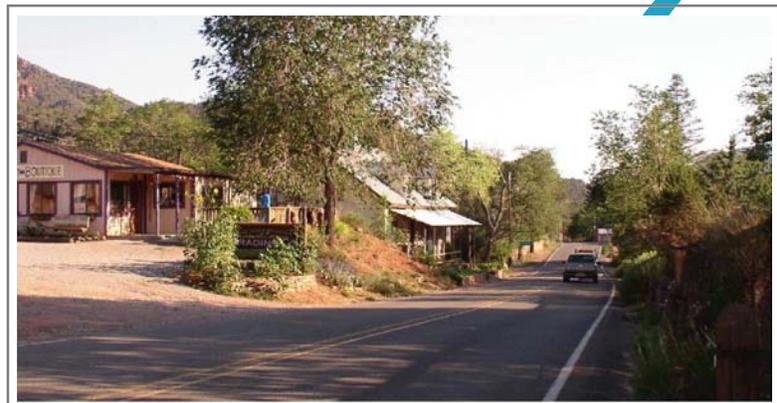
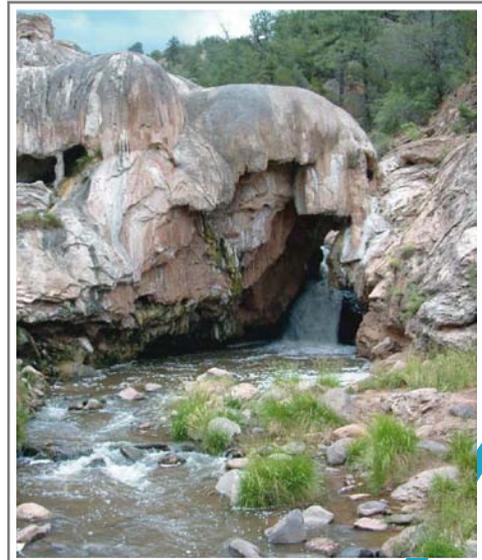


Jemez Valley Corridor Assessment



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JEMEZ VALLEY CORRIDOR ASSESSMENT

Approved for Publication
by the
Regional Planning Organization Transportation Advisory Committee
December 14, 2006

This document was prepared by the Mid-Region
Council of Governments, funded in part by the New
Mexico Department of Transportation.

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PART I

INTRODUCTION

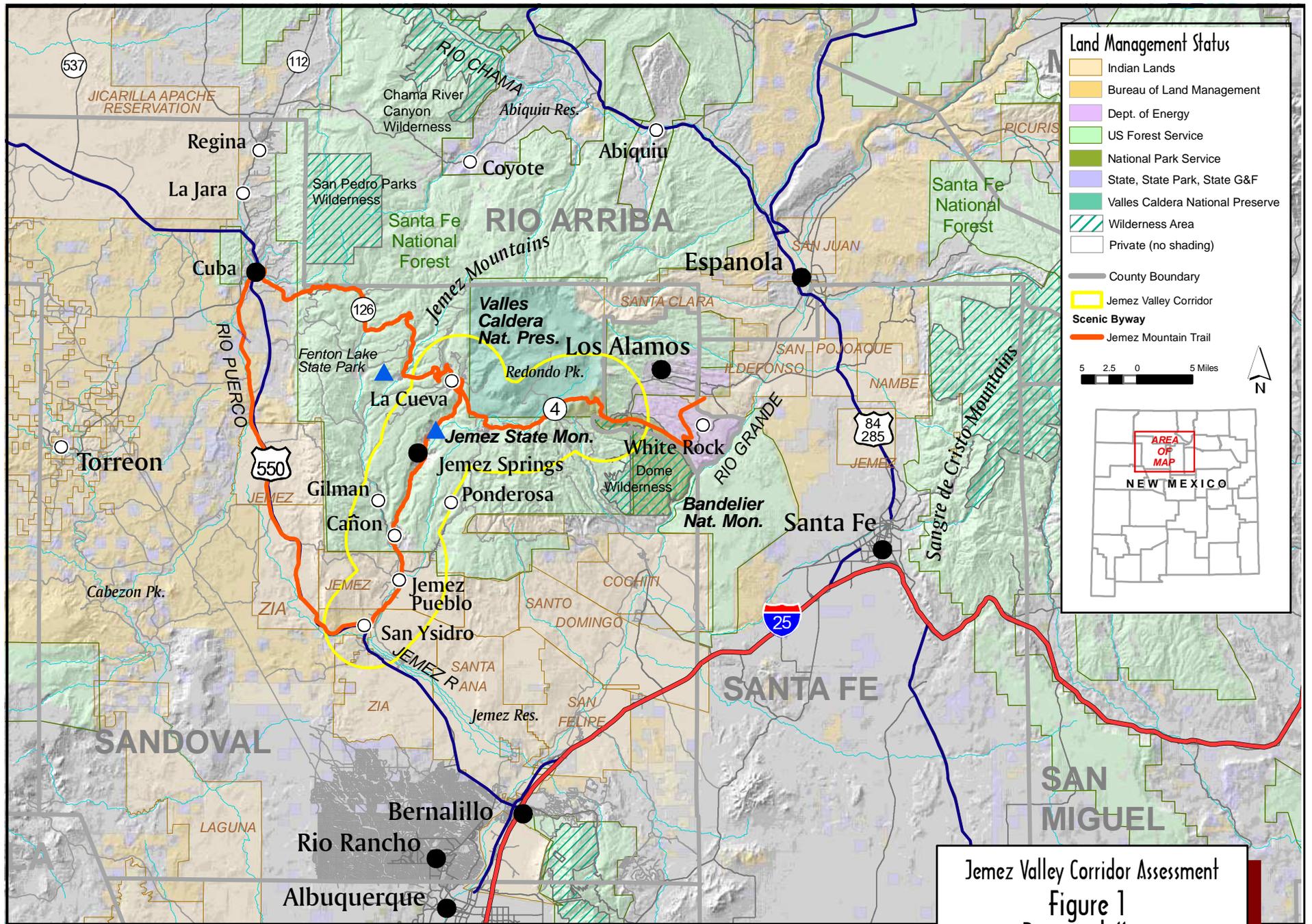
This report presents the results of a special study to determine and assess the transportation problems within the New Mexico State Highway 4 (NM 4) corridor through Sandoval County; and to suggest potential actions or projects for improving the transportation systems within the corridor. The Corridor Study Area is described on a regional map shown in Figure 1 of this report. The planning process was conducted through the Regional Planning Organization (RPO) of the Mid-Region Council of Governments (MRCOG), which is responsible for transportation planning in the non-metropolitan portions of the MRCOG region.

The RPO's Transportation Advisory Committee is responsible for the oversight of this study; and created the Jemez Valley Corridor Subcommittee to gather input from the local governments and other stakeholders with an interest in the transportation systems in the Corridor. Throughout its lengthy term of study (three years), the Subcommittee was comprised of individuals representing local governmental jurisdictions, tribal governments, and various State and Federal agencies responsible for projects and programs within the Corridor study area. Also, several individual citizens were invited and participated throughout the planning process. A list of participants who contributed to this Jemez Valley Corridor Assessment is provided on the Acknowledgements page on the inside front cover.

Purpose and Scope of the Corridor Assessment

The purpose of this Corridor Assessment is to conduct a preliminary, non-technical planning process in order to identify the significant, commonly-known traffic and transportation issues, and propose various actions to alleviate the most obvious or urgent problems. This report describes that process, documenting the corridor investigation, presenting an analysis of statistical data, discussing key transportation issues and problems, and proposing action recommendations for transportation system improvements to enhance the functions and efficiency of travel within the corridor.

An overview section in this report presents much of the information and data gathered through research and from other relevant studies or transportation-related programs and projects. Also, a general analysis of current and projected demographic information on population and employment is included to further characterize the communities that utilize the corridor for their transportation needs. Travel data and statistical information from the year 2000 Census is also provided to better understand the nature of trips and traffic associated with the NM 4 corridor.



Sources: NM State Office, BLM; NM RGIS; MRCOG.
 Map Prepared by Mid-Region Council of Governments, May 2006.

Jemez Valley Corridor Assessment
 Figure 1
 Regional Map

A considerable amount of effort in this corridor assessment was directed to the identification of transportation issues and problems as perceived by the participants of the Subcommittee. A summary discussion of the transportation issues is presented in two categories: 1) issues relating to traffic and congestion; and 2) issues relating to safety and security. A clarification of the issues provided a basis for the development of recommendations for improving the transportation system in the corridor.

Summary of Recommendations

A major objective of this corridor assessment was to formulate action recommendations for presentation to local governments and governmental agencies with jurisdiction or authority to improve the transportation functions of the NM 4 highway. As a result of numerous discussion meetings and contacts with individuals who are knowledgeable about travel and transportation within the NM 4 corridor, a list of specific recommendations was developed and is recommended in Part IV of this report for consideration of program planning, project implementation, and potential funding.

This Jemez Valley Corridor Assessment proposes a total of eighteen different recommendations, categorized for organizational purposes, and assigned priority ratings that indicate the timing suggested for implementing the particular recommendation. Priority ratings include short, medium, or long term actions, while some recommendations are ongoing. A brief overview of the recommendations by category follows:

Local Government Operations includes recommendations about the benefits of maintaining a special organizational structure to focus on Jemez Valley Corridor issues, and to increase collaboration and funding of the governmental entities with jurisdiction in the Corridor. A Memorandum of Understanding is recommended to cover homeland security issues.

Roadway and Traffic Flow Improvements is the most extensive category of recommendations that emphasize the need for standardized procedures and special design guidelines for the transportation infrastructure in the Corridor. Traffic management and safety are major considerations for future road improvements in the Corridor.

Multimodal Transportation is a category of recommendations that promotes transit services in the Valley, and proposes transportation centers with parking for ridesharing and transit access.

Drainage and Storm Water Management contains recommendations for alleviating the damages to transportation infrastructure caused by storm water runoff and soil erosion.

Scenic and Historic Resources Preservation includes recommendations to ensure the protection of cultural, historic, and scenic resources in the Valley.

PART II

CORRIDOR OVERVIEW

In order to carry out an assessment of the Jemez Valley Corridor, basic information and data about the geography, infrastructure, and community functions must be collected and analyzed to understand the nature of the study area. This Corridor overview provides a discussion of regional characteristics, population and employment information, and a general analysis of the land use and travel patterns in the Corridor study area.

Regional Characteristics

Definition of Planning Area. The Jemez Valley Corridor is defined as a special planning study area which encompasses the lands along New Mexico State Highway 4 between the Village of San Ysidro and the Sandoval-Los Alamos County line. This corridor study area includes the municipalities of Jemez Springs and San Ysidro, the Native American Pueblos of Jemez and Zia, as well as the unincorporated communities of Cañon, Ponderosa, La Cueva, Gilman, and other similar communities. NM 4 intersects with U.S. Highway 550 in the Village of San Ysidro and provides connections to the Town of Bernalillo, the City of Rio Rancho, and the Village of Cuba. At the northern terminus of the Corridor, NM 4 enters Los Alamos County with more distant connections to the municipalities of Espanola and Santa Fe (refer to Figure 1).

Topography and Terrain.

The State Highway, NM 4, traverses a spectacular natural landscape, surrounded by the Santa Fe National Forest and the Jemez Mountains. The geology in the Jemez Valley Corridor was most notably formed by volcanic activity that created many of the natural scenic features that are the main attraction of the region. The geologic formation from volcanic activity is characterized by a huge depression 15 miles wide which was created more than a million years ago when a volcano, or volcano complex, exploded to create the unique land form currently known as the Valles Caldera.



Mesa along NM 4

The Jemez valley is overshadowed by steep canyon walls and is situated over a natural, geothermal area and includes numerous natural features such as hot springs, Soda Dam, Battleship Rock, and Jemez Falls. These natural attractions offer many opportunities for hiking, fishing, camping, cross country skiing, and sight-seeing (see Figure 2). NM 4 also carries travelers to nationally advertised destinations such as Bandelier and the Valles Caldera. The Bandelier National Monument contains extensive Indian ruins, including cliff dwellings and archaeological sites. The Valles Caldera National Preserve is an 89,000 acre federal preserve that recently opened to the public, but on a limited basis. Furthermore, all along NM 4 there are picnicking and camping sites constructed and maintained by the U. S. Forest Service.

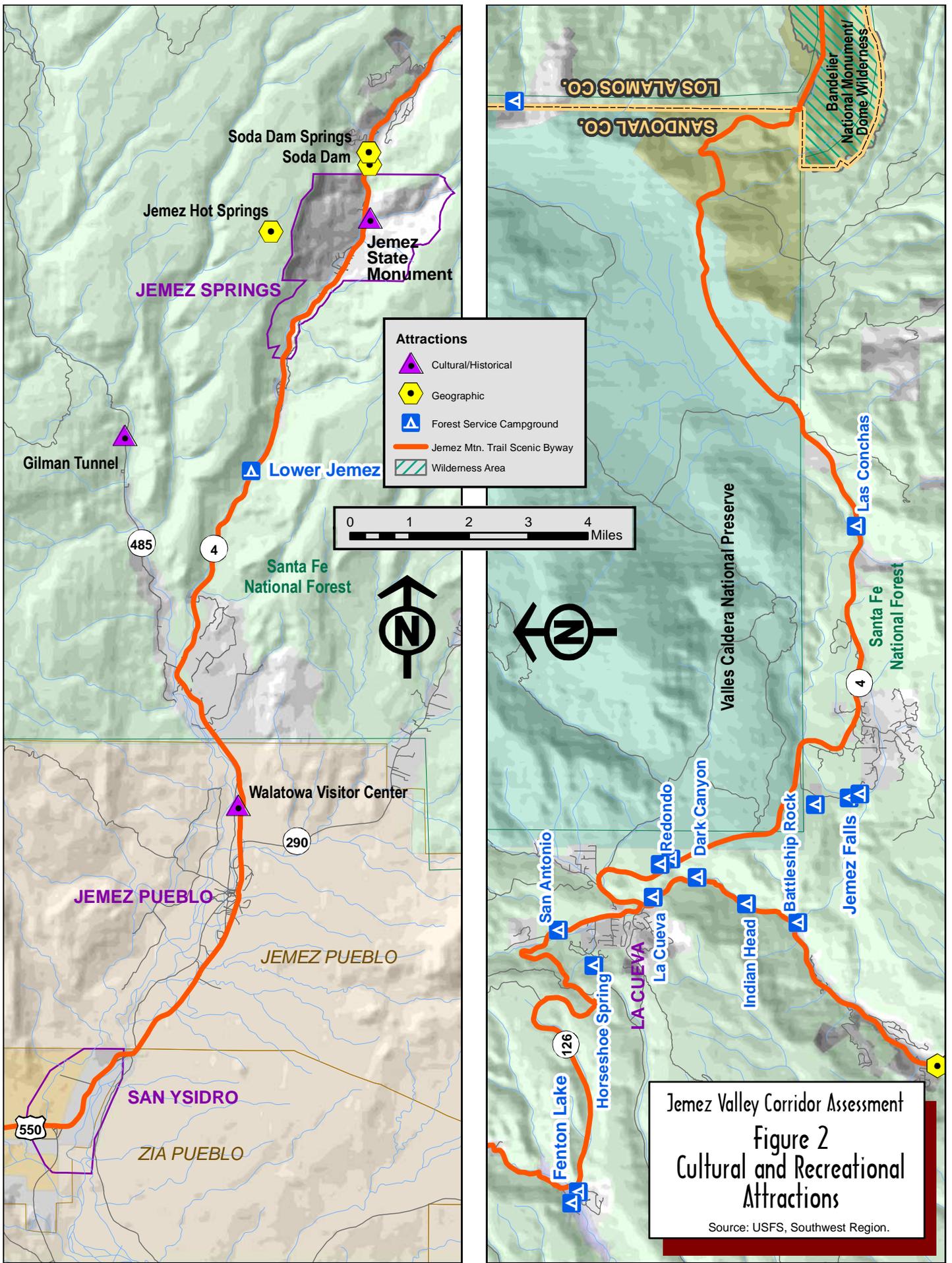
Cultural Resources. The Jemez Valley has been inhabited for thousands of years, with a significant history of settlements and travel routes which add to a rich cultural background for the region. The first inhabitants to live in the area were the pueblo people, who occupied both mesa tops as well as the valley floor along the present day Jemez River. The word *jemez* comes from the Tanoan Indian word *Hemish* meaning “people.” Native Americans occupied this region for thousands of years before the Spanish arrived in the 16th century.



Soda Dam along NM 4

The first Spanish explorer to come to the Jemez Valley was Captain Francisco Barrionuevo of Coronado’s expedition who arrived in 1541. The Spanish had a major impact on this region, and built the San Jose de Los Jemez Mission on the site of the Giusewa (Place of Boiling Waters) Pueblo ruin. Although no longer standing, this historical site is still an attraction as one of the great cultural resources of the area, and is presently known as the Jemez State Monument. The Native American Pueblo of Jemez has greatly influenced the area’s cultural past and ancient traditions. Despite challenges by modern trends, the Hemish maintain their ancient culture and traditions, The Jemez Pueblo manages the Walatowa Visitor Center in the scenic Red Rocks Area, which contains exhibits that introduce visitors to Jemez Valley history and culture.

Transportation Systems Inventory. The Jemez Valley Corridor is being studied and evaluated in terms of its transportation systems, including the infrastructure that accommodates movement and travel through the corridor. For purposes of this study, the major components of the Corridor’s transportation systems include roads and highways, pedestrian trails, scenic and historic byways, bridges and drainage structures, and public transit services.



Roads and Highways

The Jemez Valley Corridor is served by several State roads and a US Highway. NM 4 originates at US 550 in the Village of San Ysidro and continues to NM 502 in Los Alamos County. US 550 is a federally administered highway from I-25 in the Town of Bernalillo, to Silverton, Colorado. NM 126 provides a scenic mountain drive (although partially unpaved) from the Village of Cuba to the intersection with NM 4 at La Cueva. Primarily local highways include NM 485 through the community of Gilman, and NM 290 through the community of Ponderosa, which feed into NM 4 between San Ysidro and Jemez Springs. The majority of the through-traffic on NM 4 comes by way of US 550 and from trips generated within or through Los Alamos County. To some extent, traffic is also contributed to the corridor from NM 126, NM 290, and NM 485, all of which intersect NM 4 within the corridor.

NM 4 is classified as a minor arterial by the New Mexico Department of Transportation (NMDOT). The functional classification of NM 4 and all the roads in Sandoval County can be seen in Figure 3. Functional classification is defined in terms of three categories: 1) arterial streets, which consist of continuous or long-distance travel routes providing regional connections among urban and rural communities, and emphasize a high level of mobility through the region; 2) collector streets, which provide a linkage between local roads and arterial highways; and 3) local streets, which provide direct access to abutting lands and to conduct traffic to the higher capacity collectors and arterials.



Red Rocks in Jemez Region

The major highways throughout the State are maintained and funded through the Statewide Transportation Improvement Program (STIP). The STIP contains a six-year schedule of transportation projects throughout the State. The first three years include projects that have dedicated and committed funding, while the following three years contain projects that are programmed for short and intermediate range planning purposes, but do not have committed funding

allocated to complete the project. A selected listing of projects from the FY2006-FY2011 STIP is shown in Table 1. The Table shows projects that are either on NM 4 or pertain to an associated road, such as NM 126 or NM 290, which could impact NM 4. Those STIP projects that are in or around the Jemez Valley Corridor include the following:

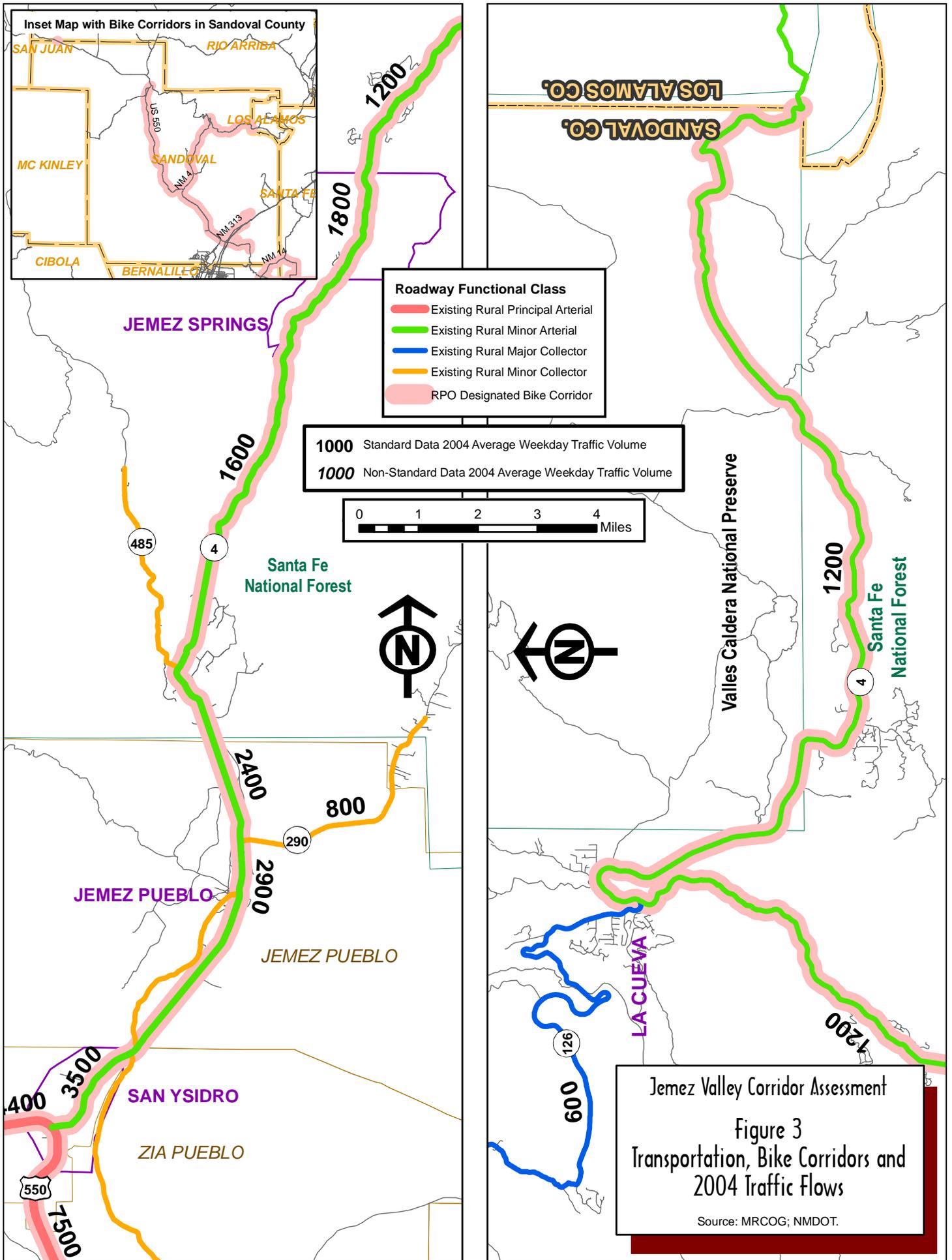
- a corridor location study for a proposed Jemez Pueblo Bypass;
- bridge replacement projects for three bridges on NM 4;
- Phases I and II of the Jemez Mountain Scenic Bypass;
- construction of 4.4 miles of paved road on NM 126; and
- replacement of a bridge on NM 290, 1.5 miles east of junction NM 4.

**Table 1
Projects in the FY2006-FY2011 STIP on NM 4 and Neighboring Roads**

Route	Milepost	Control Number	Terminus	Length	Fiscal Year	Estimated Cost	Type of Improvement and [Funding Source]
NM 4	.001	3480	Jct. US 550	5.0	2006	\$1,435,557 \$500,000	Prelim Engineering [Federal Lands – Discretionary] Prelim Engineering [STP/Rural Areas]
NM 4	17.538	D6008	Bridges in Jemez Springs (No.441, 442, 6245)	1.50	2008 2009	\$1,500,000 \$500,000	Bridge Replacement [Bridge Replacement – Bridge Rep & Rehab]
NM 4	18.543	7827	Jemez Mtn. Scenic Byway		2006	\$20,000 \$200,000 \$100,000	Sidewalks/Bikeways [General Fund] Sidewalks/Bikeways [State Severance Tax] Sidewalks/Bikeways [STP/Enhancements]
NM 4	18.543	L6017	Jemez Mtn. Scenic Byway Phase II		2007	\$150,000	Sidewalks/Bikeways [STP/Enhancements]
NM 126	32.947	2376	Fenton Lake to Fish Hatchery Road	4.40	2006	\$150,000	Construction Engineering [Forest Highways]
NM 290	1.200	D6110	1,5 miles east of Jct. NM 4	0.20	2010	\$1,200,000	Bridge Replacement [Bridge Replacement/Rehab (Off-System)]

Source: NM DOT

An additional listing of projects that may eventually get placed on the STIP is shown below in Table 2. These projects were included in the most recent (2006) Regional Transportation Improvement Program Recommendations (RTIPR). The MRCOG RPO submits an annual RTIPR list of project priorities for each of the NMDOT Districts (3, 5 and 6) in the MRCOG region. The list in Table 2 shows the RTIPR for District 6 in this RPO region. A map showing MRCOG's transportation planning boundaries can be seen in Figure 4. If these projects are not funded in the next STIP, there is a good chance that they would be submitted again in the next RTIPR; since these projects have a high priority established through the MRCOG RPO planning process.



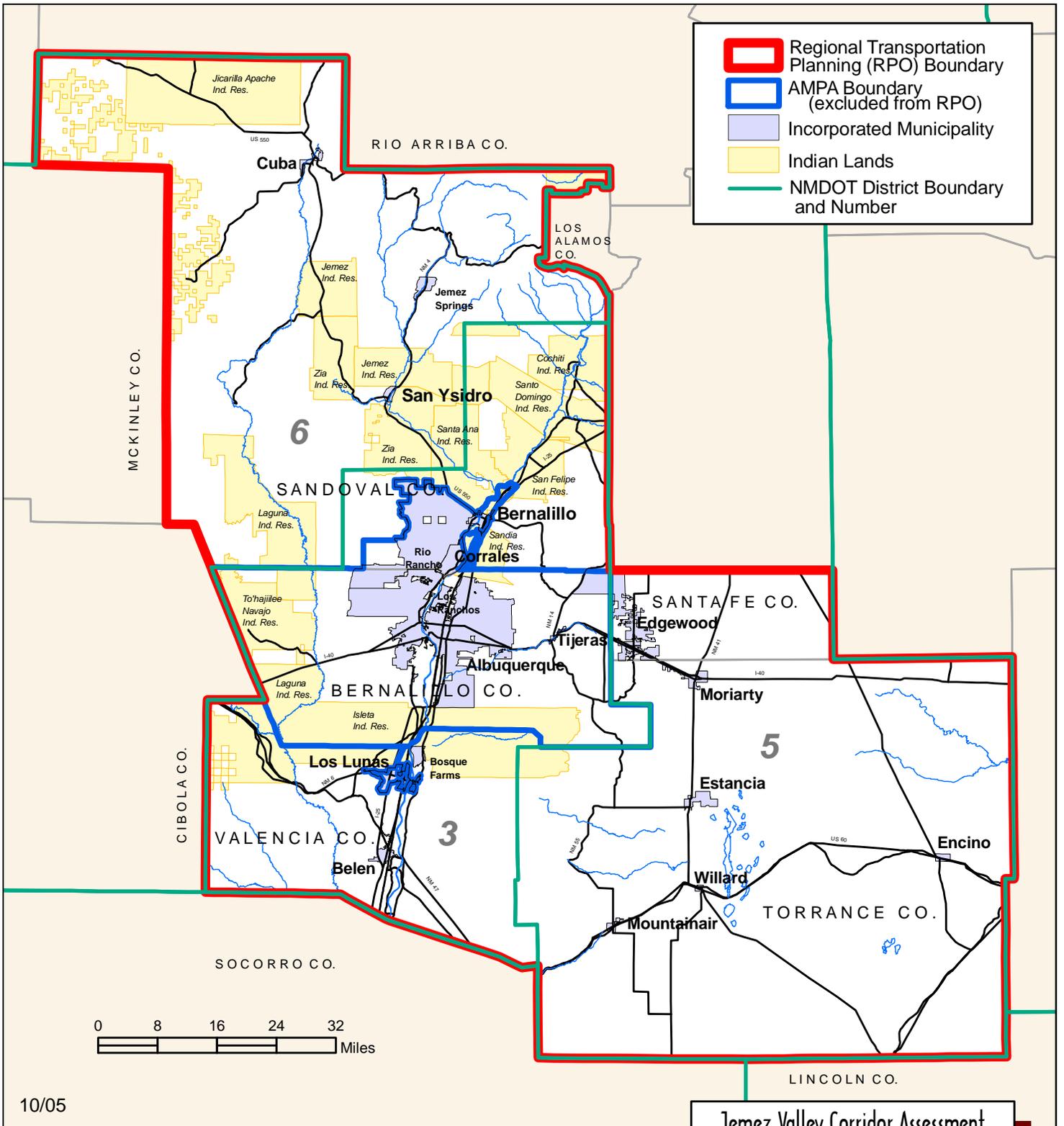
**Table 2
2006 MRCOG District 6 RTIPR**

Roadway Project Recommendations					
Project Priority	Project Title	Local Govt.	Length in Miles	Project Cost	Type of Improvement
1	NM 4 Bypass	Pueblo of Jemez	3.5	\$16,000,000 - \$20,000,000	Realignment
2	NM 4 Drainage Improvements	Pueblo of Jemez	5.0	\$1,233,000	Drainage Improvements
Safety Project Recommendations					
Project Priority	Project Title	Local Govt.	Length in Miles	Project Cost	Type of Improvement
1	NM 4/Charter H.S. Intersection Improvements	Pueblo of Jemez		\$400,000	Intersection Improvement
Enhancement Project Recommendations					
Project Priority	Project Title	Local Govt.	Length in Miles	Project Cost	Type of Improvement
1	NM 4 Pedestrian Walkway	Village of Jemez Springs	3.4	\$1,250,000	Pedestrian Walkway

Source: MRCOG

A traffic surveillance program is conducted by the MRCOG throughout the entire four-county planning region. The traffic count data includes weekday traffic volumes; and can provide a good indication of how many vehicles are traveling on a particular road (in both directions). Actual traffic counts could be higher than the average counts shown on the map at certain times of the year, especially during the summer months, holiday weekends, and local festivals. There are several traffic count locations on NM 4. Additional traffic counts are taken on roads intersecting NM 4, including NM 126, NM 290, and US 550. A map showing 2004 traffic flow for rural Sandoval County is shown in Figure 3. As part of the traffic surveillance program, intersection turning movement counts are also provided at the request of local governments. Intersection turning movement counts register the turning and through movements that vehicles make at intersections.

As part of the traffic data gathered for this Corridor Assessment, a special traffic count was done for NM 4 on Memorial Day weekend in 2003. The data collected from the holiday weekend was compared to counts taken at the same locations during an ordinary workweek in 2001. However, it should be noted that the 2001 count data was collected after Labor Day and probably did not reflect typical travel volumes associated with the summer tourist season. Table 3 shows that traffic volumes on Memorial Day weekend were between 8 and 163 percent higher than during an ordinary workweek. The greatest difference was found on NM 126 west of NM 4, where Memorial Day weekend traffic was 163 percent higher (perhaps due to travel to the Fenton Lake recreational area).



Jemez Valley Corridor Assessment
 Figure 4
 Regional Transportation
 Planning (RPO)
 Boundaries

The difference on NM 4 between NM 485 and NM 126 was also high (100 percent higher). The traffic count data showed that work week traffic peaks during the morning and evening rush hours, while the holiday traffic peaked during the middle of the day.

**Table 3
Traffic Volumes on NM 4 for Memorial Day 2003
Compared to an Average Workweek**

Count Location	Workweek (24 hr. avg. volume)	Memorial Holiday (24 hr. avg. volume)	Difference
NM 4 n.e. of San Ysidro	3100	5600	81%
NM 4 s. of NM 290	3000	5700	90%
NM 4 n. of NM 290	3100	5800	87%
NM 4 n. of NM 485	2200	3400	54%
NM 4 7.8 mi. n. of NM 485	1700	3400	100%
NM 4 s. of NM 126	1200	2400	100%
NM 4 n. of NM 126	1100	1900	72%
NM 4 at Sandoval/Los Alamos County Line	1200	1300	8%
NM 126 w. of NM 4	800	2100	163%

Source: MRCOG

Pedestrian Trails

Due to the recreational and scenic values of the National Forest and Preserve lands in the Jemez Mountains, there are many hiking trails, both designated and undesignated, throughout the corridor study area. The trails maintained by the Santa Fe National Forest include the Peralta Ridge Trail and the Turkey Springs Trail. These trails have trailhead parking areas on or near NM 4. Parking for fishing in the Jemez River and its tributaries is dispersed along the roads. Ironically, there is a lack of designated or clearly defined pedestrian trails and walkways in the most congested areas. In the established villages and developed areas of the Jemez Valley Corridor, the lack of pedestrian facilities is acute; and pedestrians are often at risk when utilizing the roadways and shoulders for walking, bike riding, horseback riding, etc.



Jemez River



Jemez State Monument

Scenic Byways

The Jemez Mountain Trail National Scenic Byway passes through Sandoval and Los Alamos Counties. The Scenic Byway designation has been assigned to NM 4 between San Ysidro and White Rock, on US 550 between San Ysidro and Cuba, and on NM 126 between Cuba and La Cueva. The Scenic Byway passes through the Pueblo of Jemez (which includes the Walatowa Visitor Center), the Pueblo of Zia, as well as the municipal communities of San Ysidro, Jemez Springs, Cuba, and White Rock. The Jemez Mountain Scenic Byway is shown in both Figures 1 and 2.



Village of Jemez Springs along Jemez Mountain Trail National Scenic Byway

The New Mexico Scenic and Historic Byways Program was established in 1991 by the New Mexico State Highway and Transportation Department (NMSHTD, now called NMDOT), and funding is provided by the Federal Highway Administration. The Jemez Mountain Trail was formally designated as a State Scenic Byway in December 1994 and as a National Scenic Byway in June 1998. The program protects the scenic, historic, recreational, cultural, natural and archeological integrity of highways and adjacent areas. Annual funds are made available for safety and highway improvements to enhance access to areas for recreational purposes, protecting historical and cultural resources in areas adjacent to the highway, developing and providing tourist information, and constructing rest areas, turnouts, highway shoulder improvements, passing lanes, overlooks, interpretive facilities, and facilities for the use of pedestrians and bicyclists.

Bridges and Drainage Structures

Coordinating road and highway improvements with drainage facilities is one of the crucial aspects of transportation systems planning. The climate and topography in the Jemez Valley corridor are often overwhelmed by brief but intense thunderstorms that can result in flooding and ponding. Storm water runoff from upland areas, arroyos and washes, and streets and canals can cause flooding problems. Planning for drainage facilities is typically conducted by the local governments, special purpose districts, State or Federal agencies, and/or regional authorities. The development of storm management infrastructure is carried out as part of a capital improvement program, often in conjunction with a road or highway project.

NMDOT maintains a bridge inventory and sufficiency rating system, which is used to determine the priorities for replacing and rehabilitating bridges. The

NMDOT's sufficiency rating system is directly related to the Federal Highway Administration's sufficiency rating. The sufficiency rating formula is based on a method for evaluating highway bridge data by calculating four separate factors: structural adequacy and safety, serviceability and functional obsolescence, essentiality for public use, and special reductions. The result of this technique is a percentage scale in which 100 percent would represent an entirely sufficient bridge and zero percent would represent an entirely insufficient or deficient bridge.

If a bridge has a rating of <50 it can be replaced using Bridge Replacement (BR) funds, and if the rating is <80 but >50 the bridge is eligible for BR funding for repairs. However, funding does not automatically ensure immediate bridge repair. Funding must be obligated before bridge restoration can occur. As a courtesy to Sandoval County, NMDOT identified bridges on County roads as well as those found on state-maintained highways. However, NMDOT will only repair bridges on state-maintained highways. The County is responsible for repairs on roads that they own. Bridges were identified on NM 4, as well as any bridges on roads that were close to NM 4, such as NM 126, NM 290 or local roads. These bridges along with their sufficiency rating, road name/type, and location can be found in Table 4 below. Four of the bridges in Table 4 are listed on the FY2006-FY2011 STIP to be repaired. Those four bridges include the following (listed by bridge no.): 441, 442, 6245, and 5962.

Table 4
Sufficiency Ratings for Bridges in and around the Jemez Valley Corridor

Bridge No.	Sufficiency Rating	Road Name/Type of Road	Location
8053	4	Vallecito Rd/County Road	2.7 miles n.e. of NM 126
6056	16	Horseshoe Springs Rd/County Rd.	.01 miles w. of NM 126
441	27	NM 4/State Road	17.8 miles n. of San Ysidro
442	27	NM 4/State Road	18.3 miles n. of San Ysidro
6245	55	NM 4/State Road	18.7 miles n. of San Ysidro
8364	83	NM 4/State Road	1.8 miles n. of San Ysidro
9260	76	NM 4/State Road	6.0 miles n. of San Ysidro
5962	70	NM 290/State Road	1.5 miles e. of Jct. NM 4

Source: NMDOT

Public Transit

There is currently no public transit service operating within the Jemez Valley Corridor. Before 2006, the Cuba 550 Express transported people to work, servicing various communities along US 550 and NM 4. Sandoval County has applied for funding to provide public transportation service to areas along US 550 and NM 4 as well as other areas throughout Sandoval County. It is critical to have some type of public transportation service return to the Jemez Valley Corridor.

Current and Projected Demographic Information

Population and Housing Data. Table 5 shows population and housing statistics for communities in and adjacent to the Jemez Valley Corridor. The total population in the year 2000 for all the municipalities and Census Designated Places (CDP) is 3,522, while the total number of housing units is 1,074. However, these totals only include the population within the municipal and CDP boundaries. Data Analysis Subzones (DASZs) cover a more extensive area. The year 2000 population total for DASZs (see Table 6) in the Jemez Valley Corridor is nearly 5,000 people (actually 4,993), while the total number of housing units is well over 2,000 (2,146 units). A map defining the DASZs in this region is shown in Figure 5. Of course, many more people that do not live in this corridor use NM 4 as well. Tourists travel along this road to visit Jemez Springs, San Ysidro, Jemez Pueblo, the Valles Caldera, Bandelier National Monument, and many other cultural and recreational attractions. Many tourists come from Sandoval County and the neighboring counties of Bernalillo, Santa Fe, McKinley, Cibola, Rio Arriba, San Juan and Los Alamos. The population totals for these counties, which amount to over one million people, are found in Table 7.

**Table 5
Population and Housing by Municipality or CDP**

Municipality or Census Designated Place	Total Population	Housing Units
Village of Jemez Springs	375	149
Village of San Ysidro	238	99
Jemez Pueblo CDP	1953	499
Ponderosa CDP	310	138
Zia Pueblo CDP	646	189
Totals	3522	1074

Source: 2000 Census

**Table 6
Population and Housing by DASZ**

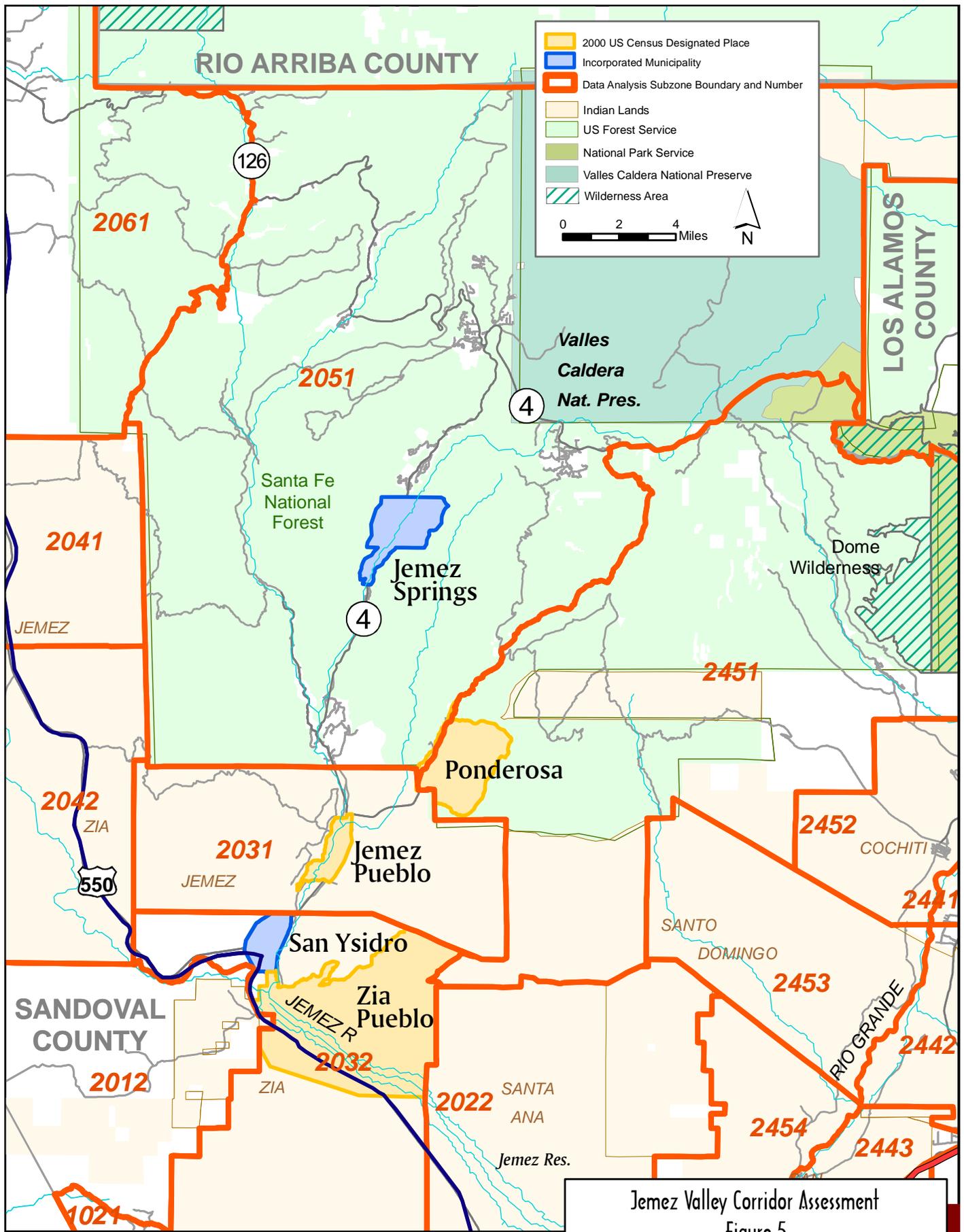
Data Analysis Subzones	Total Population	Housing Units
2031	1958	504
2032	891	292
2051	1956	1255
2451	188	95
DASZ Totals	4993	2146

Source: MRCOG

**Table 7
2000 Population Totals for Sandoval County and Neighboring Counties**

County	Sandoval	Bernalillo	Santa Fe	San Juan	McKinley	Cibola	Rio Arriba	Los Alamos	Total Population
Population	89,908	556,678	129,292	124,166	74,798	25,595	41,190	18,343	1,059,970

Source: 2000 Census



Sources: NM State Office, BLM; 2000 US Census; MRCOG.
 Map Prepared by Mid-Region Council of Governments, May 2006.

Jemez Valley Corridor Assessment
 Figure 5
 Municipalities, 2000 Census Designated Places
 and Data Analysis Subzones

Employment Data. Employment statistics for the Jemez Valley Corridor are presented in Table 8. Employment refers to the number of jobs located in the particular geographic area, or analysis zone. The total employment is divided into categories. Basic employment refers to jobs in agriculture, mining, construction, wholesale, military, manufacturing, transportation, and communications. Service employment refers to jobs in civic government, hospitals and medical services, research and development firms, business services, legal services, lodging, entertainment, finance, insurance, and real estate. Retail employment refers to the wide range of commercial sales jobs.

**Table 8
Employment in the Jemez Valley Corridor by DASZ**

Data Analysis Subzones	Basic Employment	Retail Employment	Service Employment	Total Employment
2031	38	6	220	264
2032	26	12	98	136
2051	75	48	112	235
2451	3	0	5	8
DASZ Totals	142	66	435	643

Source: MRCOG

Journey to Work Data. Statistics from the Census that pertain to transportation are found in Tables 9 and 10. According to the 2000 Census, the majority of commuters in the Jemez Valley Corridor drive alone to work. All of the communities shown below had greater than 50% of their work trips by driving alone to work, with the exception of Jemez Springs (46.8%). Jemez Springs also had the highest percentage of people working at home (24%) by a wide margin. Zia Pueblo (30.5%) and Jemez Pueblo (27.3%) had the highest percentage of workers carpooling to work, while San Ysidro had the lowest (11.3%). The small community of Ponderosa had the highest percentage of workers driving alone to work (71.7%), while the Village of Jemez Springs had the lowest percentage of workers driving alone to work (46.8%).



NM 4 through Jemez Springs



Field in San Ysidro as seen from NM 4

Table 9
Means of Transportation to Work (total number)

Municipality or CDP	Total Work Trips	Car, truck, van	Drove Alone	Carpooled	Public Transportation	Walked	Other Means	Worked at Home
Village of Jemez Springs	171	121	80	41	0	5	4	41
Village of San Ysidro	62	47	40	7	0	6	0	9
Jemez Pueblo CDP	528	451	307	144	6	31	23	17
Ponderosa CDP	159	151	114	37	0	8	0	0
Zia Pueblo CDP	236	226	154	72	0	4	0	6
Totals	1156	996	695	301	6	54	27	73

Source: 2000 Census

Table 10
Means of Transportation to Work (percentage)

Municipality or CDP	Total Work Trips	Car, truck, van	Drove Alone	Carpooled	Public Transportation	Walked	Other Means	Worked at Home
Village of Jemez Springs	171	70.8	46.8	24.0	0	2.9	2.3	24.0
Village of San Ysidro	62	75.8	64.5	11.3	0	9.7	0	14.5
Jemez Pueblo CDP	528	85.4	58.1	27.3	1.2	5.9	4.4	3.2
Ponderosa CDP	159	95.0	71.7	23.3	0	5.0	0	0
Zia Pueblo CDP	236	95.8	65.3	30.5	0	1.7	0	2.5
Average		86.2	60.1	26.0	0.5	4.7	2.3	6.3

Source: 2000 Census

The 2000 Census reveals that most residents living in the Jemez Valley corridor travel more than 30 minutes to get to work. Statistics show the communities of Jemez Springs, San Ysidro, Jemez Pueblo, and Zia Pueblo all have greater than 50% of their workers (that did not work at home) traveling more than 30 minutes to get to work. Only Ponderosa CDP (44.7%) had less than 50% of their workers traveling less than 30 minutes to get to work (see Table 11). San Ysidro workers had the highest percentage of workers traveling more than 30 minutes to get to work (75.5%). In fact, nearly one third of San Ysidro workers (30.2%) traveled 90 minutes or more to get to work (see Table

12). Workers from Jemez Springs, Jemez Pueblo, and Ponderosa all had long commute times. It took 45 minutes or over for 44% of Jemez Pueblo workers to get to work, while Jemez Springs (49.3%) and Ponderosa (37.8%) workers also had commute times of at least 45 minutes.

Table 11
Travel Time to Work (for those who did not work at home):
Less than 30 minutes & more than 30 minutes

Municipality or CDP	Less Than 30 Min. Total (%)	More than 30 Min. Total (%)
Village of Jemez Springs	54 (41.5%)	76 (58.5%)
Village of San Ysidro	13 (24.5%)	40 (75.5%)
Jemez Pueblo CDP	230 (45%)	281 (55%)
Ponderosa CDP	88 (55.3%)	71 (44.7%)
Zia Pueblo CDP	82 (35.7%)	148 (64.3%)

Source: 2000 Census

Table 12
Travel Time to Work in Minutes (for those who did not work at home)

Travel Minutes	Jemez Pueblo CDP	Village of Jemez Springs	Ponderosa CDP	Village of San Ysidro	Zia Pueblo CDP
Less than 5	11.6	7.7	5.0	17.0	12.6
5-9	17.4	16.1	0	3.8	12.2
10-14	5.9	0	16.4	0	1.3
15-19	4.1	14.6	22.0	0	0.4
20-24	4.3	3.1	0	3.8	6.5
25-29	1.8	0	11.9	0	2.6
30-34	8.2	7.7	6.9	13.2	15.6
35-39	1.2	0	0	0	3.0
40-44	1.4	1.5	0	17.0	13.9
45-59	16.0	30.8	28.3	7.5	22.2
60-89	25.6	15.4	5.7	7.5	9.6
90 or more	2.5	3.1	3.8	30.2	0

Source: 2000 Census

Projected Population, Housing, and Employment. Population, housing, and employment are all projected to increase over the next 20 years (see Table 13). Population is projected to increase from 4,993 to 6,440 residents (29 percent). Housing is projected to increase by 690 units (32 percent), while employment is projected to increase by 448 jobs (69 percent). DASZ 2451 is projected to have the highest increases in both employment and housing, and the second highest increase in population. DASZ 2031 has the highest projected population increase and the second highest housing increase, while DASZ 2051 has the lowest projected increase in population, housing, and employment (see Table 14). See Figure 5 for the DASZ map.

Table 13
Current and Projected Population, Housing, and Employment by DASZ

Data Analysis Subzones	Total Population		Housing (Dwelling Units)		Total Employment	
	2000	2025	2000	2025	2000	2025
2031	1958	2761	504	768	264	454
2032	891	1203	292	425	136	254
2051	1956	2213	1255	1498	235	363
2451	188	263	95	145	8	20
DASZ Totals	4988	6440	2146	2836	643	1091

Source: MRCOG

Table 14
Percentage Increase in Population, Housing, and Employment to 2025 by DASZ

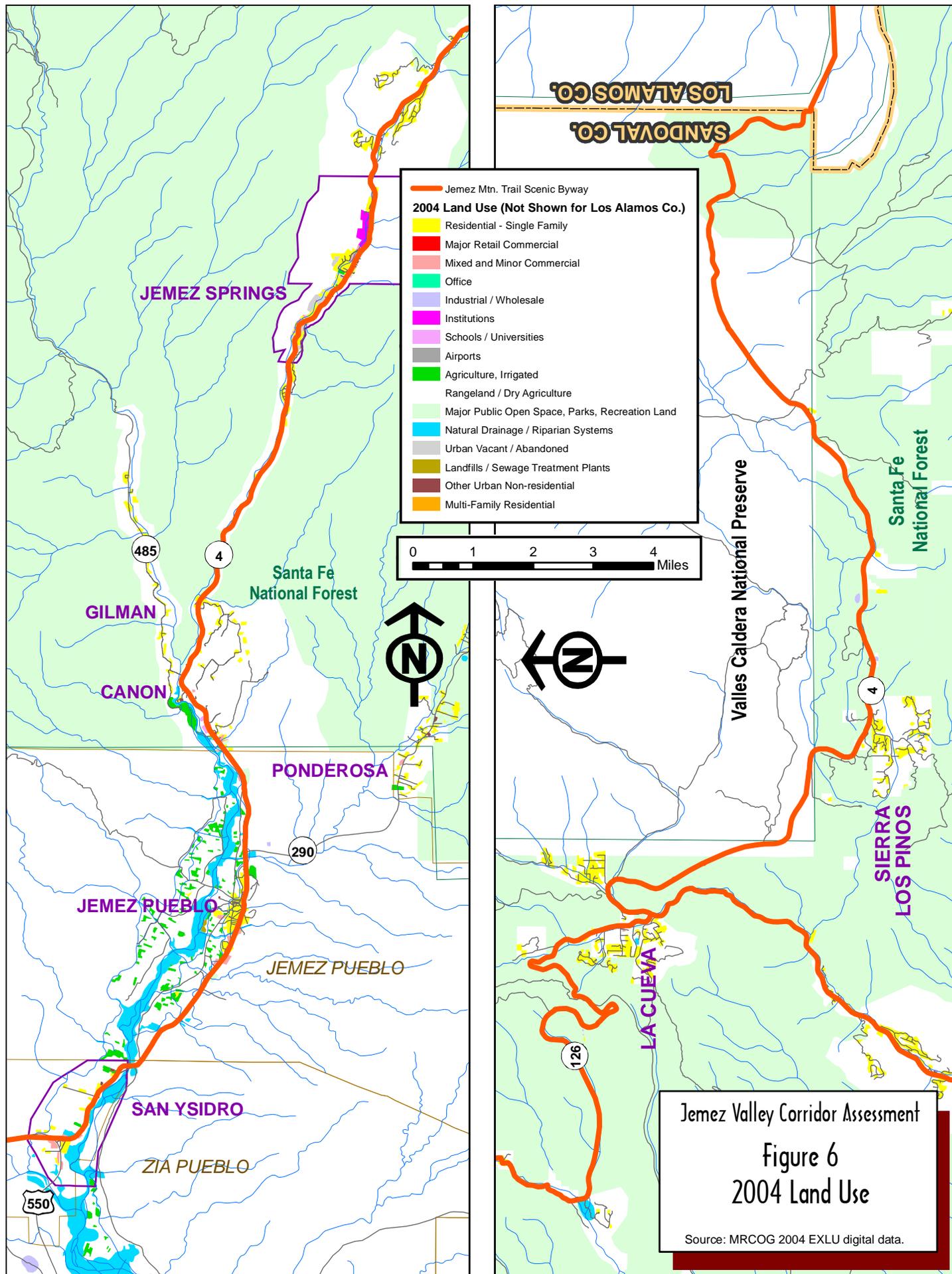
Data Analysis Subzones	Population	Housing	Employment
2031	41.0	52.4	71.8
2032	35.0	45.5	86.8
2051	13.5	19.4	54.5
2451	39.9	52.6	150.0
Totals	29.1	32.1	69.7

Source: MRCOG

Current and Future Land Use Patterns

Overall, the Jemez Valley Corridor has a very low population density. This is partially due to the difficult topography, but also because most of the region is remote from major population centers and has very limited access, or is within a government trust land. The majority of the land along the Corridor is within the Santa Fe National Forest and the Valles Caldera Natural Preserve; or lies within the Native American Reservations of the Jemez and Zia Pueblos. The incorporated municipalities and CDPs exhibit a variety of land uses, mostly residential, with a small amount of commercial, irrigated agriculture, and institutional uses (i.e., schools, government buildings, and religious facilities). The Villages of Jemez Springs and San Ysidro are characterized as a clustering of residential, single family dwellings, as are the CDPs of Ponderosa, Jemez Pueblo, and Zia Pueblo (see Figure 6). Most of the irrigated agricultural land is located in Jemez Pueblo and along the floodplain of the Jemez River valley.

According to the DASZ projections, it is anticipated that there will be growth along the Jemez Valley Corridor; however, it will be a slow rate of growth and development. DASZ 2031 (Jemez Pueblo CDP) is projected to have the most significant population growth; but that growth will be spread over the next 20 years. There appears to be adequate land capacity for all of these existing communities to increase their developed areas over the next two decades. However, physical features (such as the narrow canyon topography and the fragile riparian areas), and the large amount of federal land present in the region, will constrain the growth to some extent in these communities.



PART III

TRANSPORTATION ISSUES

The transportation issues (i.e., problems) expressed in this corridor assessment were developed over a series of meetings conducted by the Jemez Valley Corridor Subcommittee. In some cases, members from the general public were in attendance and contributed to the discussion regarding these issues. The following issues are categorized in two general sections: those issues related to specific problems due to traffic congestion; and those issues concerning the safety and security of the communities and travelers within the corridor.

Traffic and Congestion

Village of Jemez Springs. Jemez Springs is situated in a narrow steep-sloped canyon and NM 4 (a two-lane highway) carries all the traffic through the Village. There are minimal shoulders and no sidewalks in the developed area of the Village where some of the buildings front near or encroach on the roadway itself. As a result of the narrow shoulders and lack of sidewalks, there is no positive separation between vehicles and pedestrians along NM 4 in the Village. Traffic congestion is generally greater during the summer months when tourists are passing through the Village. The three-day weekends (Memorial Day, 4th of July, and Labor Day) are usually the busiest traffic weekends of the year in the Village. There are also festivals and other public events in the nearby Pueblos and within the Village that can add to the congestion during the summer and fall months. A schedule of events is described for the Pueblo of Jemez in a later section under the heading “Jemez Pueblo Proposed Bypass Road.”

In order to alleviate some of the pedestrian safety problems, the Village of Jemez Springs will be receiving some funding through the NMDOT Statewide Transportation Improvement Program (STIP) in 2006 and 2007 to build segments of the planned Jemez Springs Walkway (see Table 1). The Village is currently working with an engineering firm, Wilson and Company, to design and construct the Walkway project. While the Village will receive STIP funding, the project will need additional funds to complete the project from one end of the Village to the other. The Village has applied for more STIP funding and hopes to find additional funding

sources. Scenic Byways and State Legislature appropriations are possibilities.



Bath House in Jemez Springs

Village of San Ysidro. The Village of San Ysidro is promoting itself as a gateway community to the Jemez Mountain Corridor, primarily because it is the starting point for the NM 4 highway as it connects with US 550. The Village has also received STIP funding for construction and landscaping of a pedestrian walkway from the US 550 sidewalks to the Village office complex.

Associated with the pedestrian project is the expansion and improvement of the parking area near the Village complex which logically serves as a park-and-ride lot for bike-riding or ride-sharing trips into the Jemez Mountain area. Another parking area near the Church is being expanded and improved to provide a park-and-ride area similar to the lot near the Village complex. Also, a conceptual plan is underway to study the feasibility of a bypass road around the Village in order to reduce the traffic volumes through the middle of the Village.



Welcome sign in San Ysidro

Jemez Pueblo Proposed Bypass Road. The New Mexico Department of Transportation (NMDOT) and the Jemez Pueblo are investigating the need for improvements for the existing NM4 roadway. The Federal Highway Administration (FHWA) in cooperation with the U.S. Army Corps of Engineers (USACE) and the Bureau of Indian Affairs (BIA) have also become involved with the evaluation of alternative(s) that can be recommended for further study with the ultimate goal of the construction of an alternative which will serve projected future traffic demands, meet current safety standards, address the access concerns of the Jemez Pueblo and improve the transportation facility for the Jemez Pueblo and surrounding communities.

The primary need for the project is to correct existing deficiencies and meet current Federal and State standards for roadway geometry, shoulder and clear zone requirements. A secondary need for the project that has been identified by the Jemez Pueblo Council is to abate existing traffic congestion within the Pueblo, improve the Pueblo's ability to control access to the Pueblo during times of cultural ceremonial events and to improve overall safety.

As the village has grown outward from the main plaza area, available land for development and growth is primarily in the vicinity of the current highway alignment. As traffic passing through the Pueblo has increased, the presence of

the highway is considered a physical barrier to community cohesion as the Pueblo expands in this area.

The preservation of traditional culture, spiritual values, subsistence traditions, ancestral sites, and language is intimately connected with community cohesion and individual identity. In order to foster these goals, Jemez Pueblo has expressed strong desire to control access to the village and the use of Pueblo lands.

Proposed improvements address the following issues:

1. Existing roadway deficiencies: three vertical curves create limited sight distance on the existing roadway. Further, narrow or nonexistent shoulders throughout the project area discourage use of the facility by pedestrians and bicyclists.
2. Traffic congestion: multiple access points and presence of many of the Jemez Pueblo support facilities (e.g. Tribal Administration & post office) create frequent turn movements on to and off of NM4. the interaction of this local traffic with through traffic creates both safety concerns and congestion.
3. Access control: the presence of multiple, uncontrolled access points into the Jemez Pueblo create problems for residents during religious and/or ceremonial events. The Jemez Pueblo residents and tribal government are not able to control the access of visitors into their community.

A bypass road would improve Pueblo safety and security and would help to eliminate the disruption to cultural/traditional events not open to the general public. The pueblo would remain open and encourage visitation by all the public during festivals and feast days. The following is a schedule of public events for the Pueblo of Jemez:

- New Year's Day – Matachine Dances,
- Easter – Corn Dances,
- Memorial Day Weekend – Annual Red Rocks Arts & Crafts Show,
- August 2 – St. Persingula Feast Day – Corn Dances,
- November 12 – San Diego Feast Day – Corn Dances,
- First Weekend of December – Winter Arts & Crafts Show, and
- December 12 – Our Lady of Guadalupe – Matachine Dances.

National Forest Recreation Facilities. The Santa Fe National Forest covers much of the Jemez Mountains and maintains numerous facilities along the Corridor. The Jemez Ranger Station is located in the Village of Jemez Springs and is the central office for the Jemez Ranger District of the Santa Fe National Forest (SFNF). The SFNF manages and maintains the following campgrounds within the Corridor: Jemez Falls, Paliza, Redondo, San Antonio, and Vista Linda. There are also several developed picnic areas maintained by the SFNF throughout the Corridor located at Battleship Rock, Jemez Falls, La Cueva, and Spanish Queen. All of these facilities are destinations and trip generators that attract more traffic into the Corridor. However, although these facilities are quite dispersed, they may create temporary congestion and

traffic/pedestrian safety issues during holidays and weekends.

Valles Caldera National Preserve. The Valles Caldera National Preserve is located at the north end of the Jemez Valley corridor. The Preserve has been made available by reservation and permitting for hunting, hiking, camping, fishing, cross-country skiing, and other activities. Most of the traffic coming to the Preserve would be between the months of May and October, as this is the time of year when activities such as fishing, horse drawn wagon rides, hiking, group tours, and van tours are allowed. Elk hunting is allowed from September to November, while horse drawn sleigh rides, and cross-county skiing/snow shoeing is permitted from December to March. However, access to the Preserve is only allowed either by reservation or by a lottery system.

The Preserve also has two hiking trails that are available on a daily basis without a reservation or the lottery system. As a result, there is the potential for limited additional traffic to be generated by these recreational activities in the Valles Caldera. The Preserve also creates some traffic generated by employees, researchers, and volunteers.



Valles Caldera by Rourke McDermott

In June 2005 the Valles Caldera National Preserve published a traffic and roadway analysis report. This report projected the peak demand for different times of the day for weekdays and weekends for the year 2010, focusing on vehicular turning movements at the Preserve's main entrance. The report forecast that the weekday morning peak would be the busiest time of the day because most visitors would be arriving early in the morning for activities such as fishing and hiking. The majority of traffic at this time is assumed to be going eastbound to access the preserve and to travel through for other purposes. The report anticipates the heaviest weekend traffic to be headed westbound on NM 4 after mid-day. This assumption is based on the expectation that visitors would be returning home from weekend trips. A Level of Service (LOS), which is a measure of congestion used by traffic engineers, was determined for all individual movements at the main entrance. The average delay was under 10 seconds, and the LOS for all individual movements was calculated as "LOS A" for all movements (A being the best and F the worst on a scale of A to F).

The report also reviewed sight distance requirements, and found that the entrance to the Preserve is currently in violation. Sight distance for the gate entry from the highway is only 260 feet due to the existing earthen berm on the west side of the entrance (a minimum sight distance of 550 feet is required in the NMDOT Access Manual). The study also determined that no acceleration lanes were needed at the main gate because there were no prevalent accident problems and a LOS A is expected in 2010.

In the summer of 2006 the U.S. Department of Transportation released \$1.24 million in funds that would benefit the Valles Caldera National Preserve. The projects include the following: construction of a wildlife viewing area on NM 4, upgrades in the Preserve's main entrance on NM 4, installation of highway safety signs on all public roads, and completion of a survey of all roads open to public use.

Safety and Security

Dangerous Locations along NM 4. A review of statistics concerning vehicle accidents along NM 4 from 1999-2004 demonstrates that some locations along the highway are dangerous. Table 15 below shows all the locations where there were at least 3 accidents during the time period from 1999-2004 (with the exception of NM 4 & MP ((Milepost)) 17, which had only two accidents, but included a fatality). This data was obtained from police accident reports that were collected by the NMDOT. The stretch of road along NM 4 from Milepost 10 to Milepost 14 was especially bad, with 31 accidents, as was Milepost 23 to Milepost 26, with 27 accidents. Another dangerous stretch of road included the road segment from Milepost 1 to Milepost 6, with 25 accidents (see Figure 7). Unfortunately, the accident reports do not show the locations for three of the crashes that had fatalities.

**Table 15
Crash Locations along NM 4 (1999-2004)**

Road location	Total Number of Accidents	Number of Non-fatal Accidents	Accidents with Property Damage	Number of Fatal Accidents
NM 4 & Unknown	13	3	7	3
NM 4 & MP 24	11	5	6	
NM 4 & MP 12	11	7	4	
NM 4 & MP 25	7	4	3	
NM 4 & MP 11	7	3	4	
NM 4 & MP 41	6		6	
NM 4 & MP 38	6	2	4	
NM 4 & MP 13	6	4	2	
NM 4 & MP 23	6	4	2	
NM 4 & MP 4	5	1	4	
NM 4 & MP 5	5	2	3	
NM 4 & MP 6	5	2	3	
NM 4 & MP 34	5	2	3	
NM 4 & MP 35	5	3	2	
NM 4 & MP 19	5	3	2	
NM 4 & MP 32	4	1	3	
NM 4 & MP 1	4	1	3	
NM 4 & MP 39	4	1	3	
NM 4 & MP 14	4	1	3	
NM 4 & MP 40	4	1	3	
NM 4 & MP 2	4	2	2	
NM 4 & MP 42	4	2	2	
NM 4 & MP 8	4	3	1	
NM 4 & MP 46	4	3	1	
NM 4 & MP 43	3		3	
NM 4 & MP 9	3		3	
NM 4 & MP 18	3		3	
NM 4 & MP 10	3	1	2	
NM 4 & MP 26	3	1	2	
NM 4 & NM 290	3	3		
NM 4 & MP 17	2		1	1

Roadway Shoulders and Vehicular Pull-Outs. As a result of the many recreational and cultural attractions within the corridor, there are numerous scenic points of interest, but a limited number of vehicular pull-outs for scenic viewing. The following locations do not have adequate vehicular pull-outs with sufficient capacity for short-term parking: Soda Dam, Battleship Rock, Spence Hot Springs, East Fork of the Jemez River, and Las Conchas Trailhead. In the steep terrain of the mountains, NM 4 is also subject to constant movement of unstable soils. There are some areas that cannot be widened without major engineering changes to accommodate difficult topography along the route.

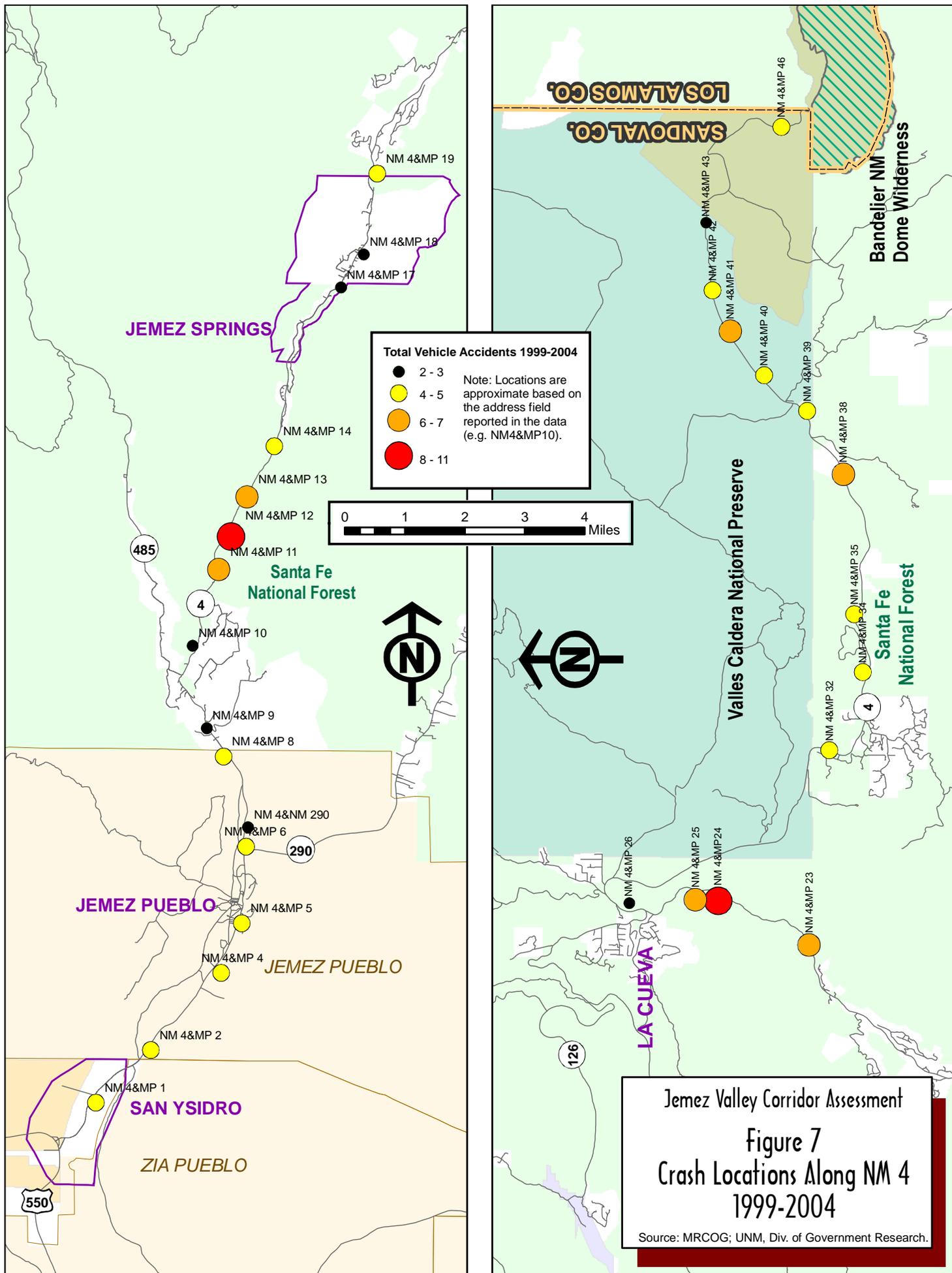
Bicycle and Pedestrian Safety. NM 4 is a popular route for bicyclists, but in many areas there are extremely narrow or nonexistent roadway shoulders to accommodate bicyclists. The entire Jemez Valley Corridor on NM 4 is part of the Mid-Region Council of Governments' RPO Designated Bike Corridor (see Figure 3). US 550, from the Town of Bernalillo to the Village of Cuba, is also part of the Designated Bike Corridor. NM 126 (which connects Cuba with NM 4) may also become part of the Designated Bike Corridor at some point in the future when this road is completely paved. This would create a loop route, connecting the Villages of San Ysidro, Cuba, and Jemez Springs. This would be a beautiful scenic route for bicyclers; however, it could also bring more bicycle traffic to NM 4, which does not have sufficient shoulders in many locations to protect the safety of bike riders. The expectation is that by having NM 4 on a Designated Bike Corridor, all future road improvements could include design for wider shoulders and/or bike lanes. It is also hoped that the Mid-Region Council of Governments' Designated Bike Corridor could tie in with similar corridors or trails in the neighboring counties of Los Alamos, Rio Arriba, and San Juan.



Bike/Pedestrian Pathway in San Ysidro

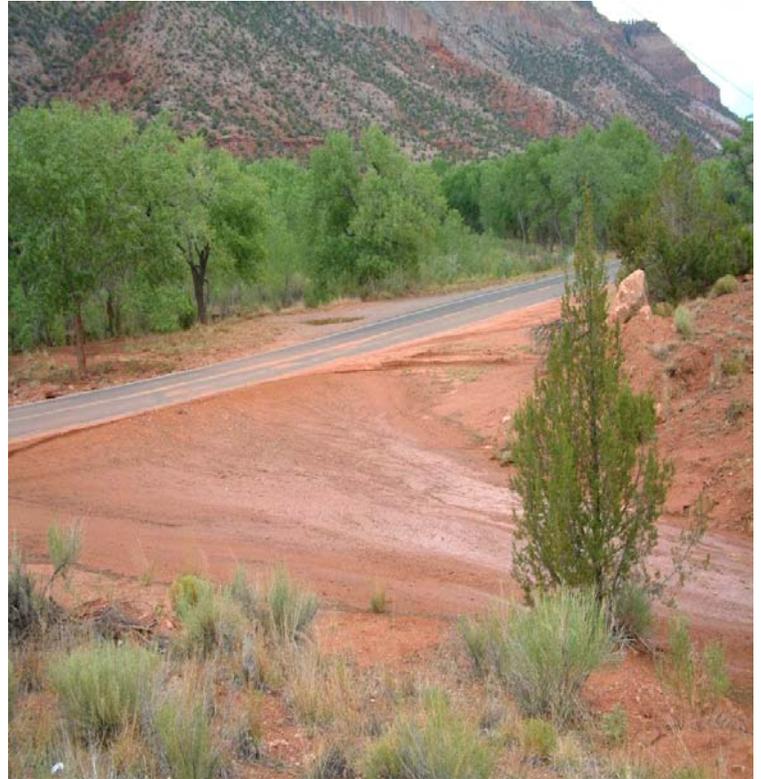


Continuation of San Ysidro Pathway to Village Offices



Commercial Truck Traffic. The recreational attractions in the area often attract large size vehicles (i.e., tour buses, motor homes, and campers) traveling along NM 4. In addition, commercial trucks carrying forest products (i.e., logs) and mining materials are still serving the area as natural resources are extracted for processing. However, NM 4 was not designed to handle heavy traffic loads of large vehicles. There are road configuration problems on this winding mountain road consisting of narrow lanes, insufficient horizontal and vertical curve radius dimensions, and limited passing and pull-off zones. In the developed areas there are few adequate loading zones for commercial vehicles.

Storm Water Drainage and Floodplain Management. The effects of storm water runoff and ponding are evident throughout the Jemez Valley Corridor. Drainage and floodplain management are serious conditions of the transportation system in the Corridor. The drainage culverts crossing under the highway between the Village of Jemez Springs and the community of Cañon have proven to be inadequate to handle heavy storm water runoff flowing down the steep slopes of the canyon and draining into the river. In some areas, there are highway dip sections rather than culverts to allow heavy runoff water to flow across the roadway. The engineered slopes along the highway tend to be erodible and the road is often blocked by mud and debris after rainstorms.



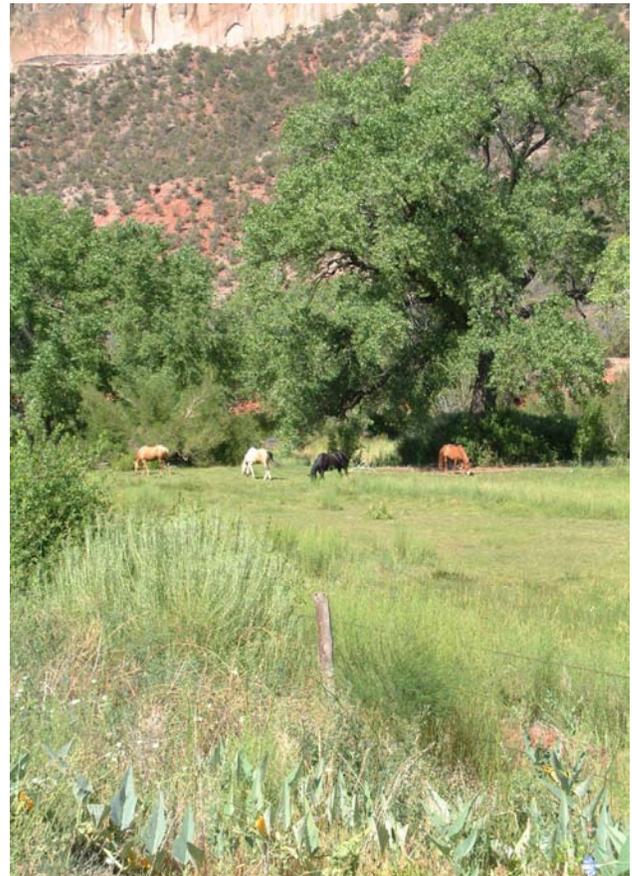
NM 4 after rainstorm

The flood-prone areas designated by FEMA (Federal Emergency Management Agency) in the Jemez Canyon also present a limitation to development. Because of the FEMA designation, structures must have a first floor level above the “100-year” base flood elevation and cannot alter the flood carrying capacity of the floodplain. A major segment of NM 4 parallels the Jemez River and is in proximity to other small streams along the Corridor. Although the rivers and streams run close to NM 4, in most locations the road and the 100-year floodplain do not overlap. However, there are some locations where the road crosses over streams, which has an impact on the natural drainage of the area. NM 4 enters the designated 100-year floodplain at the intersection with NM 126, where both the San Antonio and Sulphur creeks come together. NM 4 crisscrosses the floodplain three more times over a one-mile stretch north of the NM 4/NM 126 intersection. There are also two areas just south of Jemez

Springs and one location inside the corporate limits of Jemez Springs where NM 4 crosses the 100-year flood zone. Inside the Jemez Springs Village limits are eight bridge structures that cross the Jemez River and the 100-year floodplain, as well as two more bridges just north of the Village. The 100-year floodplain also coincides with NM 4 at the far north end of the Village of San Ysidro and with US 550 just south of the Village of San Ysidro and the US 550/NM 4 intersection.

Right of Way and Fencing.

Because NM 4 crosses the Santa Fe National Forest lands and the surrounding area is undeveloped with a scattering of rural settlements, there are potential problems with wildlife and livestock wandering onto the highway and coming into contact with vehicles. It is generally understood that NMDOT is responsible for maintaining fencing along NM 4, but it is the responsibility of the land owner to install the fencing (the exception being the Jemez Pueblo, where it is understood that NMDOT has total responsibility for right-of-way along NM 4). Furthermore, there are likely established wildlife movement corridors that may cross NM 4 and other roadways in the Corridor. While the grazing of cattle is generally contained within fenced areas, such fencing is inadequate to control the movement of deer and elk which are plentiful in the area.



Horses grazing along NM 4

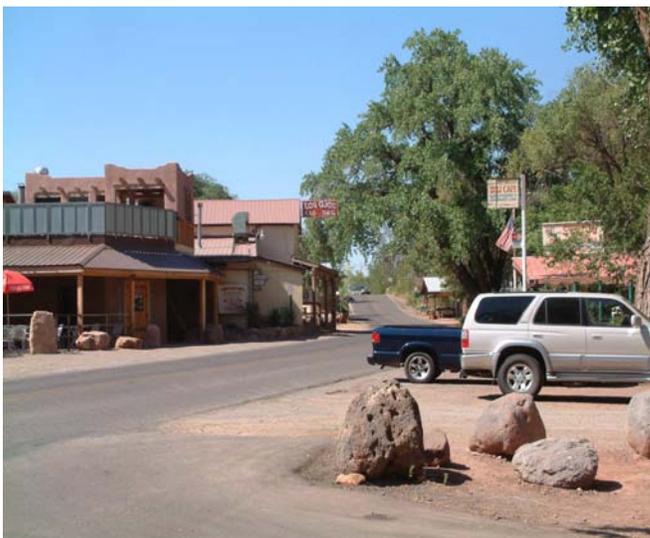
Homeland Security and Emergency Management. The traffic on NM 4 could pose a unique security problem to the operations and facilities of the Los Alamos National Laboratories (LANL). The laboratories are home to classified top secret nuclear and defense-related programs, and could be affected by a large scale or extensive industrial or laboratory accident, or possibly become a target to a terrorist activity. Disaster mitigation measures should be undertaken jointly by the NMDOT and LANL regarding potential evacuation or access control affecting the functions of the transportation systems in the Jemez Valley Corridor.

Los Alamos County has an adopted emergency operations plan (EOP). This plan would most likely be used in case of an out-of-control wildfire; however, a number of other possible emergencies include acts of terrorism, severe

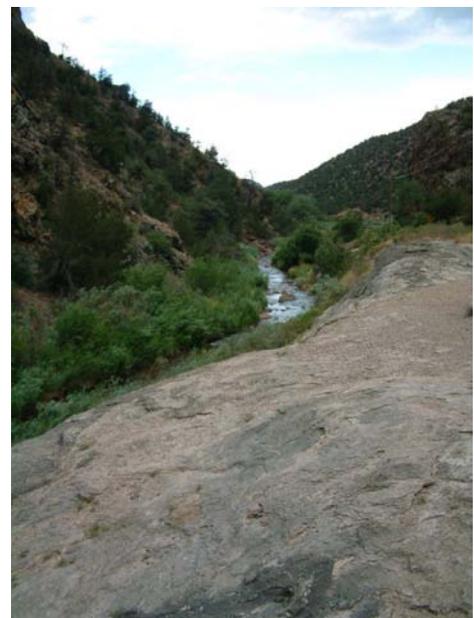
weather situations, or a contamination plume (borne by air or water) which could trigger activation of the emergency response plan. LANL has its own emergency management plan (EMP) for incidents or emergencies that happen anywhere on their property. The LANL Emergency Management & Response Group prepares and revises its EMP annually and also sponsors an annual exercise of its Plan. An emergency response that engages both entities would operate under a Unified Command structure.

After the Cerro Grande fire in 2000, a new joint emergency operations center (EOC) was built so that Los Alamos County and LANL staff could coordinate their response activities to optimally serve the entire County and protect lives, property and the environment. In the event of an emergency, Los Alamos County estimates that it would take approximately eighteen hours to evacuate the entire Town (if all three major roads providing access to the Town were available). In May of 2000, Los Alamos County was completely evacuated because of the Cerro Grande Fire. However, this evacuation went fairly smooth because both the Lab and the schools were not open at the time, and some residents had voluntarily evacuated a few days earlier. The County residents did not use NM 4 in this instance, because the wildfire blocked use of the road.

Full-scale evacuation, shelter-in-place and relocation to a protected area are all options that may be enacted by the County. In the event that Los Alamos County is completely evacuated, and NM 4 was the only route that was open, the road would be heavily impacted by traffic (the population of Los Alamos County in the 2000 Census was 18,343). NM 4 could also be blocked at the Sandoval/Los Alamos County line to restrict people from entering Los Alamos County if a major emergency did occur. County Police, Fire, and Emergency Management would advise what action to take. Instructions would be given on local television or radio, or even computerized telephone messaging with instructions for dealing with the emergency.



Restaurants along NM 4 in Jemez Springs



Jemez River

PART IV

RECOMMENDATIONS

This Jemez Valley Corridor Assessment report was prepared after many meetings of the Jemez Valley Corridor Subcommittee and numerous personal contacts and discussions with individuals knowledgeable about the transportation systems in the Corridor. Also, based on significant research and analysis by the MRCOG staff in compiling demographic and traffic data and geographic information, a list of specific recommendations has been developed for consideration by appropriate governmental entities. These recommendations are intended to generate actions in transportation program planning and project implementation, and justify funding for improvements to the transportation infrastructure of the NM 4 Corridor.

There are a total of eighteen different recommendations proposed as a product of this assessment report. The recommendations are categorized into five general topics for organizational purposes, and for clarity in the follow-up implementation process. The categories are: Local Government Operations, Roadway and Traffic Flow Improvements, Multi-modal Transportation, Drainage and Storm Water Management, and Scenic and Historic Resources Preservation. Also, each recommendation has been assigned a priority rating that indicates the timing suggested for implementing the particular recommendation. Priority ratings are defined in terms of short, medium, or long term actions, while some recommendations are ongoing.

Recommendations for Action

Local Government Operations

- A. A technical review committee or subcommittee should be created, as part of the organizational structure of the County or the MRCOG Regional Planning Organization, whose purpose would be to conduct an ongoing assessment of mobility needs for the NM 4 corridor and to identify transportation improvement priorities for short and long term planning purposes. The Committee should be comprised of representatives of the local and Pueblo governments as well as other agencies and organizations (such as the Scenic Byways Committee) that have a common interest in maintaining safe and efficient travel through the Jemez Valley.

Priority Rating: Short Term

- B. Sandoval County should consider zoning a Community District for the Jemez Valley communities in accordance with the Comprehensive Zoning Ordinance to control development along NM 4.

Priority Rating: Short Term

- C. Local governments along the Jemez Valley Corridor (i.e., Sandoval and Los Alamos Counties, the Municipalities of Jemez Springs and San Ysidro, and the Pueblos of Jemez and Zia) should adopt a *Memorandum of Understanding* to conduct emergency planning, mass evacuations, and other transportation-related issues of homeland security affecting NM 4. If appropriate, State or Federal government agencies may also be included as parties to the *MOU*.
Priority Rating: Medium Term
- D. The MRCOG Regional Planning Organization should assist local governments along the Jemez Valley Corridor (Sandoval County, the Municipalities of Jemez Springs and San Ysidro, and the Pueblos of Jemez and Zia) by researching dedicated and sustained funding sources that are available to this region. These funds should include federal, state, and local government funding programs.
Priority Rating: Ongoing

Roadway and Traffic Flow Improvements

- E. A special review process should be developed for evaluating future improvements to NM 4. As a basis for the review process, a *Design Guidelines Handbook* should be written and published to establish consistent criteria for roadway design that will enhance the identity, environmental sensitivity, and regional character of the Jemez Mountain Trail National Scenic Byway.
Priority Rating: Short Term
- F. Context sensitive design should be considered with any road improvements, maintenance projects, or new construction. Context sensitive design is defined as a collaborative, interdisciplinary approach involving stakeholders for the development of a transportation facility that fits its physical setting and preserves scenic, aesthetic, historic, spiritual, and environmental resources, while maintaining safety and mobility.
Priority Rating: Ongoing
- G. There are complex legal issues regarding the ownership status of NM 4. Portions of the current roadway are not situated within a dedicated right-of-way. Historically, easements were established in some areas to identify the actual roadway alignment. The NMDOT should continue to pursue a legal definition for a continuous, dedicated right-of-way for NM 4 in the Jemez Valley corridor.
Priority Rating: Long Term
- H. Road enhancements such as wider shoulders, more vehicular pull-outs, and passing lanes should be utilized wherever needed and feasible, to improve capacity and safety along the Jemez Valley Corridor.
Priority Rating: Ongoing

- I. All future road improvements should be designed to accommodate bicycle traffic such as wider shoulders, signage, and state sponsored bicycle routes, lanes, and trails.

Priority Rating: Ongoing

- J. In order to improve travel safety in the Jemez Valley Corridor, all dangerous or hazardous locations that have inadequate roadway shoulders and/or heavy bicycle pedestrian use (i.e., areas in Jemez Springs and San Ysidro) should be identified for reference in developing highway improvement programs.

Priority Rating: Short Term

- K. Appropriate traffic management measures to control traffic in congested areas should be investigated for use in the Jemez Valley Corridor. Approaches to such congested areas can be identified with creative signage or unique gateway entrances. Traffic management measures might include special road surface treatments, improved signage (i.e., warning signs or blinking lights), more aggressive enforcement of speed limits, and construction of protected or separate walkways that ensure pedestrian safety and access. Also, regulations should be imposed on commercial truck traffic, such as time of day restrictions and maximum trip frequency.

Priority Rating: Medium Term

Multimodal Transportation

- L. Public transit operators should expand the availability and coordination of public transportation services along NM 4 and corresponding roads. Appropriate governmental entities and transit service providers in the Jemez Valley Corridor should combine resources and seek additional funds from the Federal Transit Administration (FTA).

Priority Rating: Long Term

- M. As part of the Comprehensive Plan for Sandoval County, multimodal transportation centers should be designated within Jemez Springs, San Ysidro, Jemez Pueblo (Walatowa Visitor Center), and La Cueva in order to provide rideshare (i.e., carpools and vanpools) parking services and promote transportation alternatives for commuting and recreational activities.

Priority Rating: Medium Term

Drainage and Storm Water Management

- N. NMDOT, in collaboration with governmental entities in the Jemez Valley Corridor and interested environmental organizations, should work to mitigate the impacts of storm water runoff along NM 4. Storm water management projects should clearly identify the responsible entities and include design considerations such as construction of swales, terraces, and retention structures, with the appropriate landscape/vegetation treatment. The increased runoff from roadways and other

impervious surfaces along NM 4 should be assessed in terms of the downstream impacts of increased storm water flows.

Priority Rating: Short Term

- O. Aesthetics should be a guiding factor in the design of storm water and erosion control structures. Local or on-site materials should be incorporated into such control structures to the extent possible.

Priority Rating: Ongoing

Scenic and Historic Resources Preservation

- P. Consultation among the Tribes, State Historic Preservation Office (SHPO), United States Forest Service (USFS), and the Valles Caldera National Preserve should be standard procedure when identifying areas for restricted travel and access and to preserve natural and historic resources. Direct references should be made to the Corridor Management Plan for the Jemez Mountain Trail National Scenic Byway.

Priority Rating: Ongoing

- Q. Investigations or studies should be conducted to identify locations of significant wildlife fatalities caused by vehicles traveling along NM 4. Signage and other traffic control devices should be installed on NM 4 to notify motorists of wildlife movement corridors and to control wildlife crossings, as appropriate.

Priority Rating: Short Term and Ongoing

- R. Where justified, wildlife crossing structures and other engineering solutions should be designed and constructed in the NM 4 corridor.

Priority Rating: Long Term

Implementation Strategy

The Jemez Valley Corridor Assessment concludes with the formulation of action recommendations for presentation to local governments and governmental agencies that retain the authority to maintain and improve the transportation operations and facilities within the NM 4 Corridor. This report is designed for distribution to governing bodies and governmental agencies and should be referenced in any presentations, public or otherwise. The recommendations contained in this report are not binding, but should provide a basis for the development of transportation improvement programs and budgeting. Also, this report provides essential background information often required in applications for funding of specific transportation projects within the Jemez Valley Corridor.

It is the intent of the Regional Planning Organization of the Mid-Region Council of Governments to utilize this report as a reference document in the programming and setting of priorities for transportation improvements in the region. Initially, this assessment report will be distributed to: municipalities and

counties that have jurisdiction in the Corridor; Pueblo governments with lands or cultural and historical interests in the Corridor; the New Mexico Department of Transportation; the Valles Caldera National Preserve; and the U. S. Forest Service as well as other federal agencies with interest in the area. The report should also be made available upon request to the general public for educational purposes and advocating preferred transportation improvements in the Corridor.