



METROPOLITAN PLANNING ORGANIZATION

SERVING LAS CRUCES, DOÑA ANA COUNTY, AND MESILLA

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MESILLA VALLEY METROPOLITAN PLANNING ORGANIZATION TECHNICAL ADVISORY COMMITTEE

AGENDA

The following is the agenda for the Mesilla Valley Metropolitan Planning Organization's (MPO) Technical Advisory Committee meeting to be held on **November 6, 2014 at 4:00 p.m.** in the **City of Las Cruces Council Chambers, 700 N. Main, Las Cruces, New Mexico**. Meeting packets are available on the [Mesilla Valley MPO website](http://mvmpo.las-cruces.org).

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1. **CALL TO ORDER** _____ **Chair**
2. **APPROVAL OF AGENDA** _____ **Chair**
3. **APPROVAL OF MINUTES** _____ **Chair**
 - 3.1. September 4, 2014 _____
4. **PUBLIC COMMENT** _____ **Chair**
5. **DISCUSSION ITEMS** _____
 - 5.1. Metropolitan Transportation Plan Update _____ **MPO Staff**
6. **COMMITTEE and STAFF COMMENTS** _____
7. **PUBLIC COMMENT** _____ **Chair**
8. **ADJOURNMENT** _____ **Chair**

1 **MESILLA VALLEY METROPOLITAN PLANNING ORGANIZATION**
2 **TECHNICAL ADVISORY COMMITTEE**

3
4 The following are minutes for the meeting of the Technical Advisory Committee of the
5 Mesilla Valley Metropolitan Planning Organization (MPO) which was held September 4,
6 2014 at 4:00 p.m. at City Hall, Council Chambers, 700 N. Main St., Las Cruces, New
7 Mexico.
8

9 **MEMBERS PRESENT:** Mike Bartholomew (CLC Transit)
10 Larry Altamirano (LCPS)
11 Louis Grijalva (CLC Public Works)
12 John Gwynne (DA Flood Commission)
13 Jolene Herrera (NMDOT)
14 John Knopp (Town of Mesilla)
15 Harold Love (NMDOT)
16 Rene Molina (DAC Engineering)
17 Jack Valencia (SCRTD)
18 Greg Walke (NMSU)
19 Debbi Lujan (Town of Mesilla)
20

21 **MEMBERS ABSENT:** Willie Roman (CLC Transportation)
22 Luis Marmolejo (DAC)
23 Jesus Morales (EBID)
24 Bill Childress (BLM)
25

26 **STAFF PRESENT:** Andrew Wray (MPO Staff)
27 Orlando Fierro (MPO Staff)
28

29 **OTHERS PRESENT:** Desmond Cole, (Zia EEC)
30 Becky Baum, RC Creations, LLC, Recording Secretary
31
32

33 **1. CALL TO ORDER**
34

35 Valencia: Meeting called to order at 4:02 p.m.
36

37 **2. APPROVAL OF AGENDA**
38

39 John Knopp motioned to approve the agenda.
40 Mike Bartholomew seconds the motion.
41 All in favor.
42

43 **3. APPROVAL OF MINUTES**
44

45 **3.1 August 7, 2014**
46

1 Bartholomew: Mr. Chair, there's a couple of little typo, grammatical things in there.

2
3 Valencia: Okay.

4
5 Bartholomew: On page 2, line ... where was it at, line 31, excuse me, page 3, line 31, it
6 says "There's a hyphen in 5310", there shouldn't be a hyphen. Page 4 the
7 very first line, it should be "multimodal" one word, it's not "multi model". And
8 page 10, line 39 the word should be alluding with an ALL instead of eluding
9 EL.

10
11 Valencia: Is that it?

12
13 Bartholomew: That was it.

14
15 Valencia: Okay, we have an additional one, go ahead.

16
17 Knopp: On page eight, Murphy's, toward the bottom of the page, it says the whip
18 route, it's really WIPP, Waste Isolation Project Plan.

19
20 Valencia: What line is that on?

21
22 Knopp: Oh, I'm sorry, that's line 33.

23
24 Valencia: Thank you. Okay, I'll take a motion with those corrections.

25
26 Mike Bartholomew motioned to approve the minutes as corrected.

27 Larry Altamirano seconds the motion.

28 All in favor.

29
30 **4. PUBLIC COMMENT – None**

31
32 **5. ACTION ITEMS**

33
34 **5.1 Amendments to the 2014-2019 TIP**

35
36 Andrew Wray gave a presentation.

37
38 Valencia: I have a question and it's probably more to Harold or Jolene. On these
39 railroad crossings, as in the SLRP, that they ... maybe not the SLRP on the
40 rail plan that's out there presently, would these decrease those necessary
41 improvements from that projected list?

42
43 Herrera: Probably. To be honest I haven't looked at that list. A lot of these are just the
44 routine maintenance type stuff that we do on railroad crossings, so I'm not
45 sure if they correlate directly to that list. They've got to be related in some
46 way, but I haven't looked specifically at these projects and that list.

1
2 Valencia: Okay. Are there any other questions regarding any of the mentioned
3 projects?
4
5 Gwynne: Mr. Chairmen.
6
7 Valencia: John.
8
9 Gwynne: Yes, I'd like to ask a question about this LC00210, the Goat Hill Road
10 crossing. Has there been any coordination on the design of this with ... with
11 the County at all?
12
13 Love: Yes and actually we had a field review where Dickey Apodaca was there as
14 part of the review, so.
15
16 Gwynne: Okay. The reason I'm asking is that we're, we are experiencing some very
17 large flooding events in that area and we want to make sure that we're all
18 working together on that. Thank you.
19
20 Valencia: Additional comments on any of the projects by the Board?
21
22 Bartholomew: Mr. Chair. I missed it I guess. What is the very first one, 1100830, which
23 interchange is that?
24
25 Valencia: Andrew.
26
27 Wray: That is the I-10 mile point 140 through 143. Is that the Missouri Bridge?
28
29 Herrera: No, that's Union Avenue and ramp E of University, so it's the ones on I-10
30 towards the I-25 interchange.
31
32 Knopp: Excuse me Jolene, exit 140 is Mesilla.
33
34 Wray: That's the mile point 140.
35
36 Knopp: Right, I know. But it's the same thing, is it not? Isn't that ...
37
38 Herrera: We always go a little bit wider on our project termini for clearance purposes,
39 so.
40
41 Knopp: So the 140.5 to 143 mile markers is not ... you said it's over by the
42 interchange of I-10 and I-25.
43
44 Herrera: Towards the interchange. Yeah ...
45
46 Knopp: I thought that was like 144 or something thing that.

1
2 Herrera: No.

3
4 Knopp: Okay.

5
6 Valencia: Additional comments or questions? If not, Andrew do you want us to ... I
7 assume take it all as one item.

8
9 Wray: Yes, Mr. Chair.

10
11 Valencia: As the amendment and it is page ... you're referencing page 15 correct?

12
13 Wray: Yes, that is the item up for vote.

14
15 Valencia: Okay.

16
17 Mike Bartholomew move to recommend the amendments to the TIP.

18 Harold Love seconds the motion.

19 All in favor.

20
21 **6. COMMITTEE AND STAFF COMMENTS**

22
23 Valencia: Any member of the Committee have any comments this evening? If not
24 Andrew, you have comments?

25
26 Wray: Yes, Mr. Chair. I'd like to direct the attention of the Committee to page 18 in
27 the packet and to the supplemental sheet that should have been provided at
28 your stations. These are two administrative modifications that were
29 requested by the Department of Transportation. These are not up for action.
30 These changes have already been made on LC00110, there was construction
31 funding moved to FY2015, and on LC00100 there was funding set aside for
32 utilities and those changes have already been made.

33
34 Valencia: Okay.

35
36 Wray: And in addition, I also would like to announce to the Committee that we have
37 extended an offer that has been accepted for Chowdhury's position and we
38 are anticipating having that individual on board with us by the time this Body
39 meets again in October.

40
41 Valencia: Okay, any additional comments on these two submissions?

42
43 Wray: Oh and I apologize Mr. Chair, there was one other thing that I ... was rather
44 important, I should've remembered this. The TIP call for projects is going to
45 be going out in October. I don't know that it'll be right at the first of the month,

1 so this Body may meet again before that letter actually gets sent out, but it is
2 coming up in the very near future so be watching for it.
3
4 Valencia: And what is the time frame for submission of projects under the TIP?
5
6 Wray: Sometime before the end of the year. I apologize I can't remember right off
7 the top of my head. Jolene may actually be able to give a more accurate
8 answer.
9
10 Herrera: I think the timeline that DOT is on right now, is we need to have your list or
11 whatever of projects by March of 2015.
12
13 Wray: Oh, so it's not quite as constrained as I thought, but staff is probably going to
14 ask for it before the end of the year.
15
16 Herrera: Well and there's still steps in between that as far as ranking and all sorts of
17 other things, so.
18
19 Valencia: Okay.
20
21 Bartholomew: Mr. Chair. I did have one question that stem back to the minutes, at the end
22 of the discussion at the last meeting, Mr. Murphy had mentioned that there
23 was going to be an agenda for public meetings relating to the truck routes in
24 the City, has that been established yet?
25
26 Wray: Mr. Chair, Mr. Bartholomew. Mr. Murphy has been going through some
27 difficult personal issues over the past month. I don't think any work has been
28 going on with regards to that. I don't think there's been time.
29
30 Bartholomew: Okay.
31
32 Valencia: I don't know anything more about it than that.
33
34 Bartholomew: One other thing. I was at a City Council meeting the other day and he
35 presented a time frame I guess where the MPO was going to be holding
36 some community meetings throughout the affected areas and I think ... and I
37 just wanted to bring it to your all's attention that that meeting schedule has
38 conflicts with Viva Dona Ana that week also, so there might be some
39 consideration made to possibly moving those meetings.
40
41 Wray: I am not aware of that. Mr. Murphy left immediately after the meeting you
42 referenced so I didn't ... I didn't get any information on that.
43
44 Bartholomew: If you could bring that to his attention I'd appreciate it.
45
46 Wray: Okay.

1
2 Valencia: Any other comments from members of the Committee. Andrew are you
3 finished with ...?
4
5 Wray: Yes, I do believe I am now Mr. Chair. I apologize.
6
7 Valencia: No, no, no problem.
8
9 **7. PUBLIC COMMENT - None**
10
11 **8. ADJOURNMENT**
12
13 Mike Bartholomew motioned to adjourn meeting at 4:15 p.m.
14 Jolene Herrera seconds the motion.
15 All in favor.
16
17
18
19 _____
20 Chairperson



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MESILLA VALLEY METROPOLITAN PLANNING ORGANIZATION TECHNICAL ADVISORY COMMITTEE ACTION FORM FOR THE MEETING OF November 6, 2014

AGENDA ITEM:

5.1 Metropolitan Transportation Plan Update Discussion

SUPPORT INFORMATION:

Existing Conditions draft

DISCUSSION:

Mesilla Valley MPO Staff is currently working on the required update to Transport 2040. This discussion item is intended to review progress to this point and solicit input from the Technical Advisory Committee.

Existing Conditions and Future Scenarios

Introduction

Government's role, according to the New Mexico State Constitution, is to enact laws protecting public peace, health, and safety. Transportation and land use policies, codes, and practices have a major impact on the creation of healthy and livable communities thereby contributing to public health and safety. A variety of issues - from air quality to traffic safety for all modes - impact people's daily lives and their mobility opportunities.

One of the first steps to consider when developing a transportation plan is gathering information on existing conditions. It is imperative to understand the existing socio-economic, land use, environmental, and transportation conditions of a region before forecasting potential future conditions and deriving implementation strategies. In this chapter, current characteristics and future scenarios in the Mesilla Valley are covered as they relate to the following topics:

- Population Growth, Employment, and Location Efficiency
- Health and Safety
- Multimodal Transportation
- Regional Movement, Freight Corridors, and Security
- Natural and Cultural Resources

In this chapter, the discussion of the above topics will include a brief examination of national and state-wide studies and trends, and a more detailed discussion of the potential impacts of existing local and regional conditions. The identification of existing conditions and particularly future scenarios were developed hand in hand with Vision 2040 (a joint comprehensive planning process approved by the City of Las Cruces and Doña Ana County).

Characteristics of the MPO Region

The MPO region is located in south-central New Mexico. The Mesilla Valley metropolitan area is among the fastest growing areas in the State of New Mexico. Many people are choosing to relocate and/or retire to the Las Cruces region because of the sunny (average of 330 days of sunshine) and dry climate, and the unique local community. The Las Cruces metropolitan area has been ranked by several national organizations as one of the top places to retire and one of the top places for small metro areas for business. These rankings have been awarded by organizations such as the American Association of Retired Persons (AARP), Milken Institute, *Forbes*, and *Money Magazine*.

The Las Cruces Public School District is the second largest in the state, enrolling around 24,000 students. The Gadsden School District has 26 schools located in the southern portion of Doña Ana County that serve more than 14,000 students. . Dona Ana County is home to New Mexico State University, NASA, White Sands Missile Range, and something else. Together, New Mexico State University (NMSU) and Doña Ana Community College (DACC) enroll over 25,000 students a year.

The City of Las Cruces is the second largest city in the state of New Mexico in terms of size and population. Many growth-related opportunities and challenges exist that require coordination among a variety of agencies and jurisdictions.

Population

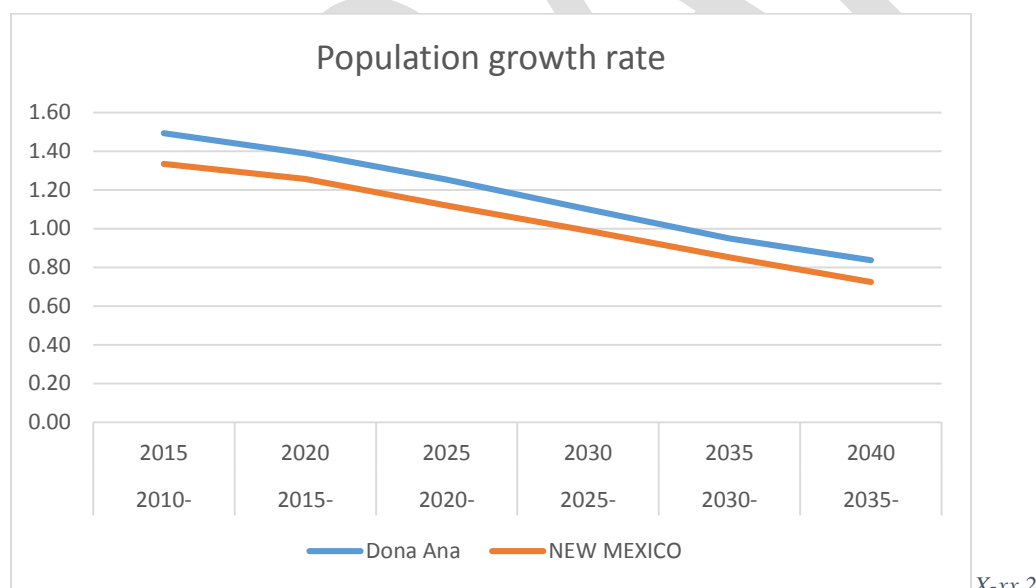
Because the MPO area covers the Town of Mesilla, the City of Las Cruces, and central Doña Ana County, the transportation system must be examined on a regional level.

Las Cruces experienced a 36.4% increase in population between 2000 (74,267) and 2013 (101,324). In Doña Ana County, there was a 22.2% increase in population between 2000 (174,682) and 2010 (201,603). The Mesilla Valley MPO boundary area had a population of approximately 157,000 in 2010. The rate of population increase has slowed in recent years and projections have been revised downward. Dona Ana County lost population from 2012 (213,952) to 2013 (213,460) according to Census Bureau estimates.

Figure X-xx shows the projected population growth from 2010 to 2040 for Doña Ana County. Figure 2-4 shows the associated growth rate. While the Dona Ana County growth rate remains above the state average, there is a constant decline in the rate of growth. SOURCE: Bureau of Business and Economic Research, Univ. of New Mexico.

County	2010	2015	2020	2025	2030	2035	2040
Dona Ana	210,536	226,855	243,164	258,887	273,513	286,818	299,088

Figure X-xx 1



X-xx 2

Senior Population Growth

In 2005, the U.S. Census Bureau released projections about which states will grow the fastest through the year 2030. A particularly striking aspect of these projections is the increasing population of people over the age of 65. In fact, beginning in 2011 this age cohort will grow at a faster rate than the total population growth rate in every single state, with the greatest increases being in southwestern states.

The same U.S. Census Bureau projections showed that, in New Mexico, the population of people over 65 years of age is expected to increase by 141% from 1995 to 2025. As a result, New Mexico ranks as having the 10th fastest growing senior population in the United States. Figure 2-5 shows projected growth rates of each age cohort as a percent of total population in Doña Ana County. The graph indicates that growth rates for most of the age cohorts remain steady, but the age cohort of 65+ significantly increases to make up about 17% of the total population by 2025.

Households

Nationally, household trends include more single households and households without children; this is in part due to the increase in the senior population. Figure 2-6 shows these past trends and future projections. While most national researchers agree that single-family detached housing will remain the preference for most home buyers, a dramatic change in housing demand is expected between large lot and small lot developments where smaller lots will be preferred. These trends will be accompanied with an increased desire for services and public transportation located near housing.

An analysis completed through the Vision 2040 planning process has shown a similar trend toward smaller lots in Doña Ana County (See Figure 2-7, page 12).

Income and Disability

Several key statistics regarding income and disability from 2000 census data are noted in Figure 2-8, Socio-demographics Quick Facts 1. This table compares United States statistics to Doña Ana County data as they pertain to percent of persons with disabilities (ages 21-64), households below poverty, and households without an automobile. The most prominent difference between the national and local demographic data is the percentage of households below poverty in Doña Ana County (25.39%) compared to the United States (12.38%). This type of data is important because the MPO is responsible for planning a transportation system that offers mobility choices for all users.

For example, when conducting transportation studies and plans, the MPO identifies and maps the location of low to moderate income areas and evaluates the potential impacts from proposed transportation projects. Figure 2-9 shows the low to moderate income areas, slum and blight areas, and special survey areas for Las Cruces. Low to moderate areas are primarily residential in character where at least 51% of the residents in a census tract, census tract block group, or other officially recognized boundary, are low and moderate-income persons. Slum and blight areas are designated by the local government as meeting the State of New Mexico definition of slum and/or blight. Special survey areas are documented through accepted survey techniques (generally door-to-door surveys), and are primarily residential in character, where at least 51% of the residents are low and moderate income persons.

Employment

Employment Sectors

Different employment sectors result in different transportation needs. For example, retail and hospital jobs have more dispersed and non-traditional hours than traditional 8-to-5 jobs. Therefore, identifying the distribution of jobs across employment sectors can be useful for understanding and predicting

traffic congestion as well as planning service hours for public transportation. In addition, the location of employment centers, the types of employment, and the size of the work force also help to understand current transportation conditions and plan for future needs. These factors are important aspects of developing a Transportation Demand Model (TDM), discussed further in Chapter 4. A more detailed description of future transportation needs, as projected by the Mesilla Valley MPO travel demand model, is available in the section on Multimodal Transportation. As shown in Figure XX-XX, the sector that employs the greatest number of employees in Doña Ana County is Government (626%), followed by Education and Health services (818 followed by Leisure and Hospitality (111%), and Professional Business Services (9%).

Government

Government sector jobs employ the greatest number of people (double that of the second highest percentage for Education and Health Services). Government jobs also tend to have a high number of people in one location. For example, there are a large number of employees working in the Doña Ana County Government Center, the Las Cruces City Hall, the Federal Court House, and White Sands Missile Range. In addition, because these jobs (not including the police and fire services) are generally day jobs they contribute significantly to AM and PM peak hour traffic volumes.

Education and Health Services

Education and Health Services employs the second highest percentage of people. The location of hospitals, clinics, and educational institutions are significant destinations that must be easily accessible. In addition to the two main community hospitals (Memorial Medical Center and Mountain View Regional Medical Center), there are a variety of retirement and assisted living centers, nursing agencies, and specialty hospitals in the region. The location of health services is important because hospitals, in particular, have a large number of employees who work different shifts throughout a 24 hour period. Finally, emergency services need uncongested and well-connected routes to hospitals.

Large educational employment centers consist of Las Cruces Public Schools (LCPS), Gadsden Independent Schools, New Mexico State University (NMSU), and Doña Ana Community College (DACC). NMSU is a hub of activity throughout the week and on weekends because of daytime and nighttime classes and special events held at the campus.

Other Large Employment Centers

Walmart and Sitel are noteworthy employment centers because of the number of people that they employ. Walmart also attracts many shoppers each day to its three 24-hour shopping stores. Finally, there are several industrial centers and other activity areas that have been master planned and/or are in the process of developing into important destinations. The following provides more information on industrial parks and activity areas.

West Mesa Industrial Park

The West Mesa Industrial Park is located south of the Las Cruces International Airport and I-10. The park area consists of 1,820 acres of land. The main goal for this research park includes light industry, general manufacturing, and aviation-related technology-based industries. Eighteen companies currently exist in the park and seventeen others are in the design and marketing phase. Future development includes an aerospace business park immediately south to support businesses and

suppliers for Spaceport America.

Downtown Area

Since 2004, City of Las Cruces staff has proceeded with the implementation of the strategies outlined in the Downtown Revitalization Plan. Currently, in 2014, City staff is working on an update of that plan titled The Main Street Downtown Plan. Main Street Downtown is envisioned to be the cultural corridor of the Las Cruces city center, boasting museums, art galleries, theaters, unique shops, local restaurants, and the popular Farmer's and Crafts Market. In November of 2012, Main Street was reopened to automobile traffic. Planning for the Downtown Plaza has continued and the Plaza is scheduled to be completed in Spring 2016.

University Area and the Arrowhead Research Park

New Mexico State University (NMSU) is located at the intersection of Interstate 10 and Interstate 25. NMSU is therefore strategically located to impact both the state and region as it strives to expand its academic and research programs to become one of the top tier research institutions in the United States. By the year 2020, NMSU expects to be in the top quartile of its defined peer institution group and expects its student population at the Las Cruces campus to grow to 25,000 within 20 years. The Arrowhead Research Park is located on the NMSU campus on a 257 acre parcel of land. The main goal for this research park is to enhance technology transfer and to provide private enterprises with access to academic and technical resources, including a state of the art space and high tech communication networks.

Telshor-Lohman Area

The geographic center of Las Cruces is roughly at the intersection of Lohman Avenue and Telshor Boulevard. This intersection is flanked by a variety of commercial services including the largest mall in the area, the Mesilla Valley Mall. Along with the typical stores available at a mall, the Mesilla Valley Mall includes a movie theater and a food court. In the area of the mall are other commercial services including restaurants, a grocery store, various retail outlets, office buildings, and a hotel. Lohman Avenue serves as one of the main crossings of I-25 to the east mesa, in addition to US 70 and University Avenue. As a result, the intersection of Lohman and Telshor has the second highest volume of traffic in the metropolitan area. This area is the major destination and activity center in the MPO region.

Santa Teresa Industrial Parks

Although the Santa Teresa Industrial Park is not located in the MPO Area, staff felt that its inclusion was important because this border crossing has the potential for significant impact on the MPO region. Also, this activity center would be connected to the West Mesa Industrial Park by the proposed High Mesa roadway. The Santa Teresa Logistics Park is located adjacent to the border of Mexico and consists of 225 acres of industrial zoned land. The Bi-national Industrial Park at the Doña Ana County International Airport will be the site of international rail yards that will be relocated from downtown El Paso.

For 2008, the Mesilla Valley Economic Development Alliance (MVEDA) compiled data on the major employers in the region and classified them by number of employees. An employer had to have at least 500 employees to be a part of this list, Figure 2-11, page 15. Figure 2-12 shows the location of

some of these major employers and their number of employees, including several of the locations listed above in Government and Health and Education Services.

Location Efficiency

Housing location and transportation options can have a significant impact on a household budget. Housing costs are the largest household expense, yet transportation costs can also dramatically impact the household budget. Transportation costs can include purchase of a vehicle or bicycle, fuel, short and long-term maintenance, registration, insurance, and other fees. The largest indicator of current and future transportation costs are urban form (particularly proximity to employment centers and regional destinations) and access to public transportation. These costs can vary considerably across a metro area depending upon development patterns and transportation system connectivity. For example, widely dispersed retail shops, employment centers, and service providers can increase the impact of transportation costs on a household budget.

Housing and Transportation Costs

Housing and transportation costs, as a part of household expenses, are steadily increasing as the nation continues to grow horizontally. Figure XX-XX illustrates the result of a national study completed in 2013 for the year 2012 by the Bureau of Labor Statistics. According to the study, the percent of housing and transportation costs for the average American family is: 3333% for housing and 1818% for transportation. Since 2011, transportation expenditures have seen some of the largest percentage increases of all major expenditure items. Gasoline expenditures increased 29.6% from 2010 to 2012, mostly due to a 24.7% increase in 2011. Gasoline expenditures remained relatively stable in 2012, but transportation expenditures continued to increase. The Bureau of Labor attributes this to an increase in vehicle purchases from 2011 to 2012.

Housing and Transportation Index

The Center for Neighborhood Technology (CNT) has developed a Housing and Transportation Affordability Index based on detailed, peer-reviewed studies that correlate odometer readings and federal household transportation surveys with local factors and data such as neighborhood density, street grid complexity, availability of transit, and housing costs as a percent of the area median income. Housing costs alone are traditionally considered affordable when they make up no more than 30% of a household income. However, when including transportation costs based on the location of the home, the true cost of housing decisions emerges.

Figure XX-XX is a map of Housing and Transportation Affordability Index in the Las Cruces area. The map on the left only displays housing prices as a percent of total income. The areas in yellow are ones where housing prices are less than 30% of income and areas in blue are 30% and greater. The map on the right displays housing prices plus transportation costs as a percent of total income. The areas in yellow are ones where the housing plus transportation costs are less than 45% of income and areas in blue are 45% or greater.

Affordable Housing

In 2009 a Las Cruces Affordable Housing Strategies report was completed by the City of Las Cruces

Affordable Housing Ad Hoc Committee. Among the recommendations of this report was for the City to spread affordable housing throughout the City, proactively encourage multi-family development along transit corridors and to create minimum density requirements to implement higher density. The Mesilla Valley MPO supports affordable housing strategies, particularly appropriate density and dispersion of affordable housing along with the location of mixed-use centers that can support transit oriented development (TOD).

Additionally, since 2013, the City of Las Cruces has been working on updating its Community Profile: Comprehensive Plan 2040. As part of this update, the profile identifies needs for context sensitivity as well as improved mixed use land use within the City.

Health and Safety

Vital to the future of the Mesilla Valley region are the health and safety implications of a poorly vs. well planned region. Some of the issues affected by transportation planning include changes in air quality (respiratory health), a built environment that encourages or discourages physical activity (obesity and weight related disease), crash incidents (injuries and fatalities), and mobility and accessibility for children, the elderly, and the disabled (direct routes to school and access to services).

Figure 2-15

Health Quick Facts 1

In the United States:

- About 17% of nation's young people aged 2 to 19 years is obese, whereas more than one-third of our adults are obese
- Heart disease continue to remain the number one cause of death for all Americans (about 598,000 in 2010)
- Less than half (48%) of all adults meet the 2008 Physical Activity Guidelines (adults need at least 2.5 hours a week of physical activity)
- Americans living in the South are more likely to be less physically active than Americans living in the West, Northeast and Midwest regions of the country

Source: Centers for Disease Control and Prevention

Health

The transportation system is part of the built environment. A poorly connected system combined with widely dispersed and segregated land uses contribute to poor health and a decrease in physical activity. Over the past 20 years the built environment has contributed to a decrease in health levels of U.S. citizens. The built environment can promote a sedentary lifestyle that contributes to heart disease, diabetes, certain cancers, and arthritis, as well as an overall diminished quality of life and increasing health care costs. In the United States, obesity among adults and children is at epidemic levels and is the fastest growing public health problem. This public health problem is costly to individuals as well as to the nation as a whole.

Figure 2-16

Health Quick Facts 3

In New Mexico:

- Nearly 63% of New Mexico's adults are overweight or obese
- In 2012, 22% of New Mexico's adults reported that during the past month, they had not participated in any physical activity
- About 27% of high school students were obese or overweight in 2011

Sources: New Mexico Indicator Based Information System (NMIBIS), 2012 Behavior Risk Factor Surveillance Survey results for overweight and obesity, and physical inactivity in adults, and 2011 Youth Risk and Resiliency Survey results for overweight and obesity in high school students.

Figure 2-17

Health Quick Facts 3

- Oja and colleagues (1998) reported that daily walking and bicycling to work improves the cardio-respiratory and metabolic fitness of previously inactive adults
- In New Mexico, 2.8% of workers bike or walk to work (Census Bureau, 2014)
- Sesso and colleagues (1999) found that walking more than 10 blocks everyday resulted in a 33% reduced cardiovascular disease risk
- Walking 30 minutes a day, five days a week can cut risk of diabetes and heart disease in half, as well as reduce blood pressure, stress, and cholesterol (visual.ly, 2011, everybodywalk.org)

Many experts now believe there is a connection between decreased physical activity and the design of our towns and cities. Measuring the Health Effects of Sprawl: A National Analysis of Physical Activity, Obesity, and Chronic Disease was written in September of 2003 by Barbara A. McCann and Reid Ewing, with help from Rutgers University, the Surface Transportation Policy Project, and Smart Growth America (SGA). In this publication the authors review the many studies that have been done in the United States showing a "clear association between the type of place people live and their activity levels, weight, and health." This report also follows up on the study titled Relationship between Urban Sprawl and Physical Activity, Obesity, and Morbidity, which found a direct association between community form and people's health. The study concluded that "people living in counties marked by sprawling development are likely to walk less and weigh more than people who live in less sprawling counties." The study looked at 448 counties across the United States.

These studies signal that there is indeed a connection between land use patterns, active transportation opportunities, and growing obesity rates in the U.S. Additional studies have shown that people living in areas with increased opportunities for active transportation can experience improvements in overall health (See Figure 2-17). Ultimately, appropriate changes to our transportation and land use policies may be necessary.

Safety

Planning, designing, and constructing safe transportation facilities and corridors is the top priority for every governmental agency responsible for public transport. This guiding priority does not guarantee that crashes, injuries, and fatalities are eliminated, but provides the impetus to identify and mitigate dangerous routes and intersections and to reduce property damage and loss of life. Improving safety throughout the transportation system also reduces the economic impacts to the region by reducing the number of costly crash incidents and the associated congestion. Direct and indirect costs of traffic

crashes include property damage, emergency services, medical bills, loss of time at work, and loss of life.

Figure 2-19

Safety Quick Facts 1

In 2011 in New Mexico:

- 353 people were killed in traffic crashes. Crash related fatalities decreased by 14.5% between 2007 and 2011.
- Alcohol/drug involvement was the contributing factor in 42% of NM fatalities in 2011.
- In an average day in New Mexico, there were 118 crashes that involved 309 people, 51 people injured and 1 person killed
- 16.9 per 100,000 people died in crashes compared to a national rate of 10.9 per 100,000 people

Source: New Mexico Department of Transportation, 2011 New Mexico Traffic Crash Annual Report

Figure 2-20

Safety Quick Facts 2

In 2011 in Las Cruces area:

- There were 34 crashes per 1000 city residents
- Alcohol-involved crash rate was 1.52 per 1000 city residents (151 alcohol-involved crashes)
- There were two fatal crashes resulting in three fatalities.

Sources: New Mexico Traffic Crash Annual Report 2011, NMDOT, Traffic Safety Division, 2011 Community Reports; NMDOT, Traffic Safety Division, FFY12 Annual Report

Motor Vehicle Crashes

Nationally, motor vehicle crashes are by far the leading cause of accidental death. (See Figure 2-18) Fortunately, according to the National Highway Traffic Safety Administration (NHTSA), since 2005 crash incidents have decreased from 43,510 to 32,367 in 2011. In 2012 the numbers went up by 4.35% (34,080 crashes). Nevertheless, motor vehicle safety is a serious issue that needs to be addressed as a high priority in transportation planning.

NMDOT Safety Planning

On a state level, safety issues are incorporated into the NMDOT Statewide Multimodal Transportation Plan 2030 and the NMDOT Comprehensive Transportation Safety Plan (CTSP).

The Statewide Multimodal Plan addresses issues such as safety in construction zones, increasing pedestrian and bicycle safety, public awareness, and Intelligent Transportation Systems (ITS) solutions. The plan also supports Livable Communities and Complete Streets concepts that promote designing communities to facilitate walking, biking, and using public transit as alternatives to dependence on private vehicle usage.

The 2010 edition of the CTSP is designed to address the new goal and fine tune some of the emphasis areas and strategies based on more recent events. The revised and updated goals and strategies are presented in this edition of the CTSP, initiating the next phase of the CTSP program to reduce fatalities and serious injuries on New Mexico's roadways.

In conjunction with the CTSP, NMDOT's transportation safety planning program has been retooled to orient the planning process to more effectively integrate safety. To organize NMDOT in a safety conscious manner, a Traffic Safety Management Team (TSMT) was created. It includes the Secretary of Transportation and senior leadership from NMDOT's planning, traffic safety, engineering (design, construction, operations, and maintenance), transit, rail, research, and public information divisions. The TSMT meets monthly to track implementation progress, create effective initiatives and countermeasures, and address barriers to safety program implementation.

[Insert existing Figure 2-18]

Figure 2-19

Safety Quick Facts 1

In 2011 in New Mexico:

- 351 people were killed in 2011. Crash related fatalities have decreased 22% since 2002
- Alcohol/drug involvement was the top contributing factor to fatalities (42%)
- In an average day in New Mexico, there were 118 crashes that involved 309 people, 51 people injured and 1 person killed
- 16.9 per 100,000 people died in crashes compared to a national rate of 10.9 per 100,000 people

Source: New Mexico Department of Transportation, 2011 New Mexico Traffic Crash Annual Report

Finally, the NMDOT Multimodal Freight Study (Phase One Final Report) specifically highlights the safety needs of trade corridors and intermodal access routes that traverse disadvantaged neighborhoods. The study also identifies the need to address health and environmental concerns. More detailed information on freight is covered in the section on Regional Movement, Freight Corridors, and Security.

MPO Region Crash Data

MPO staff tracks crash statistics in the region. The crash statistics are provided by the University of New Mexico Division of Government Research (UNM-DGR). DGR receives crash data from the NMDOT Traffic and Safety Bureau that were collected from local police and sheriff departments. **Several maps have been produced by MPO staff from data collected between 2009 and 2011.** These include:

- a map of the crash rates for thoroughfare intersections in the City of Las Cruces
- a map of crash densities in the City of Las Cruces for motorcycle, pedestrian, and bicycle crashes

This data, along with the information available from the NMDOT District 1 Community Reports, provide a comprehensive look at potential safety issues in the MPO area.

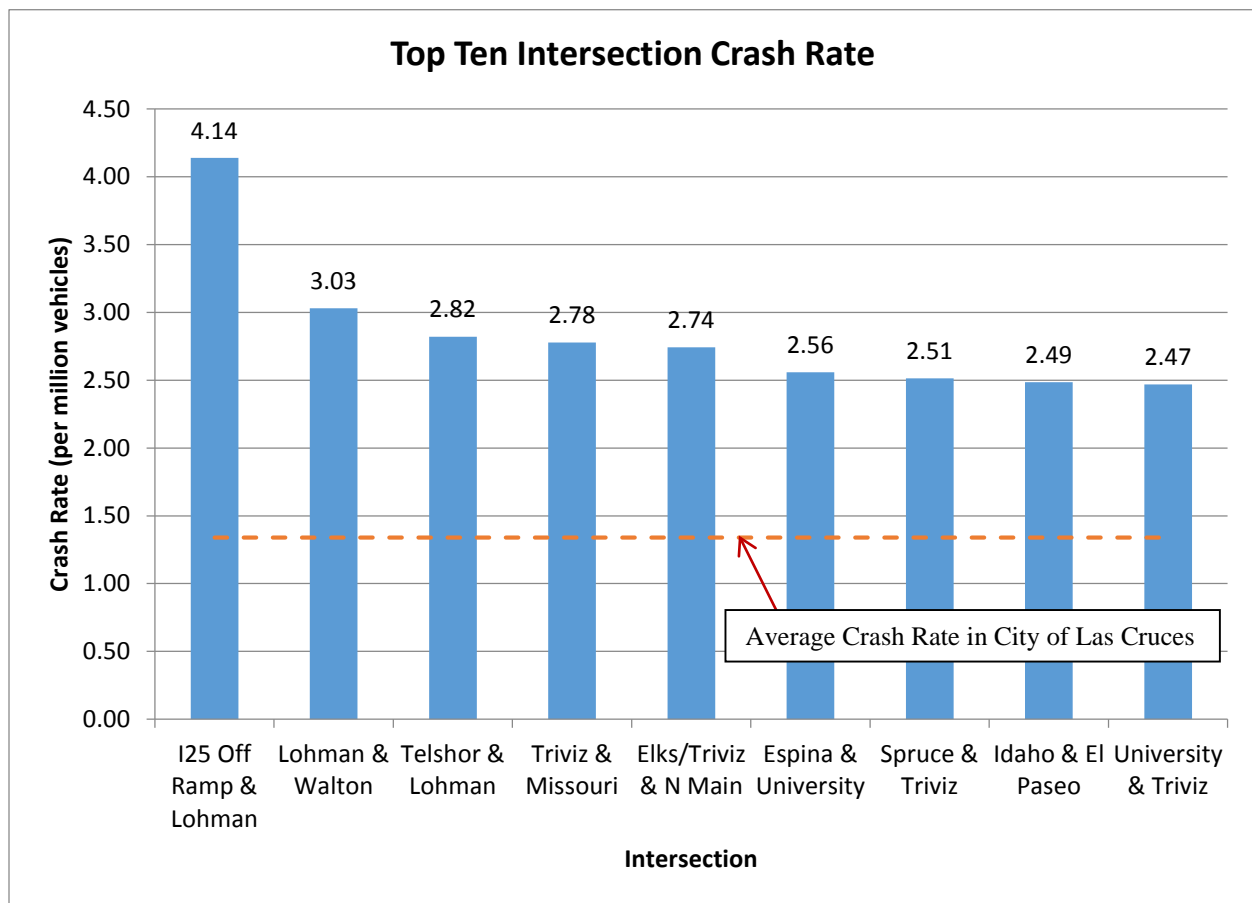
Safety Quick Fact 2

In 2011 in Las Cruces area:

- There were 33.7 crashes per 1000 city residents
- Alcohol-involved crash rate was 1.52 per 1000 city residents (151 alcohol-involved crashes)

There were two fatal crashes Source: New Mexico Traffic Crash Annual Report 2011, NMDOT, Planning and Traffic Safety Division

Top Ten Intersection Crash Rates in Las Cruces



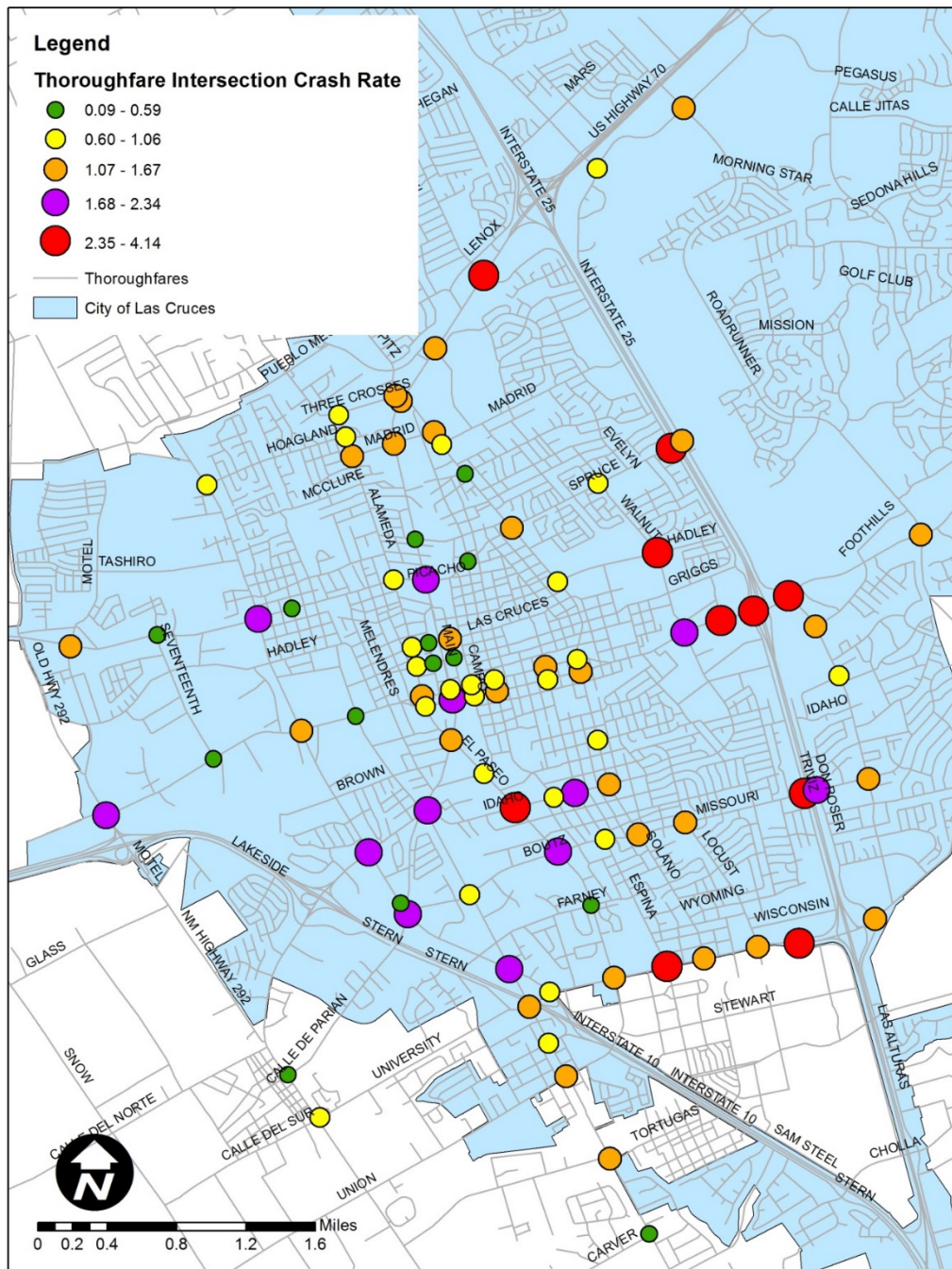
The highest crash densities for pedestrian-involved crashes are around the areas of NMSU, the El Paseo/Idaho intersection, and the Madrid/Solano intersection. The highest crash densities for bicycle-involved crashes are around the area of NMSU, the Solano/Idaho intersection, and the Missouri/Don Roser intersection. The highest crash densities for motorcycle-involved crashes are around the area of NMSU and along the Lohman-Amador corridor, specifically at the intersections with Telshor, Main, and Alameda. The highest crash densities for motor vehicle-involved crashes are along the Lohman-Amador corridor, specifically between Solano and Alameda and the intersection with Telshor, and at the area near El Paseo and Idaho.

Safety Quick Fact 3

- In a medium sized metropolitan area, the average cost of crashes per person is \$1682, while the cost of congestion is \$349 (The AAA's Crashes vs. Congestion Report)
- NHTSA Study shows motor vehicle crashes have \$871 billion economic and societal impact on U.S. citizens- economic costs alone are nearly \$900 for each person living in the U.S.

These maps indicate that there are key locations where crash rates are high and further crash analyses are needed to determine cause and potential countermeasures. These locations are mostly at intersections of thoroughfares, but sometimes entire corridors need to be evaluated.

In the City of Las Cruces, the calculated crash rate average among all thoroughfare intersections is 11.34 per million vehicles for the years 2009 through 2011. Figure 2-21, page 25 shows the top ten intersections with the highest crash rates. Appendix D lists all thoroughfare intersections with available data, and the associated crash rates. The Motor Vehicle Crash Rate Map for the City of Las Cruces, Figure 2-23, identifies the crash rates for all thoroughfare intersections.



These intersections should be a top priority for future studies and funding to identify and implement safety countermeasures. Further studies should also include a more thorough examination of crash types, time of day, and other behavioral and physical crash factors.

Multimodal Transportation

A built environment that integrates all transportation modes is essential for a well-functioning system. Transportation decision makers must consider the impacts of infrastructure investments and land development on mobility for all modes and safe connections to a variety of destinations. In addition, the smooth transition from one mode to another (intermodal transportation), such as connections between bicycle lanes and transit stops, create a complete and healthy transportation network that is safe and accessible to people of all ages and abilities.

For community cohesiveness and safety for children, neighborhoods should be people-oriented by providing safe streets for both motorized and non-motorized transportation. Streets are public spaces in which all users should feel safe and comfortable using. This section provides a discussion of transportation conditions for all modes in the MPO region.

- Connectivity: Accessibility and Mobility
- Non-motorized Conditions: Pedestrian, Bicycle, and Trail
- Transit Conditions
- Automobile Traffic Conditions
- Travel Demand Modeling and Vehicle Miles Traveled

Connectivity

Connectivity is a necessary component of a well-functioning transportation system in order to provide accessibility and mobility for all users. This requires all transportation modes be integrated throughout the system by appropriate design and connected networks.

Accessibility

Accessibility, defined as the ability to reach a desired destination, can be improved by diverse land use development in addition to increased transportation options. Land use planning is important because land uses that are in closer proximity to residential areas can decrease the length of trips and provide more opportunity for modal choice.

Mobility

Mobility is the physical movement from one place to another and relates to the different modes or options that are available to move from point A to point B. Shifting trips to a wider variety of modes can help alleviate congestion; however, the transit, bicycle, and pedestrian systems need to be convenient and well-connected in order to reduce congestion on roadways. In some areas, particularly rural areas of Doña Ana County, the most vital mobility issues are that public transportation is not available and street system connectivity is lacking. As of 2014, the South Central Regional Transit District has begun addressing some of these needs. These issues significantly impact many people's ability to get from home to work or school.

Non-motorized Conditions

Non-motorized facilities include sidewalks, bicycle lanes, trails, and multi-use paths. Due to the geographic nature of the MPO area there are many opportunities for non-traditional transportation networks, including irrigation ditches and arroyos.

Pedestrian Conditions

Developers are required to build sidewalks in all new developments within the City of Las Cruces. In Doña Ana County, in most cases the developer is required to build shoulders but not sidewalks; however, sidewalks are required in areas that have urban-type zoning. Unfortunately, there are places where the sidewalks are discontinuous and/or are not ADA compliant and this has contributed to a reduction of non-motorized transportation opportunities.

In order to improve pedestrian infrastructure, it is the responsibility of local jurisdictions and the NMDOT ensure that pedestrian facilities are constructed or upgraded as part of transportation projects. Potential improvements are contingent upon the local jurisdictions developing a comprehensive infrastructure inventory, a function served by the MPO Transportation Asset and Safety Management Plan. Further compilation of this inventory could be assisted through initiating neighborhood assessments of the pedestrian environment. This type of data collection will help prioritize the future improvement of pedestrian facilities. Finally, another important component of improving the pedestrian environment is to establish areas or activity centers throughout the county that are of high priority for improving the walking environment.

Bicycle Conditions

Because the Mesilla Valley MPO area has an outstanding climate, bicycles can be ridden almost year-round. Building a comprehensive network of bicycle facilities is one of the most important needs facing a developing multimodal transportation system in the MPO region. Without a complete system of bicycle facilities, bicycle riders are either forced to take a less direct and more time consuming route to get to their destination or choose another form of transportation. Some bicyclists prefer using in-road bicycle facilities that provide movement with the flow of automobile traffic and direct access to destinations. These facilities include bicycle lanes and wide curb lanes. Bicyclists are to be treated as vehicles in the road and are expected to follow the same traffic rules as per New Mexico state law.

Since 2005, the City of Las Cruces has endeavored to become a Bicycle Friendly Community (BFC) through the League of American Bicyclists (LAB). In September 2005, the City of Las Cruces received an honorable mention from LAB. However, in 2008 when the city reapplied, no award or mention was given. In an effort to progress more rapidly toward a BFC designation, the city initiated the BFC Task Force. The City of Las Cruces applied for a designation in 2010 and was given bronze level status. The certification is due for renewal in 2015.

Since 2002 the RoadRUNNER Transit has installed bicycle racks on all buses. As buses are replaced, bicycle racks were included as standard equipment. All fixed route buses now have bike racks.

Historic and Current Miles of Bicycle Facilities

In 2000 10.7 miles of in-road bicycle facilities existed. Most of those facilities were in the jurisdiction of the City of Las Cruces. The City developed them in the late 1970s after the creation of the "Guidelines for Bridle Paths and Bicycle Lanes." By 2004 the City developed 32.2 miles of new in-road bicycle facilities for a total of almost 50 miles. In 2010, at the time of the original adoption of Transport 2040 there were 99 miles of bikeways. In 2012 that number had been increased to 140 miles of in-road bicycle facilities

Trail Conditions

A variety of paths are available in the MPO area. These paths include both paved and unpaved surfaces. Fifteen miles of paved multi use paths include Triviz, La Llorona, Sonoma Ranch, Union, and University (see the Trail System Priorities Plan for a map of these facilities).

Multi-use paths on independent rights-of-way can provide expansion of existing non-motorized facilities and unique connections to many destinations such as schools, parks, recreational facilities, and open spaces. However, it must be noted that the American Association of Highway Transportation Officials (AASHTO) recommends multi-use paths should be used in locations where intersecting conflicts can be minimized.

In September of 2009, the City of Las Cruces completed a Memorandum of Understanding (MOU) with EBID in order to begin developing a regional trail network along EBID laterals and drains. The MOU addresses liability issues, special use permits, and maintenance and operations. The MPO encourages Doña Ana County and the Town of Mesilla to enter into similar MOUs with EBID to create a complete regional trail network.

Since 2012, the Mesilla Valley MPO has utilized counters on the multiuse paths in the MPO area. The counts are included in Figure X-XX.

2013 Bike Ped / Multi-Path Universe Master List (28-day counter)

Path	Segment	Total	Avg/week	Avg/day	Most/hr
Outfall Channel	Beginning to Valley	1274	318.5	45.5	18
Outfall Channel	Valley to Dona Ana (RR Tracks)	2193	548.25	78.32143	38
Outfall Channel	Dona Ana to El Camino Real	1348	337	48.14	21
Outfall Channel	El Camino Real to Triviz				
Outfall Channel	Triviz to End	1226	306.5	43.78571	14
Outfall Channel	Boxster to Camino del Rex	2022	505.5	72.21429	31
Triviz	University to Missouri	2334	583.5	83.35714	247
Triviz	Missouri to Entrada del Sol	3637	909.25	129.8929	325
Triviz	Entrada del Sol to Spruce				
Triviz	McClane to Spruce	3272	818	116.8571	151
Triviz	Spruce to Outfall Channel	29976	7494	1070.571	255
Sonoma Ranch	Lohman to Golf Club	623	155.75	22.25	69
Sonoma Ranch	Golf Club to Calle Jitas	1465	366.25	52.32143	30
Sonoma Ranch	Call Jitas to End	60597	15149.25	2164.179	386
Union	Conlee to Harrleson				
Union	Main to University				
University	All	171510	42877.5	6125.357	716

Terra Verde	All	618	154.5	22.07143	8
Firestation	All				
La Llorona	Calle del Norte to Interstate 10 Overpass				
La Llorona	Interstate 10 Overpass to Picacho	23574	5893.5	841.9286	1010
La Llorona	Picacho to End	1255	313.75	44.82	23

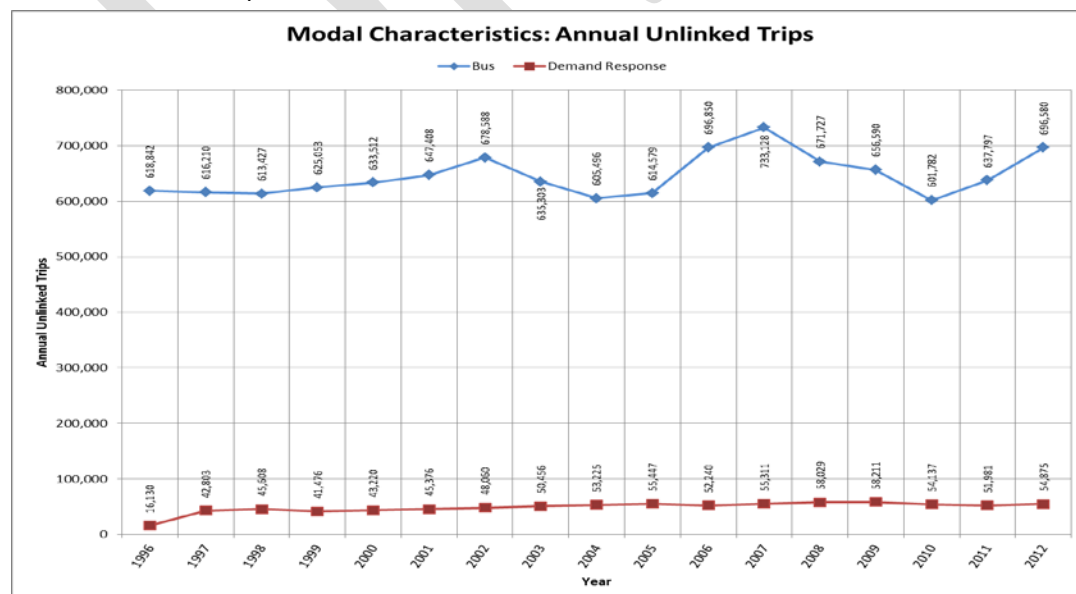
Transit Conditions

RoadRUNNER Fixed Route Service

RoadRUNNER fixed route service began operating in 1986 under the City of Las Cruces Public Services Department. Since then the system has grown from 4 routes to 8. Additional routes funded by NMSU and DACC have also been added including 3 routes on the NMSU campus, and one route that travels from the Mesilla Valley Mall transfer point to the DACC east side campus for a total of 12 routes. A 2006 transit network study recommended a new bi-directional route network, a set of additional routes along key corridors, and a site location and design for the new intermodal center. The southwest corner of Lohman and Alameda is the location selected for the new intermodal center and a design Request for Proposal is in process to develop the site. RoadRUNNER Transit is also considering an express route along Lohman and Amador.

The bi-directional (two way) route network was developed and implemented in 2008. Further information on the plans for the transit system can be found in the 5-year Transit Strategic Plan. For most routes, the bi-directional network completes one direction of a route within 30 minutes, with headways currently at one hour. The system is intended to be easily scalable by adding additional vehicles. The current system connects the route at timed transfer points - Downtown, Mesilla Valley Mall, and at Venus and Northrise called the Venus Transfer Point. Figure 2-29 shows the current RoadRUNNER route system.

Annual Unlinked Trips for Fixed Route and Paratransit Service



The number of trips made by the passengers (unlinked trips) has been steadily increasing since 2010 for bus route system. However, in the past years, trip numbers in paratransit services were steady

Operating Expenses and Annual Vehicle Revenue Mile for Fixed Route and Paratransit Service

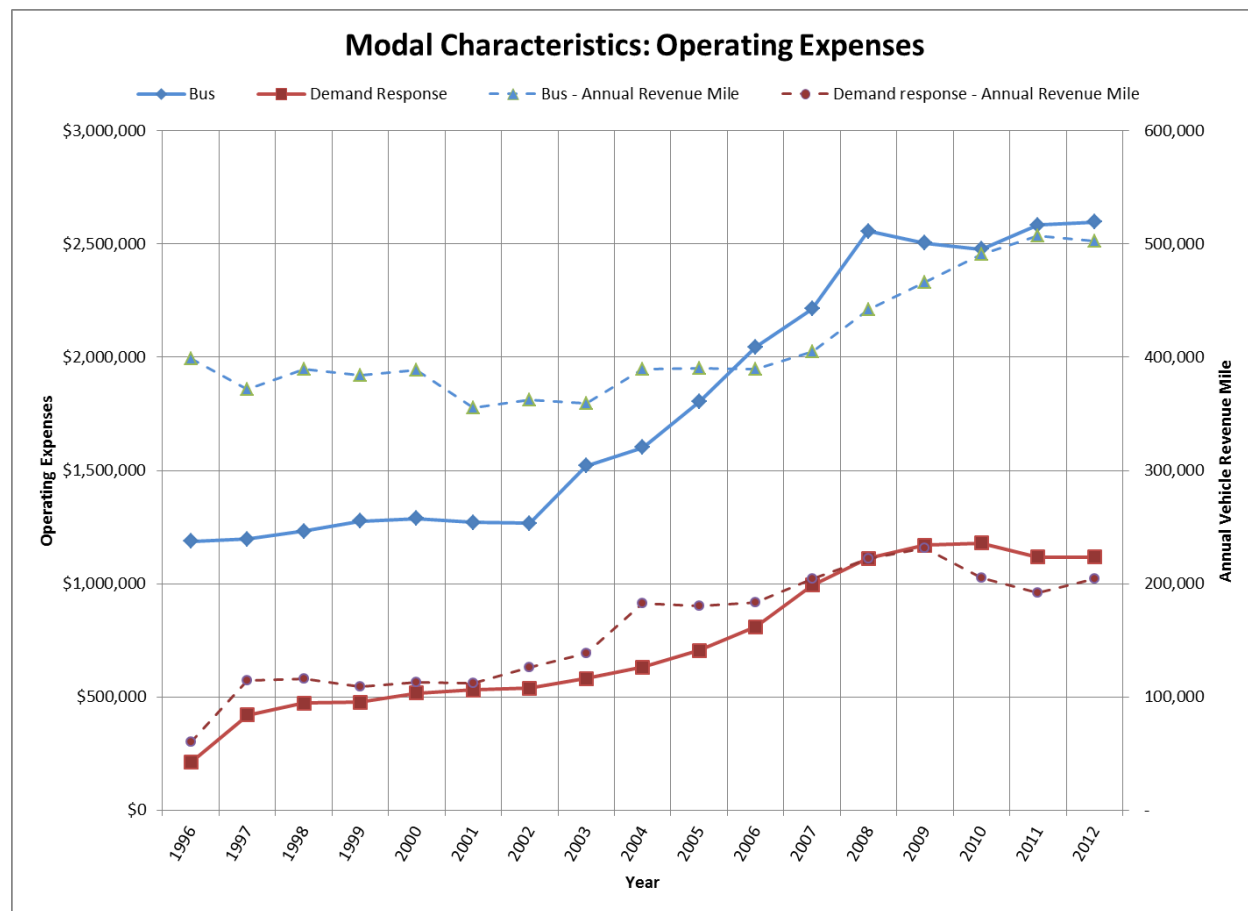


Figure X depicts the historical trend of operating expenses and annual vehicle revenue mile for bus route system and paratransit services in the Las Cruces area.

Paratransit Service

Curb-to-curb demand-response paratransit service (also known as Dial-a-Ride) was established in 1986 along with the fixed route service. It originally operated within a $\frac{3}{4}$ mile radius of the fixed route service and was available to citizens who meet the qualifications of the Americans with Disabilities Act (ADA). This service is required by ADA in any area that offers fixed-route service. In 1994, Dial-a-Ride was expanded to include the entire City of Las Cruces. In 1997, the service was merged with senior transportation, and all seniors who registered with Senior Programs became eligible to ride. Its fares continue to be paid for by a City of Las Cruces subsidy, and as a result, this service is popular with seniors. Handling the increasing percentage of senior trips that are supplied by Dial-a-Ride service is a challenge. Dial-a-Ride service tends to be more convenient than fixed route service, because it is

curb-to-curb and eliminates the need to walk to a bus stop. In 2005, the cost of providing one trip on fixed route service was \$2.93, while the cost of providing one trip on Dial-a-Ride was \$12.71. While this cost is a significant barrier to adding more vans and drivers, demand continues to rise, and seniors are often denied rides. Dial-a-Ride fares increased from \$1.00 to \$2.00 in 2008.

South Central Regional Transit District (SCRTD)

The SCRTD recently implemented four routes providing service into Las Cruces from Anthony/ Sunland Park, and Chaparral. SCRTD also contracts with Rio Grande Transit and Z-Trans to provide transit service from Sierra County (Elephant Butte/TorC) and Alamogordo respectively.

NMDOT Transit Services

Other fixed route services in the MPO area that connect to the urban transit system include the New Mexico Department of Transportation (NMDOT) Gold Route and the NMDOT Silver Route. The Silver Route provides service from New Mexico State University (NMSU) and the City of Las Cruces to White Sands Missile Range. The Gold Route provides service from Downtown City of Las Cruces, NMSU, Anthony, and El Paso, Texas.

These routes provide an economical option for commuters. According to the NMDOT Transit and Rail Bureau, riders receive a cost savings of \$0.46 to \$0.75 per mile compared to the cost of driving. Riders who have a Park and Ride monthly pass save about \$992 per month compared to the cost of driving. The service also demonstrates the potential ridership for possible future passenger rail service in this corridor. A conservative estimate of 302 passenger trips per day will result in 75,500 passenger trips per year in this corridor. Figure 2-32 provides the ridership for the Gold Route since its recent inception in September of 2009. For a statewide picture of the transit ridership over time, Figure 2-33 shows the statewide Average Daily Passenger Trips and Average Daily Ridership from 2004 to 2009.

Greyhound and El Paso-Los Angeles Limousine also provide a local stop in the City of Las Cruces as a part of their networks. These services will relocate to the Intermodal Center upon completion of the project.

Rail

Commuter rail is a viable possibility in the future of the region, but would require considerable updates to the rail infrastructure and investment in passenger facilities. The South Central Regional Transit District completed a general feasibility study for developing a commuter line between El Paso and Las Cruces. A more detailed feasibility analysis of commuter rail in Southern New Mexico must be completed to examine the potential benefits and drawbacks. For comparison, the current ridership on the rail line between Albuquerque and Santa Fe is about 112,000 per month since the line was completed to Santa Fe in December 2009.

Statewide and Regional Public Transportation Planning Efforts

New Mexico Statewide Public Transportation Plan

The New Mexico Statewide Transportation Plan (SPTP) evaluates the demand and needs of rural public transportation, intercity passenger bus, and commuter rail systems throughout the State of New Mexico. The plan intends to provide clear and concise performance measures and prioritized projects

to efficiently allocate limited funding resources. A draft is available at http://dot.state.nm.us/content/dam/nmdot/Transit_Rail/NMStatewidePublicTransPlanFINAL.pdf.

South Central Regional Transit District (SCRTD)

The Regional Transit District (RTD) Enabling Act allowed for the creation of a transit district between two or more jurisdictions. In the MPO area, the SCRTD is one of three RTD's to receive \$250,000 from the State to develop a regional plan. The SCRTD is comprised of the Counties of Doña Ana, Sierra, and Otero (and all incorporated Municipalities within). The SCRTD is intended to become a separate governmental entity with authority to finance, plan, construct, operate, maintain, and promote a regional public transit system. More information about the SCRTD is available at scrtdd.org

Coordinating Human Services Transportation Plan (CHSTP)

In 2008 the New Mexico Department of Transportation (NMDOT) developed a Coordinated Human Services Transportation Plan (CHSTP) provided broad recommendations for coordination efforts for the entire State, including Sierra, Socorro, and Doña Ana Counties. The Coordinated Mobility Action Plan (CMAP) developed by RoadRUNNER and the MPO expands upon the recommendations provided in the CHSTP. The CMAP document contains specific action items to increase transportation coordination in Doña Ana County. The action items were developed by a Steering Committee comprised of representatives from human service agencies and transportation providers. More information about CMAP is available at http://dot.state.nm.us/en/Transit_Rail.html.

Aviation Conditions

Las Cruces and Doña Ana County are served by three airports. Cargo, charter, and general aviation services are available via the Las Cruces International Airport and the Doña Ana County Airport at Santa Teresa. In addition, Foreign Trade Zones (FTZ) are located at both the Las Cruces and Santa Teresa airports. Commercial passenger air service for the region is provided by the El Paso International Airport.

The main airport in the MPO area is the Las Cruces International Airport, which was opened in 1942 as a military training facility. The airport is in the design process for a new traffic control tower, but does not have funding for construction yet. The current airport facilities consist of:

- Two lighted asphalt runways and one concrete runway with associated taxiways, blast pads, approach slope, end and edge lighting capable of supporting a Boeing 737
- An FAA-owned Instrument Landing System (ILS), an Automated Weather Observation System (AWOS), a Supplemental Aviation Weather Reporting Station, and a rotating beacon
- Light aircraft paved parking aprons, 150,000 square feet of hangar space, and 24,000 square feet of covered aircraft parking
- A bulk-storage fuel farm for aviation fuels
- A public commuter airline terminal suitable for 20,000 enplanements per year; however there is currently no scheduled airline service
- Three sets of Visual Approach Slope Indicators (VASIs) for Runway 12
- A Medium Intensity Approach Lighting System (MALSR) for Runway 30
- Two fixed base operators

Spaceport

The site for the Spaceport America is north of Upham, in Sierra County. This site will have a significant impact on the Las Cruces MPO area because Las Cruces is the closest urbanized area. For example, a large number of Spaceport employees will probably live in the region, and aerospace engineering and construction firms may locate in and around Las Cruces to support the Spaceport activities.

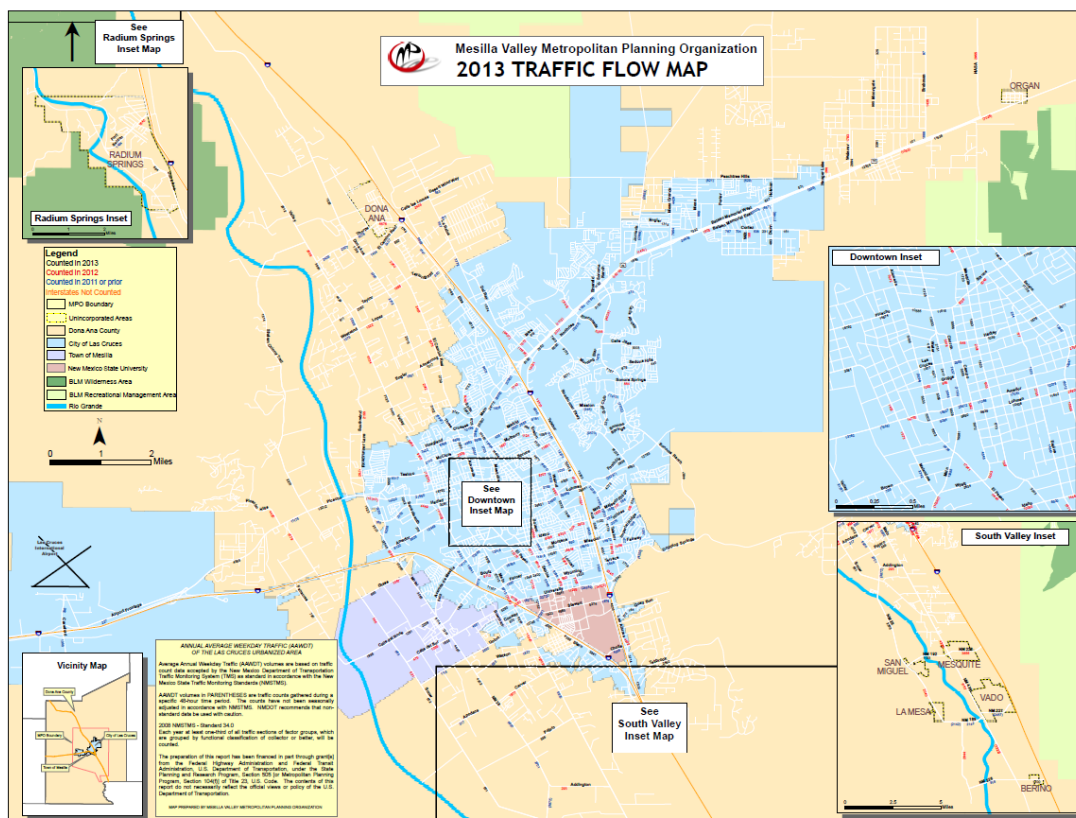
Completion of the Spaceport is expected in 2011. More information about Spaceport America is available at www.spaceportamerica.com.

Automobile Traffic Conditions

This section includes information on Traffic Counts, Volume to Capacity Ratio (V/C), Level of Service (LOS), and Vehicle Miles Traveled (VMT). Many of these conditions are measured using the MPO travel demand model VISUM/VISSIM.

Traffic Counts

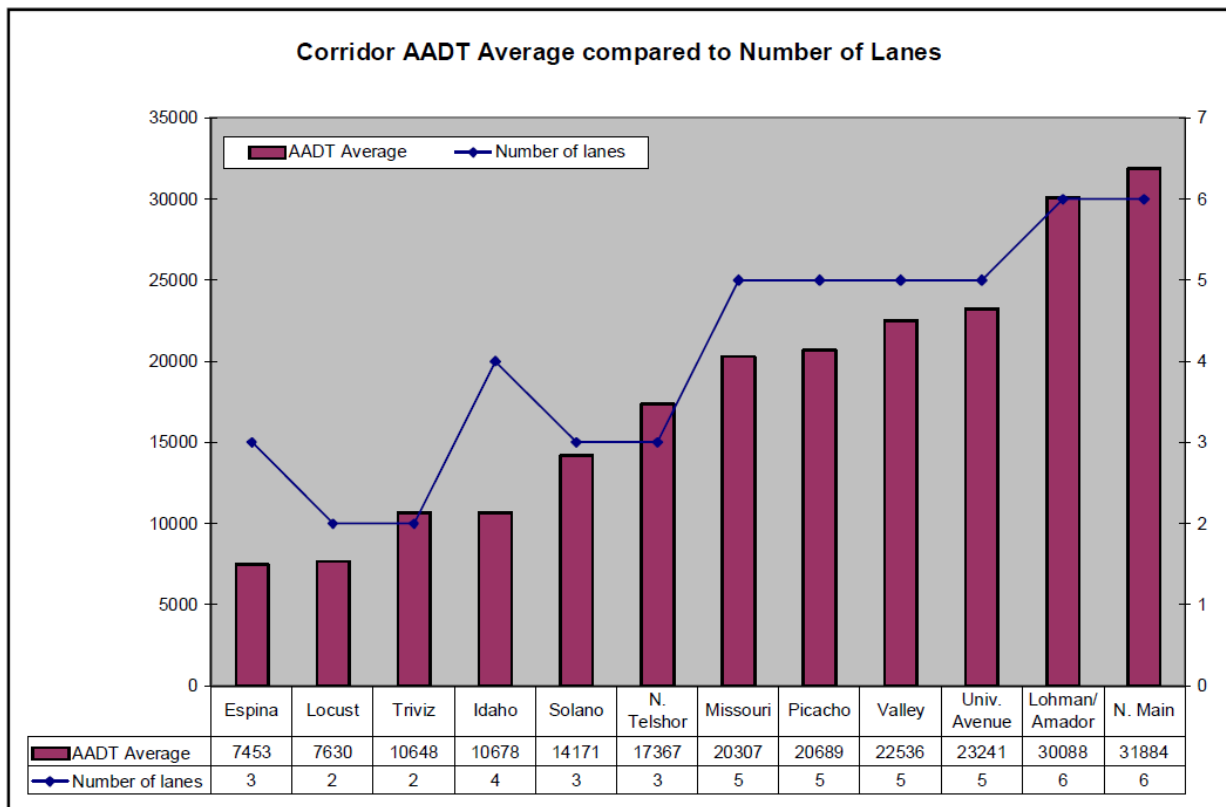
The MPO operates a traffic count program that provides data utilized by the public and a variety of stakeholders. MPO staff conducts counts for thoroughfare roadways throughout the region in 3-year cycles and does special counts for specific concerns that arise. Every year at least 1/3 of all thoroughfare segments, which are grouped by functional classification of collector or greater, will be counted. Every year the MPO provides a traffic flow map that shows counts for the previous 3 years. Figure XX-XX shows the 2013 traffic Flow Map produced by MPO Staff. The entire history of the traffic flow maps is available on the MPO website.



Travel Lanes and AADT

The following comparison provides insight into how motor vehicle traffic volumes are being handled by roadways with a certain number of travel lanes, and also offers a perspective on how many lanes might be needed, or might not be needed, to handle said traffic volumes. Figure XX-XX shows the number of automobile traffic lanes compared to the average AADT of a street corridor.

In order to provide a conservative analysis, in all cases the segment of the corridor with the highest AADT was used. These roadways comprise most of the main thoroughfares in the central city. For example, Solano and N. Telshor seem to adequately handle 14,000 to 17,000 AADT with 3 lanes. One caveat to consider is that vehicle turning movements have a great impact on how well the roadway functions. Redistributing four travel lanes into 3 provides a better opportunity for safely executing left turns.



Corridor AADT Compared to Number of Roadway Lanes

Speed data collected indicates vehicles traveling over the speed limit by 5 or 10 mph. Figure 2-37 shows some of the major roadways and indicates different patterns of speeding based on either surrounding land uses or

Year	Roadway	From Point	To Point	MP H	Over Speed Limit	5 or more over	10 or more over
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2014	Bataan Memorial East	Dunn	Weisner	45	9.63%	8.08%	0.37%
2014	AmadorBataan Memorial East	CompressPorter	MelendresDunn	4045	10.482.37%	2.450.43%	1.020.43%
2014	AmadorBataan Memorial East	EspinaRinconada	Sonoma RanchSolano	35	17.6392.34%	3.0968.17%	0.8236.26%
2014	Bataan Memorial West	Del Rey	Roadrunner	35	19.71%	2.18%	0.31%
2014	Amador	Main	Campo	35	3.25%	0.64%	0.26%
2014	Amador	Motel	Westgate	40	47.58%	15.12%	2.66%
2014	Amador	Valley	Compress	40	6.05%	0.68%	0.39%
2014	Amador	Westgate	17 th Street	40	61.05%	22.95%	4.96%
2014	Main	Madrid	IdahoSolano	35	35.2717.42%	9.032.79%	1.480.91%
2014	Main	Picacho	Chestnut	35	46.24%	12.69%	2.48%
2014	Alameda	Griggs	Las Cruces	3035	33.4331.28%	6.965.94%	1.7965%
2014	Alameda	Las Cruces	Picacho	30	58.80%	19.46%	5.01%
2014	Boutz	El Paseo	Espina	35	41.78%	9.59%	2.14%
2014	Boutz	EspinaWofford	Solano	35	45.27.89%	5.318.59%	1.4264%
2014	Boutz	Main	El Paseo	35	59.57%	18.08%	3.38%
2014	Mesquite	Juniper	Madrid	25	67.40%	28.15%	5.55%
2014	Mesquite	Lohman	Amador	25	11.11%	1.62%	0.69%
2014	Mesquite	MadridWyoming	WoffordSolano	2535	46.6339.83%	10.166.73%	1.2826%
2014	Missouri	Don Roser	Telshor	35	42.71%	10.51%	2.17%
2014	Missouri	Gladys	Triviz	35	40.64%	8.22%	1.92%
2014	Espina	Amador	Las Cruces	25	51.65%	11.23%	1.46%
2014	Espina	Hadley	Virginia	25	14.07%	2.20%	0.66%
2014	Espina	University	Farney	35	19.69%	3.07%	0.88%
2014	Picacho	17 th	Valley	35	69.85%	30.55%	7.98%
2014	Picacho	Motel	17 th	35	75.29%	30.60%	6.12%
2014	Picacho	Picacho Hills	Shalem Colony Trail	45	65.04%	24.67%	5.92%

Regional Movement, Freight Corridors, and Security

Doña Ana County is located on a vital cross country route that facilitates the movement of goods from major US seaports and international manufacturing and distribution regions. Major roadways and rail lines connect the Mesilla Valley MPO area to national and international facilities, such as the Santa Teresa Port of Entry, Foreign Trade Zones located at the Las Cruces and Santa Teresa Airport, White Sands Missile Range, NASA, the future Spaceport, El Paso, and Ciudad Juárez. Because of this location the Mesilla Valley MPO region has several transportation facilities that are important to regional, national, and international security. These include:

Interstate Highway 10
Interstate Highway 25
U.S. Highway 70
Las Cruces International Airport
Burlington Northern Santa Fe (BNSF) rail line, and
Santa Teresa Port of Entry

Interstate 10

Interstate 10 passes through the southern third of the MPO region connecting the area to the southern tier of US states - from Florida to California. I-10 traffic volume ranges from ~18,000 AADT west of Las Cruces to ~40,000 AADT south of the interchange with I-25. In addition, I-10 is the only cross continental freight corridor located in a frost free area. I-10 also has international connections to the Santa Teresa Port of Entry and Mexican Highway 2.

Interstate 25

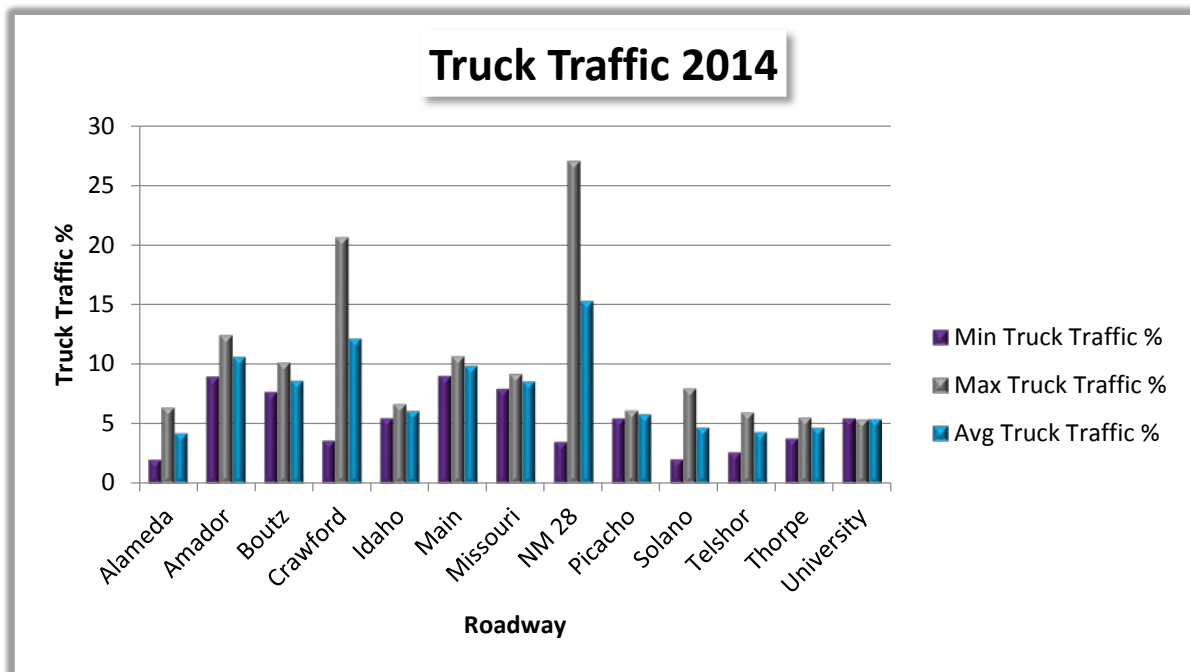
Interstate 25 begins at the interchange with I-10 in southern Las Cruces and terminates in Montana. The average daily traffic on this facility ranges from ~16,000 AADT in the metro area to ~6,000 AADT north of Las Cruces. I-25 creates a transportation spine through the State of New Mexico connecting Las Cruces with Albuquerque and Santa Fe.

US Highway 70

Within the MPO area, US Highway 70 diverges from I-10 at the Jackrabbit Interchange west of Las Cruces. US 70 is the only roadway that traverses the MPO area from east to west. In Las Cruces, Picacho Avenue and North Main Street make up US 70 through the city. East of I-25, the roadway becomes a controlled access highway with frontage roads. US 70 continues east to White Sands and Alamogordo. The average daily traffic on this facility ranges from ~11,000 AADT west of Las Cruces to ~37,000 AADT in the metro area, to ~24,000 east of Las Cruces.

Volume by Classification (VBC) Counts

MPO staff, through the traffic count program, has conducted Volume by Classification (VBC) counts in the region. The Vehicle Classification Chart in Figure XX-XX lists all of the vehicle classifications designated by FHWA. The Trucks category represents Class Groups 8 through 13 and Combo Trucks are multi-trailer trucks representing Class Groups 11 through 13. The VBC counts show classification counts for the following roadways:



NMDOT Freight Study

NMDOT completed a study in 2009 that examined freight movement in the State of New Mexico. The key findings are related to both rail and truck intrastate, interstate, and through movement, international shipments, freight weight and value, and key trading partners for New Mexico.

Security

Continuity of the transportation network is a critical element to any response. The NMDOT coordinates with the Strategic Highway Network (STRAHNET) system that identifies the system of public highways that provides access, continuity and emergency transportation of personnel and equipment in times of peace and war. NMDOT is also tasked with maintaining and updating the inventory of critical infrastructure, facilities, and transportation services. The NMDOT Planning Division is a member of the Anti-Terrorism Advisory Council (ATAC) that coordinates activities, develops policy, and implements strategic plans to combat terrorism. The Transit and Rail Division assisted in developing the terms and conditions under which buses used for Park and Ride services may be redeployed in response to natural and human-caused disasters.

The Mesilla Valley MPO is a coordinating member with the Doña Ana County Local Emergency Planning Committee (LEPC). The LEPC is a formal organization of agencies responsible for maintaining the safety and security of the residents of Doña Ana County.

Natural and Cultural Resources

The MPO region is in the Chihuahuan Desert and contains a unique agricultural community adjacent to the Rio Grande. The Rio Grande bisects the Mesilla Valley and currently traverses just west of the incorporated City of Las Cruces. The region has its roots dating back to civilizations from the early 1000's. El Camino Real which runs parallel to the Rio Grande through the area has been utilized as key transportation corridor for over 400 years.

Desert grasslands extend from the edges of the city to the lower slopes of the nearby Organ and Robledo Mountains. The desert grasslands are often separated by arroyos that carry water following rainy weather. These arroyos also serve as wildlife corridors. Preserving the cultural heritage and aspects of the unique desert environment are integral parts of maintaining the community's natural and cultural resources. In the desert environment, water can be a scarce resource; therefore, water conservation is a high priority for the region. There is also considerable concern for the protection of the natural environment and views of the mountains in both the valley and the grassland mesas. Other issues related to the natural environment include the need for shade due to the number of sunny days, and the wind's impact on health and air quality, particularly with respect to unimproved roadways. Finally, air quality mitigation and climate change issues, although not currently required to be evaluated by the MPO, will likely become part of future scenarios that the region will need to contend with.

The Mesilla Valley MPO supports the NMDOT Commitment to Environmental and Energy Action (2003):

Promote innovative planning and design that avoids adverse impacts to the natural and human environment, including effects to neighborhoods, low income and minority populations, farmlands, endangered species, wildlife habitat, wetlands, water and air quality, visual resources, cultural landscapes, and archaeological and historic sites, and implement creative mitigation program to replace, restore, and enhance these resources.

This section includes:

- Identification of areas of Cultural and Environmental Importance
- Development of Thoroughfare Plan and Transportation Studies
- Air Quality and Greenhouse Gases

Identification of areas of Cultural and Environmental Importance

The MPO accesses or acquires national, state, and local geographic data to analyze impacts of proposed transportation improvements to areas of cultural and environmental importance. Figures 2-45 and 2-46 identify areas of cultural and environmental importance in the MPO area.

Development of Thoroughfare Plan and Transportation Studies

Thoroughfare Plan

The development of the Thoroughfare Plan is an example of a process where cultural and natural conditions need to be addressed. MPO staff and Technical Advisory Committee members considered the location of arroyo crossings and wilderness areas when establishing thoroughfare alignments. In addition, some roadway alignments pass through fairly steep topography and near recreational areas maintained by the Bureau of Land Management (BLM). For example, the federal government recently designated the Prehistoric Trackways Park located west of the Rio Grande and north of Picacho Peak. Previously, a roadway alignment existed in that area that, if it remained, would pass through this park. As a result, the MPO, through agency and public coordination, identified a new potential alignment.

Transportation Studies: Study Areas and Corridors

When conducting transportation studies it is important to include the link between Planning level analysis and Project level analyses as they concern National Environment Protection Act (NEPA). A

variety of tasks and information gathering steps are needed, including a robust public input process. A good discussion of how Madrid-Sonora Springs handled these issues can be found on the MPO website.

NMDOT's Project Identification Form/Scoping Report also provides insight into what types of information may be needed to prepare for future project level analyses. These include gathering information regarding the following:

- public support
- functional classification of the roadway
- project description and justification
- statement of purpose and need
- technical information, such as number of lanes
- pavement conditions
- traffic and accident information
- environmental information such as location or occurrence of active streams, archaeological sites, wetlands, air quality issues, noise increases, underground storage tanks and other hazardous waste sites, and drainage information
- existing right-of-way and right-of-way needed for the project
- relationship to other projects
- preliminary cost estimates

Addressing all of these issues is integral to ensuring that the natural environment and potential environmental impacts of land use development and transportation system expansion are assessed prior to construction of a project.

Air Quality and Greenhouse Gases (GHG)

Transportation is a major contributor to local air pollution and smog. These outcomes in turn have a significant impact on health conditions such as asthma and cancer. The six criteria air pollutants monitored by the Environmental Protection Agency (EPA) are: nitrogen oxides, carbon monoxide, volatile organic compounds, PM10 and PM2.5, sulfur dioxide, and ammonia. National statistics regarding air quality show an overall decrease (from 1990 to 2006) of criteria air pollutants, but an increase of carbon dioxide, especially from transportation sources.

Currently, carbon dioxide, a common emission from motor vehicles and the burning of fossil fuels, is not considered one of the criteria pollutants. Transportation systems account for between 20 and 25 percent of the energy consumption and carbon dioxide emissions in the United States. In fact, Greenhouse gases (GHG) from transportation systems are increasing at a faster rate than any other energy using sector (See Figure 2-47). Eighty-four percent of the United States' GHG emissions are composed of carbon dioxide (CO₂). In addition, the United States produces more than one-third (36%) of the world's CO₂ emissions (more than any other country in the world).

Doña Ana County and Air Quality

Of the six criteria pollutants monitored by the EPA, Doña Ana County faces two primary concerns: particulate matter and ozone. Particulate matter (PM) is high in our region due to the arid climate, seasonal winds, and agricultural activities throughout the valley. However, PM is also high in Doña Ana

County due to a large number of unpaved roadways. Dust, particularly fine dust (PM 2.5), lifted into the air by motor vehicle traffic can remain in the atmosphere for hours at a time, especially during windy conditions. This dust is then inhaled causing health problems such as asthma.

In March 2008, the EPA revised the National Ambient Air Quality Standard (NAAQS) for the 8 hour measurement from 0.08 parts per million (PPM) to 0.075 PPM. Due to the adjusted standard, the New Mexico Environment Department recommended that the Sunland Park (0.078 PPM) area be classified as non-attainment. The decision in a subsequent law suit ruled that the EPA did not lower the standard enough based on its own scientific review. In January 2010 the EPA released a new rule for comment. The standard will be between 0.060 PPM and 0.070 PPM. Depending on the final value selected, the Las Cruces area (0.063 PPM) may be designated as non-attainment also. The MPO may be required to develop a congestion management plan that addresses air quality issues through performance measures if the Las Cruces area is designated non-attainment.

State Emission Reduction Goal

The State of New Mexico has set forth a goal to reduce GHG emissions to 75% below 2000 levels by 2050 (See Figure 2-49, page 58). In anticipation of this region's growth and contribution to these types of emissions, the Mesilla Valley MPO is addressing potential air quality issues by evaluating the affect that land use strategies has on the vehicle miles traveled in Doña Ana County (See Traffic Modeling and VMT). In addition, by the 2015 update the MPO will begin using Mobile10 software to calculate emissions based on Vehicle Miles Traveled as calculated by the VISUM travel demand model.

Natural and Cultural Resources Conclusion

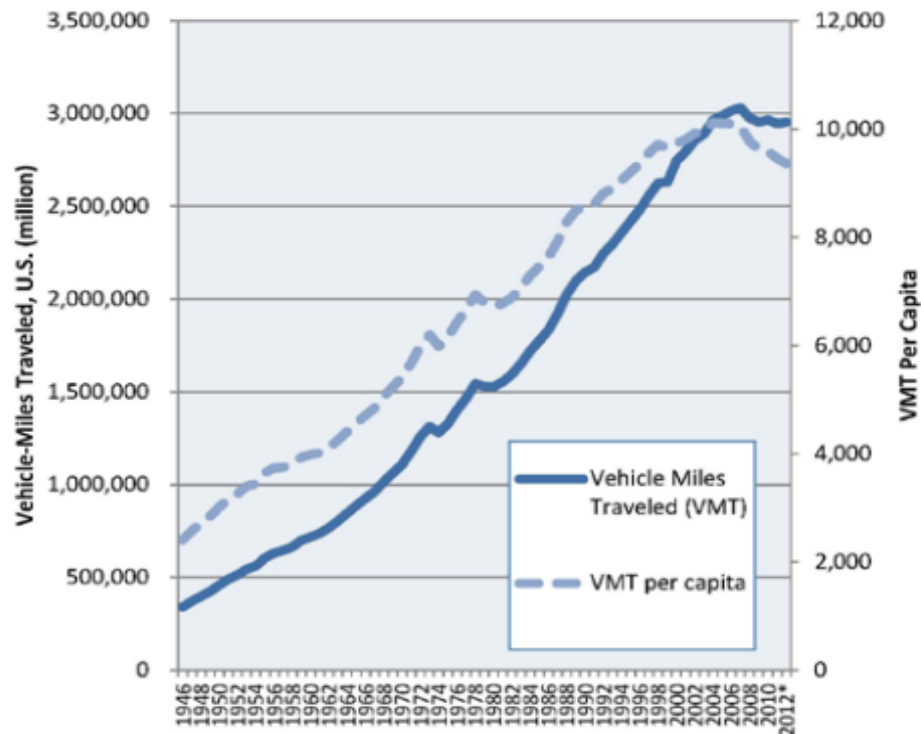
The MPO transportation planning process includes the identification of natural and cultural resources, a robust public involvement process to determine potential impacts to these resources, and an evaluation of ways to eliminate or mitigate potential negative impacts. This process both protects these resources and provides for enhanced urban and rural environments.

Appropriate land use densities and planned developments that encourage the use of all modes should be given high priority. While land use decisions are not made by the MPO, the MPO can consider land use development when making transportation decisions. In addition, the MPO should continue to facilitate better coordination among local entities and regional and state agencies to ensure wise investments are made. Finally, considerable input is needed from environmental and cultural resource agencies and economic development organizations to ensure the integration of these issues into the transportation planning process.

Vehicle Miles Traveled (VMT)

Nationally, VMT has decreased after 60 years of constant growth. While the precise reason for this decrease is not knowable (aging Baby Boomers, Millennials not driving, or recession) it does compel us to reevaluate how we plan our transportation system.

Figure 1. Total and Per-Capita Vehicle-Miles Traveled, U.S.¹⁹



* 2012 data based on U.S. Department of Transportation's (U.S. DOT) *Traffic Volume Trends* report. Previous years based on U.S. DOT *Highway Statistics* series of reports.

Figure 2-41 provides a comparison of projected VMT based on the results of the 2015 Build and No Build scenarios as well as the 2040 Scenarios. These analyses compare the daily and per capita VMT changes.

Travel Demand Modeling

A travel demand model is useful to evaluate a variety of existing conditions and future scenarios for the transportation system and identify potential infrastructure needs. For example, land use and roadway network parameters can be changed to simulate the impact of different transportation improvements and land use assumptions on the system.

The travel demand model, called VISUM, also provides V/C ratio and Vehicle Miles Traveled (VMT) analyses for roadways in the MPO region. The parameters for the software were developed in coordination with the NMDOT, other MPOs in New Mexico, and the El Paso MPO. The travel behavior parameters in the model are based on the 2001 Las Cruces Household Travel Survey. VISSIM is an extension of VISUM that provides traffic simulations for a particular area, corridor, or intersection.

The VISUM model uses a schematic of major roadways and land uses to predict travel. The network also contains some generalized local roadways to offer a few access points into the system. The land uses are also generalized and located in Traffic Analysis Zones (TAZ). Each TAZ in VISUM is populated with housing and jobs. The model is calibrated to historic traffic counts conducted by the MPO.

MPO Regional Scenarios

MPO staff will analyze several future scenarios for the transportation system based on different roadway build outs (based on TIP projects) and different land use patterns (developed as a part of the Vision 2040 process). These scenarios included:

- No-Build scenario for 2020

- Build scenario for 2020

- Land Use 1 (Current Trend) for 2040

- Land Use 2 (Activity Centers) for 2040

At this time we are seeking public input as to what those scenarios should hold. Read some of the discussion

2020 No Build Scenario:

The No-Build scenario utilizes projected land use growth with the existing roadway network and includes improvements that are funded in the 2014-2019 MPO TIP. New facilities for the No-Build condition are the . . Mesquite and Vado Interchanges. Paving of Dripping Springs/ Baylor Canyon Road. Missouri Bridge; Main/ Solano/ Three Crosses. Total travel is estimated to be 6,873,783 Vehicles Miles Traveled (VMT) for an average weekday

2020 Build Scenarios:

The 2020 Build scenario contains the improvements funded in the No-Build plus additional projects such as the construction of Engler Road from Del Rey to Sonoma Ranch, and the construction of Mesa Grande from Onate High School to Lohman Avenue. An assumption was made that these improvements will be paid for by private funds as development occurs. Missouri Roadrunner extension; Total travel is estimated to be 6,620,508 VMT for an average weekday.

Slowing Trend	Resumption of pre 2010 growth
Missouri Roadrunner extension;	construction of Mesa Grande from Onate High School to Lohman Avenue
	Engler Road from Del Rey to Sonoma Ranch
	West Mesa Road

For the 2040 scenarios, the Land Use 1 scenario analyzed a trend outcome. Existing land consumption and distribution patterns were projected into the growth areas of the region. The second scenario, Land Use 2, used compact activity centers surrounded by lower urban density development. Both scenarios were analyzed with a full build out of the Major Thoroughfare Plan.

Reality	Resumption of pre 2010 growth
construction of Mesa Grande from Onate High School to Lohman Avenue	Build thoroughfare plan
Engler Road from Del Rey to Sonoma Ranch	
Missouri Roadrunner extension	
Arroyo Road	