$4,189.	$3,937.	$3,996.	$4,056.	$4,117.	$4,179.	$4,242.	$37,459.
Albuquerque, City of - 1/4¢ Transportation Tax	$13,109.	$12,554.	$12,699.	$13,190.	$13,388.	$13,589.	$13,793.	$14,000.	$14,210.	$120,530.
Albuquerque, City of - ABQ Ride - TOTAL	$42,745.	$48,386.	$47,123.	$48,721.	$57,986.	$50,149.	$46,346.	$51,619.	$47,747.	$440,822.
Albuquerque, City of - TOTAL	$83,745.	$89,386.	$88,123.	$106,521.	$78,986.	$110,714.	$67,346.	$112,184.	$68,747.	$805,752.
Rio Metro Regional Transit District - (1/8¢ GRT) Gross Receipts Tax	$22,639.	$22,793.	$23,188.	$23,420.	$23,655.	$23,891.	$24,130.	$24,371.	$24,615.	$212,703.
[1] Rio Metro Regional Transit District - (3/8¢ GRT) Future Gross Receipts Tax	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.
Rio Metro Regional Transit District - Fare Box Revenue	$2,717.	$3,092.	$2,929.	$2,959.	$2,988.	$3,018.	$3,048.	$3,079.	$3,110.	$26,940.
Rio Metro Regional Transit District - BNSF/Amtrak Railroad Trackage Fees	$1,655.	$1,707.	$2,051.	$2,000.	$2,000.	$2,000.	$2,000.	$2,000.	$2,000.	$17,414.
Rio Metro Regional Transit District - State Funding	$200.	$200.	$200.	$200.	$200.	$200.	$200.	$200.	$200.	$1,800.
Rio Metro Regional Transit District - Miscellaneous	$122.	$512.	$410.	$250.	$250.	$250.	$250.	$250.	$250.	$2,544.
Rio Metro Regional Transit District - TOTAL	$27,334.	$28,304.	$28,779.	$28,829.	$29,093.	$29,359.	$29,628.	$29,900.	$30,175.	$261,400.
Belen, City of - (GO) General Obligation Bond Funds	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.
Belen, City of - Impact Fees	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.
Belen, City of - Gas Tax Revenue	$137.	$151.	$145.	$145.	$150.	$150.	$155.	$155.	$155.	$1,344.
Belen, City of - TOTAL	$137.	$151.	$145.	$145.	$150.	$150.	$155.	$155.	$155.	$1,344.
[2] Rio Communities, City of - (GO) General Obligation Bond Funds	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.
[2] Rio Communities, City of - Impact Fees	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.
[2] Rio Communities, City of - Municipal Gas Tax	$0.	$0.	$0.	$7.	$7.	$7.	$7.	$7.	$7.	$42.
Rio Communities, City of - TOTAL	$0.	$0.	$0.	$7.	$7.	$7.	$7.	$7.	$7.	$42.
Rio Rancho, City of - (GO) General Obligation Bond Funds	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.
Rio Rancho, City of - (GF) General Funds (Cost Center 101-5515)	$2,564.	$2,576.	$3,332.	$3,947.	$4,065.	$4,026.	$4,180.	$4,340.	$4,504.	$33,535.
Rio Rancho, City of - Impact Fees	$142.	$101.	$89.	$225.	$222.	$232.	$238.	$248.	$254.	$1,751.
Rio Rancho, City of - Municipal Gas Tax	$520.	$610.	$585.	$550.	$578.	$571.	$571.	$571.	$571.	$5,127.
Rio Rancho, City of - TOTAL	$3,226.	$3,287.	$4,006.	$4,722.	$4,866.	$4,829.	$4,989.	$5,159.	$5,329.	$40,413.
Bernalillo, County of - (GO) General Obligation Bond Funds	$10,000.	$0.	$9,070.	$0.	$9,500.	$0.	$9,500.	$0.	$9,500.	$47,570.
Bernalillo, County of - (GF) General Funds	$1,238.	$1,217.	$1,229.	$1,249.	$1,269.	$1,289.	$1,309.	$1,329.	$1,349.	$11,478.
Bernalillo, County of - Impact Fees	$437.	$559.	$550.	$600.	$650.	$675.	$700.	$700.	$750.	$5,621.
Bernalillo, County of - Gas Tax Revenue	$1,680.	$1,789.	$1,693.	$1,799.	$1,819.	$1,839.	$1,859.	$1,879.	$1,899.	$16,256.
Bernalillo, County of - TOTAL	$13,355.	$3,565.	$12,542.	$3,648.	$13,238.	$3,803.	$13,368.	$3,908.	$13,498.	$80,925.
[3] Sandoval, County of - (GO) General Obligation Bond Funds	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.
[3] Sandoval, County of - Impact Fees	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.
[3] Sandoval, County of - Gas Tax Revenue	$30.	$30.	$30.	$30.	$30.	$30.	$30.	$30.	$30.	$270.
Sandoval, County of - TOTAL	$30.	$30.	$30.	$30.	$30.	$30.	$30.	$30.	$30.	$270.
Valencia, County of - (GO) General Obligation Bond Funds	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.
Valencia, County of - (3/8¢ Tax)	$0.	$0.	$0.	$0.	$1,000.	$1,000.	$1,000.	$1,000.	$0.	$4,000.
Valencia, County of - Gas Tax Revenue	$300.	$300.	$300.	$300.	$300.	$300.	$300.	$300.	$300.	$2,700.
Valencia, County of - TOTAL	$300.	$300.	$300.	$300.	$1,300.	$1,300.	$1,300.	$1,300.	$300.	$6,700.
Bernalillo, Town of - Gas Tax Revenue	$314.	$331.	$257.	$264.	$271.	$279.	$286.	$294.	$302.	$2,598.
Bernalillo, Town of - General Fund (Street Improvement Budget)	$55.	$0.	$0.	$0.	$0.	$0.	$6.	$16.	$26.	$102.
Bernalillo, Town of - TOTAL	$368.	$331.	$257.	$264.	$271.	$279.	$293.	$310.	$328.	$2,700.
Peralta, Town of - Gas Tax Revenue	$25.	$25.	$25.	$25.	$25.	$25.	$25.	$25.	$25.	$225.
Peralta, Town of - General Fund (Street Improvement Budget)	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.
Peralta, Town of - TOTAL	$25.	$25.	$25.	$25.	$25.	$25.	$25.	$25.	$25.	$225.
Bosque Farms, Village of - Gas Tax Revenue	$34.	$57.	$49.	$47.	$47.	$47.	$47.	$47.	$47.	$422.
Bosque Farms, Village of - General Fund (Street Improvement Budget)	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.
Bosque Farms, Village of - TOTAL	$34.	$57.	$49.	$47.	$47.	$47.	$47.	$47.	$47.	$422.
Corrales, Village of - Gas Tax Revenue	$5.	$5.	$4.	$3.	$5.	$5.	$5.	$5.	$5.	$43.
Corrales, Village of - General Fund	$12.	$16.	$36.	$20.	$26.	$26.	$27.	$20.	$20.	$202.
Corrales, Village of - TOTAL	$17.	$21.	$40.	$23.	$31.	$31.	$32.	$25.	$25.	$245.
Los Lunas, Village of - Municipal Street Funds	$325.	$325.	$325.	$325.	$325.	$325.	$332.	$338.	$345.	$2,965.
Los Lunas, Village of - TOTAL	$325.	$325.	$325.	$325.	$325.	$325.	$332.	$338.	$345.	$2,965.
Los Ranchos de Albuquerqe, Village of - Municipal Street Fund	$140.	$140.	$140.	$140.	$140.	$140.	$142.	$145.	$148.	$1,274.
Los Ranchos de Albuquerque, Village of - TOTAL	$140.	$140.	$140.	$140.	$140.	$140.	$142.	$145.	$148.	$1,274.
Tijeras, Village of - Gas Tax	$16.	$14.	$14.	$13.	$14.	$14.	$14.	$15.	$15.	$128.
Tijeras, Village of - Gross Receipts	$81.	$87.	$102.	$100.	$100.	$100.	$100.	$100.	$100.	$869.
Tijeras, Village of - State Coop	$114.	$74.	$80.	$80.	$80.	$80.	$80.	$80.	$85.	$753.
Tijeras, Village of - TOTAL	$16.	$14.	$14.	$13.	$14.	$14.	$14.	$15.	$15.	$128.
Tribal Funds for Transp (non-TTP) - Pueblo de Cochiti	$5.	$5.	$5.	$5.	$5.	$5.	$5.	$5.	$5.	$45.
Tribal Funds for Transp (non-TTP) - Pueblo of Isleta	$5.	$5.	$5.	$5.	$5.	$5.	$5.	$5.	$5.	$45.
[3] Tribal Funds for Transp (non-TTP) - Pueblo of Laguna	$5.	$5.	$5.	$5.	$5.	$5.	$5.	$5.	$5.	$45.
Tribal Funds for Transp (non-TTP) - Pueblo of San Felipe	$5.	$5.	$5.	$5.	$5.	$5.	$5.	$5.	$5.	$45.
Tribal Funds for Transp (non-TTP) - Pueblo of Sandia	$5.	$5.	$5.	$5.	$5.	$5.	$5.	$5.	$5.	$45.
[3] Tribal Funds for Transp (non-TTP) - Pueblo of Santa Ana	$5.	$5.	$5.	$5.	$5.	$5.	$5.	$5.	$5.	$45.
Tribal Funds for Transp (non-TTP) - Pueblo of Santo Domingo	$5.	$5.	$5.	$5.	$5.	$5.	$5.	$5.	$5.	$45.
[3] Tribal Funds for Transp (non-TTP) - To'Hajiilee Navajo Reservation	$5.	$5.	$5.	$5.	$5.	$5.	$5.	$5.	$5.	$45.
Tribal Governments - TOTAL	$40.	$40.	$40.	$40.	$40.	$40.	$40.	$40.	$40.	$360.
TOTAL FINANCIAL RESOURCES of ALL LOCAL GOVERNMENTS	$129,093.	$125,976.	$134,815.	$145,079.	$128,562.	$151,093.	$117,747.	$153,588.	$119,214.	$1,205,165.

Jurisdiction and Source of Funding	FY 2021 ($1,000)	FY 2022 ($1,000)	FY 2023 ($1,000)	FY 2024 ($1,000)	FY 2025 ($1,000)	Total for FY 2021-2025	FY 2026 ($1,000)	FY 2027 ($1,000)	FY 2028 ($1,000)	FY 2029 ($1,000)	FY 2030 ($1,000)	Total for FY 2026-2030
Albuquerque, City of - (GO) General Obligation Bond Funds	$49,637.	$22,500.	$22,500.	$22,500.	$22,500.	$139,637.	$25,000.	$25,000.	$25,000.	$25,000.	$25,000.	$125,000.
Albuquerque, City of - (CCIP) Component Capital Improvement Program	$3,000.	$3,000.	$3,000.	$3,000.	$3,000.	$15,000.	$3,000.	$3,000.	$3,000.	$3,000.	$3,000.	$15,000.
Albuquerque, City of - 1/4¢ Transportation Tax	$19,000.	$19,000.	$19,000.	$19,000.	$19,000.	$95,000.	$19,000.	$19,000.	$19,000.	$19,000.	$19,000.	$95,000.
Albuquerque, City of - DMD - TOTAL	$71,637.	$44,500.	$44,500.	$44,500.	$44,500.	$249,637.	$47,000.	$47,000.	$47,000.	$47,000.	$47,000.	$235,000.
Albuquerque, City of - Other Local Revenue (excluding funds below)	$29,735.	$30,181.	$30,634.	$31,093.	$31,560.	$153,203.	$32,033.	$32,514.	$33,001.	$33,496.	$33,999.	$165,043.
Albuquerque, City of - GRT Bonds for Central Ave ART (BRT)	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.
Albuquerque, City of - (CCIP) Component Capital Improvement Program	$4,669.	$0.	$4,763.	$0.	$4,858.	$14,290.	$0.	$4,955.	$0.	$5,054.	$0.	$10,009.
Albuquerque, City of - ABQ Ride Fare Box Revenue	$4,305.	$4,370.	$4,435.	$4,502.	$4,569.	$22,182.	$4,638.	$4,708.	$4,778.	$4,850.	$4,923.	$23,896.
Albuquerque, City of - 1/4¢ Transportation Tax	$14,423.	$14,639.	$14,859.	$15,082.	$15,308.	$74,310.	$15,537.	$15,770.	$16,007.	$16,247.	$16,491.	$80,053.
Albuquerque, City of - ABQ Ride - TOTAL	$53,132.	$49,190.	$54,690.	$50,677.	$56,295.	$263,984.	$52,208.	$57,947.	$53,786.	$59,647.	$55,412.	$279,001.
Albuquerque, City of - TOTAL	$124,769.	$93,690.	$99,190.	$95,177.	$100,795.	$513,621.	$99,208.	$104,947.	$100,786.	$106,647.	$102,412.	$514,001.
Rio Metro Regional Transit District - (1/8¢ GRT) Gross Receipts Tax	$24,861.	$25,110.	$25,361.	$25,615.	$25,871.	$126,817.	$26,129.	$26,391.	$26,655.	$26,921.	$27,190.	$133,286.
[1] Rio Metro Regional Transit District - (3/8¢ GRT) Future Gross Receipts Tax	$0.	$75,329.	$76,083.	$76,844.	$77,612.	$305,868.	$78,388.	$79,172.	$79,964.	$80,763.	$81,571.	$399,858.
Rio Metro Regional Transit District - Fare Box Revenue	$3,141.	$3,172.	$3,204.	$3,236.	$3,268.	$16,020.	$3,301.	$3,334.	$3,367.	$3,401.	$3,435.	$16,837.
Rio Metro Regional Transit District - BNSF/Amtrak Railroad Trackage Fees	$2,000.	$2,000.	$2,000.	$2,000.	$2,000.	$10,000.	$2,000.	$2,000.	$2,000.	$2,000.	$2,000.	$10,000.
Rio Metro Regional Transit District - State Funding	$200.	$200.	$200.	$200.	$200.	$1,000.	$200.	$200.	$200.	$200.	$200.	$1,000.
Rio Metro Regional Transit District - Miscellaneous	$250.	$250.	$250.	$250.	$250.	$1,250.	$250.	$250.	$250.	$250.	$250.	$1,250.
Rio Metro Regional Transit District - TOTAL	$30,452.	$106,061.	$107,097.	$108,144.	$109,201.	$460,955.	$110,268.	$111,346.	$112,435.	$113,535.	$114,646.	$562,232.
Belen, City of - (GO) General Obligation Bond Funds	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.
Belen, City of - Impact Fees	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.
Belen, City of - Gas Tax Revenue	$155.	$158.	$161.	$164.	$168.	$807.	$171.	$175.	$178.	$182.	$185.	$891.
Belen, City of - TOTAL	$155.	$158.	$161.	$164.	$168.	$807.	$171.	$175.	$178.	$182.	$185.	$891.
[2] Rio Communities, City of - (GO) General Obligation Bond Funds	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.
[2] Rio Communities, City of - Impact Fees	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.
[2] Rio Communities, City of - Municipal Gas Tax	$7.	$7.	$7.	$7.	$7.	$36.	$7.	$7.	$8.	$8.	$8.	$38.
Rio Communities, City of - TOTAL	$7.	$7.	$7.	$7.	$7.	$36.	$7.	$7.	$8.	$8.	$8.	$38.
Rio Rancho, City of - (GO) General Obligation Bond Funds	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.
Rio Rancho, City of - (GF) General Funds (Cost Center 101-5515)	$4,867.	$4,867.	$4,867.	$4,867.	$4,867.	$24,336.	$5,062.	$5,062.	$5,062.	$5,062.	$5,062.	$25,309.
Rio Rancho, City of - Impact Fees	$264.	$271.	$278.	$285.	$292.	$1,389.	$288.	$288.	$288.	$288.	$288.	$1,439.
Rio Rancho, City of - Municipal Gas Tax	$571.	$582.	$594.	$606.	$618.	$2,972.	$621.	$624.	$627.	$631.	$634.	$3,137.
Rio Rancho, City of - TOTAL	$5,702.	$5,720.	$5,739.	$5,758.	$5,777.	$28,697.	$5,971.	$5,974.	$5,977.	$5,980.	$5,983.	$29,885.
Bernalillo, County of - (GO) General Obligation Bond Funds	$0.	$10,000.	$5,000.	$5,000.	$5,000.	$25,000.	$5,000.	$5,000.	$5,000.	$5,000.	$5,000.	$25,000.
Bernalillo, County of - (GF) General Funds	$1,369.	$1,389.	$1,389.	$1,389.	$1,389.	$6,925.	$1,400.	$1,400.	$1,400.	$1,400.	$1,400.	$7,000.
Bernalillo, County of - Impact Fees	$750.	$750.	$750.	$750.	$750.	$3,750.	$750.	$750.	$750.	$750.	$750.	$3,750.
Bernalillo, County of - Gas Tax Revenue	$1,919.	$2,000.	$2,000.	$2,000.	$2,000.	$9,919.	$2,000.	$2,000.	$2,000.	$2,000.	$2,000.	$10,000.
Bernalillo, County of - TOTAL	$4,038.	$14,139.	$9,139.	$9,139.	$9,139.	$45,594.	$9,150.	$9,150.	$9,150.	$9,150.	$9,150.	$45,750.
[3] Sandoval, County of - (GO) General Obligation Bond Funds	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.
[3] Sandoval, County of - Impact Fees	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.
[3] Sandoval, County of - Gas Tax Revenue	$30.	$30.	$31.	$31.	$32.	$155.	$32.	$33.	$33.	$34.	$34.	$167.
Sandoval, County of - TOTAL	$30.	$30.	$31.	$31.	$32.	$155.	$32.	$33.	$33.	$34.	$34.	$167.
Valencia, County of - (GO) General Obligation Bond Funds	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.
Valencia, County of - (3/8¢ Tax)	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.
Valencia, County of - Gas Tax Revenue	$300.	$305.	$309.	$314.	$318.	$1,546.	$323.	$328.	$333.	$338.	$343.	$1,665.
Valencia, County of - TOTAL	$300.	$305.	$309.	$314.	$318.	$1,546.	$323.	$328.	$333.	$338.	$343.	$1,665.
Bernalillo, Town of - Gas Tax Revenue	$311.	$312.	$314.	$315.	$317.	$1,569.	$319.	$320.	$322.	$323.	$325.	$1,609.
Bernalillo, Town of - General Fund (Street Improvement Budget)	$55.	$56.	$57.	$58.	$60.	$286.	$61.	$62.	$63.	$64.	$66.	$316.
Bernalillo, Town of - TOTAL	$366.	$368.	$371.	$374.	$376.	$1,855.	$379.	$382.	$385.	$388.	$391.	$1,925.
Peralta, Town of - Gas Tax Revenue	$25.	$25.	$25.	$26.	$26.	$127.	$0.	$0.	$0.	$0.	$0.	$0.
Peralta, Town of - General Fund (Street Improvement Budget)	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.
Peralta, Town of - TOTAL	$25.	$25.	$25.	$26.	$26.	$127.	$0.	$0.	$0.	$0.	$0.	$0.
Bosque Farms, Village of - Gas Tax Revenue	$47.	$49.	$49.	$49.	$49.	$243.	$50.	$50.	$50.	$50.	$50.	$250.
Bosque Farms, Village of - General Fund (Street Improvement Budget)	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.
Bosque Farms, Village of - TOTAL	$47.	$49.	$49.	$49.	$49.	$243.	$50.	$50.	$50.	$50.	$50.	$250.
Corrales, Village of - Gas Tax Revenue	$5.	$5.	$5.	$5.	$5.	$25.	$5.	$5.	$5.	$5.	$5.	$26.
Corrales, Village of - General Fund	$20.	$20.	$20.	$20.	$21.	$102.	$21.	$21.	$21.	$21.	$21.	$104.
Corrales, Village of - TOTAL	$25.	$25.	$25.	$26.	$26.	$127.	$26.	$26.	$26.	$26.	$26.	$130.
Los Lunas, Village of - Municipal Street Funds	$352.	$359.	$366.	$373.	$381.	$1,831.	$388.	$396.	$404.	$412.	$420.	$2,021.
Los Lunas, Village of - TOTAL	$352.	$359.	$366.	$373.	$381.	$1,831.	$388.	$396.	$404.	$412.	$420.	$2,021.
Los Ranchos de Albuquerqe, Village of - Municipal Street Fund	$151.	$154.	$157.	$160.	$164.	$787.	$167.	$170.	$174.	$177.	$181.	$869.
Los Ranchos de Albuquerque, Village of - TOTAL	$151.	$154.	$157.	$160.	$164.	$787.	$167.	$170.	$174.	$177.	$181.	$869.
Tijeras, Village of - Gas Tax	$15.	$15.	$15.	$15.	$15.	$75.	$15.	$15.	$15.	$15.	$15.	$75.
Tijeras, Village of - Gross Receipts	$105.	$105.	$105.	$105.	$105.	$525.	$106.	$106.	$106.	$106.	$106.	$530.
Tijeras, Village of - State Coop	$85.	$87.	$88.	$90.	$92.	$442.	$95.	$95.	$95.	$95.	$95.	$475.
Tijeras, Village of - TOTAL	$15.	$15.	$15.	$15.	$15.	$75.	$15.	$15.	$15.	$15.	$15.	$75.
Tribal Funds for Transp (non-TTP) - Pueblo de Cochiti	$5.	$5.	$5.	$5.	$5.	$25.	$5.	$5.	$5.	$5.	$5.	$25.
Tribal Funds for Transp (non-TTP) - Pueblo of Isleta	$5.	$5.	$5.	$5.	$5.	$25.	$5.	$5.	$5.	$5.	$5.	$25.
[3] Tribal Funds for Transp (non-TTP) - Pueblo of Laguna	$5.	$5.	$5.	$5.	$5.	$25.	$5.	$5.	$5.	$5.	$5.	$25.
Tribal Funds for Transp (non-TTP) - Pueblo of San Felipe	$5.	$5.	$5.	$5.	$5.	$25.	$5.	$5.	$5.	$5.	$5.	$25.
Tribal Funds for Transp (non-TTP) - Pueblo of Sandia	$5.	$5.	$5.	$5.	$5.	$25.	$5.	$5.	$5.	$5.	$5.	$25.
[3] Tribal Funds for Transp (non-TTP) - Pueblo of Santa Ana	$5.	$5.	$5.	$5.	$5.	$25.	$5.	$5.	$5.	$5.	$5.	$25.
Tribal Funds for Transp (non-TTP) - Pueblo of Santo Domingo	$5.	$5.	$5.	$5.	$5.	$25.	$5.	$5.	$5.	$5.	$5.	$25.
[3] Tribal Funds for Transp (non-TTP) - To'Hajiilee Navajo Reservation	$5.	$5.	$5.	$5.	$5.	$25.	$5.	$5.	$5.	$5.	$5.	$25.
Tribal Governments - TOTAL	$40.	$40.	$40.	$40.	$40.	$200.	$40.	$40.	$40.	$40.	$40.	$200.
TOTAL FINANCIAL RESOURCES of ALL LOCAL GOVERNMENTS	$166,474.	$221,147.	$222,723.	$219,797.	$226,513.	$1,056,654.	$226,197.	$233,039.	$229,994.	$236,982.	$233,885.	$1,160,097.

Jurisdiction and Source of Funding	FY 2031 ($1,000)	FY 2032 ($1,000)	FY 2033 ($1,000)	FY 2034 ($1,000)	FY 2035 ($1,000)	Total for FY 2031-2035	FY 2036 ($1,000)	FY 2037 ($1,000)	FY 2038 ($1,000)	FY 2039 ($1,000)	FY 2040 ($1,000)	Total for FY 2036-2040	TOTAL FY 2012-2025	TOTAL FY 2026-2040	TOTAL FY 2012-2040
Albuquerque, City of - (GO) General Obligation Bond Funds	$25,000.	$25,000.	$25,000.	$25,000.	$25,000.	$125,000.	$25,000.	$25,000.	$25,000.	$25,000.	$25,000.	$125,000.	$315,567.	$375,000.	$690,567.
Albuquerque, City of - (CCIP) Component Capital Improvement Program	$3,000.	$3,000.	$3,000.	$3,000.	$3,000.	$15,000.	$3,000.	$3,000.	$3,000.	$3,000.	$3,000.	$15,000.	$33,000.	$45,000.	$78,000.
Albuquerque, City of - 1/4¢ Transportation Tax	$19,000.	$19,000.	$19,000.	$19,000.	$19,000.	$95,000.	$19,000.	$19,000.	$19,000.	$19,000.	$19,000.	$95,000.	$266,000.	$285,000.	$551,000.
Albuquerque, City of - DMD - TOTAL	$47,000.	$47,000.	$47,000.	$47,000.	$47,000.	$235,000.	$47,000.	$47,000.	$47,000.	$47,000.	$47,000.	$235,000.	$614,567.	$705,000.	$1,319,567.
Albuquerque, City of - Other Local Revenue (excluding funds below)	$34,509.	$35,026.	$35,552.	$36,085.	$36,626.	$177,798.	$37,176.	$37,733.	$38,299.	$38,874.	$39,457.	$191,539.	$404,070.	$534,379.	$938,449.
Albuquerque, City of - GRT Bonds for Central Ave ART (BRT)	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$13,000.	$0.	$13,000.
Albuquerque, City of - (CCIP) Component Capital Improvement Program	$5,155.	$0.	$5,258.	$0.	$5,364.	$15,777.	$0.	$5,471.	$0.	$5,580.	$0.	$11,051.	$33,256.	$36,838.	$70,093.
Albuquerque, City of - ABQ Ride Fare Box Revenue	$4,996.	$5,071.	$5,147.	$5,225.	$5,303.	$25,743.	$5,383.	$5,463.	$5,545.	$5,628.	$5,713.	$27,733.	$59,641.	$77,372.	$137,013.
Albuquerque, City of - 1/4¢ Transportation Tax	$16,738.	$16,989.	$17,244.	$17,503.	$17,765.	$86,239.	$18,032.	$18,302.	$18,577.	$18,855.	$19,138.	$92,904.	$194,840.	$259,196.	$454,036.
Albuquerque, City of - ABQ Ride - TOTAL	$61,399.	$57,087.	$63,202.	$58,812.	$65,058.	$305,558.	$60,590.	$66,970.	$62,421.	$68,938.	$64,308.	$323,227.	$704,806.	$907,785.	$1,612,592.
Albuquerque, City of - TOTAL	$108,399.	$104,087.	$110,202.	$105,812.	$112,058.	$540,558.	$107,590.	$113,970.	$109,421.	$115,938.	$111,308.	$558,227.	$1,319,373.	$1,612,785.	$2,932,159.
Rio Metro Regional Transit District - (1/8¢ GRT) Gross Receipts Tax	$27,462.	$27,737.	$28,014.	$28,294.	$28,577.	$140,085.	$28,863.	$29,152.	$29,443.	$29,738.	$30,035.	$147,231.	$339,520.	$420,602.	$760,122.
[1] Rio Metro Regional Transit District - (3/8¢ GRT) Future Gross Receipts Tax	$82,387.	$83,211.	$84,043.	$84,883.	$85,732.	$420,255.	$86,589.	$87,455.	$88,330.	$89,213.	$90,105.	$441,692.	$305,868.	$1,261,805.	$1,567,673.
Rio Metro Regional Transit District - Fare Box Revenue	$3,469.	$3,504.	$3,539.	$3,574.	$3,610.	$17,696.	$3,646.	$3,683.	$3,719.	$3,757.	$3,794.	$18,599.	$42,960.	$53,133.	$96,093.
Rio Metro Regional Transit District - BNSF/Amtrak Railroad Trackage Fees	$2,000.	$2,000.	$2,000.	$2,000.	$2,000.	$10,000.	$2,000.	$2,000.	$2,000.	$2,000.	$2,000.	$10,000.	$27,414.	$30,000.	$57,414.
Rio Metro Regional Transit District - State Funding	$200.	$200.	$200.	$200.	$200.	$1,000.	$200.	$200.	$200.	$200.	$200.	$1,000.	$2,800.	$3,000.	$5,800.
Rio Metro Regional Transit District - Miscellaneous	$250.	$250.	$250.	$250.	$250.	$1,250.	$250.	$250.	$250.	$250.	$250.	$1,250.	$3,794.	$3,750.	$7,544.
Rio Metro Regional Transit District - TOTAL	$115,768.	$116,901.	$118,046.	$119,202.	$120,369.	$590,286.	$121,548.	$122,739.	$123,942.	$125,157.	$126,384.	$619,772.	$722,355.	$1,772,290.	$2,494,645.
Belen, City of - (GO) General Obligation Bond Funds	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.
Belen, City of - Impact Fees	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.
Belen, City of - Gas Tax Revenue	$189.	$193.	$197.	$201.	$205.	$983.	$209.	$213.	$217.	$221.	$226.	$1,086.	$2,151.	$2,959.	$5,110.
Belen, City of - TOTAL	$189.	$193.	$197.	$201.	$205.	$983.	$209.	$213.	$217.	$221.	$226.	$1,086.	$2,151.	$2,959.	$5,110.
[2] Rio Communities, City of - (GO) General Obligation Bond Funds	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.
[2] Rio Communities, City of - Impact Fees	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.
[2] Rio Communities, City of - Municipal Gas Tax	$8.	$8.	$8.	$8.	$8.	$39.	$8.	$8.	$8.	$8.	$8.	$41.	$78.	$118.	$196.
Rio Communities, City of - TOTAL	$8.	$8.	$8.	$8.	$8.	$39.	$8.	$8.	$8.	$8.	$8.	$41.	$78.	$118.	$196.
Rio Rancho, City of - (GO) General Obligation Bond Funds	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.
Rio Rancho, City of - (GF) General Funds (Cost Center 101-5515)	$5,264.	$5,264.	$5,264.	$5,264.	$5,264.	$26,322.	$5,456.	$5,456.	$5,456.	$5,456.	$5,456.	$27,280.	$57,871.	$78,911.	$136,782.
Rio Rancho, City of - Impact Fees	$299.	$299.	$299.	$299.	$299.	$1,496.	$311.	$311.	$311.	$311.	$311.	$1,556.	$3,141.	$4,491.	$7,632.
Rio Rancho, City of - Municipal Gas Tax	$637.	$640.	$643.	$646.	$650.	$3,216.	$653.	$656.	$659.	$663.	$666.	$3,297.	$8,098.	$9,651.	$17,749.
Rio Rancho, City of - TOTAL	$6,201.	$6,204.	$6,207.	$6,210.	$6,213.	$31,035.	$6,420.	$6,423.	$6,427.	$6,430.	$6,433.	$32,134.	$69,110.	$93,053.	$162,163.
Bernalillo, County of - (GO) General Obligation Bond Funds	$5,000.	$5,000.	$5,000.	$5,000.	$5,000.	$25,000.	$5,000.	$5,000.	$5,000.	$5,000.	$5,000.	$25,000.	$72,570.	$75,000.	$147,570.
Bernalillo, County of - (GF) General Funds	$1,420.	$1,420.	$1,420.	$1,420.	$1,420.	$7,100.	$1,440.	$1,440.	$1,440.	$1,440.	$1,440.	$7,200.	$18,403.	$21,300.	$39,703.
Bernalillo, County of - Impact Fees	$750.	$750.	$750.	$750.	$750.	$3,750.	$1,000.	$1,000.	$1,000.	$1,000.	$1,000.	$5,000.	$9,371.	$12,500.	$21,871.
Bernalillo, County of - Gas Tax Revenue	$2,000.	$2,000.	$2,000.	$2,000.	$2,000.	$10,000.	$2,000.	$2,000.	$2,000.	$2,000.	$2,000.	$10,000.	$26,175.	$30,000.	$56,175.
Bernalillo, County of - TOTAL	$9,170.	$9,170.	$9,170.	$9,170.	$9,170.	$45,850.	$9,440.	$9,440.	$9,440.	$9,440.	$9,440.	$47,200.	$126,519.	$138,800.	$265,319.
[3] Sandoval, County of - (GO) General Obligation Bond Funds	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.
[3] Sandoval, County of - Impact Fees	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.
[3] Sandoval, County of - Gas Tax Revenue	$35.	$35.	$36.	$36.	$37.	$179.	$38.	$38.	$39.	$39.	$40.	$193.	$425.	$539.	$964.
Sandoval, County of - TOTAL	$35.	$35.	$36.	$36.	$37.	$179.	$38.	$38.	$39.	$39.	$40.	$193.	$425.	$539.	$964.
Valencia, County of - (GO) General Obligation Bond Funds	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.
Valencia, County of - (3/8¢ Tax)	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$4,000.	$0.	$4,000.
Valencia, County of - Gas Tax Revenue	$348.	$353.	$359.	$364.	$370.	$1,794.	$375.	$381.	$386.	$392.	$398.	$1,932.	$4,246.	$5,391.	$9,637.
Valencia, County of - TOTAL	$348.	$353.	$359.	$364.	$370.	$1,794.	$375.	$381.	$386.	$392.	$398.	$1,932.	$8,246.	$5,391.	$13,637.
Bernalillo, Town of - Gas Tax Revenue	$327.	$328.	$330.	$331.	$333.	$1,649.	$335.	$336.	$338.	$340.	$342.	$1,691.	$4,167.	$4,948.	$9,115.
Bernalillo, Town of - General Fund (Street Improvement Budget)	$67.	$68.	$70.	$71.	$73.	$349.	$74.	$76.	$77.	$79.	$80.	$385.	$388.	$1,050.	$1,438.
Bernalillo, Town of - TOTAL	$394.	$397.	$400.	$403.	$406.	$1,998.	$409.	$412.	$415.	$418.	$422.	$2,076.	$4,555.	$5,999.	$10,554.
Peralta, Town of - Gas Tax Revenue	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$352.	$0.	$352.
Peralta, Town of - General Fund (Street Improvement Budget)	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.
Peralta, Town of - TOTAL	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$352.	$0.	$352.
Bosque Farms, Village of - Gas Tax Revenue	$52.	$52.	$52.	$52.	$52.	$260.	$55.	$55.	$55.	$55.	$55.	$275.	$665.	$785.	$1,450.
Bosque Farms, Village of - General Fund (Street Improvement Budget)	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.
Bosque Farms, Village of - TOTAL	$52.	$52.	$52.	$52.	$52.	$260.	$55.	$55.	$55.	$55.	$55.	$275.	$665.	$785.	$1,450.
Corrales, Village of - Gas Tax Revenue	$5.	$5.	$5.	$5.	$5.	$27.	$5.	$5.	$5.	$5.	$6.	$27.	$68.	$80.	$148.
Corrales, Village of - General Fund	$21.	$21.	$21.	$21.	$22.	$107.	$22.	$22.	$22.	$22.	$22.	$109.	$304.	$320.	$624.
Corrales, Village of - TOTAL	$26.	$27.	$27.	$27.	$27.	$133.	$27.	$27.	$27.	$27.	$28.	$137.	$372.	$400.	$772.
Los Lunas, Village of - Municipal Street Funds	$429.	$437.	$446.	$455.	$464.	$2,232.	$473.	$483.	$493.	$502.	$512.	$2,464.	$4,795.	$6,717.	$11,512.
Los Lunas, Village of - TOTAL	$429.	$437.	$446.	$455.	$464.	$2,232.	$473.	$483.	$493.	$502.	$512.	$2,464.	$4,795.	$6,717.	$11,512.
Los Ranchos de Albuquerqe, Village of - Municipal Street Fund	$184.	$188.	$192.	$196.	$200.	$959.	$204.	$208.	$212.	$216.	$220.	$1,059.	$2,061.	$2,887.	$4,948.
Los Ranchos de Albuquerque, Village of - TOTAL	$184.	$188.	$192.	$196.	$200.	$959.	$204.	$208.	$212.	$216.	$220.	$1,059.	$2,061.	$2,887.	$4,948.
Tijeras, Village of - Gas Tax	$16.	$16.	$16.	$16.	$16.	$80.	$16.	$16.	$16.	$16.	$16.	$80.	$203.	$235.	$438.
Tijeras, Village of - Gross Receipts	$107.	$107.	$107.	$107.	$107.	$535.	$108.	$108.	$108.	$108.	$108.	$540.	$1,394.	$1,605.	$2,999.
Tijeras, Village of - State Coop	$96.	$98.	$100.	$102.	$104.	$500.	$105.	$105.	$105.	$105.	$105.	$525.	$1,195.	$1,500.	$2,695.
Tijeras, Village of - TOTAL	$16.	$16.	$16.	$16.	$16.	$80.	$16.	$16.	$16.	$16.	$16.	$80.	$203.	$235.	$438.
Tribal Funds for Transp (non-TTP) - Pueblo de Cochiti	$5.	$5.	$5.	$5.	$5.	$25.	$5.	$5.	$5.	$5.	$5.	$25.	$70.	$75.	$145.
Tribal Funds for Transp (non-TTP) - Pueblo of Isleta	$5.	$5.	$5.	$5.	$5.	$25.	$5.	$5.	$5.	$5.	$5.	$25.	$70.	$75.	$145.
[3] Tribal Funds for Transp (non-TTP) - Pueblo of Laguna	$5.	$5.	$5.	$5.	$5.	$25.	$5.	$5.	$5.	$5.	$5.	$25.	$70.	$75.	$145.
Tribal Funds for Transp (non-TTP) - Pueblo of San Felipe	$5.	$5.	$5.	$5.	$5.	$25.	$5.	$5.	$5.	$5.	$5.	$25.	$70.	$75.	$145.
Tribal Funds for Transp (non-TTP) - Pueblo of Sandia	$5.	$5.	$5.	$5.	$5.	$25.	$5.	$5.	$5.	$5.	$5.	$25.	$70.	$75.	$145.
[3] Tribal Funds for Transp (non-TTP) - Pueblo of Santa Ana	$5.	$5.	$5.	$5.	$5.	$25.	$5.	$5.	$5.	$5.	$5.	$25.	$70.	$75.	$145.
Tribal Funds for Transp (non-TTP) - Pueblo of Santo Domingo	$5.	$5.	$5.	$5.	$5.	$25.	$5.	$5.	$5.	$5.	$5.	$25.	$70.	$75.	$145.
[3] Tribal Funds for Transp (non-TTP) - To'Hajiilee Navajo Reservation	$5.	$5.	$5.	$5.	$5.	$25.	$5.	$5.	$5.	$5.	$5.	$25.	$70.	$75.	$145.
Tribal Governments - TOTAL	$40.	$40.	$40.	$40.	$40.	$200.	$40.	$40.	$40.	$40.	$40.	$200.	$560.	$600.	$1,160.
TOTAL FINANCIAL RESOURCES of ALL LOCAL GOVERNMENTS	$241,258.	$238,108.	$245,396.	$242,191.	$249,634.	$1,216,587.	$246,852.	$254,453.	$251,139.	$258,902.	$255,531.	$1,266,876.	$2,261,819.	$3,643,559.	$5,905,379.

All dollar amounts in thousands of dollars

[1] This projection assumes passage of an additional 3/8¢ GRT beginning in 2022
[2] The City of Rio Communities incorporated July 1, 2014
[3] Figures apply only to that portion of the jurisdiction withing the Albuquerque Metropolitan Planning Area (AMPA)
Report Date: February 20, 2015

FUTURES 2040 - METROPOLITAN TRANSPORTATION PLAN: Projected Local Funding Available for Transportation Purposes 2012-2040								
Jurisdiction and Source of Funding	**Total for FY 2012-2020 ($1,000)**	**Total for FY 2021-2025 ($1,000)**	**Total for FY 2026-2030 ($1,000)**	**Total for FY 2031-2035 ($1,000)**	**Total for FY 2036-2040 ($1,000)**	**TOTAL FY 2012-2025 ($1,000)**	**TOTAL FY 2026-2040 ($1,000)**	**TOTAL FY 2012-2040 ($1,000)**
Albuquerque, City of - (GO) General Obligation Bond Funds	$175,930.	$139,637.	$125,000.	$125,000.	$125,000.	$315,567.	$375,000.	$690,567.
Albuquerque, City of - (CCIP) Component Capital Improvement Program	$18,000.	$15,000.	$15,000.	$15,000.	$15,000.	$33,000.	$45,000.	$78,000.
Albuquerque, City of - 1/4¢ Transportation Tax	$171,000.	$95,000.	$95,000.	$95,000.	$95,000.	$266,000.	$285,000.	$551,000.
Albuquerque, City of - DMD - TOTAL	$364,930.	$249,637.	$235,000.	$235,000.	$235,000.	$614,567.	$705,000.	$1,319,567.
Albuquerque, City of - Other Local Revenue (excluding funds below)	$250,867.	$153,203.	$165,043.	$177,798.	$191,539.	$404,070.	$534,379.	$938,449.
Albuquerque, City of - GRT Bonds for Central Ave ART (BRT)	$13,000.	$0.	$0.	$0.	$0.	$13,000.	$0.	$13,000.
Albuquerque, City of - (CCIP) Component Capital Improvement Program	$18,966.	$14,290.	$10,009.	$15,777.	$11,051.	$33,256.	$36,838.	$70,093.
Albuquerque, City of - ABQ Ride Fare Box Revenue	$37,459.	$22,182.	$23,896.	$25,743.	$27,733.	$59,641.	$77,372.	$137,013.
Albuquerque, City of - 1/4¢ Transportation Tax	$120,530.	$74,310.	$80,053.	$86,239.	$92,904.	$194,840.	$259,196.	$454,036.
Albuquerque, City of - ABQ Ride - TOTAL	$440,822.	$263,984.	$279,001.	$305,558.	$323,227.	$704,806.	$907,785.	$1,612,592.
Albuquerque, City of - TOTAL	$805,752.	$513,621.	$514,001.	$540,558.	$558,227.	$1,319,373.	$1,612,785.	$2,932,159.
Rio Metro Regional Transit District - (1/8¢ GRT) Gross Receipts Tax	$212,703.	$126,817.	$133,286.	$140,085.	$147,231.	$339,520.	$420,602.	$760,122.
[1] Rio Metro Regional Transit District - (3/8¢ GRT) Future Gross Receipts Tax	$0.	$305,868.	$399,858.	$420,255.	$441,692.	$305,868.	$1,261,805.	$1,567,673.
Rio Metro Regional Transit District - Fare Box Revenue	$26,940.	$16,020.	$16,837.	$17,696.	$18,599.	$42,960.	$53,133.	$96,093.
Rio Metro Regional Transit District - BNSF/Amtrak Railroad Trackage Fees	$17,414.	$10,000.	$10,000.	$10,000.	$10,000.	$27,414.	$30,000.	$57,414.
Rio Metro Regional Transit District - State Funding	$1,800.	$1,000.	$1,000.	$1,000.	$1,000.	$2,800.	$3,000.	$5,800.
Rio Metro Regional Transit District - Miscellaneous	$2,544.	$1,250.	$1,250.	$1,250.	$1,250.	$3,794.	$3,750.	$7,544.
Rio Metro Regional Transit District - TOTAL	$261,400.	$460,955.	$562,232.	$590,286.	$619,772.	$722,355.	$1,772,290.	$2,494,645.
Belen, City of - (GO) General Obligation Bond Funds	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.
Belen, City of - Impact Fees	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.
Belen, City of - Gas Tax Revenue	$1,344.	$807.	$891.	$983.	$1,086.	$2,151.	$2,959.	$5,110.
Belen, City of - TOTAL	$1,344.	$807.	$891.	$983.	$1,086.	$2,151.	$2,959.	$5,110.
[2] Rio Communities, City of - (GO) General Obligation Bond Funds	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.
[2] Rio Communities, City of - Impact Fees	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.
[2] Rio Communities, City of - Municipal Gas Tax	$42.	$36.	$38.	$39.	$41.	$78.	$118.	$196.
Rio Communities, City of - TOTAL	$42.	$36.	$38.	$39.	$41.	$78.	$118.	$196.
Rio Rancho, City of - (GO) General Obligation Bond Funds	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.
Rio Rancho, City of - (GF) General Funds (Cost Center 101-5515)	$33,535.	$24,336.	$25,309.	$26,322.	$27,280.	$57,871.	$78,911.	$136,782.
Rio Rancho, City of - Impact Fees	$1,751.	$1,389.	$1,439.	$1,496.	$1,556.	$3,141.	$4,491.	$7,632.
Rio Rancho, City of - Municipal Gas Tax	$5,127.	$2,972.	$3,137.	$3,216.	$3,297.	$8,098.	$9,651.	$17,749.
Rio Rancho, City of - TOTAL	$40,413.	$28,697.	$29,885.	$31,035.	$32,134.	$69,110.	$93,053.	$162,163.
Bernalillo, County of - (GO) General Obligation Bond Funds	$47,570.	$25,000.	$25,000.	$25,000.	$25,000.	$72,570.	$75,000.	$147,570.
Bernalillo, County of - (GF) General Funds	$11,478.	$6,925.	$7,000.	$7,100.	$7,200.	$18,403.	$21,300.	$39,703.
Bernalillo, County of - Impact Fees	$5,621.	$3,750.	$3,750.	$3,750.	$5,000.	$9,371.	$12,500.	$21,871.
Bernalillo, County of - Gas Tax Revenue	$16,256.	$9,919.	$10,000.	$10,000.	$10,000.	$26,175.	$30,000.	$56,175.
Bernalillo, County of - TOTAL	$80,925.	$45,594.	$45,750.	$45,850.	$47,200.	$126,519.	$138,800.	$265,319.
[3] Sandoval, County of - (GO) General Obligation Bond Funds	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.
[3] Sandoval, County of - Impact Fees	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.
[3] Sandoval, County of - Gas Tax Revenue	$270.	$155.	$167.	$179.	$193.	$425.	$539.	$964.
Sandoval, County of - TOTAL	$270.	$155.	$167.	$179.	$193.	$425.	$539.	$964.
Valencia, County of - (GO) General Obligation Bond Funds	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.
Valencia, County of - (3/8¢ Tax)	$4,000.	$0.	$0.	$0.	$0.	$4,000.	$0.	$4,000.
Valencia, County of - Gas Tax Revenue	$2,700.	$1,546.	$1,665.	$1,794.	$1,932.	$4,246.	$5,391.	$9,637.
Valencia, County of - TOTAL	$6,700.	$1,546.	$1,665.	$1,794.	$1,932.	$8,246.	$5,391.	$13,637.
Bernalillo, Town of - Gas Tax Revenue	$2,598.	$1,569.	$1,609.	$1,649.	$1,691.	$4,167.	$4,948.	$9,115.
Bernalillo, Town of - General Fund (Street Improvement Budget)	$102.	$286.	$316.	$349.	$385.	$388.	$1,050.	$1,438.
Bernalillo, Town of - TOTAL	$2,700.	$1,855.	$1,925.	$1,998.	$2,076.	$4,555.	$5,999.	$10,554.
Peralta, Town of - Gas Tax Revenue	$225.	$127.	$0.	$0.	$0.	$352.	$0.	$352.
Peralta, Town of - General Fund (Street Improvement Budget)	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.
Peralta, Town of - TOTAL	$225.	$127.	$0.	$0.	$0.	$352.	$0.	$352.
Bosque Farms, Village of - Gas Tax Revenue	$422.	$243.	$250.	$260.	$275.	$665.	$785.	$1,450.
Bosque Farms, Village of - General Fund (Street Improvement Budget)	$0.	$0.	$0.	$0.	$0.	$0.	$0.	$0.
Bosque Farms, Village of - TOTAL	$422.	$243.	$250.	$260.	$275.	$665.	$785.	$1,450.
Corrales, Village of - Gas Tax Revenue	$43.	$25.	$26.	$27.	$27.	$68.	$80.	$148.
Corrales, Village of - General Fund	$202.	$102.	$104.	$107.	$109.	$304.	$320.	$624.
Corrales, Village of - TOTAL	$245.	$127.	$130.	$133.	$137.	$372.	$400.	$772.
Los Lunas, Village of - Municipal Street Funds	$2,965.	$1,831.	$2,021.	$2,232.	$2,464.	$4,795.	$6,717.	$11,512.
Los Lunas, Village of - TOTAL	$2,965.	$1,831.	$2,021.	$2,232.	$2,464.	$4,795.	$6,717.	$11,512.
Los Ranchos de Albuquerqe, Village of - Municipal Street Fund	$1,274.	$787.	$869.	$959.	$1,059.	$2,061.	$2,887.	$4,948.
Los Ranchos de Albuquerque, Village of - TOTAL	$1,274.	$787.	$869.	$959.	$1,059.	$2,061.	$2,887.	$4,948.
Tijeras, Village of - Gas Tax	$128.	$75.	$75.	$80.	$80.	$203.	$235.	$438.
Tijeras, Village of - Gross Receipts	$869.	$525.	$530.	$535.	$540.	$1,394.	$1,605.	$2,999.
Tijeras, Village of - State Coop	$753.	$442.	$475.	$500.	$525.	$1,195.	$1,500.	$2,695.
Tijeras, Village of - TOTAL	$128.	$75.	$75.	$80.	$80.	$203.	$235.	$438.
Tribal Funds for Transp (non-TTP) - Pueblo de Cochiti	$45.	$25.	$25.	$25.	$25.	$70.	$75.	$145.
Tribal Funds for Transp (non-TTP) - Pueblo of Isleta	$45.	$25.	$25.	$25.	$25.	$70.	$75.	$145.
[3] Tribal Funds for Transp (non-TTP) - Pueblo of Laguna	$45.	$25.	$25.	$25.	$25.	$70.	$75.	$145.
Tribal Funds for Transp (non-TTP) - Pueblo of San Felipe	$45.	$25.	$25.	$25.	$25.	$70.	$75.	$145.
Tribal Funds for Transp (non-TTP) - Pueblo of Sandia	$45.	$25.	$25.	$25.	$25.	$70.	$75.	$145.
[3] Tribal Funds for Transp (non-TTP) - Pueblo of Santa Ana	$45.	$25.	$25.	$25.	$25.	$70.	$75.	$145.
Tribal Funds for Transp (non-TTP) - Pueblo of Santo Domingo	$45.	$25.	$25.	$25.	$25.	$70.	$75.	$145.
[3] Tribal Funds for Transp (non-TTP) - To'Hajiilee Navajo Reservation	$45.	$25.	$25.	$25.	$25.	$70.	$75.	$145.
Tribal Governments - TOTAL	$360.	$200.	$200.	$200.	$200.	$560.	$600.	$1,160.
TOTAL FINANCIAL RESOURCES of ALL LOCAL GOVERNMENTS	$1,205,165.	$1,056,654.	$1,160,097.	$1,216,587.	$1,266,876.	$2,261,819.	$3,643,559.	$5,905,379.

All dollar amounts in thousands of dollars

[1] This projection assumes passage of an additional 3/8₵ GRT beginning in 2022

[2] The City of Rio Communities incorporated July 1, 2014

[3] Figures apply only to that portion of the jurisdiction withing the Albuquerque Metropolitan Planning Area (AMPA)

Report Date: February 20, 2015

Appendix N

Maintenance and Operations Expenditures

Transportation Maintenance & Operations Expenditures - Projected through 2040

Jurisdiction	FY 2012 ($1,000)	FY 2013 ($1,000)	FY 2014 ($1,000)	FY 2015 ($1,000)	FY 2016 ($1,000)	FY 2017 ($1,000)	FY 2018 ($1,000)	FY 2019 ($1,000)	FY 2020 ($1,000)	EST TOTAL O&M EXPEND. FY 2012-2020 ($1,000)	FY 2021 ($1,000)	FY 2022 ($1,000)	FY 2023 ($1,000)	FY 2024 ($1,000)	FY 2025 ($1,000)
Albuquerque City-DMD and P&R	$47,500.	$51,000.	$51,765.	$52,541.	$53,330.	$54,130.	$54,941.	$55,766.	$56,602.	**$477,575.**	$57,451.	$58,313.	$59,188.	$60,075.	$60,977.
Albuquerque City-ABQ Ride	$41,419.	$42,232.	$44,936.	$47,276.	$44,986.	$45,661.	$46,346.	$47,041.	$47,747.	**$407,644.**	$48,463.	$49,190.	$49,928.	$50,677.	$51,437.
Belen, City of	$80.	$75.	$85.	$85.	$85.	$85.	$85.	$90.	$90.	**$760.**	$91.	$92.	$93.	$94.	$95.
Bernalillo, County of	$5,100.	$5,300.	$5,000.	$6,000.	$7,000.	$10,000.	$10,000.	$10,000.	$10,000.	**$68,400.**	$10,000.	$10,100.	$10,201.	$10,303.	$10,406.
Bernalillo, Town of	$368.	$223.	$240.	$246.	$261.	$276.	$293.	$310.	$328.	**$2,545.**	$347.	$353.	$358.	$363.	$369.
Bosque Farms, Village of	$16.	$23.	$16.	$18.	$18.	$18.	$19.	$19.	$19.	**$165.**	$20.	$20.	$21.	$21.	$21.
Corrales, Village of	$22.	$22.	$22.	$22.	$22.	$25.	$26.	$26.	$27.	**$213.**	$27.	$28.	$28.	$29.	$29.
Los Ranchos de Alb, Village of	$102.	$133.	$135.	$137.	$140.	$143.	$146.	$149.	$152.	**$1,236.**	$155.	$158.	$161.	$164.	$168.
Los Lunas, Village of	$428.	$428.	$428.	$428.	$436.	$445.	$454.	$463.	$472.	**$3,983.**	$482.	$491.	$501.	$511.	$522.
Peralta, Town of	$15.	$15.	$15.	$15.	$15.	$15.	$15.	$16.	$16.	**$137.**	$16.	$17.	$17.	$17.	$18.
[1]Rio Communities, City of	$0.	$0.	$0.	$6.	$6.	$6.	$6.	$6.	$6.	**$36.**	$6.	$6.	$7.	$7.	$7.
Rio Metro Regional Transit Dist.	$33,548.	$37,892.	$39,028.	$39,808.	$40,405.	$41,012.	$41,627.	$42,251.	$42,885.	**$358,456.**	$43,528.	$44,181.	$44,844.	$45,516.	$46,199.
Rio Rancho, City of	$3,084.	$3,186.	$3,917.	$4,497.	$4,646.	$4,597.	$4,751.	$4,911.	$5,075.	**$38,665.**	$5,251.	$5,330.	$5,410.	$5,491.	$5,573.
[2] Sandoval, County of	$30.	$30.	$30.	$30.	$30.	$30.	$31.	$31.	$32.	**$274.**	$32.	$33.	$34.	$34.	$35.
Tijeras, Village of	$51.	$156.	$200.	$200.	$200.	$200.	$200.	$200.	$200.	**$1,606.**	$205.	$205.	$205.	$205.	$205.
Valencia, County of	$250.	$250.	$250.	$250.	$250.	$250.	$250.	$250.	$250.	**$2,250.**	$255.	$260.	$265.	$271.	$276.
Pueblo de Cochiti	$47.	$17.	$43.	$43.	$43.	$45.	$45.	$47.	$44.	**$372.**	$49.	$49.	$50.	$51.	$52.
Pueblo of Isleta	$20.	$20.	$20.	$20.	$20.	$20.	$20.	$21.	$21.	**$182.**	$22.	$22.	$23.	$23.	$23.
[2] Pueblo of Laguna	$20.	$20.	$20.	$20.	$20.	$20.	$20.	$21.	$21.	**$182.**	$22.	$22.	$23.	$23.	$23.
Pueblo of San Felipe	$20.	$20.	$20.	$20.	$20.	$20.	$20.	$21.	$21.	**$182.**	$22.	$22.	$23.	$23.	$23.
Pueblo of Sandia	$20.	$20.	$20.	$20.	$20.	$20.	$20.	$21.	$21.	**$182.**	$22.	$22.	$23.	$23.	$23.
[2] Pueblo of Santa Ana	$20.	$20.	$20.	$20.	$20.	$20.	$20.	$21.	$21.	**$182.**	$22.	$22.	$23.	$23.	$23.
Pueblo of Santo Domingo	$20.	$20.	$20.	$20.	$20.	$20.	$20.	$21.	$21.	**$182.**	$22.	$22.	$23.	$23.	$23.
[2] To'Hajiilee Area Navajo Nation	$20.	$20.	$20.	$20.	$20.	$20.	$20.	$21.	$21.	**$182.**	$22.	$22.	$23.	$23.	$23.
Total All Local & Tribal Jurisdictions	**$132,200.**	**$141,122.**	**$146,249.**	**$151,742.**	**$152,013.**	**$157,077.**	**$159,376.**	**$161,721.**	**$164,093.**	**$1,365,593.**	**$166,530.**	**$168,981.**	**$171,467.**	**$173,991.**	**$176,552.**
NMDOT District 3	$7,900.	$10,300.	$11,100.	$11,700.	$11,700.	$11,934.	$12,173.	$12,416.	$12,664.	**$101,887.**	$12,918.	$13,176.	$13,440.	$13,708.	$13,983.
Total State of New Mexico	**$7,900.**	**$10,300.**	**$11,100.**	**$11,700.**	**$11,700.**	**$11,934.**	**$12,173.**	**$12,416.**	**$12,664.**	**$101,887.**	**$12,918.**	**$13,176.**	**$13,440.**	**$13,708.**	**$13,983.**
TOTAL ALL MAINT. & OPER. EXPENDITURES For TRANSP.	**$140,100.**	**$151,422.**	**$157,349.**	**$163,442.**	**$163,713.**	**$169,011.**	**$171,549.**	**$174,137.**	**$176,758.**	**$1,467,480.**	$179,448.	$182,157.	$184,907.	$187,699.	$190,534.

Report Date: February 26, 2015

[1] The City of Rio Communties did not incorporate until July 1, 2014

[2] Figures apply only to that portion of the jurisdiction within the Albuquerque Metropolitan Planning Area (AMPA)

Jurisdiction	EST TOTAL O&M EXPEND. FY 2021-2025 ($1,000)	FY 2026 ($1,000)	FY 2027 ($1,000)	FY 2028 ($1,000)	FY 2029 ($1,000)	FY 2030 ($1,000)	EST TOTAL O&M EXPEND. FY 2026-2030 ($1,000)	FY 2031 ($1,000)	FY 2032 ($1,000)	FY 2033 ($1,000)	FY 2034 ($1,000)	FY 2035 ($1,000)	EST TOTAL O&M EXPEND. FY 2031-2035 ($1,000)	FY 2036 ($1,000)
Albuquerque City-DMD and P&R	**$296,004.**	$61,891.	$62,820.	$63,762.	$64,718.	$65,689.	**$318,880.**	$66,674.	$67,674.	$68,690.	$69,720.	$70,766.	**$343,524.**	$71,827.
Albuquerque City-ABQ Ride	**$249,694.**	$52,208.	$52,992.	$53,786.	$54,593.	$55,412.	**$268,992.**	$56,243.	$57,087.	$57,943.	$58,812.	$59,695.	**$289,780.**	$60,590.
Belen, City of	**$464.**	$96.	$96.	$97.	$98.	$99.	**$487.**	$100.	$101.	$102.	$103.	$104.	**$512.**	$106.
Bernalillo, County of	**$51,010.**	$11,700.	$11,817.	$11,935.	$12,055.	$12,175.	**$59,682.**	$13,700.	$13,837.	$13,975.	$14,115.	$14,256.	**$69,884.**	$15,700.
Bernalillo, Town of	**$1,790.**	$374.	$380.	$386.	$391.	$397.	**$1,929.**	$403.	$409.	$415.	$422.	$428.	**$2,078.**	$434.
Bosque Farms, Village of	**$103.**	$22.	$22.	$23.	$23.	$24.	**$114.**	$24.	$25.	$25.	$26.	$26.	**$125.**	$27.
Corrales, Village of	**$141.**	$30.	$30.	$31.	$32.	$32.	**$155.**	$33.	$34.	$34.	$35.	$36.	**$172.**	$36.
Los Ranchos de Alb, Village of	**$806.**	$171.	$174.	$178.	$181.	$185.	**$889.**	$189.	$192.	$196.	$200.	$204.	**$982.**	$208.
Los Lunas, Village of	**$2,508.**	$532.	$543.	$554.	$565.	$576.	**$2,769.**	$587.	$599.	$611.	$623.	$636.	**$3,057.**	$649.
Peralta, Town of	**$84.**	$18.	$18.	$19.	$19.	$19.	**$93.**	$20.	$20.	$21.	$21.	$21.	**$103.**	$22.
[1]Rio Communities, City of	**$33.**	$7.	$7.	$7.	$7.	$8.	**$37.**	$8.	$8.	$8.	$8.	$8.	**$40.**	$9.
Rio Metro Regional Transit Dist.	**$224,269.**	$46,892.	$47,596.	$48,310.	$49,034.	$49,770.	**$241,601.**	$50,516.	$51,274.	$52,043.	$52,824.	$53,616.	**$260,273.**	$54,420.
Rio Rancho, City of	**$27,055.**	$5,657.	$5,742.	$5,828.	$5,915.	$6,004.	**$29,145.**	$6,094.	$6,185.	$6,278.	$6,372.	$6,468.	**$31,398.**	$6,565.
[2] Sandoval, County of	**$169.**	$36.	$37.	$37.	$38.	$39.	**$187.**	$40.	$40.	$41.	$42.	$43.	**$206.**	$44.
Tijeras, Village of	**$1,025.**	$210.	$210.	$210.	$210.	$210.	**$1,050.**	$215.	$215.	$215.	$215.	$215.	**$1,075.**	$220.
Valencia, County of	**$1,327.**	$282.	$287.	$293.	$299.	$305.	**$1,465.**	$311.	$317.	$323.	$330.	$336.	**$1,618.**	$343.
Pueblo de Cochiti	**$251.**	$53.	$54.	$55.	$56.	$57.	**$275.**	$58.	$59.	$60.	$61.	$62.	**$300.**	$63.
Pueblo of Isleta	**$113.**	$24.	$24.	$25.	$25.	$26.	**$124.**	$26.	$27.	$27.	$28.	$29.	**$137.**	$29.
[2] Pueblo of Laguna	**$113.**	$24.	$24.	$25.	$25.	$26.	**$124.**	$26.	$27.	$27.	$28.	$29.	**$137.**	$29.
Pueblo of San Felipe	**$113.**	$24.	$24.	$25.	$25.	$26.	**$124.**	$26.	$27.	$27.	$28.	$29.	**$137.**	$29.
Pueblo of Sandia	**$113.**	$24.	$24.	$25.	$25.	$26.	**$124.**	$26.	$27.	$27.	$28.	$29.	**$137.**	$29.
[2] Pueblo of Santa Ana	**$113.**	$24.	$24.	$25.	$25.	$26.	**$124.**	$26.	$27.	$27.	$28.	$29.	**$137.**	$29.
Pueblo of Santo Domingo	**$113.**	$24.	$24.	$25.	$25.	$26.	**$124.**	$26.	$27.	$27.	$28.	$29.	**$137.**	$29.
[2] To'Hajiilee Area Navajo Nation	**$113.**	$24.	$24.	$25.	$25.	$26.	**$124.**	$26.	$27.	$27.	$28.	$29.	**$137.**	$29.
Total All Local & Tribal Jurisdictions	**$857,521.**	**$180,346.**	**$182,995.**	**$185,684.**	**$188,413.**	**$191,182.**	**$928,620.**	**$195,400.**	**$198,266.**	**$201,175.**	**$204,126.**	**$207,121.**	**$1,006,089.**	**$211,467.**
NMDOT District 3	**$67,224.**	$14,262.	$14,547.	$14,838.	$15,135.	$15,438.	**$74,221.**	$15,747.	$16,062.	$16,383.	$16,710.	$17,045.	**$81,946.**	$17,386.
Total State of New Mexico	**$67,224.**	**$14,262.**	**$14,547.**	**$14,838.**	**$15,135.**	**$15,438.**	**$74,221.**	**$15,747.**	**$16,062.**	**$16,383.**	**$16,710.**	**$17,045.**	**$81,946.**	**$17,386.**
TOTAL ALL MAINT. & OPER. EXPENDITURES For TRANSP.	**$924,745.**	$194,608.	$197,543.	$200,523.	$203,548.	$206,620.	**$1,002,841.**	$211,147.	$214,328.	$217,558.	$220,837.	$224,166.	**$1,088,035.**	$228,853.

Report Date: February 26, 2015

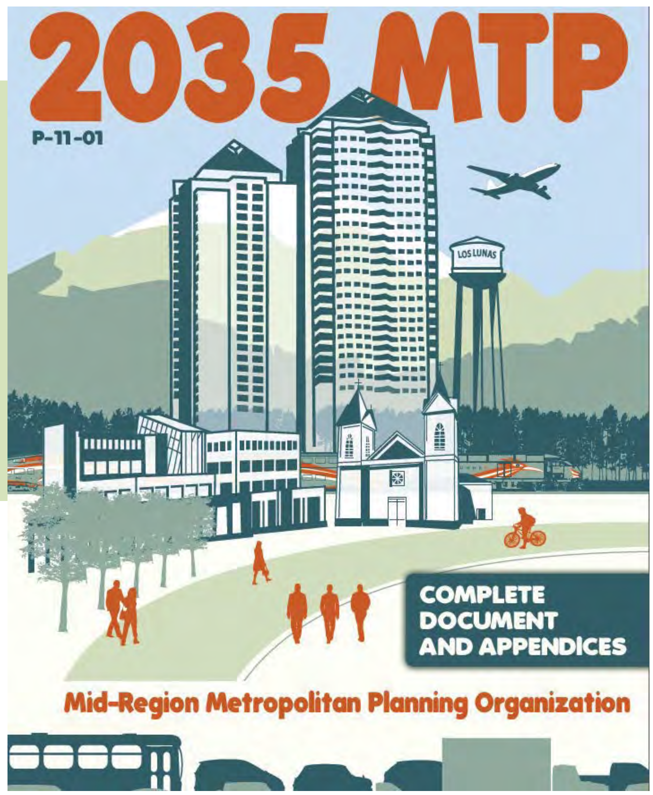
Jurisdiction	FY 2037 ($1,000)	FY 2038 ($1,000)	FY 2039 ($1,000)	FY 2040 ($1,000)	EST TOTAL O&M EXPEND. FY 2036-2040 ($1,000)	EST TOTAL O&M EXPEND. FY 2012-2040 ($1,000)
Albuquerque City-DMD and P&R	$72,905.	$72,905.	$73,998.	$73,998.	**$365,633.**	**$1,801,615.**
Albuquerque City-ABQ Ride	$61,499.	$61,499.	$62,421.	$62,421.	**$308,430.**	**$1,524,540.**
Belen, City of	$107.	$107.	$108.	$108.	**$534.**	**$2,757.**
Bernalillo, County of	$15,857.	$15,857.	$16,016.	$16,016.	**$79,445.**	**$328,421.**
Bernalillo, Town of	$441.	$441.	$448.	$448.	**$2,212.**	**$10,554.**
Bosque Farms, Village of	$27.	$27.	$28.	$28.	**$136.**	**$643.**
Corrales, Village of	$37.	$37.	$38.	$38.	**$187.**	**$867.**
Los Ranchos de Alb, Village of	$212.	$212.	$217.	$217.	**$1,067.**	**$4,979.**
Los Lunas, Village of	$661.	$661.	$675.	$675.	**$3,321.**	**$15,637.**
Peralta, Town of	$22.	$22.	$23.	$23.	**$112.**	**$530.**
[1]Rio Communities, City of	$9.	$9.	$9.	$9.	**$44.**	**$190.**
Rio Metro Regional Transit Dist.	$55,237.	$55,237.	$56,065.	$56,065.	**$277,024.**	**$1,361,624.**
Rio Rancho, City of	$6,663.	$6,663.	$6,763.	$6,763.	**$33,419.**	**$159,681.**
[2] Sandoval, County of	$45.	$45.	$45.	$45.	**$224.**	**$1,059.**
Tijeras, Village of	$220.	$220.	$220.	$220.	**$1,100.**	**$5,856.**
Valencia, County of	$350.	$350.	$357.	$357.	**$1,757.**	**$8,417.**
Pueblo de Cochiti	$65.	$65.	$66.	$66.	**$324.**	**$1,522.**
Pueblo of Isleta	$30.	$30.	$30.	$30.	**$149.**	**$706.**
[2] Pueblo of Laguna	$30.	$30.	$30.	$30.	**$149.**	**$706.**
Pueblo of San Felipe	$30.	$30.	$30.	$30.	**$149.**	**$706.**
Pueblo of Sandia	$30.	$30.	$30.	$30.	**$149.**	**$706.**
[2] Pueblo of Santa Ana	$30.	$30.	$30.	$30.	**$149.**	**$706.**
Pueblo of Santo Domingo	$30.	$30.	$30.	$30.	**$149.**	**$706.**
[2] To'Hajiilee Area Navajo Nation	$30.	$30.	$30.	$30.	**$149.**	**$706.**
Total All Local & Tribal Jurisdictions	**$214,565.**	**$214,565.**	**$217,708.**	**$217,708.**	**$1,076,012.**	**$5,233,835.**
NMDOT District 3	$17,733.	$18,088.	$18,450.	$18,819.	**$90,475.**	**$415,755.**
Total State of New Mexico	**$17,733.**	**$18,088.**	**$18,450.**	**$18,819.**	**$90,475.**	**$415,755.**
TOTAL ALL MAINT. & OPER. EXPENDITURES For TRANSP.	$232,298.	$232,653.	$236,158.	$236,527.	**$1,166,487.**	**$5,649,589.**

Report Date: February 26, 2015

Transportation Maintenance & Operations Expenditures - Projected through 2040						
Jurisdiction	EST TOTAL O&M EXPEND. FY 2012-2020 ($1,000)	EST TOTAL O&M EXPEND. FY 2021-2025 ($1,000)	EST TOTAL O&M EXPEND. FY 2026-2030 ($1,000)	EST TOTAL O&M EXPEND. FY 2031-2035 ($1,000)	EST TOTAL O&M EXPEND. FY 2036-2040 ($1,000)	EST TOTAL O&M EXPEND. FY 2012-2040 ($1,000)
Albuquerque City-DMD and P&R	$477,575.	$296,004.	$318,880.	$343,524.	$365,633.	$1,801,615.
Albuquerque City-ABQ Ride	$407,644.	$249,694.	$268,992.	$289,780.	$308,430.	$1,524,540.
Belen, City of	$760.	$464.	$487.	$512.	$534.	$2,757.
Bernalillo, County of	$68,400.	$51,010.	$59,682.	$69,884.	$79,445.	$328,421.
Bernalillo, Town of	$2,545.	$1,790.	$1,929.	$2,078.	$2,212.	$10,554.
Bosque Farms, Village of	$165.	$103.	$114.	$125.	$136.	$643.
Corrales, Village of	$213.	$141.	$155.	$172.	$187.	$867.
Los Ranchos de Alb, Village of	$1,236.	$806.	$889.	$982.	$1,067.	$4,979.
Los Lunas, Village of	$3,983.	$2,508.	$2,769.	$3,057.	$3,321.	$15,637.
Peralta, Town of	$137.	$84.	$93.	$103.	$112.	$530.
[1] Rio Communities, City of	$36.	$33.	$37.	$40.	$44.	$190.
Rio Metro Regional Transit Dist.	$358,456.	$224,269.	$241,601.	$260,273.	$277,024.	$1,361,624.
Rio Rancho, City of	$38,665.	$27,055.	$29,145.	$31,398.	$33,419.	$159,681.
[2] Sandoval, County of	$274.	$169.	$187.	$206.	$224.	$1,059.
Tijeras, Village of	$1,606.	$1,025.	$1,050.	$1,075.	$1,100.	$5,856.
Valencia, County of	$2,250.	$1,327.	$1,465.	$1,618.	$1,757.	$8,417.
Pueblo de Cochiti	$372.	$251.	$275.	$300.	$324.	$1,522.
Pueblo of Isleta	$182.	$113.	$124.	$137.	$149.	$706.
[2] Pueblo of Laguna	$182.	$113.	$124.	$137.	$149.	$706.
Pueblo of San Felipe	$182.	$113.	$124.	$137.	$149.	$706.
Pueblo of Sandia	$182.	$113.	$124.	$137.	$149.	$706.
[2] Pueblo of Santa Ana	$182.	$113.	$124.	$137.	$149.	$706.
Pueblo of Santo Domingo	$182.	$113.	$124.	$137.	$149.	$706.
[2] To'Hajiilee Area Navajo Nation	$182.	$113.	$124.	$137.	$149.	$706.
Total All Local & Tribal Jurisdictions	$1,365,593.	$857,521.	$928,620.	$1,006,089.	$1,076,012.	$5,233,835.
NMDOT District 3	$101,887.	$67,224.	$74,221.	$81,946.	$90,475.	$415,755.
Total State of New Mexico	$101,887.	$67,224.	$74,221.	$81,946.	$90,475.	$415,755.
TOTAL ALL MAINT. & OPER. EXPENDITURES For TRANSP.	$1,467,480.	$924,745.	$1,002,841.	$1,088,035.	$1,166,487.	$5,649,589.

Report Date: February 26, 2015

Monitoring the Progress of the 2035 MTP



Second Monitoring Report of the *2035 MTP*

Mid-Region Metropolitan Planning Organization
April 2015

Monitoring the Progress of the *2035 MTP*

Second Report on the Progress of the *2035 MTP*

Mid-Region Metropolitan Transportation Planning Organization

April 2015

Metropolitan Transportation Board (MTB)
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Introduction

The *2035 Metropolitan Transportation Plan (MTP)* was the Albuquerque Metropolitan Planning Area's long-range transportation plan between July 2011 and June 2015 (the update to the *2035 MTP* is the *Futures 2040 MTP*, slated for adoption in April 2015 and federal approval in June 2015). Adopted by the Metropolitan Transportation Board (MTB) in April 2011 and approved by the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) in June 2011, the *2035 MTP* included an objective to measure progress being made toward achieving regional transportation goals. To assess progress toward the plan's three goals—Quality of Life, Mobility of Goods and People, and Economic Activity and Growth—performance-related data has been analyzed against baseline measures and work completed toward meeting goals and objectives has been reviewed and assessed. Monitoring the plan on a regular basis allows for a continuous evaluation and for a change in approach to be made if the plan is not achieving its desired outcomes. Results from the latest assessment are presented in this report, the second round of monitoring the progress of the MTP. The first assessment was done in 2013.

Because much of the data and information used to monitor the progress of the *2035 MTP* does not significantly change in the course of a single year, MRMPO monitored the plan on a cycle of every other year. The first monitoring report was released in 2013, and this second report update published as an appendix in the *Futures 2040 MTP*. Through the exercise of completing the first report, MPO staff learned that certain performance measures and action items needed to be altered to better understand the degree of change occurring between the rounds of reporting. This may be due to changing data sources or the discovery of more accurate methodologies, etc. In addition, it became clear that certain monitoring items included those over which MRMPO has no control. Nevertheless, those items are still reported to give readers a sense of how the region is doing toward meeting goals of the *2035 MTP*.

With the new federal surface transportation law, MAP-21, performance measures are now being emphasized to a greater degree for long-range transportation planning. Federal guidance and requirements for performance measures and targets under MAP-21 may replace the performance targets and action items developed for the *2035 MTP*. In other words, this may be the final iteration of the *2035 MTP* Monitoring Report, but that is not to say monitoring the region's progress toward the goals of the MTP will end, rather it will likely be performed in a different manner and in accordance with MAP-21 guidance.

Results of the Second *2035 MTP* Monitoring Report

Progress toward meeting the quality of life, mobility, and economic activity and growth performance targets and action items to date has been mixed, although mostly positive. Out of 34 indicators, five were assessed as having no progress or negative progress made toward the goals. Nine indicators were assessed as neutral, meaning any progress toward the goal is unable to be determined. The remaining 20 indicators showed progress being made toward the goals. Results are summarized in the matrix below.

In looking at the results, it should be emphasized that the purpose of this monitoring exercise is not to track the progress of MRMPO in pursing and achieving the goals of the MTP. Rather, the purpose is to help track the region's progress toward achieving the goals and objectives of the MTP. It is not the responsibility of MRMPO alone to implement the *2035 MTP*; it is the collective task of the agencies and jurisdictions that comprise the Albuquerque Metropolitan Planning Area. This document summarizes the efforts that have been made around the region toward reaching the MTP's goals and highlights MRMPO's role in those efforts. Ultimately, achieving the desired outcomes identified in the *2035 MTP* will require ongoing coordination and commitment from a range of parties. As this document describes, a number of important steps toward these desired outcomes have been made.

Figure E-1: Performance Summary Matrix

Performance Targets	Progress	Quality of Life Action Items	Progress	Mobility of People and Goods Action Items	Progress	Economic Activity and Growth Action Items	Progress
Quality of Life Performance Targets		Support plans for implementation of alternative fuels and infrastructure	=	Encourage increased transit services on Primary Transit Improvement Corridors	↑↑	Coordinate regional growth strategies with the transportation network	↑↑
Air Quality-Maintain VMT per capita rates at or below 2008 levels	↑↑	Develop strategies/plans for prioritizing safety improvements	↑↑	Complete Bus Rapid Transit study for the Northwest Metro Area	↑↑	Assess economic impacts of transportation projects & TOD	↑↑
Increase accessibility to transit for environmental justice areas	=	Develop livable/sustainable community measures	↑↑	Analyze levels of people movement (peds, transit riders, motorists & passengers) rather than vehicle traffic alone	↑↑	Support development of Transportation Demand Management activities	↑↑
Reduce fatal and injury crashes by 2.3% per year	↓↓	Pursue the use of built environment health impact assessments	=	Increase involvement in Safe Routes to School programs and school siting	=	Assess economic impacts of various land use scenarios	↑↑
Improve bridge and pavement conditions compared to 2008 levels	=	Identify locations for improved pedestrian facilities using the PCI	↑↑	Assess & improve connectivity of thoroughfare system & local streets to improve walkability & better distribute vehicle traffic	↑↑	Work on measuring and evaluating the combined housing and transportation costs for the region	↑↑
Mobility of People and Goods Performance Targets		Support incorporation of complete streets principles into plans & policies; develop roadway design document	↑↑	Close gaps in the regional bicycle network	↑↑	Identify transportation projects to be constructed through arrangements with private sector parties	↓↓
Increase transit mode share along river crossings	=	Support the convenience and safety of non-motorized modes of travel	↑↑	Support the expansion of park and ride facilities	↑↑	Support incorporation of TOD principles into local development plans, policies	↑↑
Increase non-single occupancy vehicle trips	↓↓	Investigate regional strategies for mitigating/adapting to climate change	↑↑	Identify locations for dedicated transit facilities, ROW acquisition & signal improvements	↑↑	Assist local gov'ts in reviewing truck restrictions, policies for efficient movement of goods	=
Implement high priority CMP strategies	↓↓						
Economic Activity & Growth Performance Targets							
Target transportation investments that improve connectivity and mobility in high activity density areas	↓↓						
Increase transit services and thoroughfare connections to locally-designated activity centers and rail station areas	=						
Reduce average household combined cost of housing and transportation compared to costs in 2010	=						

Key: = ↑↑ Progress being made; ↓↓ = Decline in progress; = = No progress being made/unable to determine progress

Monitoring the Progress of the *2035 MTP*

The *2035 MTP* introduced a performance monitoring element into the region's long range transportation plan to measure progress being made toward achieving regional transportation goals. Progress is evaluated by assessing current performance-related data against baseline measures (from 2008), and by reviewing work completed on specific tasks relating to overall MTP goals and identified action items.

Monitoring the plan on a regular basis allows for a continuous evaluation and for changes in approach to be made if the plan is not achieving its desired outcomes. The *2035 MTP* set specific performance targets and action items against which to measure and monitor the progress of the plan and determine whether or not the three primary goals—*preserve and improve quality of life*, *mobility of people and goods* and *support economic activity and growth*—are being met.

Performance Targets and Action Items

Two types of performance measures were developed for the *2035 MTP*: performance targets and action items.

1. **Performance targets** directly link to the goals and objective statements of the *2035 MTP* and consider the transportation system as a whole. The performance targets for the MTP are primarily quantitative.
2. **Action items** are qualitative objectives identified to measure progress made toward MTP goals. They are task-oriented and were derived from commitments made in the MTP.

Following is the assessment of how each of the performance targets and action items for the *2035 MTP* goals are being met and, then, a description of progress made toward these performance measures. Action items and a brief report about work completed on the action item is provided next.

Note that this is the second iteration of monitoring. The first monitoring report was released in 2013 as a stand-alone report and this second report is released with the *Futures 2040 MTP* in its appendix.

Quality of Life Indicators

Quality of Life Performance Targets

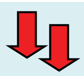
Objective Statement

Enhance the livability, safety, and environmental conditions of the region through proactive, responsible, equitable and sustainable transportation decisions.

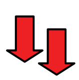
Performance Targets

Performance Target	**2015 Progress Toward Performance Target**
1. Maintain VMT per capita at or below 2008 levels	

Performance Target	**2015 Progress Toward Performance Target**
2. Increase accessibility to transit for environmental justice areas	

Performance Target	**2015 Progress Toward Performance Target**
3. Reduce fatal and injury crashes by 2.3% per year	

Performance Target	**2015 Progress Toward Performance Target**
4. Improve bridge and pavement conditions compared to 2008 levels	

Key:  =Progress being made;  = Decline in progress;  = No progress being made/unable to determine progress

1. *Maintain vehicle miles traveled (VMT) per capita at or below 2008 levels*

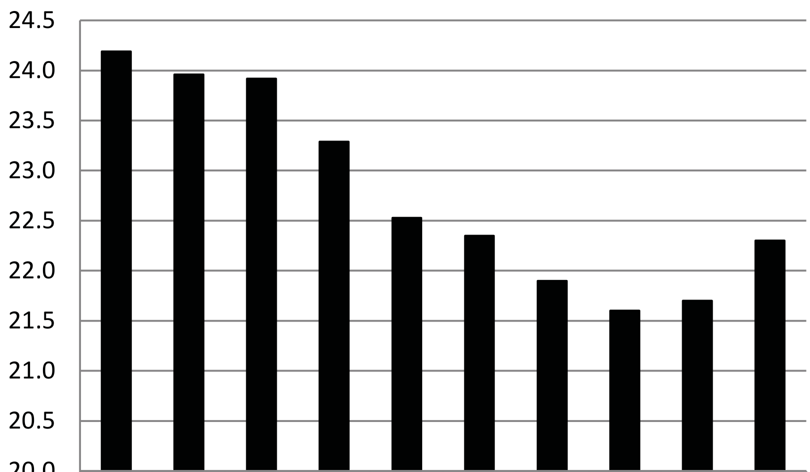
PROGRESS MADE TOWARD PERFORMANCE TARGET

Between 2008 and 2011, vehicle miles traveled (VMT) rates in the AMPA declined from 22.5 to 21.1 vehicle miles traveled per capita, which represents a 6.2 percent decrease. Although rates increased in 2012 (22.3), rates have remained at or below 2008 levels, which was the performance target.

Reducing VMT is a key strategy for maintaining air quality in the region. For the purpose of monitoring the *2035 MTP*, VMT is used as a proxy to gauge progress made toward air quality maintenance and improvement.

Numerous factors contribute to reductions in VMT, including gas prices and the economy. The decline in regional VMT per capita is attributed in part to the economic recession that started in 2007, but not fully since the decline started before the recession. Another factor is changing travel mode preferences among the travelling public. Although MRMPO and its member governments and partner agencies have no control over economic conditions or gas prices, MRMPO can work on maintaining and even reducing VMT by improving the transportation system for all modes, through transportation demand management (TDM) efforts, and supporting smart growth efforts and policies.

Figure 1-1: AMPA VMT Per Capita Rates, 2004-2013



	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
■ VMT rate	24.2	24.0	23.9	23.3	22.5	22.4	21.9	21.6	21.7	22.3

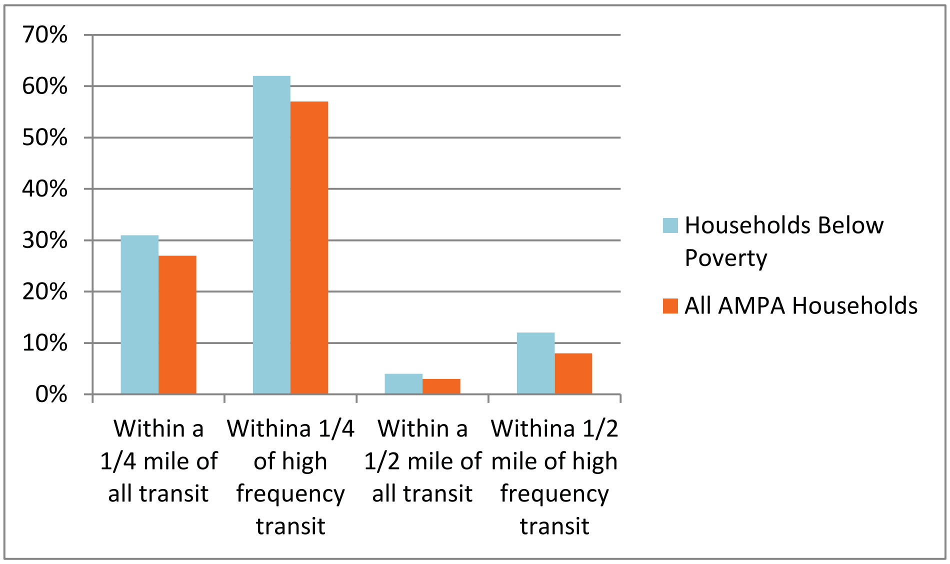
Source: DGR, MRCOG

2. Increase accessibility to transit for Environmental Justice areas

PROGRESS MADE TOWARD PERFORMANCE TARGET

This performance target examines the accessibility of environmental justice populations (minority and households below the poverty level) to transit. The percentage of identified minority and low-income populations in the region that lives within ¼ mile and ½ mile of all transit and high frequency transit, respectively, was measured. The methodology for measuring this performance target has changed twice since the original calculation was made in the *2035 MTP*. Part of this was a result of new data from the 2010 U.S. Census (in 2008, 2000 U.S. Census data was used; in 2012, 2010 U.S. Census data was used; in 2015 American Community Survey Data was used for the revised 2012 analysis) and the other part was simply because of changes in the preferred methodology over the years. Therefore, the 2008, 2012 and updated 2012 numbers do not offer an accurate comparison. Revised 2012 numbers as presented in the *2040 MTP* are shown here and are not compared to previous calculations. Nevertheless, where new communities were identified, environmental justice populations and their proximity to transit (including new transit service) was calculated[1]. The transit network for 2013 was used. According to the most recent analysis done for the *2040 MTP*, access to transit service for environmental justice communities compared to the overall AMPA population was mixed. The percent of minority populations within both ¼ and ½ mile of transit in 2012 was slightly lower than for the AMPA population as a whole. On the other hand, for households below the poverty level, a higher percentage of those households had access to transit compared to the overall AMPA population. The household poverty level metric is arguably the more telling one since the AMPA has such a relatively high number of minority residents. In other words, with the AMPA's very diverse ethnic make-up, income status tells us more about challenges faced by a group compared to their minority status. In this regard, then, whether intentional or not, the region is doing fairly well in providing good access to transit for low-income populations.

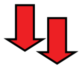
Figure 1-2: Low Income Household Access to Transit Service Compared to AMPA as a Whole, 2012



In addition to transit accessibility for environmental justice communities, MRCOG's Job Access Reverse Commute program is partnering with the Esperanza Community Bike Shop to help low-income residents earn a bike to improve transportation options and mobility for those residents.

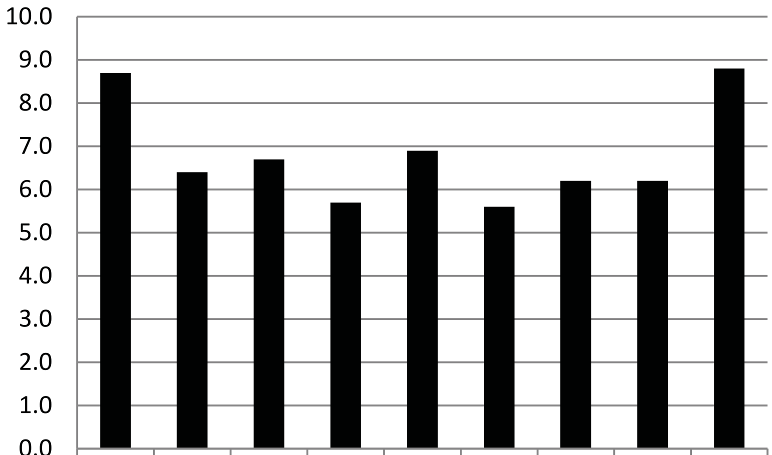
[1] Environmental justice communities were identified using minority status and household poverty data along with population density to identify where there are concentrations of environmental justice populations.

3. Reduce fatal and injury crashes by 2.3 percent per year

PROGRESS MADE TOWARD PERFORMANCE TARGET 

Fatal crash rates have increased in the AMPA since 2008, and therefore the safety performance target of reducing fatal crashes by 2.3 percent per year has not been met. Injury crash rates have increased between 2008 and 2011 but dropped between 2011 and 2012. The injury crash rate in 2012 is close to where it would be had a goal of 2.3 percent reduction per year been met, but is still slightly short of where that would have placed the injury crash rate in 2012 (490 crashes per 100,000 population). Strategies on how to further improve safety in the region should continue to be pursued.

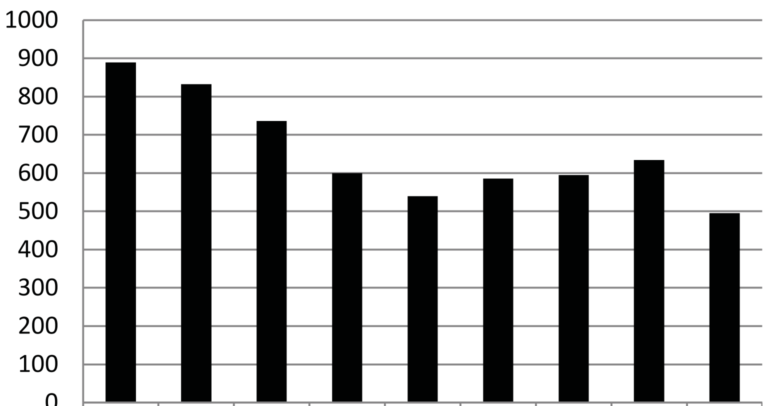
Figure 1-3: Fatal Crash Rates (per 100,000 population) in the AMPA, 2004-2012



	2004	2005	2006	2007	2008	2009	2010	2011	2012
■ Fatal	8.7	6.4	6.7	5.7	6.9	5.6	6.2	6.2	8.8

Source: DGR, MRCOG

Figure 1-4: Injury Crash Rates (per 100,000 population), 2004-2012



	2004	2005	2006	2007	2008	2009	2010	2011	2012
■ Injury	889	832	736	600	540	586	595	634	495

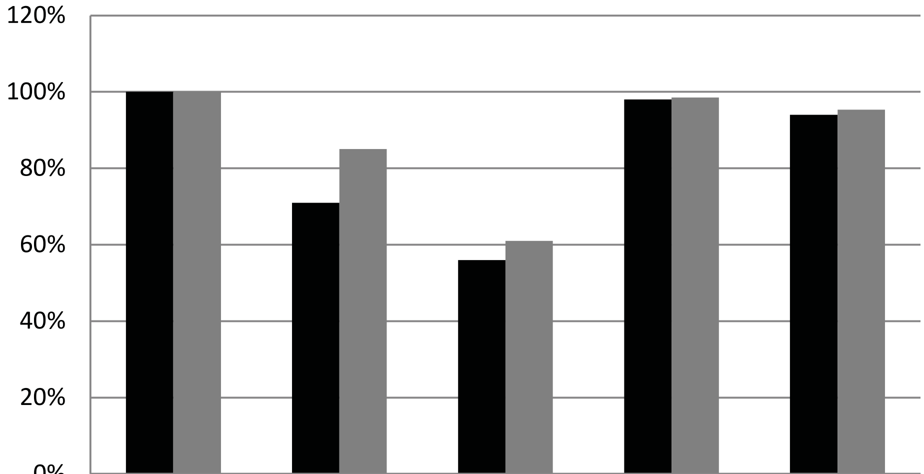
Source: DGR, MRCOG

4. Improve bridge and pavement conditions compared to 2008 levels

PROGRESS MADE TOWARD PERFORMANCE TARGET

According to updated pavement condition data from Bernalillo County, the City of Albuquerque, the City of Rio Rancho, and District 3 of the New Mexico Department of Transportation, pavement conditions in the region have for the most part improved, particularly in Albuquerque and Rio Rancho. Conditions reported here are the same as the ones reported in the 2013 monitoring report (no new data has been obtained since 2012 as member data consolidation is still in process and tied to the NMDOT's Asset Management Program, which is still in development).

Figure 1-5: Pavement Conditions, 2008 and 2012



	Bernalillo County	City of Albuquerque	City of Rio Rancho	District 3 Interstate	District 3 Non-Interstate
% Fair and Above 2008	100%	71%	56%	98%	94%
% Fair and Above 2012	100%	85%	61%	99%	95%

**Note that Bernalillo County ranks all of its roadways as "Fair" or "Good"*

Quality of Life Action Items

Q1) Support plans for implementation of alternative fuels and infrastructure

MRMPO staff has coordinated with PNM staff regarding the installation of electric-vehicle (EV) charging stations. PNM has installed a small but growing number of stations and is exploring the installation of additional charging facilities. PNM is working with individual companies and private sector parties who wish to install electric-vehicle charging stations across the AMPA. At this time electrical connections are provided by PNM based on individual demand rather than comprehensive regional effort at this stage. Opportunities exist to expand EV charging station infrastructure and to support a more formal and comprehensive set of facilities.

Q2) Develop strategies/plans for prioritizing safety improvements

A regional safety plan with strategies for improving conditions and safety for travelers is currently under development. MRMPO has been involved in two Road Safety Audits as well as other safety training workshops, including one that dealt with multi-modal level of service. Knowledge and skills being gleamed from these audits and safety-related workshops and training are being applied in the regional safety plan.

Q3) Develop livable/sustainable community measures

In the midst of the development of the *2035 MTP*, the HUD/DOT/EPA Partnership for Sustainable Communities introduced six principles of livability as part of a multi-agency effort geared toward creating more livable and sustainable places. MRMPO considered the incorporation of these measures into the goals and objectives of the *2040 MTP* but rather than explicitly incorporating these measures, they are all included in the *2040 MTP* in various ways as shown in brackets in the list below of the six principles of livability:

1. ***Provide more transportation choices.*** [Included as a Mobility goal objective: "Expand Transportation Options."]
2. ***Promote equitable, affordable housing.*** [Combined costs of housing and transportation affordability in the region are investigated and tracked through both the MTP and the MTP monitoring process.]
3. ***Enhance economic competitiveness.*** [Economic Vitality is one of the four key goals of the MTP, and along with it are three economic-related objectives. The *2040 MTP* also includes a section that looks at the ties between the economy and transportation, including the economic implications of increased network efficiency, savings gained from maximizing existing infrastructure, and targeted investments to attract and retain young professionals.]
4. ***Support existing communities.*** ["Maintain existing infrastructure" is an objective under the Mobility goal and supports existing communities. This principle is also promoted in the Preferred Scenario, which encourages more compact development patterns that take advantage of existing infrastructure and reduce service expansion costs, among other benefits.]
5. ***Coordinate policies and leverage investment.*** [The MTP Scenario Planning effort calls for coordinating policies among the various jurisdictions to help achieve the principles of the Preferred Scenario. The *2040 MTP* encourages leveraging transportation investments to benefit the economy and prioritizing transportation investments that will help promote a more vital economy.]
6. ***Value communities and neighborhoods.*** [The Preferred Scenario encourages the development of activity centers that reflect community values and have unique attributes. The *Long-Range Transportation System Guide* encourages roadways to be developed in a way that matches the surrounding land uses.]

Although not developed explicitly in response to the FHWA's livability measures, the *2035 MTP* and *2040 MTP* did include performance targets and action items that address livability/sustainable community measures (i.e., reducing the combined household costs of housing and transportation; increasing non-single occupancy vehicle trips to work; closing gaps in the regional bicycle network; increasing transit to activity centers and rail stations; and increasing transit mode share on river crossings).

In addition, the Project Prioritization Process used to help select projects for federal funding includes livability and sustainability-related performance measures, including incentivizing projects that do the following: reduce emissions; include new bicycle or pedestrian facilities; improve transportation options for low-income and minority communities; preserve and enhance existing infrastructure; address congested corridors and corridors with high levels of people movement; serve areas with high population and employment activity; provide connections to transit facilities; and address heavily-used pedestrian areas. Finally, performance measures used to assess the scenarios developed through the scenario planning process included measures that could be considered "livable and sustainable community measures." These included: proximity to activity centers, transit, bicycle facilities and schools, jobs/housing mix in activity centers, amount of new land developed, average commute time, safety, emissions levels, water consumption and development in flood, fire and crucial habitat areas.

Q4) Pursue the use of built environment health impact assessments

MRMPO staff is considering changing and broadening the intended focus of the health impact assessments.

In a related effort, MRMPO staff has been working on the Community Transformation Grant with Bernalillo County in an effort to reduce disparities and improve health. This effort includes study into how the built environment plays a role in that.

Q5) Identify locations for improved pedestrian facilities using the Pedestrian Composite Index

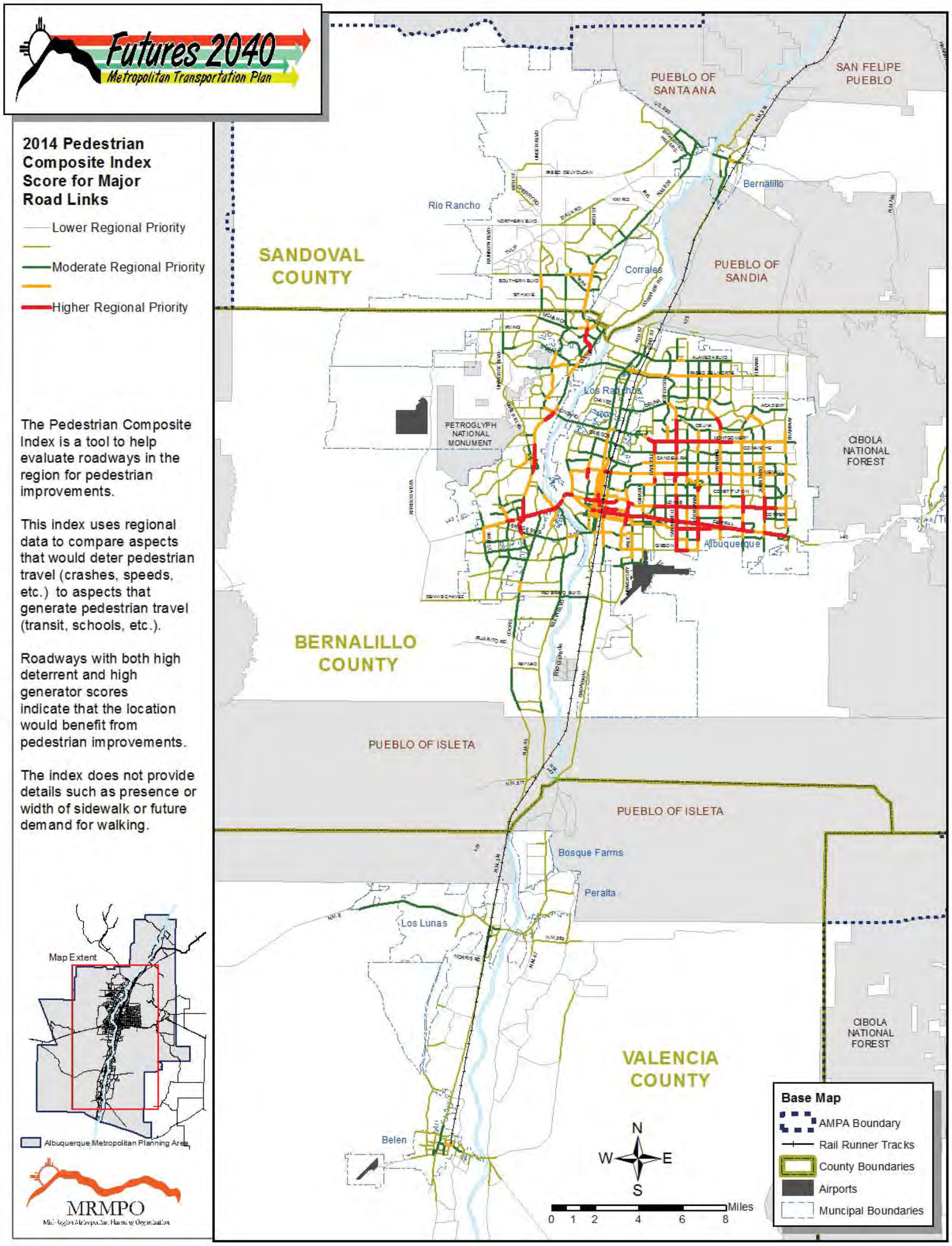
The Pedestrian Composite Index (PCI) is a tool that helps communities evaluate pedestrian needs on a regional scale. The Index evaluates factors that attract pedestrians and factors that make walking difficult in a given area. The PCI is also used to show the factors that push local areas into the "high regional priority" classification for pedestrian improvements.

Since the 2012 Metropolitan Transportation Plan Monitoring Report, the Pedestrian Composite Index has been updated to include more recent data and local agencies have used the PCI to evaluate pedestrian issues in local areas. The following areas have been evaluated using the PCI:

1. Central Ave (*Central Ave Complete Street Plan: 2st to Girard Blvd*, 2013)
2. Coors Corridor (*Coors Corridor Study,* 2013)
3. East San Jose Pedestrian Analysis (2013)
4. 50-Mile Loop (2014)
5. Uptown area (*Uptown Pedestrian Study*, 2014)
6. Downtown area (*Downtown Walkability Analysis*, 2014)
7. TIP Projects (2015)

The PCI only provides a broad view of pedestrian conflicts. It helps identify the need, but it does not provide recommendations on how to improve the roadside or intersections for pedestrians. In order to bridge this gap to provide more detailed analysis of the pedestrian environment at specific locations MRMPO organized and held a course on multi-modal level of service in August 2014. This course takes fine-grained information about the roadway (e.g., presence of a sidewalk, sidewalk width, presence of street trees, average weekday traffic, etc.) and approximates the level of pedestrian comfort on the roadway. This model allows practitioners to evaluate how best to accommodate pedestrians in a constrained right-of-way.

Map 1-1: 2014 Pedestrian Composite Index for Major Road Links



Q6) Support the incorporation of complete streets principles into MPO and local plans and policies and develop a regional roadway design document based on complete streets and context sensitive design elements

The *Long Range Transportation System Guide* (*LRTS Guide*) is a document developed by MRMPO to incorporate Complete Streets principals into local practices and policies. The *LRTS Guide* uses five guiding principles: 1) Transportation and land use integration, 2) Complete Streets, 3) Connectivity, 4) Support the principles of the preferred scenario, 5) Support other plans and policies. Instead of creating a parallel effort, the *LRTS Guide* identifies a range of opportunities and considerations for the incorporation of the guiding principles into current plans and practices. By taking advantage of current processes, the *LRTS Guide* seeks to provide a more efficient means of integrating Complete Streets into local efforts.

Part of developing the *LRTS Guide* involved looking at practices from other metropolitan planning organizations for best practices. This review helped the development of the *LRTS Guide* in many ways. It was particularly helpful in developing performance measures and a Complete Streets checklist. This comparison can be found at: http://www.mrcog-nm.gov/transportation/metro-planning/health-and-safety?showall=&start=4

One of the guiding principles of the *LRTS Guide* is supporting locally adopted plans and policies. A review of the incorporation of Complete Streets principles in locally adopted plans was also completed as part of the guide's development. This effort resulting in an interesting finding: the number of adopted plans including Complete Streets principles has grown substantially over time.

Figure 1-6: Complete Streets Decision Making Flow Chart

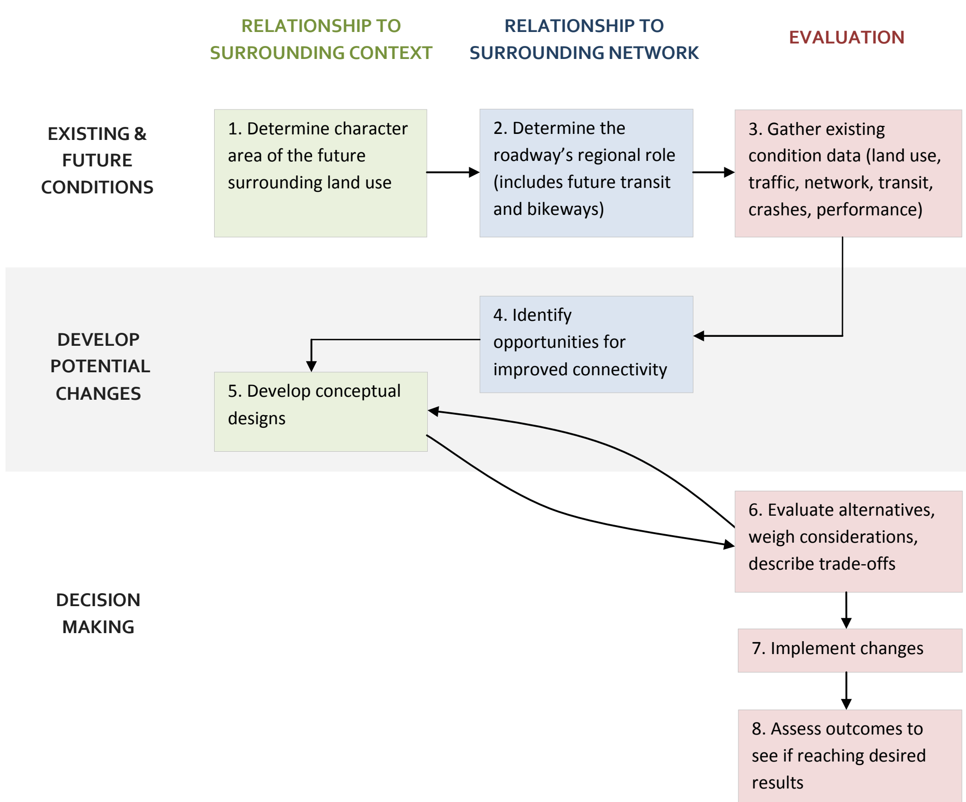
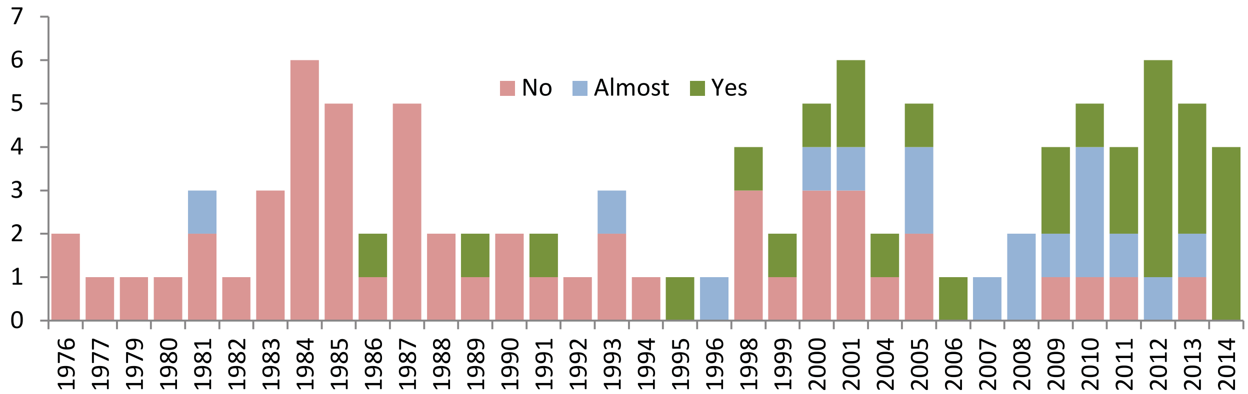


Figure 1-7: Number of Locally Adopted Plans that Include the Accommodation of All Roadway Users by Year



Finally, the most notable support of Complete Streets is the City of Albuquerque's adoption of the Complete Streets Ordinance. This ordinance includes many aspects involving Complete Streets:

- Incorporating the accommodation of all roadway users in capital projects and maintenance projects,
- Traffic calming,
- Mid-block crossing accommodation,
- Multi-modal level of service measures,
- Direction to use Institute of Transportation Engineers Designing Walkable Urban Thoroughfares: A Context Sensitive Approach, National Association of City Transportation Officials Urban Bikeway Design Guide,
- Removal of abandoned curb cuts.

Q7) Support the convenience and safety of non-motorized modes of travel as commuting alternatives

This action item is being addressed through a variety of efforts described below.

- In August 2014, MRMPO organized and held a course on the use of multi-modal level of service to accommodate all modes in constrained rights-of-way. This course provided an in-depth look at the various trade-off that can be made to improve a roadway's multi-modal performance and it provided methods to measure the effectiveness of these trade-offs.
- MRMPO held a series of *Designing for Pedestrian Safety* workshops led by Federal Highway Administration's Safety Resource Center. These workshops targeted three different high pedestrian crash locations in the region that also have near-term projects planned.
- MRMPO developed the Bernalillo County Pedestrian & Bicyclist Crash Data Analysis report that takes an in-depth look at pedestrian and bicyclist crashes in Bernalillo County. This report helps to call out several major issues. Pedestrian and bicyclist crash maps are also available online.
- MRMPO staff has been involved in several local efforts involving safety from the Loma Larga Road Safety Audit to the Uptown Pedestrian Safety Study and Downtown Albuquerque Walkability Analysis.
- MRMPO participates in the New Mexico Strategic Highway Safety Plan.

Q8) Investigate regional strategies for mitigating/adapting to climate change

The Central New Mexico Climate Change Scenario Planning Project identified ways the region could adapt to climate change impacts – largely through reducing the region's footprint and by minimizing growth in at-risk locations – and strategies to mitigate climate change through greenhouse gas emissions reduction. Mitigation strategies include measures to encourage alternative modes, improve roadway efficiency and reduce delay, as well as a number of land use related strategies. Many of these strategies were incorporated into the Preferred Scenario of the *2040 MTP*, as the Central New Mexico Climate Change Scenario Planning Project Final Report is now available on the MRCOG website.

Mobility of People and Goods Indicators

Mobility of People and Goods Performance Targets

Objective Statement

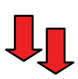
Enable the efficient movement of people and goods within and through the region and provide residents with a range of viable transportation options.

Performance Targets

Performance Target	2015 Progress Toward Performance Target
1. Increase transit mode share along river crossings to 10% by 2025 and 20% by 2035	

Performance Target	2015 Progress Toward Performance Target
2. Increase non-single occupancy vehicle trips to 25% by 2025 and 30% by 2035	

Performance Target	2015 Progress Toward Performance Target
3. Implement high priority congestion management process strategies from the CMP toolkit	

Key:  =Progress being made;  = Decline in progress;  = No progress being made/unable to determine progress

1. Increase transit mode share along river crossings to 10 percent by 2025 and to 20 percent by 2035

PROGRESS MADE TOWARD PERFORMANCE TARGET

The overall transit mode share along the region's river crossings is 1.21 percent (approximately 6,500 transit river crossing trips out of almost 533,000 person trips). While the overall mode share is low, one bright spot is that eight percent of all river crossing trips along Central Avenue are made via transit. The second highest corridor by percentage is Bridge Boulevard (1.8 percent), but the second highest corridor in terms of number of transit users is Interstate 40 which carries more than 2,100 riders per day, mostly on the Rapid Ride Blue Line.

Data was compiled for the first time at a regional level in 2011 (which is now the baseline year), so it is difficult to make any assessments on changes or improvements over time. On an anecdotal level, transit mode share on Central Avenue has improved. An initial survey in 2008 found a six percent mode share in 2008 while the 2011 regional survey found an eight percent mode share in 2011.

Figure 1-8: Transit Mode Share on River Crossings 2011 and 2012

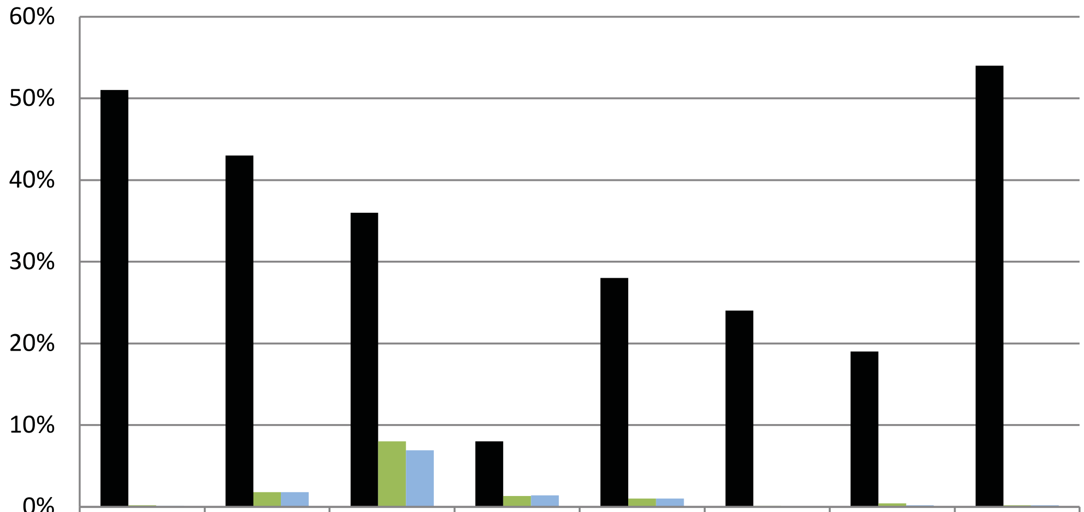
River Crossing	Transit Routes	2012 Ridership	2012 Vehicle Users	2012 Mode Share	2011 Mode Share
US 550	RM 201, 204	*75	49428	0.2%	0.2%
Alameda Blvd	98	70	58943	0.1%	0.2%
Paseo del Norte	251, 551	26	94949	0.0%	0.1%
Montaño Rd	157	335	33091	1.0%	1.0%
Interstate 40	790, 92, 94, 96	2295	166046	1.4%	1.3%
Central Ave	66, 766	2966	40093	6.9%	8.0%
Bridge Blvd	53, 54	805	42776	1.8%	1.8%
Rio Bravo Blvd	51, 222	93	40475	0.2%	0.4%
NM 6	0	0	30845	0%	0.0%
Total		6665	556646	1.18%	1.22%

Note: the percent share on Central Ave is lower in 2012 than 2011 despite an increase in ridership over the previous year.

The change in mode share is the result of a higher traffic count taken in 2012 than in previous years. Overall ridership on river crossings is estimated to be 2.2% higher in 2012 than in 2011; however, the overall mode share for the river crossings decreases from year to year.

This reflects the challenge in increasing the transit mode shares along corridors primarily used by private vehicles; an increase in driving can easily obscure any increases made in transit ridership.

Figure 1-9: Transit Mode Share: 2011 and 2012 Share and Future Need



	Alameda Blvd	Bridge Blvd	Central	I-40	Montano Blvd	Paseo Del Norte	Rio Bravo	US 550
Future Need	51%	43%	36%	8%	28%	24%	19%	54%
2011 Share	0.2%	1.8%	8.0%	1.3%	1.0%	0.1%	0.4%	0.2%
2012 Share	0.1%	1.8%	6.9%	1.4%	1.0%	0.0%	0.2%	0.2%

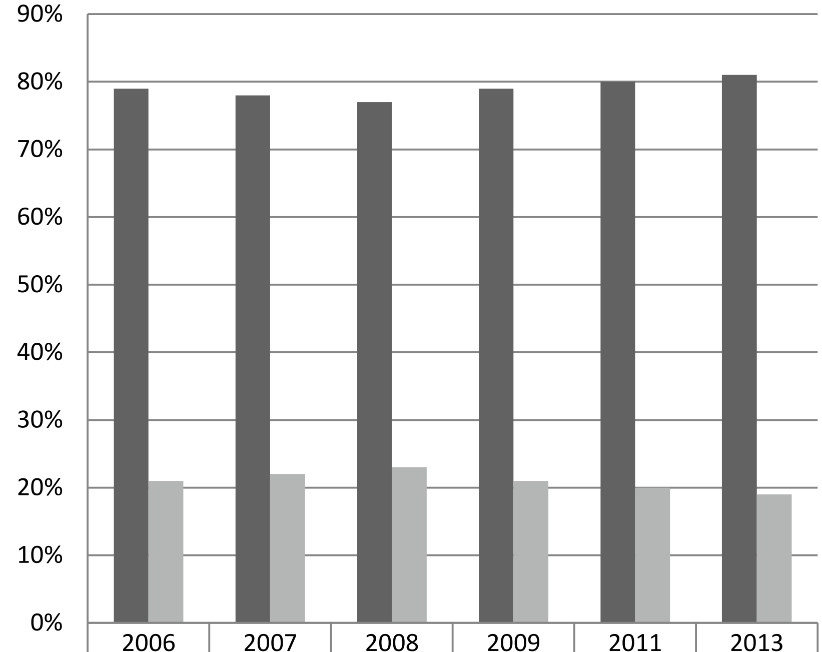
2. Increase non single-occupancy vehicle trips to work to 20 percent by 2025 and 30 percent by 2035

PROGRESS MADE TOWARD PERFORMANCE TARGET

In 2013, slightly more commute trips in the region were single occupancy vehicle trips compared to recent years according to data from the American Community Survey. That means workers in the region are still primarily continuing to travel to work in their own personal vehicles rather than carpooling, walking, riding bicycles or telecommuting (non-single occupancy trips), and are doing so at a slightly higher rate.

Although this measure represents personal decisions and can be difficult to change, improving transit service and bicycle and pedestrian infrastructure and supporting Transportation Demand Management (TDM) in the region can promote higher rates of non-single occupancy vehicle trips to work. Progress made in this regard would indicate a higher number of transportation choices in the region.

Figure 1-10: Non-Single Occupancy Vehicle Trip Rates, 2006-2013



	2006	2007	2008	2009	2011	2013
Drove Alone	79%	78%	77%	79%	80%	81%
Non-Single Occupancy	21%	22%	23%	21%	20%	19%

Source: American Community Survey 3-Year Estimates (Note: 2004-2006 data = '2006', etc.)

3. Implement high priority Congestion Management Process strategies from the Congestion Management Process Toolkit

PROGRESS MADE TOWARD PERFORMANCE TARGET

At this time, MRMPO does not have an inventory of projects that have been implemented which include congestion management strategies. MRMPO is, however, looking into the possibility of tracking this, keeping in mind the merits of doing so.

Mobility of People & Goods Action Items

M1) Encourage increased transit services on Primary Transit Improvement Corridors (key corridors for transit)

Three major BRT studies have been completed in the last few years. The Central Ave BRT Feasibility demonstrated that such a service would indeed succeed along Central Ave, and led to the identification of a route for service implementation, stop locations, infrastructure improvements including dedicated lanes and other fixed guideways, and other supporting improvements such as pedestrian connections and streetscaping. The Albuquerque Rapid Transit project is expected to break ground in 2016 and begin operations in 2017.

The Paseo del Norte High Capacity Transit Study and the UNM/CNM/Sunport Transit Study identified locally preferred alternatives for future service implementation. Although these studies are now complete, no timetables have been set for implementation. It is important to note that the recently identified Transit Priority Network includes both of these facilities, and the transit set-aside in the Transportation Improvement Program allocates additional resources to project that support service expansion along the priority network.

M2) Complete Bus Rapid Transit study for the Northwest Metro Area

As previously mentioned, three major BRT studies have been completed in the last few years, including the study for the northwest metro area.

The *Paseo del Norte High Capacity Transit Study Alternatives Analysis Report* highlights the third BRT project under consideration. The Paseo del Norte project arose from the Metropolitan Transportation Board's aforementioned mode share goals for river crossings and seeks to connect housing in northwest Albuquerque and southern Rio Rancho with employment east of the Rio Grande. Notably, neither the Paseo del Norte nor UNM/CNM projects assumed that BRT would be the preferred mode from the onset. Rather, the selection of BRT in both cases was based on a variety of needs and evaluation criteria. The locally preferred alternative originates in Rio Rancho at the intersection of Southern and Unser Boulevards, travels south on Unser Blvd to Paseo del Norte, and continues east on Paseo del Norte until reaching Jefferson St. The route then turns south on Jefferson St before continuing to UNM and CNM via I-25 frontage roads and University Blvd (i.e., interlining with the UNM/CNM BRT). Headways are estimated to range between 10 and 15 minutes along the 24-mile corridor but could be reduced as ridership grows. Like the UNM/CNM BRT, the Paseo del Norte BRT will require new operational funding. Capital costs are estimated at $105 million.

M3) Analyze levels of people movement (pedestrians, transit passengers, vehicle drivers and passengers) rather than vehicle traffic alone to better understand how people are traveling along a corridor

MRMPO is expanding the trail count program by participating in the Rails-to-Trails Conservancy's Trail Monitoring and Assessment Platform. MRMPO has recently expanded the current trail count program from seven permanent count locations to nine. In 2012 Bernalillo County installed five permanent count stations to count trail users at critical locations. Part of the agreement in the installation was MRMPO collaboration in data collection and reporting. In 2013, the Bernalillo County installed permanent counters in two more locations. Finally, in 2014 the program was expanded by two more locations through a collaborative effort with the Rails-to-Trails Conservancy. This collaboration has allowed MRMPO to test out pedestrian and bicyclist count technology that is specific to these users with improved data collection and reporting communications.

Beginning in 2013, MRMPO has begun collecting and analyzing short-duration video counts to help inform projects on pedestrian and bicyclist behavior. As the region works on accommodating pedestrians and bicyclists, it is important to understand how they are navigating the current system. These counts help to show a variety of pedestrian and bicyclist behavior from the number of mid-block crossings to see if the pedestrian volumes warrant a signal to how people navigate difficult areas.

1. Spain and Tramway (2013 & 2014)
2. Permanent Trail Counter Verification (2013, 2014)
3. West Central Road Safety Audit – Mid-block vs Intersection crossings at Atrisco and Coors (2013)
4. University & Randolf (2013)
5. Uptown Mid-Block Crossings – Target on Indian School, City Center on Louisiana, Total Wine on Uptown Blvd (2014)
6. 50 Mile Loop – Lomas & Alvarado, San Pedro & Hains (2014)
7. Unser and I-40 – Pedestrian and Bicyclist negotiation of Unser Northbound Off-Ramp (2014)
8. Mile-High District – San Pedro at Mountain (2014)

Cyclist Riding Past Trail Counter

Example of Observing and Counting a Mid-Block Crossing

M4) Increase involvement in Safe Routes to School programs and school siting

MRMPO has developed tools to give priority to investments that improve walking and bicycling to schools. The Project Prioritization Process assigns more points to pedestrian and bicycle projects that improve access to schools over projects that do not provide this access. The most notable Safe Routes to School project in the Transportation Improvement Program is not a project, but a program: the City of Albuquerque's Bicycle and Pedestrian Safety Program run out of the City's Parks & Recreation Esperanza Community Bike Shop. This program provides education courses in bicycle and pedestrian safety throughout the region. Each year, approximately 10,000 youths participate in bicycle safety courses and 2,000 in pedestrian safety courses. Esperanza Community Bike Shop is located in one of the Albuquerque's low-income, high-minority areas. In addition to providing a variety of courses, Esperanza Community Bike Shop has become a community hub that has provided some unexpected benefits to youth in the community. One such surprising positive interaction has been between the local youth and law enforcement that use the community shop to maintain their bicycle fleet. Esperanza Community Bike Shop and the City's Bicycle and Pedestrian Safety Program provide a highly economical and effective means to address Safe Routes to School. Although the Transportation Improvement Program is set up primarily to support capital projects, MRMPO works to ensure that valuable programs are also funded.

In addition, the Pedestrian Composite Index assigns higher pedestrian generator scores to roadways that are within a half mile of school over other roadways, which leads to increasing the roadway's regional priority for pedestrian improvements.

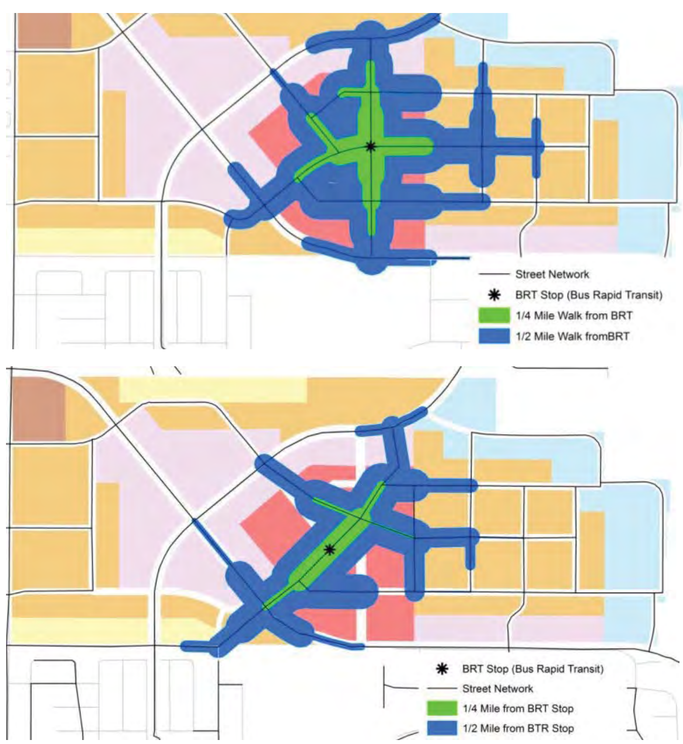
M5) Assess and improve connectivity of thoroughfare system and local streets to improve walkability and better distribute vehicle traffic

The *Long Range Transportation System Guide* (*LRTS Guide*) includes a section to improve roadway connectivity at a variety of levels from master plan development of new roadways to site development plans. These connectivity recommendations have been developed based on analysis through the development review process. Over the past two years the following plans have been reviewed and comments have been provided on ways to improve network connectivity:

1. Volcano Heights Sector Development Plan access requirements (COA & NMDOT)
2. Santolina Master Plan (Bernalillo County)
3. US 550 (NMDOT)
4. Coors Corridor Study (COA & NMDOT)
5. Unser Access Management Request (NMDOT)
6. Master Bikeways and Trails Facility Plan (COA)
7. 50 Mile Loop (COA)
8. Sevilla @ Andalucia Development (COA)
9. Neighborhood Traffic Management Program (COA)

The connectivity measure and recommendations in the *LRTS Guide* have helped prepare MRMPO to incorporate

Figure 1-11: Example of Walking Access based on Different Roadway Schemes for Volcano Heights



these recommendations into the City of Albuquerque's update of the Comprehensive Plan and the Uniform Development Ordinance.

M6) Close gaps in the regional bicycle network

The major incentive MRMPO provides to connect gaps in the regional bicycle network is through the Project Prioritization Process. Prioritization points are awarded to projects if they close a gap in the bicycle network. Oftentimes a trail segment is proposed, but a small, critical point gap at an intersection is not included in the project. These critical gaps are often very problematic and pose large barriers to walking or bicycling. This process provides an incentive to address not only large gaps, but critical and difficult small ones as well.

This gap closure measure in the project prioritization process has led agencies to provide projects that close a variety of gaps in the network. Currently, there is a proposed grade-separated crossing that would provide the improved access to homes and jobs at Paseo del Norte and Coors Blvd. This area is included in the current Transportation Improvement Program as a study of the area to bridge this gap.

M7) Support the expansion of park and ride facilities

Work related to identifying locations for dedicated facilities and park and rides has been conducted through the three major transit studies (Central Ave BRT, Paseo del Norte High Capacity Transit Study Alternatives Analysis, and the UNM/CNM/Sunport Transit Study Alternative Alignments Identification and Assessment) that have taken place in the last few years.

In addition, the development of new park and ride facilities is supported through the Project Prioritization Process as points are awarded to new park and ride facilities because they support intermodal connectivity.

M8) Identify specific locations for dedicated transit facilities, right-of-way acquisition and signal improvements

Work related to identifying locations for dedicated facilities has been conducted through the three major transit studies (Central Ave BRT, Paseo del Norte High Capacity Transit Study Alternatives Analysis, and the UNM/CNM/Sunport Transit Study Alternative Alignments Identification and Assessment) that have taken place in the last few years. Right-of-way needs have been identified as part of the Paseo del Norte and UNM/CNM/Sunport studies.

Economic Activity and Growth Indicators

Economic Activity and Growth Performance Targets

Objective Statement

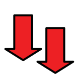
Develop a transportation system that promotes economic activity in the region achieved through decisions that provide an affordable, efficient, and accessible multimodal transportation network.

Performance Targets

Performance Target	2015 Progress Toward Performance Target
1. Target transportation investments that improve connectivity and mobility for all modes within high Activity Density Areas	

Performance Target	2015 Progress Toward Performance Target
2. Increase transit services and appropriate thoroughfare connections to locally-designated Activity Centers and rail station areas	

Performance Target	2015 Progress Toward Performance Target
3. Reduce the average household combined cost of housing and transportation compared to costs in 2010	

Key:  =Progress being made;  = Decline in progress;  = No progress being made/unable to determine progress

1. Target transportation investments that improve connectivity and mobility for all modes within 2008 Activity Density Areas

PROGRESS MADE TOWARD PERFORMANCE TARGET

MRMPO does not have a good inventory on projects implemented by member agencies, including whether transportation investments that improve connectivity and mobility have been made in high activity density areas.

The Preferred Scenario does support the implementation of such projects in activity centers. Ways to help achieve this principle will be investigated in the coming months along with other Preferred Scenario principles implementation strategies development.

2. Increase transit services and appropriate thoroughfare connections to locally-designated activity centers and rail station areas

PROGRESS MADE TOWARD PERFORMANCE TARGET

There were no significant increases in transit service to activity centers or rail station areas, although there were minor improvements in service frequency on a number of ABQ Ride routes. In the last two years, three important bus rapid transit studies have taken place that are intended to improve connections to major activity centers or rail stations, including the Paseo del Norte High Capacity Transit Study, the UNM/CNM/Sunport Transit Study, and the Central Avenue BRT Feasibility Study. The Central Ave Study has led to the development of the Albuquerque Rapid Transit, which is scheduled to begin operations along Central Ave in 2017.

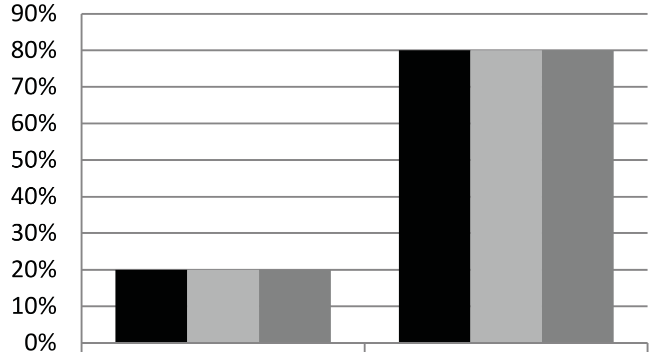
3. Reduce the average household combined cost of housing and transportation compared to costs in 2010

PROGRESS MADE TOWARD PERFORMANCE TARGET

The Center for Neighborhood Technology (CNT) has brought attention to the concept of combining transportation and housing costs to paint a true picture of housing affordability since transportation costs are the second highest household expense and are related to housing location. When combined housing and transportation costs are less than 45 percent of household income, they are defined as affordable by the CNT. Between 2010 and 2012 the percentage of population in the region with affordable housing and transportation costs (less than 45 percent of household income) has remained the same at 20 percent of the population according to the CNT. As of 2015, the tool indicates the same figures on housing and transportation affordability in the region as in previous years (in fact, the tool may not have been updated since 2012, but the CNT does not make that information available).

Regional progress on this measure can be made by smarter and more compact land use development, improvements to transit, bicycle and pedestrian infrastructure, and coordinated land use and transportation planning. Although MRMPO lacks land use authority, the organization can work with partners with land use jurisdiction on coordinating land use and transportation planning. In addition, a clearer understanding of this measure will be possible in future analyses because household income data can now be looked at a finer geographic level.

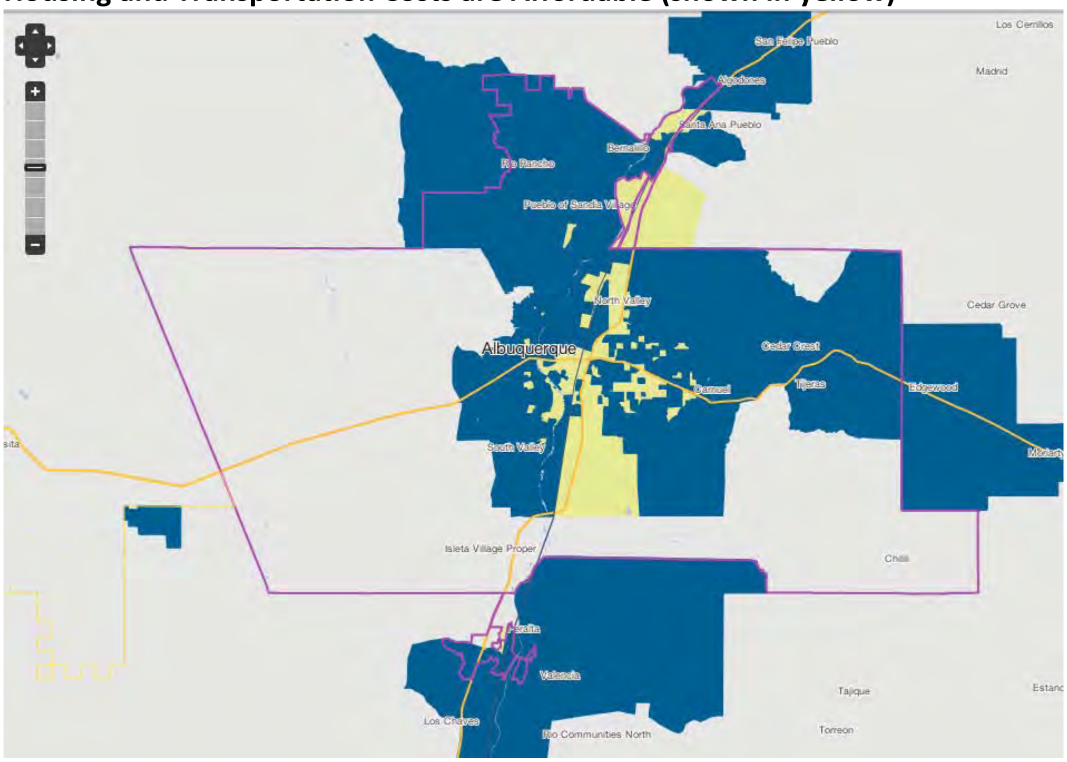
Figure 1-12: Affordable Housing and Transportation Costs, 2010, 2012 and 2015



	Less than 45%	45% and Greater
% of Population 2010	20%	80%
% of Population 2012	20%	80%
% of Population in 2015	20%	80%

Source: Center for Neighborhood Technology

Map 1-2: Map from the Center for Neighborhood Technology Showing Areas in the Region where Housing and Transportation Costs are Affordable (shown in yellow)



Source: Center for Neighborhood Technology, 2015
Note: Areas shown in blue have combined housing and transportation costs that are more than 45 percent of household income (and are therefore considered unaffordable). Areas shown in yellow have combined housing and transportation costs that are 45 percent or less of household income (and are considered affordable).

Economic Activity & Growth Action Items

E1) Work with member agencies on coordinating regional growth strategies with the transportation network

The scenario planning effort that was part of the MTP involved extensive collaboration with member agencies and other regional partners and stakeholders on the development of a Preferred Scenario for growth in the region. This effort has now formed a shared framework for desired growth and development outcomes and identified land use and transportation policies and strategies to support this preferred scenario. Next steps include working closely with member agencies and other partners on the realization of the principles of the Preferred Scenario. The scenario planning process represented an important move in the direction of coordinated land use and transportation planning in the region.

Other ways this coordination is occurring is through MRMPO's continued involvement reviewing local development plans. MRMPO provides comments from a transportation perspective on all major proposed development projects for the City of Albuquerque and Bernalillo County.

E2) Assess economic impacts of transportation projects and transit-oriented development

The TranSight model was used to analyze the roadway capacity and expansion projects associated with the *2040 MTP*. Economic impacts to the MRMPO region of building out the projects are included in Chapter 3.11 of the MTP. As stated in the MTP, the analysis indicates "…that improvements to the transportation network will result in approximately 13,350 new jobs by 2040 that would not otherwise have been created. The 25-year cumulative impact of the MTP projects results in an increase in GDP of $16 billion. Personal Incomes are projected to rise by $12.4 billion, the majority which will re-enter the economy in the form of increased expenditures on goods and services. These results demonstrate the role of transportation projects as an important aspect of the regional economy and a huge driver of economic activity."

E3) Support development of Transportation Demand Management (TDM) activities

The Final Draft 2016-2021 TIP includes funds for City of Albuquerque-ABQ Ride and Rio Metro TDM programs for fiscal years 2016 through 2021. Funds programmed for these programs total over $7.3 million dollars, reflecting support of TDM activities in the region.

Other ways TDM is encouraged is through the Project Prioritization Process. Projects with transportation demand management (TDM) components are prioritized and awarded points in the Project Prioritization Process as they are considered beneficial for supporting system wide pedestrian/bicycle network improvements under the mobility goal.

MRMPO encourages expanding TDM in the region as discussed in the *2040 MTP*. Possible ways to expand include consolidating various TDM activities in the region and creating a regional TDM program; the formation of transportation management associations (associations of employers in areas with congestion or limited parking that encourage alternatives to single-occupancy vehicle travel); and individual employer programs. Other potential strategies and programs that could be pursued in the region include using ride-sharing or ride-matching software to help commuters find carpools, supporting Safe Routes to School and developing a regional SRTS program; supporting events and programs that encourage alternative modes of transportation.

Since the *2035 MTP*, MRMPO has funded TDM programs through the TIP, has collaborated on an open streets event in the City of Albuquerque that promoted non-motorized modes of transportation, and has worked to improve the safety for all modes, especially bicyclists and pedestrians.

E4) Assess economic impacts of various land use scenarios

Economic impacts of the Preferred and Trend Scenarios were analyzed through the performance measures "Proximity to Employment Sites" and "Average Commute Time." Other performance measures that are related to economic impacts and were used to assess the scenarios (though not included in the "Economic Competiveness Cluster") were: vehicle hours delay, roadway network congestion and freight network congestion.

E5) Work on measuring and evaluating the combined housing and transportation costs for the region

MRMPO completed an analysis on the combined housing and transportation costs for the region to highlight the important concept of location affordability in the *2040 MTP*. While housing affordability has traditionally been considered in terms of housing cost as a percent of income, it is now becoming clear that a household's second highest cost, transportation, should also be used determine overall affordability. Affordability is a barrier to creating livable communities, therefore location affordability is presented in Futures 2040. The overall objective of the work is to integrate housing and transportation index principles into the MPO planning process to allow residents, planners and policy makers to better understand the costs and implications of personal and collective decisions ranging from where to buy a house to where to open up new land for development. Data from HUD's Location Affordability Index is used for this analysis and the results from this analysis are included in Chapter 3 (3.13 Livable Communities) of the *2040 MTP*. According to the analysis, many "block groups that may seem affordable when looking only at housing or only at transportation costs are revealed as unaffordable when the costs are combined." For example, according to the analysis, when household and transportation costs are combined for a median-income, four person household with two commuters only five percent of this household type are considered affordable and fall within the 45 percent combined cost guideline.

E6) Identify transportation projects to be constructed through financial and project implementation arrangements with private sector parties

This action item refers to what are known as Public Private Partnerships (PPPs), which are beneficial for funding transportation projects since the private party provides the funding and assumes the risks associated with the project (and in return may receive revenue from the project, tax breaks, revenue subsidies, the transfer of assets, etc.). This method of funding projects can be useful when funds for projects are limited, particularly for projects with very high costs.

In the region no PPPs have been implemented, let alone identified, to date.

MRMPO will make an effort to help identify potential candidates for PPP implementation in the future.

E7) Support incorporation of transit-oriented development (TOD) principles into local development plans and policies

MRMPO has formed the Land Use and Transportation Integration (LUTI) Committee among local agencies to discuss ideas for growth in the region. This committee shares information about land use and transportation issues including TOD, zoning and density. Through this committee, MPO staff has become more involved in ensuring new sector plans incorporate TOD and balance local transportation needs with the regional nature of thoroughfare roadways.

TOD principles are also supported in the *2040 MTP*. TOD is mentioned as a strategy in reducing emissions in the MTP and is a recommended strategy for the implementing the principles of the Preferred Scenario. It is therefore a consideration that informs the development review process. MRMPO has encouraged that transit be coordinated with land use planning early in the process, and that it be used as a proactive rather than a reactive measure to guide and spur development.

The Preferred Scenario that was developed with the *2040 MTP* emphasized TOD, as concentrated development in proximity to key transit nodes was one of the guiding principles of the scenario. MRMPO worked with member governments to define the inputs to this scenario, and in this way, the concept of TOD is a shared priority in the region with demonstrated benefits as quantified by the performance measures of the Preferred Scenario.

E8) Assist local governments in reviewing truck restrictions and policies to allow for the more efficient movement of goods

Truck restrictions have been updated on a GIS map produced for the *2040 MTP*. The recurring effort by MRMPO ensures that agencies keep their data up to date as often times, the urgency of acquiring and summarizing/reporting this data is not a priority. In some cases, such as with Bernalillo County, MRMPO helped the County identify gaps in their GIS data regarding clarification of truck restrictions segmentation and termini and updated the GIS data accordingly.

Conclusion

According to this second look at how the region is doing in terms of reaching the *2035 MTP* goals of *preserve and improve quality of life*, *mobility of people and goods* and *support economic activity and growth*, progress is being made. Notable bright spots include maintaining vehicle miles traveled per capita below 2008 levels, the use of the Pedestrian Composite Index for identifying locations for improved pedestrian facilities, support of Complete Streets principles into plans and policies, analysis of people movement (rather than just vehicle movement), economic impact assessment of projects, and coordinating regional growth strategies with the transportation network.

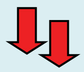
Areas where there has been a decline in progress include reducing fatal and injury crashes, increasing non-single occupancy vehicle trips, and identifying transportation projects for financing through arrangements with private sector parties. These areas, therefore, merit additional thought and consideration as to how the region might address these issues and activities.

Appendix A: Performance Targets and Action Items Summary Tables

Quality of Life Performance Targets

Performance Target	2015 Progress Toward Performance Target
Maintain VMT per capita at or below 2008 levels	

Performance Target	2015 Progress Toward Performance Target
Increase accessibility to transit for environmental justice areas	

Performance Target	2015 Progress Toward Performance Target
Reduce fatal and injury crashes by 2.3% per year	

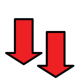
Performance Target	2015 Progress Toward Performance Target
Improve bridge and pavement conditions compared to 2008 levels	

Quality of Life Action Items

Action Item	2015 Progress Toward Action Item
Support plans for implementation of alternative fuels and infrastructure	

Action Item	2015 Progress Toward Action Item
Develop strategies/plans for prioritizing safety improvements	

Action Item	2015 Progress Toward Action Item
Develop livable/sustainable community measures	

Key:  =Progress being made;  = Decline in progress;  = No progress being made/unable to determine progress

Action Item	**2015 Progress Toward Action Item**
Pursue the use of built environment health impact assessments	

Action Item	**2015 Progress Toward Action Item**
Identify locations for improved pedestrian facilities using the Pedestrian Composite Index	

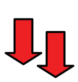
Action Item	**2015 Progress Toward Action Item**
Support the incorporation of complete streets principles into MPO and local plans and policies and develop a regional roadway design document based on complete streets and context sensitive design elements	

Action Item	**2015 Progress Toward Action Item**
Support the convenience and safety of non-motorized modes of travel as commuting alternatives	

Action Item	**2015 Progress Toward Action Item**
Investigate regional strategies for mitigating/adapting to climate change	

Mobility of People and Goods Performance Targets

Performance Target	**2015 Progress Toward Performance Target**
Increase transit mode share along river crossings to 10% by 2025 and 20% by 2035	

Key:  =Progress being made;  = Decline in progress;  = No progress being made/unable to determine progress

Performance Target	2015 Progress Toward Performance Target
Increase non-single occupancy vehicle trips to 25% by 2025 and 30% by 2035	

Performance Target	2015 Progress Toward Performance Target
Implement high priority congestion management process strategies from the CMP toolkit	

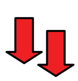
Mobility of People and Goods Action Items

Action Item	2015 Progress Toward Action Item
Encourage increased transit services on Primary Transit Improvement Corridors (key corridors for transit)	

Action Item	2015 Progress Toward Action Item
Complete Bus Rapid Transit study for the Northwest Metro Area	

Action Item	2015 Progress Toward Action Item
Analyze levels of people movement (pedestrians, transit passengers, vehicle drivers and passengers) rather than vehicle traffic alone to better understand how people are traveling along a corridor	

Action Item	2015 Progress Toward Action Item
Increase involvement in Safe Routes to School programs and school siting	

Key:  =Progress being made;  = Decline in progress;  = No progress being made/unable to determine progress

Action Item	**2015 Progress Toward Action Item**
Assess and improve connectivity of thoroughfare system and local streets to improve walkability and better distribute vehicle traffic	

Action Item	**2015 Progress Toward Action Item**
Close gaps in the regional bicycle network	

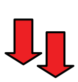
Action Item	**2015 Progress Toward Action Item**
Support the expansion of park and ride facilities	

Action Item	**2015 Progress Toward Action Item**
Identify specific locations for dedicated transit facilities, right-of-way acquisition and signal improvements	

Economic Activity and Growth Performance Targets

Performance Target: Investment Areas	**2015 Progress Toward Performance Target**
Target transportation investments that improve connectivity and mobility for all modes within high Activity Density Areas	

Performance Target: Local Priorities and Land Use	**2015 Progress Toward Performance Target**
Increase transit services and appropriate thoroughfare connections to locally-designated Activity Centers and rail station areas	

Key:  =Progress being made;  = Decline in progress;  = No progress being made/unable to determine progress

Performance Target: Housing and Transportation Affordability	**2015 Progress Toward Performance Target**
Reduce the average household combined cost of housing and transportation compared to costs in 2010	

Economic Activity and Growth Action Items

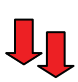
Action Item	**2015 Progress Toward Action Item**
Work with member agencies on coordinating regional growth strategies with the transportation network	

Action Item	**2015 Progress Toward Action Item**
Assess economic impacts of transportation projects and transit-oriented development	

Action Item	**2015 Progress Toward Action Item**
Support development of Transportation Demand Management (TDM) activities	

Action Item	**2015 Progress Toward Action Item**
Assess economic impacts of various land use scenarios	

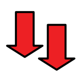
Action Item	**2015 Progress Toward Action Item**
Work on measuring and evaluating the combined housing and transportation costs for the region	

Key:  =Progress being made;  = Decline in progress;  = No progress being made/unable to determine progress

Action Item	**2015 Progress Toward Action Item**
Identify transportation projects to be constructed through financial and project implementation arrangements with private sector parties	

Action Item	**2015 Progress Toward Action Item**
Support incorporation of transit-oriented development principles into local development plans and policies	

Action Item	**2015 Progress Toward Action Item**
Assist local governments in reviewing truck restrictions and policies to allow for the more efficient movement of goods	

Key:  =Progress being made;  = Decline in progress;  = No progress being made/unable to determine progress

Appendix P – Common Acronyms

AMPA – Albuquerque Metropolitan Planning Area, the planning boundary for the 2040 MTP

AWDT – Average Weekday Daily Traffic

BRT - Bus Rapid Transit which is a level of bus service which copies several characteristics of light-rail. ABQ Ride's Rapid Ride is a "starter" BRT system.

CFR – Code of Federal Regulations

CMAQ – Congestion Mitigation/Air Quality which is a category of Federal aid to states

CMP – Congestion Management Process

CNM – Central New Mexico Community College

CO – Carbon monoxide which is one of the pollutants generated by vehicle emissions

CO_2 – Carbon dioxide which is one of the greenhouse gases suspected of accelerating climate change

EPA – U. S. Environmental Protection Agency

FHWA – Federal Highway Administration

FTA – Federal Transit Administration

FFY – Federal Fiscal Year. In this document, unless otherwise noted, FY refers to the Federal Fiscal Year which begins October 1^{st} and ends September 30^{th}.

ITS – Intelligent Transportation Systems

LUTI – Land Use and Transportation Integration

MAP-21 – Moving Ahead for Progress in the 21^{st} Century the 2012 transportation bill.

MPO – Metropolitan Planning Organization

MRCOG – Mid-Region Council of Governments which administratively houses MRMPO, the designated MPO for the Albuquerque Metropolitan Planning Area.

MRMPO – Mid-Region Metropolitan Planning Organization

MTB – Metropolitan Transportation Board, the policy-making of the Mid-Region Metropolitan Planning Organization

MTP – Metropolitan Transportation Plan

NAAQS – National Ambient Air Quality Standards

NMDOT – New Mexico Department of Transportation

O_3 – Ozone a pollutant attributed to both point source and non-point source pollution generators. Point source generators are facilities such as a coal-burning electric generating plant; non-point source generators are vehicles which emit pollutants (thus not from a single location).

PMT – Person Miles Traveled, the cumulative miles traveled by people in a certain time period on a selected route. This measure accounts for the actual number of people a highway, route or transit system moves. It is helpful comparing various modes of transportation and/or HOV and HOT lanes.

ROW – Right-of-Way or Rights-of Way (plural)

RTPO – Rural Transportation Planning Organization

SIP – State Implementation Plan, a statewide plan that addresses air quality nonconformance issues in order to implement requirements of the Clean Air Act.

SOV – Single Occupant Vehicle

STIP – Statewide Transportation Improvement Program which is a statewide prioritized list of transportation projects covering a four year period. A STIP incorporates metropolitan TIPs “without modification” per Federal regulations.

STP-U– Surface Transportation Program-Large Urban, a subcategory of federal funds for large urban areas (in the AMPA that is the Albuquerque UZA)

TDM – Travel Demand Management

TIP – Transportation Improvement Program which is a prioritized list of transportation projects for a metropolitan planning area covering a minimum four year period. All TIP projects must conform to the MTP. A TIP is to be incorporated into the STIP “without modification” per Federal regulations.

UNM – University of New Mexico

UPWP – Unified Planning Work Program which establishes the planning work that will be undertaken utilizing Federal planning funds.

V/C – Volume/Capacity, which is the ratio of a roadway’s (or transit route’s) total usage compared to its maximum carrying ability in a defined time period.

VMT – Vehicle Miles Traveled, the cumulative miles traveled by all vehicles in a certain time period on a selected route.

VHD – Vehicle Hours of Delay, the cumulative difference in time for all travelers between the posted speed limit and the observed or actual travel speed

VMT – Vehicle Hours Traveled, the cumulative amount of time spent driving by all motorists in a given day or period of time