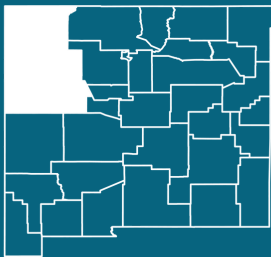


SEPTEMBER 2022



PREWITT-MILAN TRANSPORTATION MASTER PLAN

Northwest New Mexico
Council of Governments



Counties: Cibola,
McKinley, San Juan



WILSON
& COMPANY



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The Prewitt-Milan Transportation Master Plan (PMTMP) will coordinate the planning and delivery of road and rail infrastructure projects to improve access to the Prewitt and Milan industrial parks and to other economic development projects in nearby communities. The PMTMP will analyze the multimodal transportation system to support industrial and economic development needs between Prewitt and Milan and in communities such as Bluewater and Thoreau. The purpose of the PMTMP is to plan and identify next-step design needs and opportunities, and outline funding in order to construct the infrastructure needed to serve an emerging economic boom in Northwest New Mexico.

The Primary Study Area (PSA) for the Prewitt-Milan Transportation Master Plan extends for three miles in either direction of Interstate 40 (I-40) between Thoreau and Milan, New Mexico. The PSA encompasses approximately 183 square miles of land.

Study Area Map



Purpose and Need

The purpose of this study is to establish a common understanding of the current state of transportation needs and investments in the Prewitt-Milan corridor and to develop a blueprint for implementing projects. The region must adapt to evolving economic conditions, including shifting markets for commercial, and industrial development, and address critical issues to implement a vision for the region. How the region adapts for growth will directly impact economic opportunities paramount to the future health and livability of the region.

This will be accomplished by a thorough review and evaluation of the area's transportation system to enhance the transportation network, facilitate freight movement, and improve access to and from major employment centers, all of which will improve regional connectivity.

Through the course of the study, the following areas of focus were analyzed:

- Identify transportation needs to support current and future economic development projects in the I-40 corridor between Prewitt and Milan, including the communities of Thoreau and Bluewater
- Enhance access for freight and rail

- Analyze transportation needs of residents and workers in the corridor to improve their access to employment opportunities and to better their quality of life
- Gather existing data on land use, economics, and the environment
- Consider future transportation conditions/evaluate impacts of growth
- Understand the transportation and logistics industries more broadly, in order to enhance long-term economic development outcomes within the study area
- Develop prioritized recommendations for transportation needs
- Build consensus and support for PMTMP projects

Supporting Documents: Technical Report and Implementation Guide

Two documents provide supporting information to this Master Plan document. The first is the Technical Report, which contains background information about the transportation system, economy, demographics and other characteristics of the project study area. The information in the Technical Report is the basis on which the recommended projects in the Master Plan were developed. The second document is the Implementation Guide, which details next steps, responsible agencies, and funding sources for each recommended project in the Master Plan.

Acknowledgements

This study was conducted between January 2021 and June 2022. It was developed with guidance and oversight from the Technical Working Group, which was comprised of members representing the following agencies:

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- Mac Juarez, Continental Divide Electric Coop
- Donna Venable, CDEC Broadband
- Mark Freeland-Board, NTUA
- Garret Silversmith, NDOT

DEMOGRAPHICS

Population

The vast majority of the study area is largely undeveloped with few population centers. The more densely populated areas of Milan, Bluewater, Prewitt, and Thoreau are adjacent to I-40. In 2019, there were 5,475 residents and 2,089 households within the study area.

Population and Household Counts for Places within Study Area (2019 ACS)

| | Thoreau (CDP) | Bluewater Village (CDP) | Milan | Grants |
|------------------|---------------|-------------------------|-------|--------|
| Total Population | 1,641 | 174 | 3,660 | 20,140 |
| Total Households | 588 | 99 | 1,402 | 8,544 |

State and County Demographics

| | New Mexico | McKinley County | Cibola County |
|-----------------------------------|------------|-----------------|---------------|
| Total Population | 2,096,829 | 71,367 | 26,891 |
| Number of Households (occupied) | 793,420 | 21,719 | 8,708 |
| Median Household Income (dollars) | \$51,945 | \$37,153 | \$39,413 |
| Zero Car Households (percentage) | 5.8 | 11.6 | 7.4 |

Education

Data on educational attainment has limited implications for transportation projects. The information is useful for potential employers who want to understand the skillsets of the labor force. ACS education data shows that an average of 80 percent of residents aged 25 and up have at least a high school diploma, down only 5 percent from the statewide rate of 85 percent. In Cibola County, just under 20 percent of residents aged 25 and up have a bachelor's or higher degree, compared to that of McKinley County where the rate ranges from just 5 percent to 30 percent depending on census tract. The statewide rate for a bachelor's degree or higher is 27 percent.

Race and Language

Tracts in both Cibola and McKinley counties have significant Native American populations. In Cibola County, over two-thirds of the population identifies as white, and fifteen percent identify as Native American. In McKinley County census tracts, the pattern is flipped: nearly four-fifths of the population identifies as Native American, and sixteen identifies as white. This data reflects the fact that the study area is within or near Navajo Nation, and is located near other indigenous communities such as Zuni, Acoma, and Laguna pueblos. It should also be noted that both census tracts in McKinley County encompass portions of either Ramah Navajo Reservation (including Ramah village) or Zuni Reservation. Residents identifying as Black, Asian, or Native Hawaiian/Pacific Islander alone each account for two percent or less of the population in each county's study area census tracts.

Hispanic or Latino origin data shows that 62% of residents in the Cibola County study area census tracts indicate Hispanic origin. In Milan, the most common language spoken at home in limited English-speaking households is Spanish. In the remaining study area census tracts, the most common language spoken in these households is classified by the Census Bureau as “Other languages,” but this presumably includes indigenous languages such as Navajo and Zuni.

Employment and Commuting

For residents of the PSA, Retail Trade, Health Care, and Public Administration are the largest employers, together employing 44% of residents. For workers in the study area, Longitudinal Employer-Household Dynamics (LEHD) data shows that Mining employs the largest share of workers. After Mining, Retail Trade, Health Care, and Manufacturing are the largest employers in the study area’s block groups. The three largest employment industries for both study area residents and workers appear in boldface in the adjacent Table.

Employment by Industry (2018), Workers vs. Residents for Primary Study Area and Milan

| | Workers who reside in study area block groups | | | Workers who work in study area block groups | | |
|--|---|--------------|---------------|---|--------------|---------------|
| | Workers/jobs | Share | Milan workers | Workers/jobs | Share | Milan workers |
| Total workers/jobs | 2,114 | 100% | 751 | 2,202 | 100% | 1,341 |
| Agriculture, Forestry, Fishing and Hunting | 15 | 0.7% | 6 | 10 | 0.5% | 0 |
| Mining, Quarrying, and Oil and Gas Extraction | 75 | 3.5% | 35 | 336 | 15.3% | 336 |
| Utilities | 52 | 2.5% | 25 | 111 | 5.0% | 4 |
| Construction | 111 | 5.3% | 42 | 147 | 6.7% | 114 |
| Manufacturing | 89 | 4.2% | 36 | 256 | 11.6% | 3 |
| Wholesale Trade | 50 | 2.4% | 19 | 112 | 5.1% | 13 |
| Retail Trade | 257 | 12.2% | 96 | 265 | 12.0% | 180 |
| Transportation and Warehousing | 46 | 2.2% | 17 | 15 | 0.7% | 4 |
| Information | 12 | 0.6% | 7 | 0 | 0.0% | 0 |
| Finance and Insurance | 39 | 1.8% | 14 | 37 | 1.7% | 30 |
| Real Estate and Rental and Leasing | 14 | 0.7% | 5 | 3 | 0.1% | 2 |
| Professional, Scientific, and Technical Services | 46 | 2.2% | 14 | 13 | 0.6% | 13 |
| Management of Companies and Enterprises | 11 | 0.5% | 6 | 1 | 0.0% | 1 |
| Administration & Support, Waste Management and Remediation | 123 | 5.8% | 35 | 213 | 9.7% | 203 |
| Educational Services | 205 | 9.7% | 61 | 79 | 3.6% | 65 |
| Health Care and Social Assistance | 412 | 19.5% | 142 | 270 | 12.3% | 80 |
| Arts, Entertainment, and Recreation | 41 | 1.9% | 18 | 20 | 0.9% | 18 |
| Accommodation and Food Services | 215 | 10.2% | 62 | 62 | 2.8% | 37 |
| Other Services (excluding Public Administration) | 36 | 1.7% | 13 | 28 | 1.3% | 22 |
| Public Administration | 265 | 12.5% | 98 | 224 | 10.2% | 216 |

Thoreau and Milan function as bedroom communities for larger cities nearby. Almost 90% of workers residing in Milan work outside of the village, and almost all of Thoreau residents work outside of the community, indicating many residents are willing to travel a long way to work. Some workers may be trading a longer commute for a lower cost of living. Many of the jobs available within the study area are in sectors such as retail and public administration that traditionally do not offer high wages.

LEHD Employment Inflow-Outflow Data for Study Area and Key Communities

| | Study area census block groups | | Milan | | Thoreau | | Bluewater | |
|--|--------------------------------------|-------|-------|-------|---------|-------|-----------|-------|
| Total employed in the area | 2,202 | 100% | 1,341 | 100% | 375 | 100% | 73 | 100% |
| Employed in the area, but living outside | 1,848 | 83.9% | 1,244 | 92.8% | 365 | 97.3% | 71 | 97.3% |
| Workers living in the selection area | 2,114 | 100% | 721 | 100% | 371 | 100% | 130 | 100% |
| Living in the area but employed outside | 1,760 | 83.3% | 654 | 87.1% | 361 | 97.3% | 128 | 98.5% |
| Both living and employed in the area | 354 | 16.7% | 97 | 12.9% | 10 | 2.7% | 2 | 1.5% |

83% of residents work outside of the study area.

Economic Context

The economic patterns of the Prewitt-Milan corridor have mirrored those of the larger Northwest New Mexico region. The region's economy has been shaped by mineral resources of the San Juan Basin, a geological region that extends across the northwest corner of the state starting north of the study area. Agriculture is another defining industry in the region, although its importance in the I-40 corridor and study area has diminished over the years. A handful of industry clusters have been led by the energy and mining industries, which provide high-paying jobs with limited opportunity for growth or employment

elsewhere in the regional economy. With key historic industries evolving or contracting, the region is looking for new ways to use its resources and employ its residents. The Prewitt and Milan Industrial Parks that area a major focus of this plan are intended to spur private investment and job creation.

Transportation has been at the center of the region's economic development. The largest population centers in the region, Grants and Gallup, were developed in 1880's as settlements for workers constructing and operating the railroad infrastructure that developed into BNSF's mainline today. The railroad supported the growth of the region's mining industry and helped established Gallup as a tourism destination known for Indigenous arts and crafts. Later, Route 66 was constructed along the railroad corridor, cementing Gallup's and other communities' role as tourism destinations – now reachable by automobile. Eventually, I-40 was built along the alignment of old Route 66, providing a high-speed, high-capacity roadway connection for people and freight to the wider region and to points beyond. As the region seeks to retool its economy, transportation will have an important role supporting new and growing sectors.

An ancient locomotive along the main line between Kettner and Thoreau in Cottonwood Canyon. Photo: Cibola National Forest Collection



Economic Vitality

Within the study area, there are many opportunities to enhance local and regional economic vitality. Primary economic generators include agriculture, mining, and oil and gas. To facilitate growth in these industries, the Region must have an efficient transportation system to accommodate freight movement and mobility options for people living and visiting the region.

Airports

The Grants-Milan Municipal Airport is a small general aviation airport located immediately west of the Village of Milan, on Motel Drive/Dale Carnutte Road (also referred to on some maps as Aspen Road). The airport's runway is 7,100 feet long. It has several small hangars. Eleven single-engine aircraft and one helicopter are based at the airport. Self-service fueling is available. The airport does not support air cargo operations. The airport is funded and managed by the City of Grants and the Village of Milan.

Key Industries

Agriculture

Historically, agriculture and forestry were defining industries of the local economy. Nearby Grants first prospered because of logging in the Zuni Mountains. The Village of Milan later formed as a town based around agriculture and food processing. As far back as the late 1800's, farming and agricultural processing had been major business in the area surrounding the city of Grants. Modern settlement of Milan began when Salvador Milan, a wealthy local landowner, rented a large tract of land he owned just outside of Grants to farmers. The creation of the Bluewater Reservoir in 1927 allowed agriculture to flourish. Starting in the 1940's and until the 1950's, carrot and vegetable farming was the main industry in the Grants-Milan area. In the book Grants-Milan, authors Donald Jaramillo and Paul Milan write, "Large farming operations from California and Arizona took advantage of a superior local carrot, naming Grants the 'Carrot Capital of the World'".

Today, agriculture remains an important industry in Northwest New Mexico, although only a few small farms remain in or near the study area, mostly around Bluewater and San Rafael, south of Grants. The site of the planned Milan Industrial Park was the location of several farms previously. Larger agricultural operations in the region include the Navajo Agricultural Products Industry (NAPI) facility near Farmington.

Navajo Agricultural Products Industry (Photo from New Mexico Department of Tourism)



Mining

The region has large energy and mining sectors, which have capitalized on the region's rich deposits of mineral resources. A belt of uranium deposits located north of Interstate 40 is one of the largest uranium deposits in the United States. The band of uranium deposits is roughly 25 miles wide, 100 miles long, extending east-west from Church Rock (north of Gallup) to Laguna Pueblo in the east. Between the late 1940's and 1990, this area, known as the Grants Mining District, was a prolific uranium mining area. Although no mining has occurred here since the 1990's, the extraction sites in the District provide two-thirds of the total uranium ever mined in the United States.

While uranium may be the region's most distinctive export, coal has been the most sustained and lucrative. In New Mexico, coal is mainly found in the San Juan Basin, the area covering Northwestern New Mexico and southwestern Colorado, starting north of I-40. A 2009 New Mexico State University report on the economic impact of the industry on the state describes the industry as growing significantly beginning the 1960's, when large-scale strip mines became active in the state. While the industry has employed many people, employment has not mirrored trends in coal production.

By the time the industry reached its peak production in the 1990s and 2000s, changes in mining technology and techniques had vastly increased worker productivity. “[I]n 1934 New Mexico’s 2,342 coal miners produced 1,150,825 short tons of coal or about 491 short tons per worker per year. In 2007, New Mexico’s 1,390 coal miners produced 24.451 million tons of coal or 17,591 tons per worker per year” . While mining production grew dramatically in the latter half of the 20th century, this growth was not directly reflected in a growth in employment.

The decrease in price of natural gas, making it a more attractive energy alternative, and a 2014 California decision to end purchases of out-of-state coal-generated electricity have contributed to the decline of coal in the regional economy. In 2019, New Mexico passed the Energy Transition Act, which set a timeline for switching from fossil power generation to renewable generation. The Act sets a goal of 50% renewable energy generation by 2030, and 100% by 2045.

Weaver Coal Mine in McKinley County (Photo from Mining Artifacts)



Oil and Gas

While coal has been in decline statewide for several years, oil and gas production has continued to grow dramatically, and Northwestern New Mexico has played a part in this boom. The federal Energy Information Administration states that crude oil and natural gas production hit an all-time high for the state in March 2021. The San Juan Basin is among the top-five producers of natural gas in the United States, according to the EIA. Although there is activity in the industry in this part of the state, much of the recent investment has been in the Permian Basin, the geological region that encompasses southeastern New Mexico and much of western Texas. Several indicators show the industry is in decline in the Northwestern New Mexico region.

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Open pit uranium mine in Grants, N.M., around 1968. (Photo courtesy the U.S. Department of Energy)



Target Industries

Although some of the narrative about the local economy reflects decline in key industries, notable bright spots are emerging, some related to historically important industries, some representing new types of business.

The Regional Economic Assessment & Strategy for the Coal-Impacted Four Corners Region document was created to address changes in the local economy due to disinvestment in the Four Corners region's mining and energy production sectors. The report, compiled by Highland Economics, LLC, makes an accounting of the impact of the decline in the mining and energy sectors in San Juan, McKinley, and Cibola counties in New Mexico and recommends ways to strengthen the area's economy. The decline in the two industries is estimated to cost the region approximately 930 jobs and \$122.1 million annually, or 1-2% of the region's jobs and annual income. The worst impacts are expected in San Juan County.

The report identifies several key strategies to improve the regional economy, including workforce and business development, quality of life investments meant to retain talent and attract employers, and partnerships to improve branding and marketing of the local economy and communities.

The document also identifies "top targeting industries" for each county in the Four Corners region. These are industries for which efforts to attract investment should be focused because these industries are most likely to be successful. For McKinley County, the report identifies transloading/warehousing and tourism, and to a lesser extent, local food manufacturing. For Cibola County, greenhouse agriculture, tourism and forest products are identified.

Summary of Potential Target Industries (Prewitt Industrial Cluster: Master Site Plan)

| Potential Target Industries | Key Reasons |
|--------------------------------------|---|
| Warehouse/Distribution | <ul style="list-style-type: none"> • Feasible with domestic sewer and water; • Rail sites advantageous • Large electric power loads may be required • Interstate highway access |
| Oil/Gas Supplier Operations | <ul style="list-style-type: none"> • Feasible with domestic sewer and water • Rail access advantageous • Large electric power loads may be required |
| Plastics Manufacturing | <ul style="list-style-type: none"> • Can be accommodated with domestic sewer and water • Rail access is often required • Large electric power loads are required |
| Paper (Paper products manufacturing) | <ul style="list-style-type: none"> • Feasible with domestic sewer and water • Often requires rail access • Large electric power loads are needed |

One key barrier the region faces in being able to harness these opportunities relates to the lack of ready-to-develop sites. The NWNMCOG’s La Ristra Northwest Comprehensive Economic Development Strategy states,

“The lack of available shovel ready sites (land, building, and utilities) for development prevents communities from capitalizing on opportunities when presented”.

The Prewitt and Milan industrial parks are envisioned as addressing this issue and providing the facilities to support many of these growing or emerging industries.

Trends and Opportunities

Industry Cluster

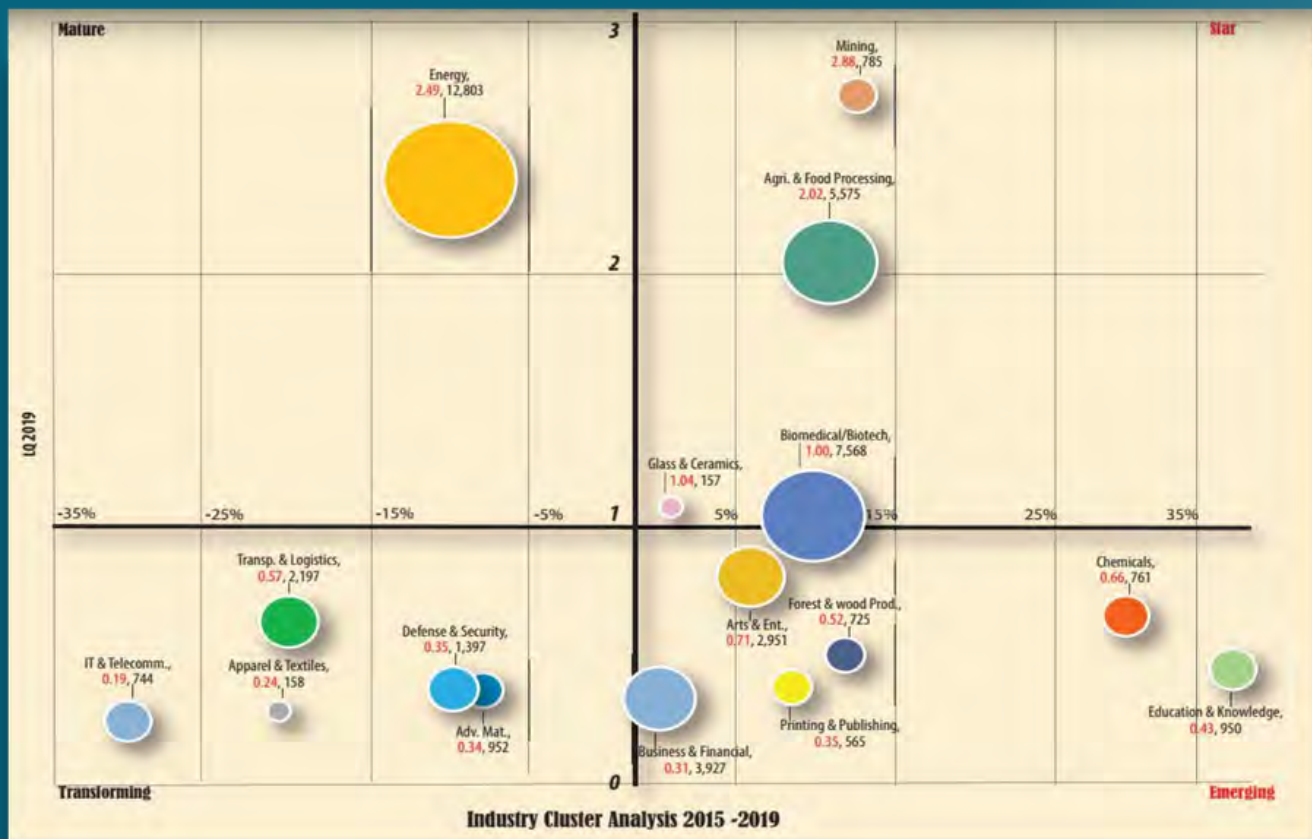
The La Ristra Northwest Comprehensive Economic Development Strategy document prepared by NWNMCOG describes some of the key trends in the regional economy. A key datapoint that the report highlights is industry cluster data. Industry cluster trends for the years 2015-2019 are shown in the figure below. This data uses a “location quotient” for employment. This number compares the share of local employment in an industry to the share of employment in that industry nationwide. An industry with a higher LQ is a base industry that likely contributes to the local economy by exporting its products or services to other markets. An industry with an LQ near or below 1.0 may employ many people, but its impact on the local economy is otherwise limited because it likely does not bring outside spending to the region.

Industries with a low LQ that is rising are called “emerging” industries. These are of interest to economic development planners because they can show industries that offer promise for the local economy. Finally, “transforming” industries are those that have low and falling LQ’s, indicating that these industries are struggling or are not likely to grow soon.

The figure below, from the La Ristra plan, illustrates LQ trends in the Northwest New Mexico economy. The size of the circles represents the total number of workers in that industry. Unsurprisingly, Energy, Mining, and Agriculture & Food Processing are the three high-LQ industries in Northwest New Mexico. While mining and agriculture show relatively moderate growth, energy – the industry that employs the most workers in the region -- is showing signs of decline.

The La Ristra document highlights the trend related biomedical/biotech cluster as one of the more surprising takeaways from the cluster analysis. The industry has historically not been large in the region but has recently shown steady growth.

Industry Cluster Analysis from La Ristea Northwest Comprehensive Economic Development Strategy



Future Generators

Prewitt Industrial Park

The Prewitt Industrial Park is a planned rail-served industrial park development on a 626--acre site north of the community of Prewitt in McKinley County, New Mexico. The site would occupy one land section located directly south of the Escalante Generating Station-Biopappel complex and west of County Road 19. The site is located approximately one mile north of I-40. The industrial park's location offers flexible sites and good access to the interstate and rail infrastructure.

Initial Proposed Plat Alternative for Prewitt Industrial Park

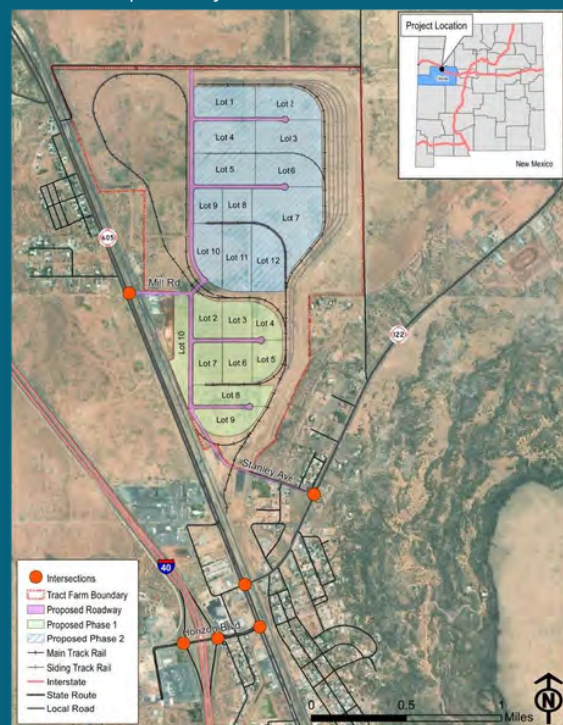


The site has been studied for years as a potential economic development site due to its size and location near major transportation routes, as well as local and regional interest in fostering development and job creation in the area. Planners envisioned that some future tenants of the industrial park could use steam generated by the nearby Escalante Generating Station to power manufacturing or other industrial machinery. Biopappel International's paper manufacturing plant had built next to the EGS for this reason.

Milan Industrial Park

The Milan Industrial Park is a planned 913-acre industrial park located in the northern part of the Village of Milan between NM 122 and NM 605. Like the proposed industrial development in Prewitt, this park would offer convenient access to the BNSF mainline, which runs along the western edge of the park, and to I-40, which is accessible via the Horizon Blvd interchange, less than a mile from the industrial park site. Also, like the Prewitt Industrial Park, a Master Plan and Preliminary Design document was published in 2020 for the Milan site. This plan detailed the 30% design for the industrial park infrastructure and architectural plans for a future 120,000-square-foot speculative building within the industrial park.

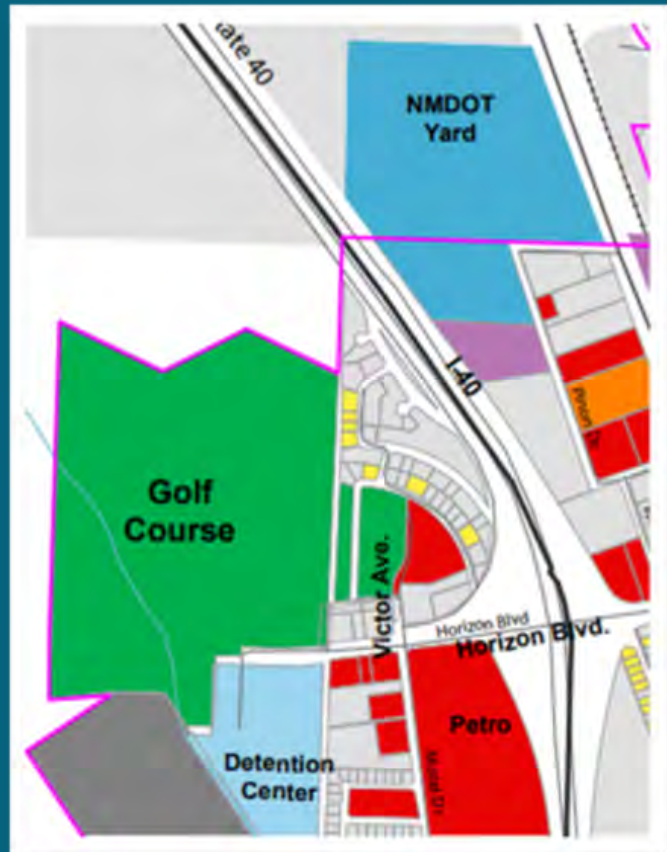
Proposed Layout for Milan Industrial Park



Milan Golf Course Site

The Village of Milan's 2017 comprehensive plan describes the site of village's former golf course as a potential redevelopment area. The plan highlights the roughly 100-acre site as among several "Major Opportunity Sites" in the Village, with different opportunities discussed for the northern and southern portions of site. Commercial or industrial uses are recommended for the southern part of the property, which lies close to the Core Civic detention center. Residential development and recreational uses are proposed for the northern portion of the site, further away from the detention center. Additional "travel center commercial services" would be appropriate in the northern portion as well, according to the plan. The plan describes the possible recreational uses of the golf course property, in particular a trailhead that could eventually link to the Zuni Mountain Trail System to the west of Milan.

Map from Village of Milan 2017 Comprehensive Plan



According to the Zuni Mountains Trail & Conservation Master Plan, a trailhead should include a parking area, boundary fencing, vault toilets, and cattleguards . The golf course lies directly adjacent one of three Village Activity Nodes. The plan states that infill development within these nodes should be a focus of the Village and should not be de-prioritized in favor of development on greenfield sites. The node near the golf course is the Truck-Travel Center/Detention Center Node. The plan states that "[t]he focus of this node is the continued efficiency of interstate traffic accessing the travel center from the I-40 exit, infill, accommodating pedestrians between uses, and modest landscaping beautification."

Cibola Industrial Park

The Cibola Industrial Park is a 72-acre industrial park located south of I-40 and west of NM-122/Santa Fe Avenue. The park is located across NM-122 from El Malpais National Monument Visitor Center. The entrance to the park is located where NM-122 dead-ends adjacent to the Visitor Center.

Some sites within the park have already been developed, including a National Guard Armory, the Cibola Senior Citizens Center, and the Lavaland RV Park with a microbrewery. Approximately 17 acres are already developed. A 23-acre parcel in the northwest corner of the park is being developed into the new headquarters and maintenance yard for the Continental Divide Electric Cooperative (CDEC) electric transmission utility. Including the CDEC complex, the uses within the park generate relatively little traffic overall and very little freight traffic, compared with the anticipated volumes from Prewitt and Milan industrial parks. The Study Team is not aware of any future development projects within the park or plans to expand the park.

Cibola Park Industrial Site



FREIGHT & RAIL

Freight and Rail

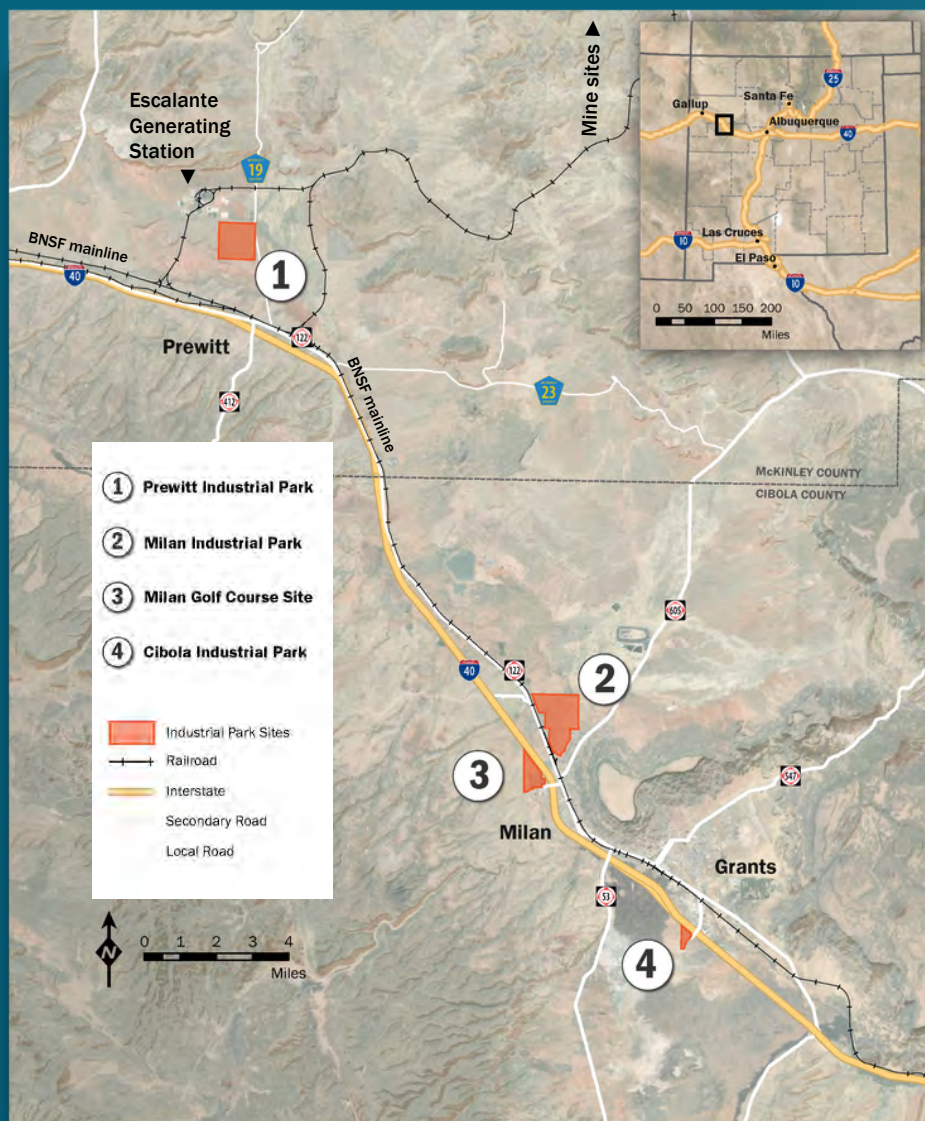
BNSF

There are 109 miles of railroad track in and near the study area, including spur lines that extend north of the study area to mine sites in McKinley County. There are 43 miles of double-track mainline track within the study area, all of which is owned by BNSF. The spur lines are owned by the owners of the mines and a short line railroad that served the power plant when it was in operation. All current freight service in the study area and its vicinity is operated by BNSF.

The BNSF mainline tracks that pass through the Prewitt-Milan study area are part of the company's Southern Transcon mainline (a mainline is a principal artery of a railroad network). The Southern Transcon extends from Chicago to Los Angeles and is one of the backbones of BNSF's system, which covers much of the Western United States. Roughly 80 trains per day move through the study area.

Amtrak has trackage rights on the BNSF mainline track through the study area for its daily Southwest Chief passenger service. The train does not have any stops in the study area – the nearest stops are in Gallup to the west and Albuquerque to the east.

Rail Spurs to Escalante Generating Station and Mine Sites



At-Grade Crossings

There are twenty road-railroad crossings between Thoreau and Grants. 1/2 (ten) of these are grade separated.

The study team used aerial imagery and Federal Railroad Administration data to identify these crossings. The figure below shows the location and type of the crossings in this area.

Three of the grade-separated crossings involve a roadway overpass over the tracks. The remaining grade-separated crossings have the tracks passing over the roadway. Bridge clearance is low at these locations.

Flooding is likely to occur on the roadways at these locations, although the roadway volumes there are low.

I-40 Corridor Railroad Crossings



Prewitt Area Tracks

At milepost 114 on the mainline, spur line track extends 27 miles north from the mainline. At this point, one line continues another 14 miles east to the Lee Ranch Mine site. Another track extends north 7 miles to the El Segundo Mine. At milepost 118 of the mainline, another spur extends approximately 2.5 north to the Escalante Generating Station (EGS) and Biopappel complex. This existing rail spur allows for a unit train of coal to reach the EGS. Tracks extend 3.75 from the Lee Ranch Mine line to meet this other spur, allowing coal from the mines to the north to be delivered to the EGS.

This western spur is located approximately one mile west of the Prewitt Industrial Park site. To provide rail access to the Industrial Park site, a rail spur would need to be constructed for one mile through difficult topography. The BNSF would need to approve the new Industrial Park extension before they could provide rail service.

Milan Area Tracks

As depicted, an existing runaround (siding) from the BNSF mainline begins near the intersection of NM 122 and Piñon Drive (BNSF Mile Post 99.671) and extends for just over a mile, where it rejoins the mainline just before Mill Road (milepost 100.704). This runaround is powered by an electric switch. Immediately after the initial runaround at Piñon Drive, two additional spurs split from the siding and extend roughly northward for about 800 feet, stopping at the edge of the Industrial Park site.

Spur (left) Splitting from Siding (right) Near Milan Industrial Park Site



While intended for use, these spurs were built approximately 30 to 40 years ago and need updates to the existing ties as well as resurfacing.

NMDOT Freight Network Plan

San Juan County and outside areas such as Gallup, Thoreau, Bernalillo, and Albuquerque serve as a rail-to-truck and/or truck-to-rail transfer point. I-40 is a designated Freight corridor. Freight corridors are built to accommodate and require trucks to stop at ports of entry to ensure heavy truck traffic can have the proper clearance. Within the study area, existing roads require repair in order to handle heavy traffic. Heavy trucks are also speeding on dirt roads. Observations show that most of the freight traffic is one-way and not bi-directional.

Implementing a rail line would reduce the impact on roadways but right-of-way issues arise due to the many different landowners in the area. Portions of existing roadway right-of-way may be a likely option for a rail line. The New Mexico DOT Freight Plan also mentions that an analysis is needed to identify specific bottlenecks to determine if commercial air service is needed. Constructing parallel routes may also aid in reducing truck impacts. The plan emphasizes making railroad crossings safer and supporting development efforts by determining intermodal facilities along existing rail lines.

Interstate 40

The main roadway through the study area is I-40, an interstate freeway. I-40's alignment runs southeast-northwest through the study area (especially between Milan and Prewitt); however, the roadway is classified an east-west link within the Interstate system. The study area covers 32.5 miles of the freeway between the communities of Grants and Thoreau. I-40 is a vital transportation link for the study area, region, and the southwestern United States and is one of the key east-west routes within the Interstate system. I-40 extends from North Carolina to California, passing through or near such metropolitan areas as Raleigh-Durham, Nashville, Memphis, Dallas-Fort Worth, Oklahoma City, Albuquerque, Phoenix, and Southern California. The interstate is an important route for goods moving from seaports in the Los Angeles region to points east.



Through the study area, I-40 has two lanes in each direction. The speed limit is 75 miles per hour. I-40 sees of thousands of trucks daily. The portion of the freeway that passes through the study area is among the busiest in the state for truck traffic, with over 26,000 trucks daily.

There are five interstate interchanges in the study area, listed from west to east: Exit 53 (NM-371/NM-612, Thoreau), Exit 63 (NM-412, Prewitt), Exit 72 (NM-606, Bluewater), Exit 79 (NM-615/Horizon Boulevard, Milan), and Exit 81 (NM-53, San Mateo).

TRUCK STOPS & TRAVEL CENTERS

Truck Stops and Travel Centers

There are four truck stops or travel centers along Interstate 40 in the study area.

Bowlin's Bluewater Outpost

Bowlin's Bluewater Outpost is a truck stop in Bluewater, NM, affiliated with Bowlin's Travel Centers. The Outpost operates between 7 am and 7 pm, offering facilities such as fueling, a convenience store, restaurant, and unpaved truck parking. The five acre lot also includes a potential sleeping area.

Love's Travel Stop

Love's Travel Stops has a truck stop in Milan at Horizon Boulevard and Willow Drive. This Love's Travel Stop is on a four acre lot and has thirty truck parking spaces. The facilities are open 24 hours and include fueling, a convenience store, restaurant, and showers. It is located near a truck repair shop, motel, and super market.

Chaco Canyon Travel Center

Chaco Canyon Travel Center is an independent travel center in Milan, located at Horizon Boulevard and Willow Drive. It is on a two acre lot with a convenience store, restaurant, and showers, and is open from 6 am to 6 pm.

Petro Travel Center

Petro Travel Center is affiliated with Travel Centers of America and is located in Milan at Horizon Boulevard and Motel Drive. The Travel Center is on a twenty acre lot and has 225 truck parking spaces. It offers fueling facilities, a convenience store, restaurant, and shower facilities and is open 24 hours. It is located near several restaurants and truck repair shops.

Location of Travel Centers and Truck Stops in Study Area

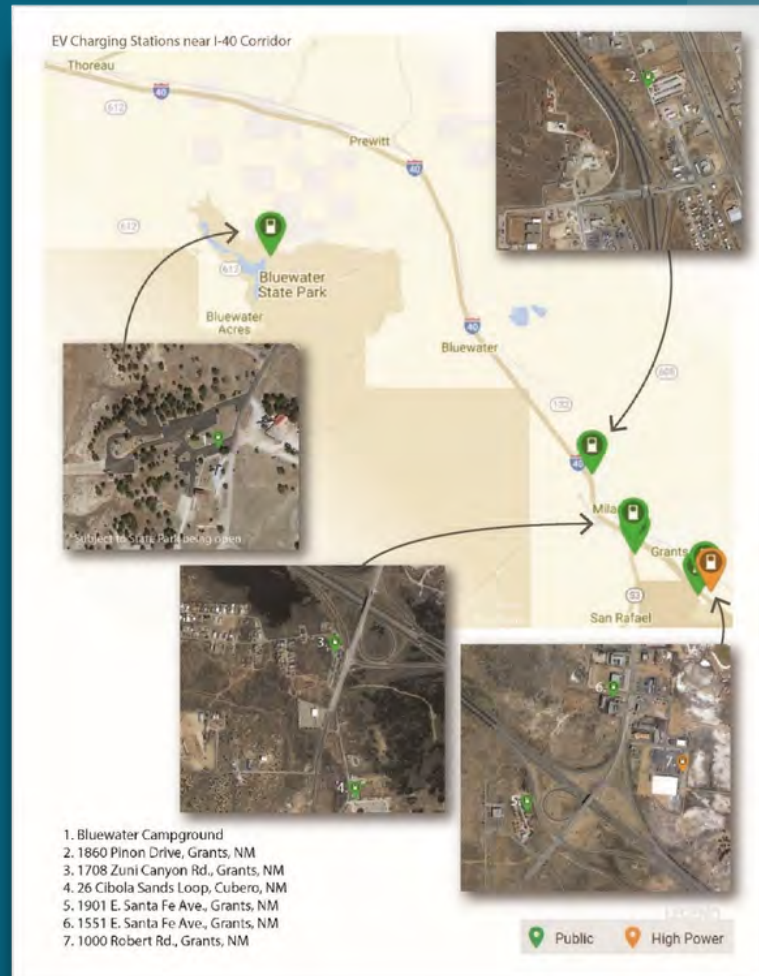


Electric Vehicle Infrastructure

The Bipartisan Infrastructure Law, enacted as the Infrastructure Investment and Jobs Act (IIJA), Public Law 117-58 (Nov. 15, 2021), includes important new programs to address climate change by reducing carbon emissions. Among these programs is the National Electric Vehicle Infrastructure (NEVI) Formula Program that will provide funding to states to strategically deploy electric vehicle (EV) charging infrastructure and establish an interconnected network. These historic investments in EV charging infrastructure will put the United States on a path to a nationwide network of 500,000 EV chargers by 2030 and ensure a convenient, reliable, affordable, and equitable charging experience for all users.

New Mexico Department of Transportation (NMDOT) expects to receive around \$38 million from this program over five years from the U.S. Department of Transportation (US DOT) to install EV charging infrastructure with a US DOT priority on Interstate highway locations.

Existing Electric Vehicle Charging Stations in the Study Area



The Prewitt-Milan study area is an excellent area to explore the installation of electric vehicle charging stations, specifically at the local truck stop locations. The demand for electric vehicle infrastructure, for both personal and freight vehicles, is poised to increase dramatically in the short to mid-term.

VISION STATEMENT & GOALS

Vision Statement and Goals

Vision:

Establish a common understanding of the current state of transportation needs and investments in the Prewitt-Milan corridor and to develop a blueprint for implementing projects.

| Project Goal | Description |
|------------------------------|--|
| Economic competitiveness | Projects should aim to improve access for enterprises in the study area to reach regional, national, and global markets. Projects should promote the efficient movement of goods/freight, and enhance access to the workplace for workers in the region. These criteria are closely related to Mobility and Connectivity and other criteria in this list but are focused on economic development. |
| Mobility and Connectivity | Projects should improve mobility and connectivity on the study area's transportation network, not just for freight movement but for other transportation modes as well. |
| Safety | Projects should improve safety for all modes of the transportation network. The study area faces safety challenges as freight traffic increases, often through communities where residents live. Projects should reduce potential for crashes, especially between freight trucks, trains, and other transportation modes. Projects should provide for safe, efficient movement of goods and freight, while allowing other modes, including non-motorized modes, that provide other quality of life benefits to safely coexist in study area communities. |
| Quality of Life | While many of the criteria in this list describe quality of life improvements, projects should improve quality of life by enhancing access to education, healthcare, and other services. |
| State of Good Repair | Projects can enhance the state of repair of existing transportation assets, avoiding costlier repairs/replacement down the road. |
| Environmental Sustainability | The study area and its vicinity are home to unique natural features, including distinctive scrubland, Cibola National Forest, and geological features such as Mount Taylor/ <i>Tsoodzil</i> and Haystack Mountain. These features are important to the identity of local residents and support significant economic and recreational activities and cultural practices. Projects should avoid significant impacts to the natural environment and should mitigate any impacts that are identified. |
| Project Readiness/Delivery | Projects should be implementable in a relatively short timeline. Projects that face long planning clearances, significant legal barriers, and/or funding challenges will have a reduced benefit to the study area and will undermine the other goals described in this list. |

NWNMCOG's Transportation Focus Areas

Industrial Parks

The Prewitt and Milan Industrial Parks Sites are a key focus of NWNMCOG's Transportation Master Plan. The Industrial Parks offer opportunities to develop emerging industries in the region, and improving rail and freight connections and access to both sites will help to promote economic activity and growth. Previous studies have demonstrated the need to extend existing spurs to both Industrial Parks.

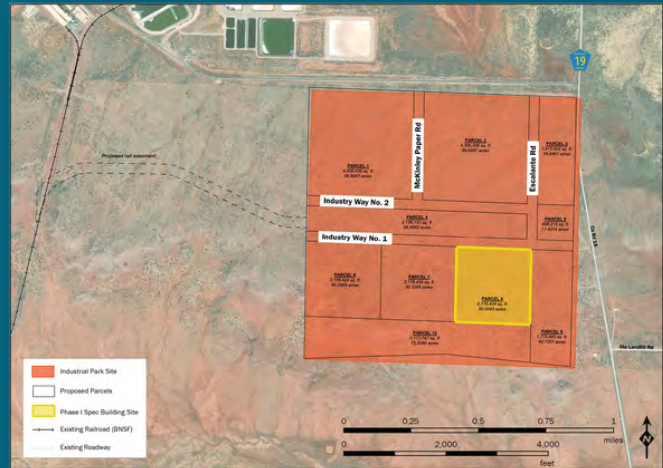
Safety

NWNMCOG is concerned with safety in the study area, including visibility, crashes, and at-grade railroad crossings. Visibility is a hazard between Milan and Bluewater along I-40 and NM-122 due to high winds blowing dust. The transportation master plan aims to reduce crashes on and around I-40 and NM-122 throughout the study area by improving interchanges and enhancing sidewalk networks in urban areas. Finally, to minimize risk, the study team has identified ten of the twenty railroad crossings within the study area that are at-grade, which pose risks for train and vehicle collisions. Reducing the number of at-grade crossings by creating underpasses or overpasses will minimize these risks.

Road Conditions

Throughout the study area, there are narrow or overgrown shoulders along NM-122, which introduce potential risks for vehicles that need to pull off the roads in emergencies. There are also insufficient turning radii and acceleration/deceleration ramps along some of the I-40 interchanges in the study area which could be improved. The existing roads in and around Milan were described as being in fair to poor condition by the 2017 Comprehensive Plan for the Village due to their age and risk for flooding.

Initial Proposed Plat Alternative for Prewitt Industrial Park



Sign Warning of Possible Limited Visibility, NM-122 North of Milan



Narrow Roadway Shoulders



Freight

Interstate 40 is a major route for freight movement, and the study area lies between hubs like Los Angeles / Long Beach and Dallas / Fort Worth. The interstate has five exits within the study area, which would benefit from intersection improvements and additional truck facilities. The proposed intersection improvements of I-40 exits in the study area aim to avoid restricting freight movement. The study area also lacks sufficient truck parking and rest areas at its four truck stops and travel centers.

Rail

There are 109 miles of railroad track in and near study area, including 43 miles of double-track mainline, siding, and several spurs in both counties. The spurs connect the BNSF mainline to industrial sites such as Lee Ranch Mine and El Segundo Mine in McKinley County. There are additional spurs that provide partial connections to the Prewitt and Milan Industrial Parks, but both spurs require extensions of about one mile in order to access the Industrial Parks. The existing spur in Milan near the Industrial Park also requires resurfacing and updates to existing ties due to its age.

Bicycle and Pedestrian

Dedicated pedestrian or bicycle infrastructure is limited within the study area. The only formal, dedicated infrastructure area sidewalks in Milan. The sidewalk network in the Village is being built out as funding becomes available and is currently piecemeal. Near the Horizon Boulevard interchange area, there are short segments of sidewalk along Horizon Boulevard and some of the adjoining neighborhood streets. On the west side of the interchange, there are some sidewalks along Motel Drive south of Horizon. No sidewalks connect across the interchange.

Facilities at Bowlin's Bluewater Outpost and Vicinity



Railroad Bridge and Roadway Underpass at CR-63/Anaconda Road, Cibola County



Sidewalk Infrastructure



EXISTING TRANSPORTATION NEEDS

Existing Transportation Needs

The following section describes the existing transportation network in the study area. When combined with other analyses in this document, the information in this section allows the study team to build an understanding of the gaps and issues in the transportation network. Because the Prewitt-Milan Transportation Master Plan is focused on identifying transportation improvements to support industrial park developments, this section goes into greater depth describing existing road and rail infrastructure, which would be the primary modes for moving freight and workers to and from the economic development sites

Needs Summary

Safety improvements are needed at or near the interchanges within the study. The interchange at NM-371/NM-612 may need more significant improvements to accommodate trucks entering/exiting the interstate there. Shoulder improvements – including shoulder widening – are recommended for portions of NM-122 between Milan and Thoreau, particularly where the roadway narrows to two lanes.

Roadway improvements on the key roadways between the industrial park sites and the interstate will be needed to facilitate increasing vehicle volumes between I-40 and the parks. These include improvements to major intersections, including signalization, addition of turn lanes, construction of acceleration and deceleration lanes.

Rail improvements are needed to connect the two industrial park sites to the mainline. These improvements include a new spur at the Prewitt site and revamped sidings and spurs at the Milan site.

Programmatic needs largely include future studies to better understand different topics related to the transportation network.

Interchange #1: Exit 53, Thoreau, NM – I-40 & NM-512/Bluewater Road/NM-371

The Exit 53 interchange and its vicinity are illustrated in the figure below. The existing interstate underpass has a clearance of 16 feet 8 inches. This provides no anticipated restrictions for freight traffic.

The Route 66 frontage road along I-40 runs parallel roughly 75-100 feet north of the interstate, which would limit the ability for future on/off ramps between Continental Divide and Prewitt.

With the frontage road being in close proximity to the interstate, this would also require any future overpass or underpass to be long and cost prohibitive. The needed span would be approximately 500 feet. The on/off ramps at this interchange are required to be closely spaced between the interstate and frontage road, which requires a very tight turning radii for access through the underpass. Interchange traffic control is currently provided by stop signs at the off ramps and along Bluewater Road/NM-371 at the Route 66 frontage road. There is a potential congestion issue for the stop sign at the Route 66 frontage road for northbound travelers along Bluewater Road/NM-371. The current spacing between the Route 66 frontage road and the westbound off-ramp is only 88 feet. However, the railroad crossing north of I-40 is accompanied by an overpass, so there are no current safety or congestion hazards with this railroad crossing.

Interchange Analysis, Interchange #1, NM-371, Thoreau



The immediate area surrounding the interchange is primarily vacant land and the community of Thoreau, NM, does not begin until the north side of the railroad tracks, one-quarter mile, or 1,300 feet, away. However, the southwest quadrant of the interchange is occupied by the El Paso Natural Gas Company – Bluewater Station.

Interchange #2: Exit 63, Prewitt, NM – I-40 & NM-412/Pillowcrest Rd.

The Exit 57 interchange and its vicinity are illustrated in the figure below. The existing interstate underpass has a clearance of 16 feet 4 inches, provide no anticipated restrictions for freight traffic. Near the interchange, along CR-19 at the intersection of Route 66, is an at-grade railroad crossing. The distance between the stop sign and the railroad tracks is roughly 280 feet, providing the possibility for low visibility or stopped traffic on the at-grade railroad tracks. A potential realignment of Pillowcrest Road and CR 19 as an overpass over the railroad would negate this safety and congestion hazard and combine the two intersections into one. Further north along CR 19 is the recently close Escalante Power Plant and considerations should be made for higher traffic volumes as the site has the potential to be reused as a clean energy plant. The total crossing distance between the interstate and frontage roads is approximately 700-1,000 feet, making an overpass or underpass long and cost prohibitive.

Currently, two quadrants of the interchange are occupied by developed land uses. The Baca/Dlo'ay Ashi Community School is located in the northwest quadrant and single-family residences are located in the southwest quadrants of the interchange. Along the north side of the interstate, development would be limited due to the tight spacing between the Route 66 frontage road and the railroad tracks. Larger or more cohesive developments would likely take place further north of the railroad tracks, approximately 1,600 feet from the interchange.

Interchange Analysis, Interchange #2, NM-412, Prewitt

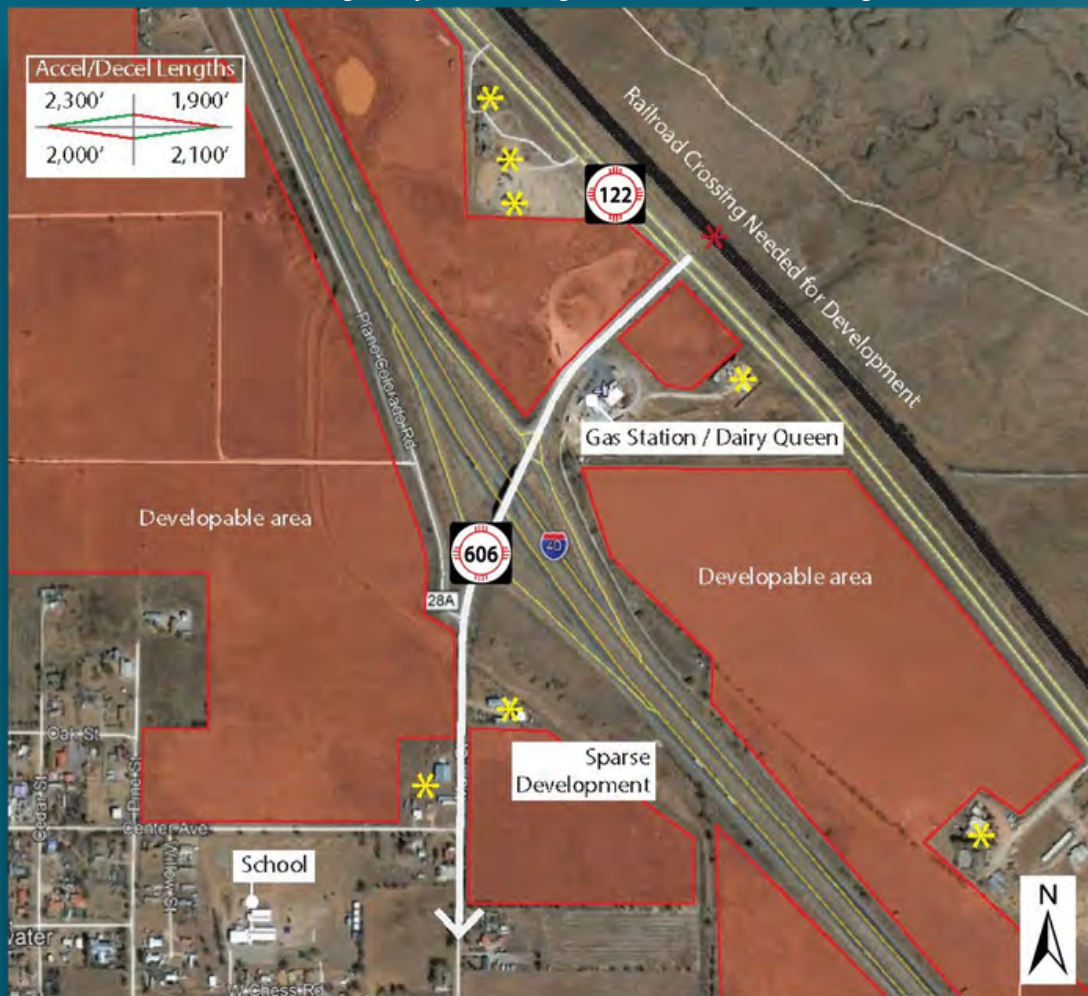


Interchange #3: Exit 72, Bluewater, NM - I-40 & NM-606

The Exit 72 interchange and its vicinity are illustrated in the figure below. The existing interstate underpass has a clearance of 17 feet 1 inch, provide no anticipated restrictions for freight traffic. The Route 66 frontage road provides greater separation from I-40 as it continues southwest to Milan, NM, which would allow for a future interchange to serve growth and additional development. As the railroad tracks parallel the north side of the Route 66 frontage road, there are limited options crossing the railroad tracks and accessing the area to the north. Currently, an at-grade crossing is present approximately one mile to the north and an underpass is located two miles to the south via NM-334. There is an I-40 underpass located approximately 1.6 miles southwest of the interchanger, via Roberts Road. Roberts Road is a local narrow two-lane road.

There is limited developable land available at the southwest and northwest quadrants of the interchange. Exxon gas station is located in the northeast quadrant and single-family residence is located in the southeast quadrant . There is a dry creek bed that runs parallel to I-40, roughly 600 feet to the south that could impede development in both southeast and southwest quadrants.

Interchange Analysis: Interchange #3, NM-606, Bluewater Village

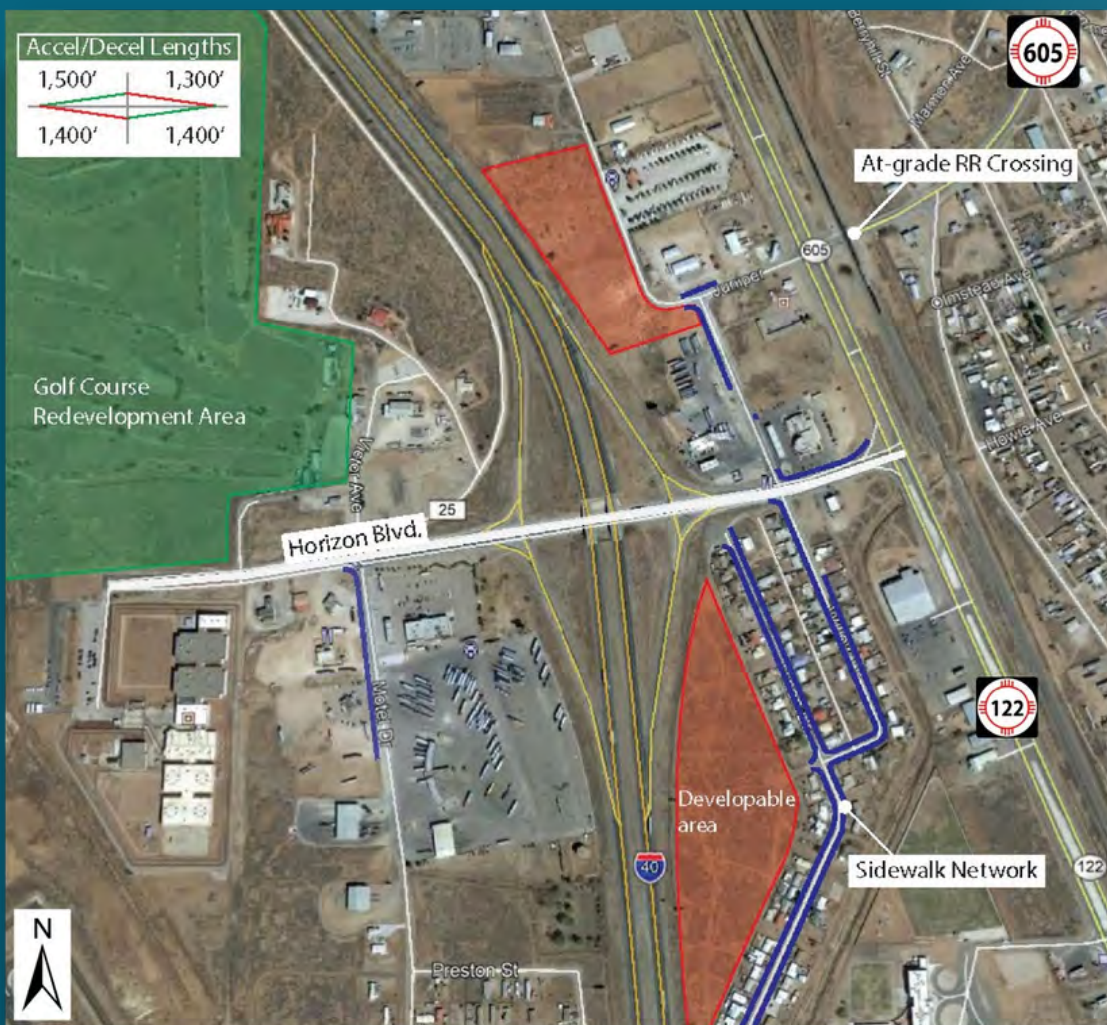


Interchange #4: Exit 79, Milan, NM – I-40 & Horizon Boulevard

The Exit 79 interchange and its vicinity are illustrated in the figure below. The existing Horizon Boulevard underpass has a clearance of 16 feet 1 inch, provide no anticipated restrictions for freight traffic. All four quadrants and the surrounding area of this interchange are primarily developed. The Village of Milan has studied redeveloping the nearby former golf course and vacant land to the north for industrial and mixed-use development. Currently, a pedestrian overpass for is present in alignment with Sand Street, roughly 2,500 to the south, providing a connection between the Milan Elementary School and area residences west of I-40.

Development restrictions may be present to the southwest of this interchange from the Grants-Milan Municipal Airport. Land to the east of the railroad tracks is serviced by an at-grade crossing roughly 2,300 feet east of the interchange.

Interchange Analysis: Interchange #4, Horizon Boulevard, Milan

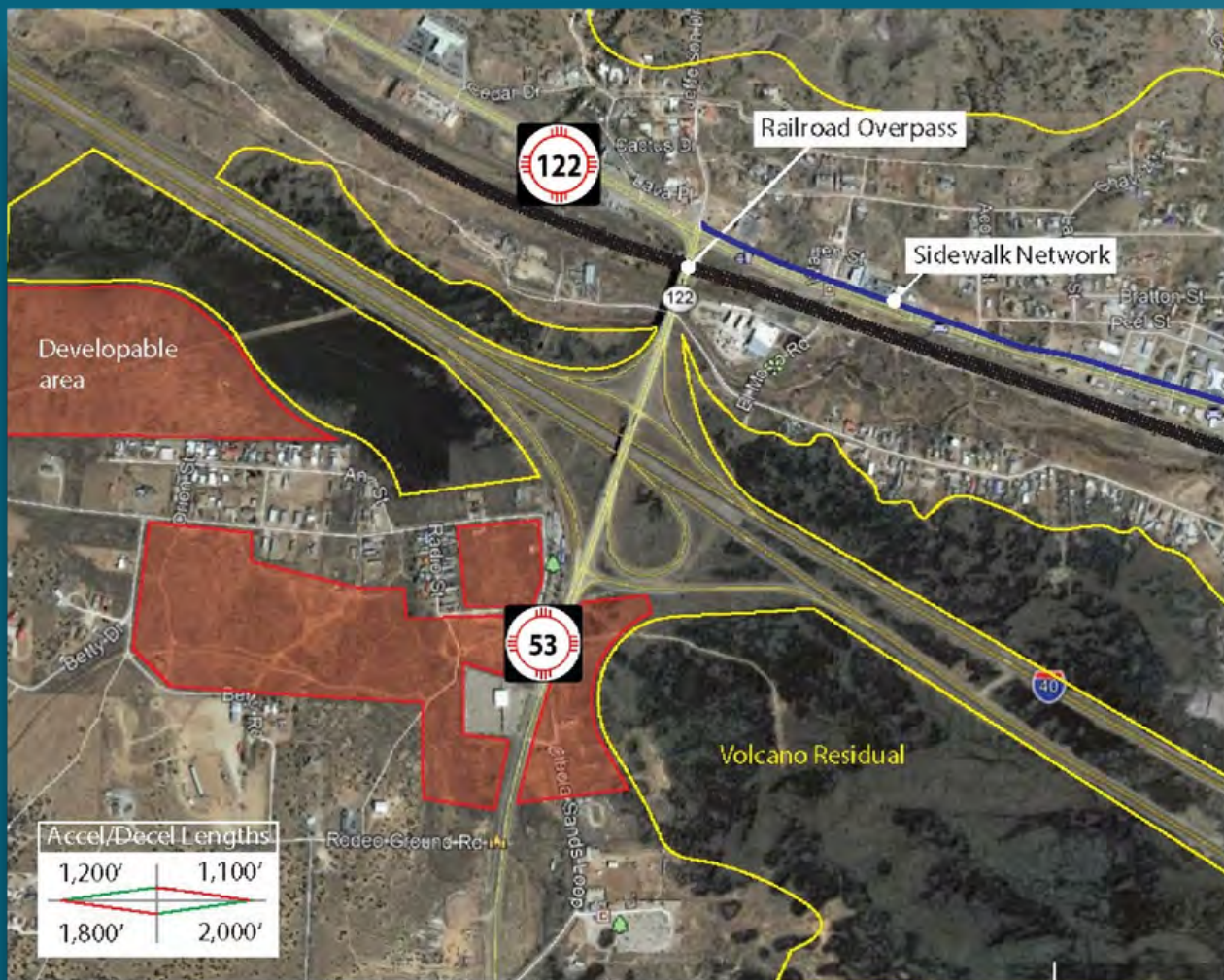


Interchange #5: Exit 81, Grants, NM - I-40 & NM-53

The Exit 81 interchange and its vicinity are illustrated in the figure below. The existing interstate underpass has a clearance of 15 feet 8 inches, provide no anticipated restrictions for freight traffic. This interchange is unique in that an overpass is present to cross the railroad and San Jose Rio to the north, providing no access restrictions. Further northwest, the Route 66 frontage road crosses the railroad via an overpass, removing additional restrictions found at all other interchanges.

All four quadrants of the interchange are primarily developed with an RV Park, single-family residences and small businesses. Some limited land is available for development, but with elevation and run-off challenges. Developable land further to the north is limited due to the steep grades present from a nearby plateau.

Interchange Analysis, Interchange #5, NM-53, Grants



Interchange #6: Exit 83, Grants, NM - I-40 & NM-117

The Exit 83 interchange and its vicinity are illustrated in the figure below. The existing interstate underpass has a clearance of 16 feet 7 inches and provides no anticipated restrictions for freight traffic. The crossing street, NM-122, has a dead end and does not extend far south of the interchange. To the north, there is some commercial activity along the corridor and a grade separate overpass for the railroad. Further northwest, the Route 66 frontage road crosses the railroad via an overpass, removing additional restrictions found at all other interchanges. An issue was identified with the acceleration length for southbound vehicles on NM-122 entering southbound I-40. This distance was only 540' after the 30 mph loop and by AASHTO guidelines should be 1,510' for vehicles to merge with the 75 mph interstate traffic.

All four quadrants of the interchange provide ample opportunities for development, with some restrictions further west from the volcanic activity. Although through the stakeholder committee and public input, it has been stated that the volcanic ash may provide a solid base for development, with the additional need of topsoil for grass and vegetation.

Limited public sidewalks are found in the northern vicinity of this interchange at the three newer developments near Naomi Road. Further north, a sidewalk network begins on the north side of the railroad tracks and continues northwest along E. Santa Fe Ave.

Interchange Analysis: Interchange #6, NM-122, Grants



Prewitt-Milan Transportation Projects

The Prewitt-Milan Transportation Master Plan Technical Memo identified a list of preliminary proposals for transportation improvements. These projects may require feasibility studies, preliminary engineering reports (PERs), NEPA clearance, and design prior to project implementation.

Roadway Improvements

The Technical Report proposed changes such as the construction of new interchanges over railroad tracks, extended access roads to connect to the Milan and Prewitt Industrial Parks, and the creation of pedestrian infrastructure along Horizon Boulevard in Cibola County. Improvements to enhance roadway capacity, shoulder length, acceleration and deceleration lanes, tuning radii, drainage, lighting, and traffic signals were also suggested.

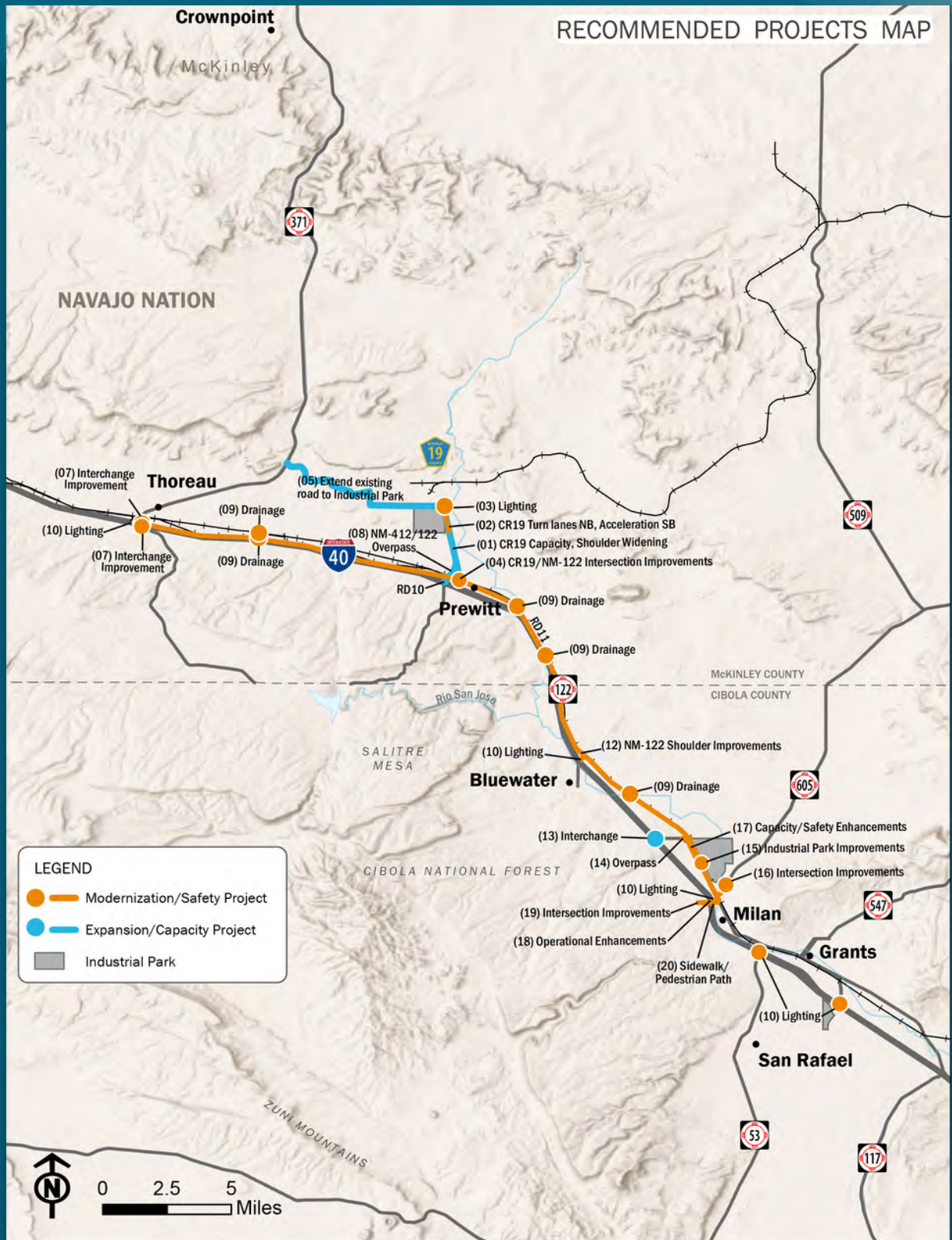
Rail Infrastructure Improvements

The preliminary proposals for rail infrastructure improvements focus on extending railway access to industrial hubs and consolidating existing at-grade railroad crossings at major roadways in the study area. Railway extensions were proposed to link the Prewitt Industrial Park and Milan Industrial Park sites to the mainline via spurs. Consolidation and removal of at grade railroad crossings between Thoreau and Milan were suggested to accompany the proposed overpass/interchange at Mill Road in Cibola County and the proposed study or access management plan for NM-122 between Milan and Thoreau

Policies, Programs, and Future Studies

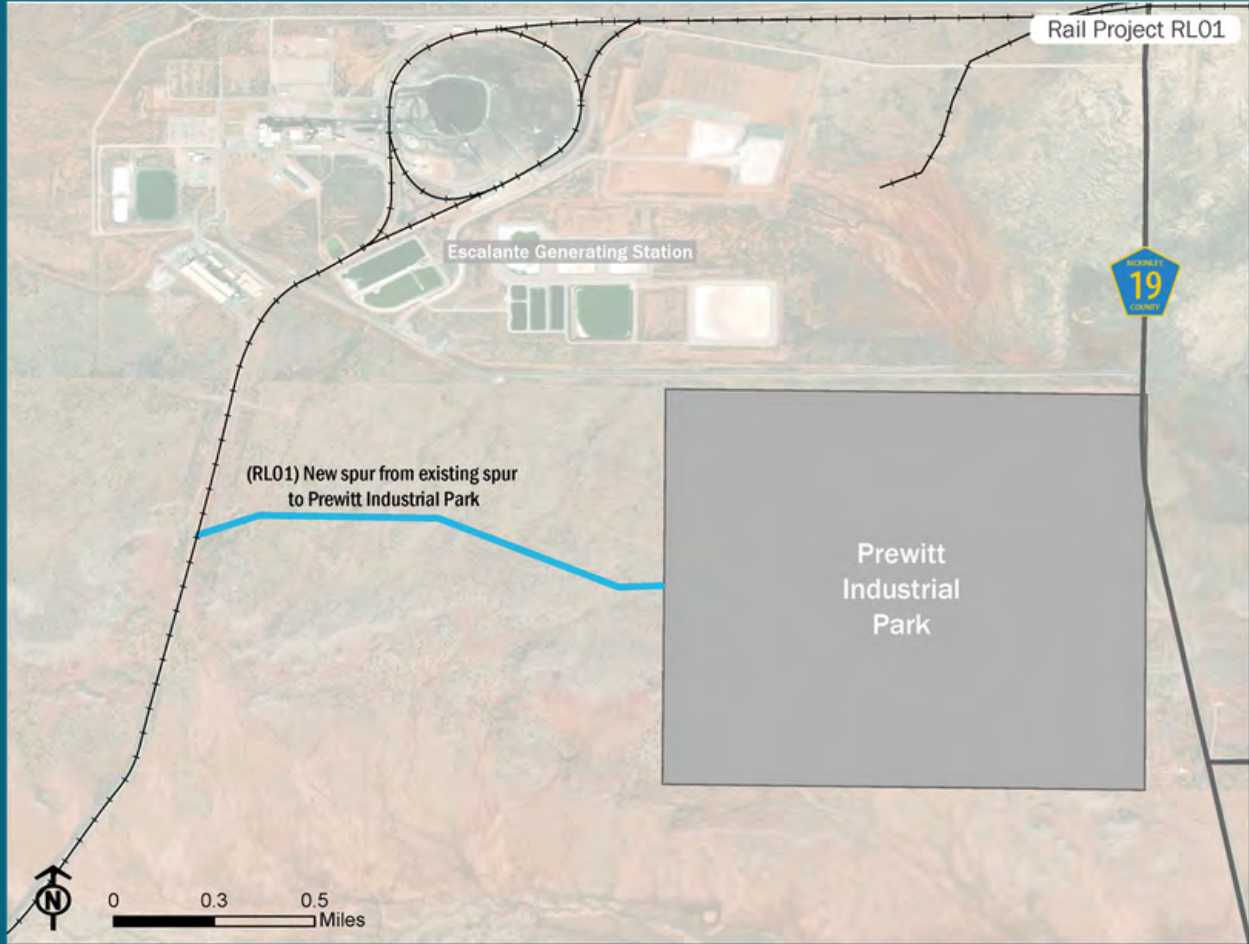
The Technical Report identified three preliminary proposals for policies, programs, and future studies. First was an access management plan for NM-122 between Milan and Thoreau, which spans both Cibola and McKinley counties. Next was a study of need and opportunities for new or existing transit services between Gallup, Grants, and the communities in between, including Milan, Bluewater, Thoreau, and the Navajo Nation. Last, an update of the zoning code for the Village of Milan is recommended to allow for streamlined development of the Milan Industrial Park and of transportation and logistics-related facilities in the village. A review of the current code by the study team showed that the code is restrictive of these land uses or imposes a burdensome approval process.

Recommended Roadways Projects Map



Project numbers (in parentheses) correspond to recommended project tables on pages 51-53.

Prewitt Vicinity Rail Projects



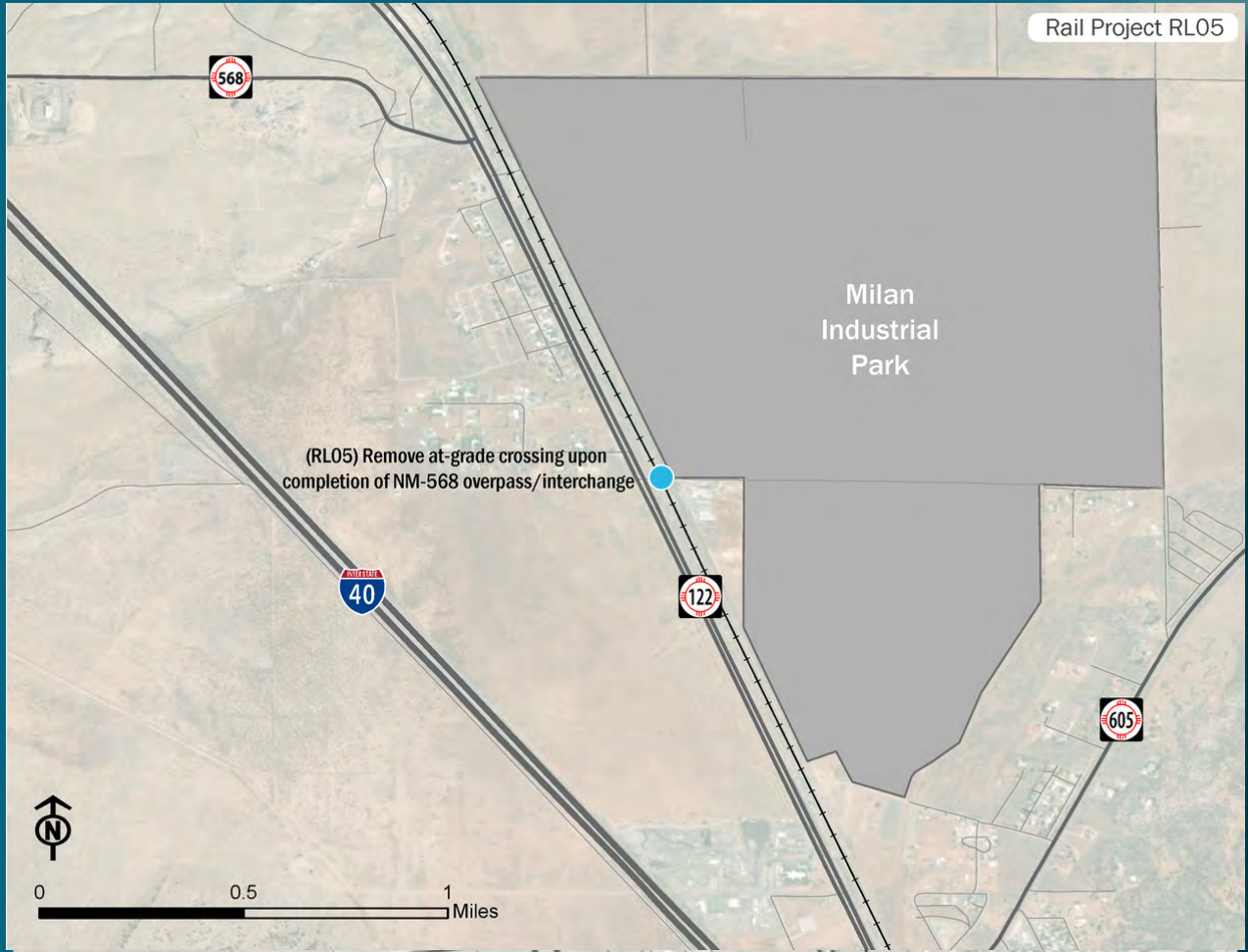
Milan Vicinity Rail Projects



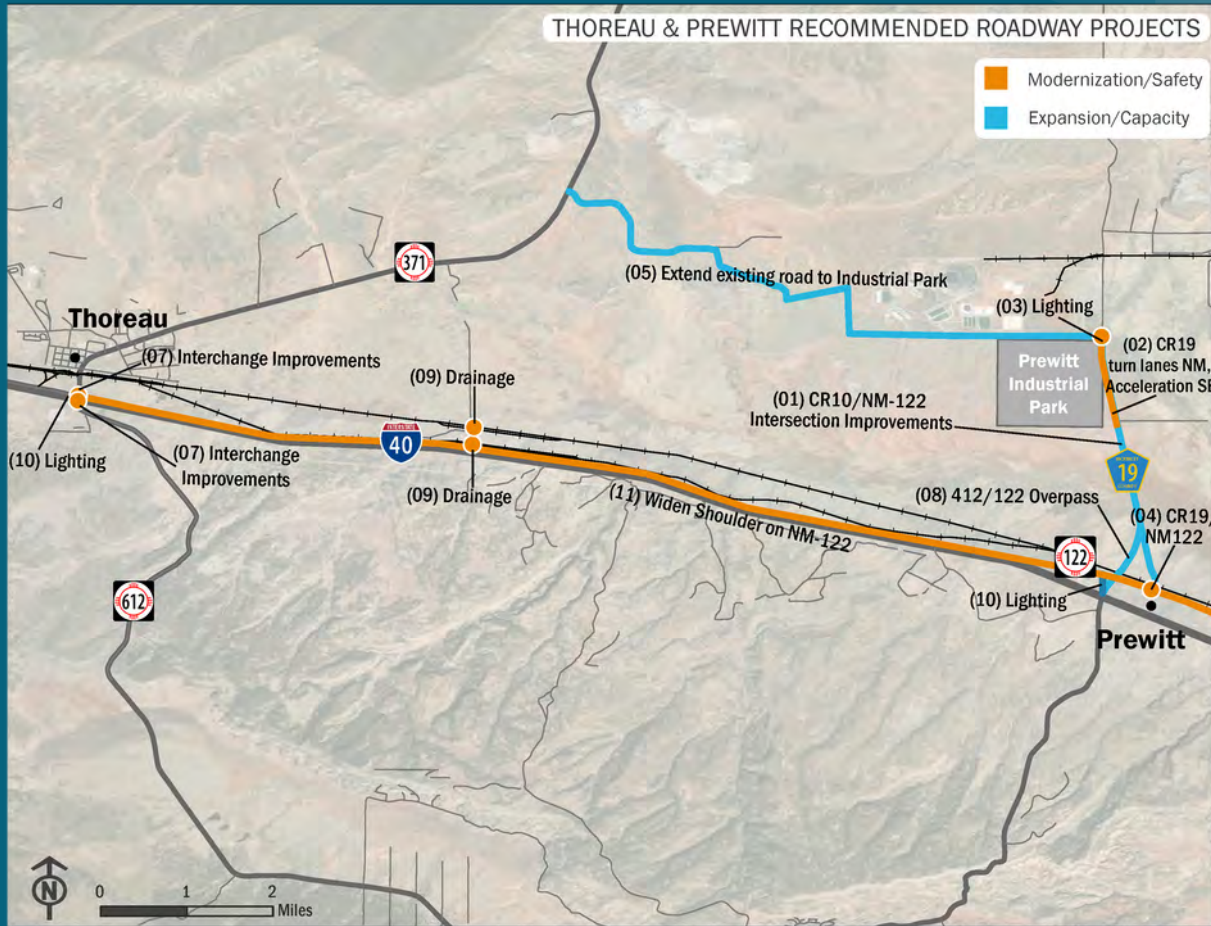
Milan Vicinity Rail Projects



Milan Vicinity Rail Projects



Alternative Truck Route to Prewitt Industrial Park via NM-371



Evaluation Criteria

The following tables show evaluation criteria that was used to score and prioritize projects. The criteria mirrors the Goals of the PMTMP and is intended to assist decision makers when advancing projects.

Economic Competitiveness

| | | | | |
|--|------------|---|---|---|
| Economic Competitiveness (Supports Growth & Economic Development) | G-1 | Does the project improve access for known economic development sites? | Mapping comparison of project extent to location of economic development sites. | <p>4 = Project provides new roadway access that connects to a specific existing or future employment sites not currently served by a roadway (or by an improved roadway).</p> <p>3 = Project would significantly improve roadway capacity or operations on existing roadways that serve economic development sites (existing or planned).</p> <p>2 = Project provides new roadway access to an area that contains economic development sites not currently served by a roadway (or by an improved roadway).</p> <p>1 = Project would slightly improve capacity or operations on existing roadways that serve specific economic development sites.</p> |
| | G-2 | Does the project promote efficient movement of goods? | Overall operational improvements. Project types include ancillary intersection, signal, and ITS improvements. | <p>4 = Project provides new roadway freight access that connects to a specific existing or future employment sites not currently served by a roadway (or by an improved roadway).</p> <p>3 = Project would significantly improve roadway freight capacity or operations on existing roadways that serve economic development sites (existing or planned).</p> <p>2 = Project provides new roadway freight access to an area that contains economic development sites not currently served by a roadway (or by an improved roadway).</p> <p>1 = Project would slightly improve roadway freight capacity or operations on existing roadways that serve specific economic development sites.</p> |

Evaluation Criteria

Mobility & Connectivity

| | | | | |
|------------------------------------|------------|---|--|--|
| Mobility & Connectivity | M-1 | Improves access to existing residential areas | Comparison of project extents to: Available current/future land use maps; aerial imagery; on-the-ground observations of actual land use | 3 = Project would significantly improve roadway capacity or operations on existing roadways that serve specific existing residential areas. 2 = Project would significantly improve roadway capacity or operations on existing roadways that serve areas with existing residential areas. 1 = Project would slightly improve capacity or operations on existing roadways that serve specific existing residential sites. |
| | M-2 | Improves access to future residential areas | Comparison of project extents to available future land use maps | 3 = Project would significantly improve roadway capacity or operations on existing roadways that serve specific future residential areas. 2 = Project would significantly improve roadway capacity or operations on existing roadways that serve areas with future residential areas. 1 = Project would slightly improve capacity or operations on existing roadways that serve specific future residential sites. |
| | M-3 | Improves access to existing employment | Comparison of project extents to: Available current/future land use maps; aerial imagery; on-the-ground observations of actual land use | 3 = Project would significantly improve roadway capacity or operations on existing roadways that serve specific existing employment sites. 2 = Project would significantly improve roadway capacity or operations on existing roadways that serve areas with existing employment sites. 1 = Project would slightly improve capacity or operations on existing roadways that serve specific existing employment sites. |
| | M-4 | Improves access to future employment | Comparison of project extents to available future land use maps | 4 = Project provides new roadway access that connects to a specific future employment sites not currently served by a roadway (or by an improved roadway). 3 = Project would significantly improve roadway capacity or operations on existing roadways that serve specific future employment sites (existing or planned). 2 = Project provides new roadway access to an area that contains future employment sites that is not currently served by a roadway (or by an improved roadway). 1 = Project would slightly improve capacity or operations on existing roadways that serve specific future employment sites. |
| | M-5 | Improves access to existing/future services | Comparison of project extents to: Available current/future land use maps; aerial imagery; on-the-ground observations of actual land use. Services include: Medical facilities, schools, government buildings | 4 = Project provides new facility that connects to a specific facility (existing or planned) not currently served by a roadway (or by an improved roadway). 3 = Project would significantly improve capacity or operations on existing roadways that serve specific facilities (existing or planned). 2 = Project provides new facility to an area that contains services (or may contain them in the future) that is not currently served by a roadway (or by an improved roadway). 1 = Project would slightly improve capacity or operations on existing roadways that serve specific facilities (existing or planned). |
| | M-6 | Project supports existing or expanded transit service | Expansion of transit service frequency or new/longer routes versus current service | 1 = Yes, project would improve future transit operations or improve transit stop access; 0 = No, project would likely not improve future transit operations or improve transit stop access |

Evaluation Criteria

Safety

| | | | | |
|--------|-----|---|--|---|
| Safety | S-1 | Improves safety on high-crash segment or intersection | Recent NMDOT crash data | <p>4 = Creates improvements likely to improve safety on a roadway segment or intersection specifically identified as a high-crash location by NMDOT crash data</p> <p>3 = Provides alternative route to high-crash segment or intersection, improving operations and safety at the high-crash location</p> <p>2 = Creates improvements likely to improve safety on a roadway segment or intersection specifically identified as having recent known crashes by NMDOT crash data</p> <p>1 = Creates improvements likely to improve safety on a roadway segment or intersection not identified as a high-crash location</p> |
| | S-2 | Improves safety related to potential conflicts related to trucks and trains | Recent NMDOT crash data; analysis of railroad crossing characteristics | <p>4 = Eliminates an existing at-grade road-rail crossing</p> <p>3 = Improves an existing grade-separated crossing that provides an alternative to using an at-grade crossing; OR creates a new route that provides a new or more viable alternative to using an at-grade crossing</p> <p>2 = Improves roadway operations so that roadway bottlenecks across existing at-grade crossings are reduced</p> |
| | S-3 | Improves safety related to potential conflicts between pedestrians and vehicles | Recent NMDOT crash data | <p>2 = Creates pedestrian infrastructure at high-traffic locations or identified pedestrian crash locations where there is not currently such infrastructure</p> <p>1 = Enhances existing pedestrian infrastructure, or creates new infrastructure in low-traffic areas where there is not currently such infrastructure</p> |
| | S-4 | Creates redundancy in network to improve evacuation routes & emergency responsiveness | Most applies to new roads or interchanges | <p>3 = Creates new route/access for personal and freight vehicles, greatly enhancing emergency responsiveness</p> <p>2 = Creates new access points to an existing site/area, somewhat improving emergency responsiveness;</p> <p>1 = Improves an existing route/access (e.g. shoulders along an existing road) to allow for better evacuation or emergency response</p> |

Evaluation Criteria

Environment

| | | | | |
|--------------------|------------|---|--|--|
| Environment | E-1 | Minimal disturbance or impacts to wetland/floodplain | Mapping overlay comparison of project extent and location of known wetland/floodplain | 2 = Project avoids impacts to known wetland/floodplain 1 = Project would likely impact wetland/floodplain, requiring significant mitigation |
| | E-2 | Minimal disturbance or impacts to significant geological features | Mapping overlay comparison of project extent and location of known significant geological/topographical features | 2 = Project avoids impacts to existing geological features 1 = Project would likely impact existing geological features, requiring significant mitigation |
| | E-3 | Minimal disturbance or impacts to cultural/historical features | Mapping overlay comparison of project extent and location of known cultural features; State & National Historic Register listings | 2 = Project avoids impacts to existing cultural/historical features |
| | E-4 | Minimal disturbance or impacts to crucial wildlife habitat | Mapping overlay comparison of project extent and location of known habitat; New Mexico Environmental Review Tool online map. For project scoring purposes, crucial habitat is defined as areas scoring 1-3 in the New Mexico Critical Habitat Assessment Tool's Critical Habitat Index | 2 = Project avoids impacts to existing crucial habitat 1 = Project would impact existing crucial habitat |
| | E-5 | Minimal disturbance or impacts to environmental justice (EJ) populations | Mapping overlay comparison of project extent and location of known EJ census tracts; US EPA EJScreen online map | 2 = Project avoids negative impacts to existing environmental justice (EJ) populations 1 = Project likely negatively impact existing environmental justice (EJ) populations, requiring significant mitigation |
| | E-6 | Minimal disturbance or impacts to contaminated or hazardous materials sites, including Superfund sites or leaking underground storage tanks (LUSTs) | Mapping overlay comparison of project extent and location of known EJ census tracts; New Mexico Environment Department OpenEnviroMap tool | 2 = Project avoids negative impacts to contaminated or hazardous materials sites 1 = Project likely impacts to contaminated or hazardous materials sites |

Evaluation Criteria

Project Readiness

| | | | | |
|-------------------|-----|---|--|---|
| Project Readiness | P-1 | Planning/design for this project has begun | | 3 = Planning/design for project has taken place or is underway (equivalent to NMDOT Location Study Phase A-D, traffic impact analysis, or other detailed technical analysis) 2 = Project has been programmed in local ICIP or STIP 1 = Project has been identified/recommended in a separate plan |
| | P-2 | The project is unlikely to face significant legal barriers/barriers to planning clearance | Issues could include need to acquire right-of-way; unclear jurisdiction/ownership/responsibility for project; probable need for advanced environmental study/clearance | 2 = The project would not face any known significant legal barriers/barriers to planning clearance 1 = The project would face some legal barriers or barriers to planning clearance 0 = The project would face significant legal barriers or barriers to planning clearance |

Priority Projects

Road Projects

Recommend roadway projects were scored and ranked based on the Evaluation Criteria described in the previous section. The detailed breakdown of scoring can be found in the Technical Report. Projects were further divided into Tier 1 projects (those projects directly enhancing access to the industrial parks) and Tier 2 projects (those projects addressing more general safety and mobility in the areas near the industrial parks).

Key next steps, responsible parties, and funding sources for each project are listed in the Implementation Guide appendix.

Priority Projects

Road Projects

| Rank | Score | Project Number | County | Facility/Project Location | Project Description | Estimated Cost |
|----------|-------|----------------|----------|---|---|-------------------------|
| 1 (tie) | 45 | RD13 | Cibola | I-40 at NM-568 | New interchange to access NM-568 for access to Milan Industrial Park | \$30,000,000-50,000,000 |
| 1 (tie) | 45 | RD14 | Cibola | NM-122 at NM-568/Nursery Road | Construct an over or underpass crossing NM-122 and BNSF line to Nursery Rd. & Milan Industrial Park | \$30,000,000 |
| 3 (tie) | 39 | RD04 | McKinley | NM-122, intersection with CR-19 | Intersection improvements: Turn lanes, accel./decel. lanes, roadway lighting (if trucks not routed through Solid Waste Authority site) | \$2,000,000 |
| 3 (tie) | 39 | RD08 | McKinley | NM-412 and NM-122 | In the event that Prewitt Industrial Park is not accessed via Solid Waste Authority road, create NM-412 overpass over NM-122 & BNSF line to access CR-19 | \$40,000,000 |
| 5 | 38 | RD07 | McKinley | I-40 Thoreau interchange (Exit 53) | Reconstruct interchange for wider truck turn radii | \$8,000,000 |
| 6 | 34 | RD05 | McKinley | Red Mesa Bluffs Drive/Solid Waste Authority access road, between NM-371 and EGS-Biopappel Complex/Prewitt Industrial Park | Extend McKinley Solid Waste Authority Access Road north of Thoreau off NM-371 to the Prewitt Industrial Park site. | \$2,000,000 |
| 7 (tie) | 33 | RD03 | McKinley | CR-19, future entrance to Prewitt Industrial Park | Roadway lighting at industrial park entrance | \$500,000 |
| 7 (tie) | 33 | RD01 | McKinley | CR-19, entrance to Escalante Generating Station/Biopappel to NM-122 | Widen shoulder and install turn lanes off CR-19 for freight truck entrance | \$2,000,000 |
| 7 (tie) | 33 | RD02 | McKinley | CR-19, future entrance to Prewitt Industrial Park | Acceleration lanes for SB CR-19, NB turn lanes. | \$1,000,000 |
| 10 (tie) | 26 | RD16 | Cibola | NM-605, intersection with Stanley Road | Intersection improvements supporting freight traffic in Phase I of Milan Industrial Park development | \$1,000,000 |
| 10 (tie) | 26 | RD17 | Cibola | NM-122 and NM-605 | Industrial Park Phase II & III capacity/safety enhancements at entrance to Milan Industrial Park safety improvements: Traffic signals, turn lanes, accel./decel. lanes. | \$1,500,000-2,000,000 |

Priority Projects

Road Projects

| Rank | Score | Project Number | County | Facility/Project Location | Project Description | Estimated Cost |
|----------|-------|----------------|---------------------|--|--|-----------------------|
| 12 | 37 | RD06 | McKinley | NM-122 & NM-371 Intersection | Realign intersection to north of buildings | \$5,000,000 |
| 13 | 34 | RD19 | Cibola | Horizon Blvd. /Motel Drive intersection improvements | Various enhancements including intersection improvements, reconstruction of roadway, sidewalks, etc. as needed to support Milan Golf Course site redevelopment | \$5,000,000-8,000,000 |
| 14 | 30 | RD20 | Cibola | Horizon Boulevard, end of existing sidewalk to Motel Drive | Construct sidewalk/pedestrian path from existing sidewalk to Motel Drive. | \$2,000,000 |
| 15 | 28 | RD18 | Cibola | Horizon Blvd. intersections with I-40 on/off ramps | Traffic signals and lighting | \$2,000,000 |
| 16 (tie) | 26 | RD10 | Cibola and McKinley | I-40 interchanges within study area, between interchanges and NM-122 | Roadway lighting at interchange and between interchange and nearest NM-122 intersection | \$750,000 |
| 16 (tie) | 26 | RD15 | Cibola | NM-122 & Mill Road intersection improvements | Industrial Park Phase I improvements. Phase I improvements are detailed in NMDOT traffic impact analysis. | \$1,000,000 |
| 18 (tie) | 25 | RD09 | McKinley | BNSF underpasses: Thoreau to Milan | Drainage improvements as needed | \$ 2,000,000 |
| 18 (tie) | 25 | RD12 | Cibola | NM-122 between Milan Industrial Park and start of two-lane section | Shoulder improvements, maintenance & mowing | \$1,000,000 |
| 20 | 22 | RD11 | Cibola and McKinley | NM-122 between Milan Industrial Park and NM-371 in Thoreau | Widen shoulders on two lane portion near major intersections | \$1,000,000 |

Priority Projects

Rail Projects

As the list of recommended rail projects is shorter than the list of roadway projects, these projects were not scored or ranked in the same way as the roadway projects were. Each of these rail projects is considered a high-priority project, important to the success of each of the industrial parks. Implementation should proceed based on feasibility, funding, and the needs of industrial park tenants. As each of these projects will connect with the BNSF network, close coordination with that rail carrier will be crucial to their successful implementation. Key next steps, responsible parties, and funding sources for each project are listed in the Implementation Guide appendix.

| Project Number | Project Description | Estimated Cost |
|----------------|--|----------------|
| RL01 | New spur from existing spur to Prewitt Industrial Park | \$1,300,000 |

| Project Number | Project Description | Estimated Cost |
|----------------|--|----------------------------------|
| RL02 | Consolidate existing at-grade crossings as shown to be feasible by crossings study or access management plan | To be determined by future study |
| RL03 | Reconstruct existing siding and spur at Milan Industrial Park site | |
| | Siding (one mile) | \$1,300,000 |
| | Spur 1 (west) | \$200,000 |
| | Spur 2 (east) | \$185,000 |
| RL04 | Extend siding one mile northwest to accommodate unit train | \$2,000,000 |
| RL05 | Remove at-grade crossing upon completion of NM-568 overpass/interchange | To be determined by future study |

Opportunities

Opportunities to improve accessibility, safety, and potential development in the study area were identified in the Technical Memo. These opportunities address roadway extensions, road reconfigurations, electric vehicle infrastructure, and land use codes.

Road Extensions and Reconfigurations

While NM-122 provides continuous frontage road access on the north and east side of Interstate 40, there are only short and unpaved frontage roads on the south and west sides of the freeway. The construction of longer and improved frontage roads on the southern and western sides of I-40 would provide emergency access routes in the event of accidents, road closures, and inclement weather, and this effort would also allow for more development along this side of the freeway.

There is also an opportunity to reconfigure the Solid Waste Authority Road Access to Prewitt Industrial Park in McKinley County. The new route would address concerns from the existing route by providing a more direct route for freight traffic, utilizing an existing grade separated railroad crossing, and allow longer queue lengths between NM-122 and the BNSF rail line.

Land Use Codes

The study team evaluated the existing land use code for the Village of Milan to understand whether the code is supportive of the industrial park-type land uses proposed for the Milan Industrial Park and of transportation/logistics-type land uses elsewhere in the village needed to support the operation of the industrial park. The evaluation found that the current code showed that the code is somewhat restrictive of these land uses or imposes a burdensome approval process. In order to support successful development of the industrial park and associated land uses, the study team recommends several changes to the code. These are detailed in the Technical Report.

Outer Road Continuous Access



