

**City of Las Cruces**  
PEOPLE HELPING PEOPLE

*Long Range Transit Plan*



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## Executive Summary

The population of the Las Cruces metropolitan area is expected to increase 112% from 157,440 in 2010 to 334,420 in 2040, making it one of the fastest growing places in the State of New Mexico (Transport 2040). Existing conditions and trends of significance to the region's future transportation system include:

- By 2025, the age cohort of 65+ will significantly increase to make up 17% of the total population in the region.
- Planned development on presently undeveloped land east of I-25 will require new transportation infrastructure.
- Existing community plans and overlay districts in Las Cruces encourage or require connectivity through transit, bicycle and pedestrian infrastructure.
- Roadways and rail corridors in the region provide vital connections to national and international facilities.

### **Regional Long Range Transit Vision: Transport 2040**

*The Transport 2040 Long Range Transit Priorities Plan identifies a future network of transit express corridors, potential transfer centers, and neighborhood circulators. Future transportation sub-areas would receive community circulator service. Main transit centers, such as transfer points, would connect each transportation sub-area to a regional network of high capacity vehicles.*



City of Las Cruces South of US 70

To remain an attractive place to live and work, the region must expand its existing transportation system. The regional Long Range Transit Plan provides for multiple modes of transportation to help address the diverse travel needs of a growing population. In addition, transit oriented land use policies that encourage connectivity and higher density development will help ensure an efficient and accessible future transportation system.

## Process

The long range transit planning process included community and stakeholder involvement throughout project development.

- Phase I: Examine existing conditions and trends in the region with relevance to transportation.
- Phase II: Identify Transport 2040 transit express corridors for priority investment. Identify transit technologies that are appropriate for the region.
- Phase III: Develop the Long Range Transit Plan.

In step with the regional transportation plan (Transport 2040) vision, the process included coordination with land use planning to build the recommended future transit network.



## Key Findings

In the City of Las Cruces, RoadRUNNER Transit's services are part of the solution to current regional mobility needs; however, to significantly increase transit mode share the following elements are necessary:

- Increase service frequency, hours of operation, and Sunday service
- Increase average transit vehicle operating times and directness of routes
- Expand transit service to new areas, to include routes that travel across the region

The recommended future transit network provides cross-regional service for more direct connections to neighborhoods, schools, New Mexico State University (NMSU), Doña Ana Community College (DACC), Downtown Las Cruces, and other important local and regional activity centers.

## Key Recommendations

The recommended 2040 transit vision is a network of higher capacity services designed to expand the current transit service area and connect to key regional activity centers. Local bus and neighborhood circulator service would make connections to the network. The 2040 transit vision would add the following services to the region:

- High frequency local bus
- Commuter express bus
- Arterial bus rapid transit (BRT)
- Neighborhood circulator
- Potential high capacity (streetcar, rail, etc.) service<sup>1</sup>

It is recommended that the future transit vision is implemented as a series of phased investments. The short-term recommendations are low-cost system, operational, and capital investments with the potential to generate high yields in service efficiency, customer satisfaction and marketing. It is recommended that high capacity transit studies and capital infrastructure planning, design and construction occur in the mid to long term.

## Estimated Costs and Funding

The estimated cost to implement the long range transit vision includes new service enhancements, an expansion and replacement fleet, major planning studies, and passenger capital facilities. Table 1 shows the estimated operations, planning and administration (OPA) and capital costs for the existing transit system and the long range transit vision. It is anticipated that by the year 2040, the long range transit vision will cost the region \$252M more than existing funding for RoadRUNNER costs.

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<sup>1</sup> The plan identifies a High Capacity Transit Opportunity Area (streetcar, light rail, etc.) in central Las Cruces; however, additional study is recommended.



**Table 1. Estimated Cost Summary**

	Short Term (2012 – 2016)	Mid Term (2017 – 2028)	Long Term (2029 – 2040)	Total
<b>Existing Transit System</b>	\$23,886,000	\$74,019,000	\$105,533,000	\$203,438,000
<b>Long Range Transit Vision</b>	\$26,980,000	\$150,007,000	\$278,304,000	\$455,291,000
<b>Additional Cost</b>	<b>\$3,094,000</b>	<b>\$75,988,000</b>	<b>\$172,771,000</b>	<b>\$251,853,000</b>

Estimates include OPA and capital costs.

Source:

The total estimated costs in the short-term phase are only slightly higher than the existing funding for RoadRUNNER costs. However, the estimated operating and capital costs associated with the mid-term and long-term time frames will require significant revenue streams not currently available. Some of the capital investments may be feasible through federal capital assistance; however, an increased level of local or regional funding would likely be needed to support a significant increase in operations investments.

Additional funding could potentially come from multiple sources; however, any future consideration of additional funding would depend on local preferences and priorities. Potential funding sources may include local general revenues, tax increment financing (TIF), project specific grants, public-private-partnerships (P3), and/or the formation of a Regional Transit District (Gross Receipts Tax).

## **Policy Considerations**

Transit supportive development and administrative policies are key elements of a successful long range transit plan. In step with Transport 2040, the long range transit vision will require close coordination with regional land use plans. In addition, electronic transit improvements such as online trip planning and real-time bus location data may require careful consideration of policies that open up the availability of transit system data.





## Introduction

The Las Cruces metropolitan area is one of the fastest growing places in the state of New Mexico. National organizations, such as the American Association of Retired Persons (AARP), Milken Institute, *Forbes*, and *Money Magazine* rank the Las Cruces metropolitan area as one of the top places to retire and one of the top places for small metro areas for business (Transport 2040).

In addition to its attractiveness as a place to live and work, the Metropolitan Planning Organization (MPO) region is a critical part of the national transportation infrastructure. Roadways and rail corridors in the study area include cross-country freight routes and provide transportation connections to important national and international facilities. Some of these destinations include the Santa Teresa Port of Entry, Foreign Trade Zones located at the Las Cruces and Santa Teresa Airport, White Sands Missile Range, NASA, Spaceport America, El Paso, and Ciudad Juarez. It is important to ensure the MPO region is prepared to accommodate future increases in demand on its transportation infrastructure. A multimodal transportation network that includes a robust public transit system has a high potential to help resolve growth-related issues of increasing traffic on the region's roadways.

Over the next thirty years, transit service has the potential to play a significant role in maintaining the region's designation as an attractive place to live. At present, options to travel across the region are limited due to the lack of direct public transit service for the full length of primary arterial roadway corridors. Frequent public complaints about transit service include the lack of Sunday bus service, limited service hours and frequencies, and the need for improved transfer centers and bus stops. This plan refines and supplements the Transport 2040 Long Range Transit Priorities Plan (*Figure 1*) to provide recommendations for short, mid, and long-term investment in public transit through the planning year 2040.

*The Transport 2040 vision is to "serve all transportation users by planning, implementing, and maintaining a transportation system that coordinates land use and transportation planning."*



RoadRUNNER Transit Vehicle



Figure 1. Transport 2040 Long Range Transit Priorities Plan



Source: Las Cruces Metropolitan Planning Organization Regional Transportation Plan: Transport 2040



## Planning Process and Public Involvement

The study team developed a planning process that maximized opportunities for community input and built a strong knowledge base for the long range transit plan. The project took place in three phases, as shown in **Figure 2**. Deliverables consisted of four technical memos and this document, the Regional Long Range Transit Plan. Regular meetings provided community members and project stakeholders the opportunity to help shape the long range transit plan. A Project update was presented as part of the Las Cruces City Council June 2011 working session.

The study team established a Project Advisory Committee (PAC) to help guide development of the long range transit network. The PAC was comprised of staff from several Doña Ana County agencies, regional employers, local businesses, neighborhood and community organizations, and citizens-at-large. Handouts with information on how to become a PAC member were available at the first public meeting. PAC meeting minutes are provided in Appendix A.

Public meetings were held at different locations in Las Cruces with access to RoadRUNNER Transit bus routes. Public comments received to date are provided in Appendix A. The team held the following public meetings:

- Public Meeting #1: April 19, 2011, Las Cruces City Hall
- Public Meeting #2: August 25, 2011, Camino Real Middle School, 2961 Roadrunner Parkway
- Public Meeting #3: November 16, 2011, Las Cruces City Hall

**Figure 2. Planning Process**

Phase I
Developing Detailed Public Involvement Plan
Phase I Public Meeting
Project Advisory Committee
Phase II
City Council Presentation
Phase II Public Meeting
Project Advisory Committee
Phase III
Phase III Public Meeting
Project Advisory Committee
Transit Advisory Board Presentation
MPO Policy Committee Presentation
City Council Presentation



## Existing Conditions and Trends

Livable communities must address transportation in the context of changing demographics and land use. Existing conditions and trends help to identify a community's transportation problems and needs, now and in the future. Land use patterns, particularly residential and office/commercial, often reveal potential unmet transit markets. Existing bus ridership and traffic volumes help to identify areas that may require transit operational improvements.

## Socioeconomics

Socioeconomic indicators for Doña Ana County reflect a higher percentage of the population below the poverty level, a slightly higher level of persons with disabilities, and slightly smaller percentage of homes without an automobile than the national average, as noted in **Table 2**. The transit propensity analysis discussed later in this study takes into account the geographic distribution of populations and how they relate to the transit network.

**Table 2. Socioeconomic Quick Facts**

	% of Households below Poverty	% of Persons with Disabilities, Ages 21-64	% of Households without an Automobile
United States	12.28	15.99	6.25
Doña Ana County	25.39	16.83	5.02

Source: Transport 2040

**Figure 3** shows the location of low to moderate income neighborhoods in the City of Las Cruces. Except for the two low to moderate neighborhood areas on the East Mesa, the majority of the low to moderate income neighborhoods are located in the core area of the City: west of I-25, south of Main, north of University, and east of Interstate-10. These areas include portions of the University neighborhood, the Mesquite neighborhood, and the Alameda neighborhood, as well as some areas along Motel Boulevard.

## Residential Land Use

Locations with high concentrations of multi-family high density residential development are often strong transit markets. **Figures 6 and 7** show City of Las Cruces land use and zoning designations, respectively. **Figure 6** shows multi-family residential development in the City of Las Cruces. The following areas have concentrations of multi-family high density residential development:

- NMSU Area
- Downtown
- Telshor Boulevard /Mesilla Valley Mall Area
- Roadrunner Parkway
- US 70/Porter Road





**Figure 3. Low to Moderate Income Neighborhoods**

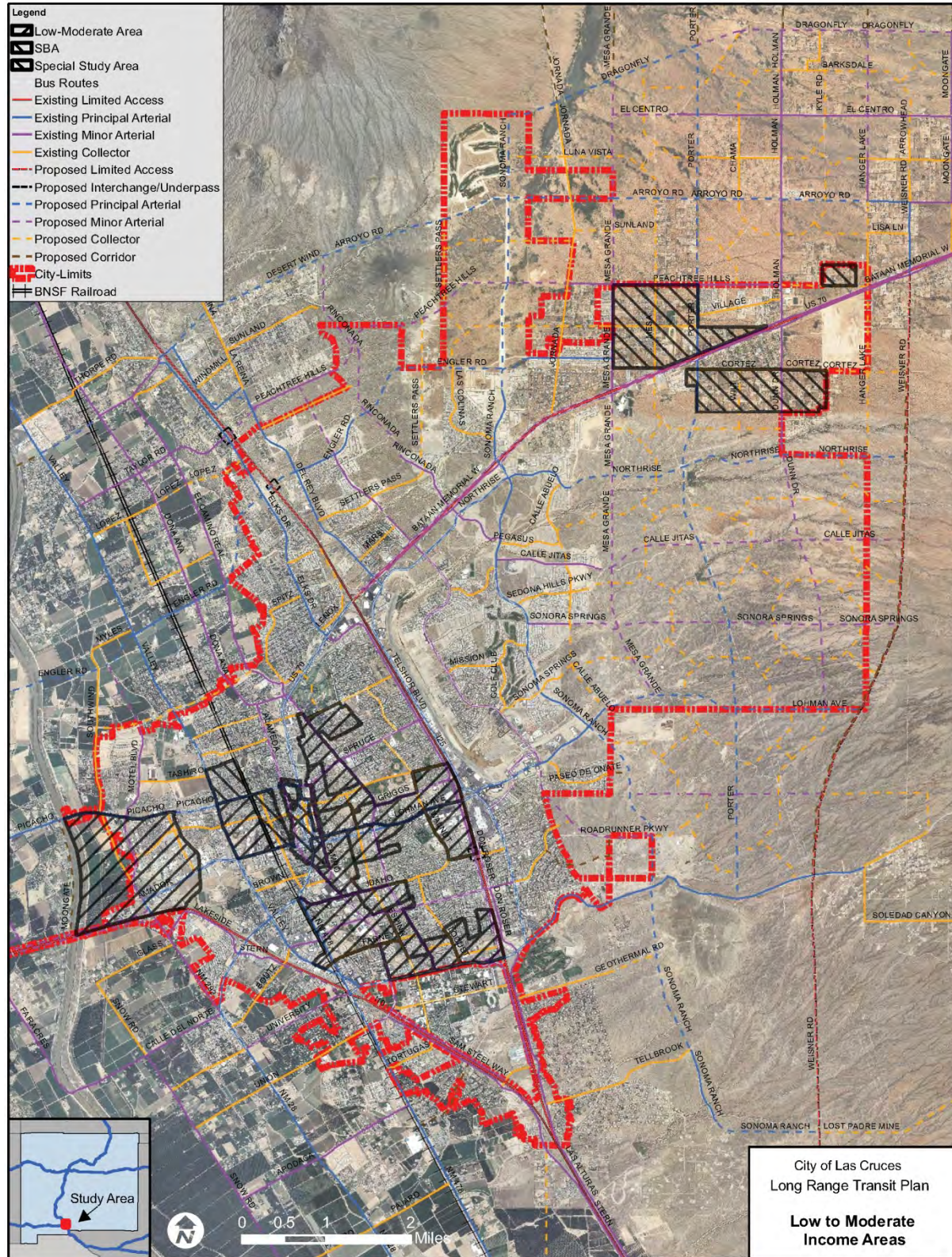






Figure 4. Existing Land Use

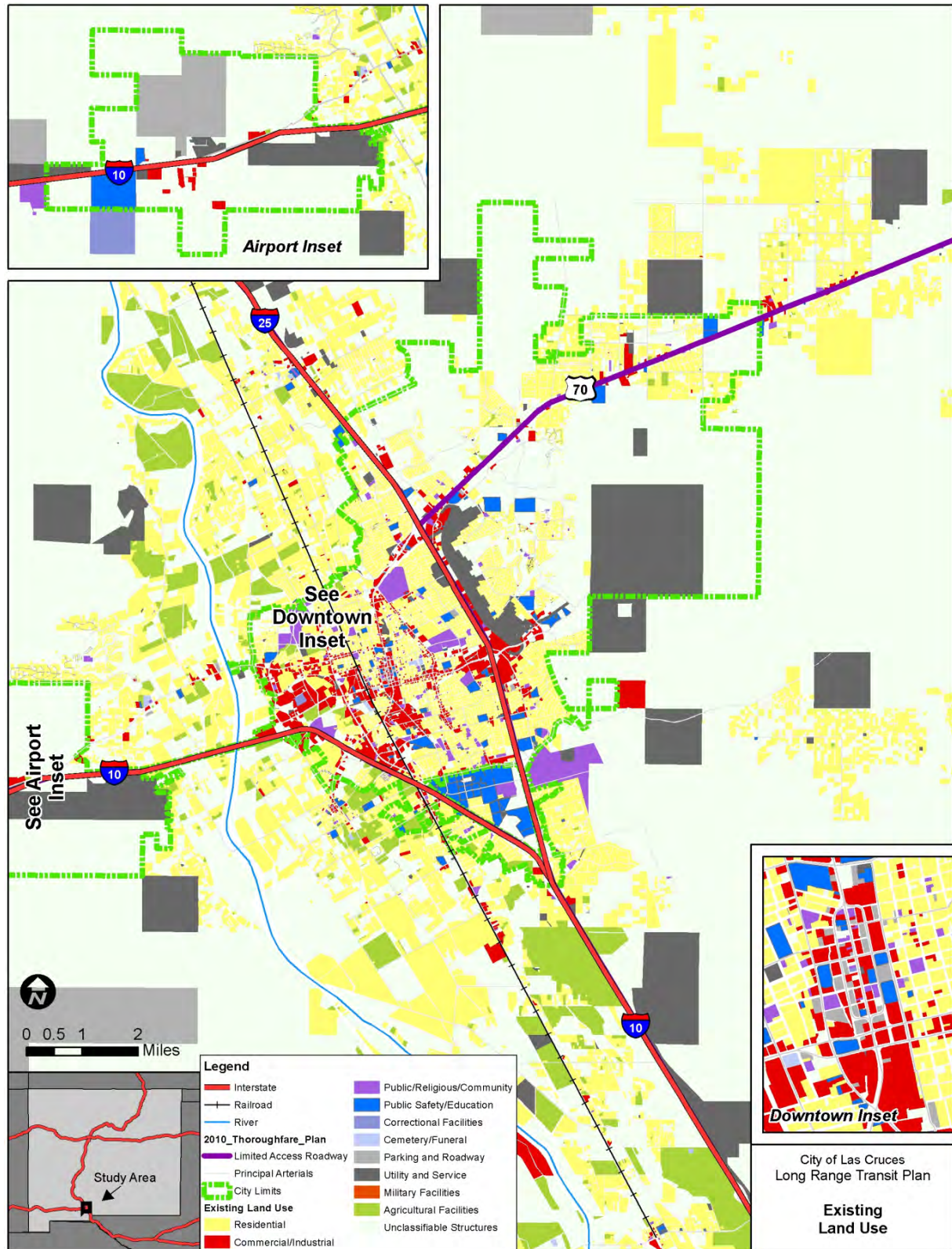
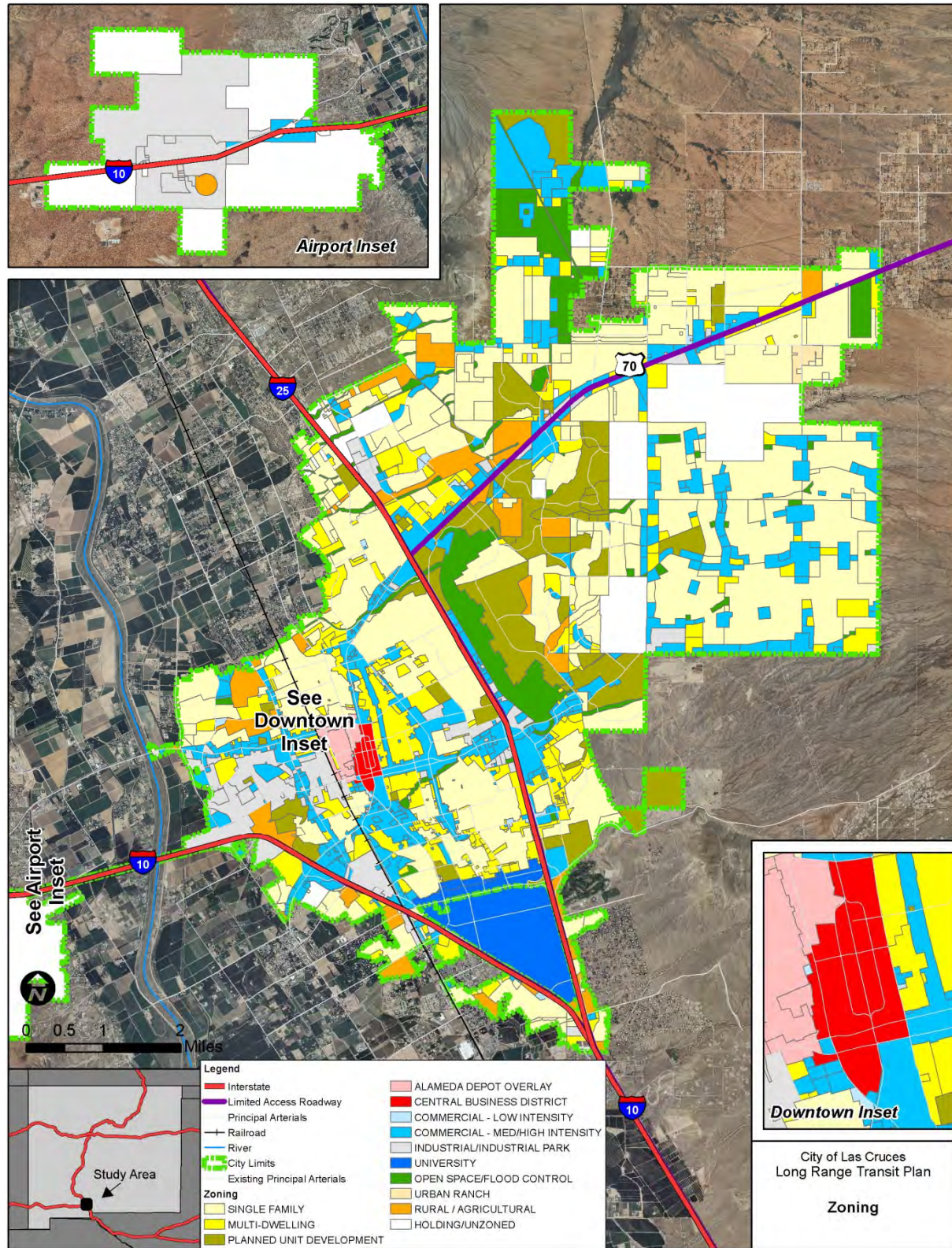






Figure 5. Zoning











A mix of residential development is present in Planned Unit Developments (PUDs) that have already been approved, particularly in the East Mesa area. Of particular note for transit planning is the Metro Verde PUD, which was approved by the City of Las Cruces in February 2011. It is noteworthy for two reasons: 1) the total number of proposed units, between 5,704 and 25,443 and 2) it incorporates a Neighborhood Mixed-Use Corridor.

## Commercial Land Use

Commercial corridors often provide a transit supportive mix of retail and entertainment land uses. In Las Cruces, most of the commercial corridors are located in the downtown area. The existing key commercial corridors and nodes in the City are found along the following thoroughfares:

- Picacho Avenue from Valley Drive to Motel Boulevard
- Avenida de Mesilla from Main Street west to the City limit
- Valley Avenue
- El Paseo Road from Missouri Avenue to Main Street
- Main Street from Valley Avenue north to I-25
- Solano Drive from Missouri Avenue north to Main Street
- Lohman Avenue from Main Street east to Roadrunner Avenue
- Telshor Avenue from Missouri Avenue north to Del Rey Boulevard

In the study area, it is important to note the pattern of commercial zoning in the undeveloped portion of the City of Las Cruces. The El Presidio Master Plan area is a large, undeveloped portion of the East Mesa area of the City. A review of the zoning layout for this area shows a fairly traditional distribution of commercial zoning at the intersections of major arterials.

## Major Employment Centers

Employment centers are in dispersed locations across the study area.

**Table 3** shows the largest employers in the study area by number of employees. **Figure 7** shows the geographical distribution of employment centers. The largest employer, NMSU, is located at the extreme southern edge of the City. The City Hall and Federal and Municipal Court Centers are located downtown and the Doña Ana County Government Center is located on the western edge of the City. The Administrative Headquarters for the Las Cruces Public Schools is also located Downtown, although a majority of the employees are distributed at school sites throughout the City. Transport 2040 highlights the following areas of the City as employment activity areas:

- West Mesa Industrial Park
- Downtown Area
- NMSU Area and the Arrowhead Research Park
- Telshor-Lohman Area



**Table 3. Largest Employers in the MPO Area**

500-999 Employees	1000-2999 Employees	3000 + Employees
Doña Ana Community College Doña Ana County Mountain View Regional Medical Center NASA White Sands Test Facility Sitel/Client Logic Tresco Inc. Coordinated Care Corp.	City of Las Cruces Gadsden Independent Schools Memorial Medical Center Wal-Mart	NMSU Las Cruces Public Schools

Source: Transport 2040

## Traffic Volumes

The highest traffic volumes are concentrated on several primary thoroughfares. Existing RoadRUNNER Transit service coincides with the many of the most heavily trafficked roadways. **Figure 8** shows Annual Average Daily Traffic (AADT) in the City of Las Cruces. Transit corridors with AADT greater than 20,000 are University Avenue, Lohman Avenue, Telshor Boulevard, Main Street – US 70, Valley Drive, and Picacho Avenue. Other well traveled routes ranging between 15,000 and 20,000 AADT include portions of University Avenue, Amador Avenue, and Solano Drive.

## Special Planning Areas

Community planning areas often have development guidelines and/or policies that support transit, such as pedestrian and bicycle friendly streetscapes, parking policies, and higher density mixed use development. The City of Las Cruces has several overlay districts as shown in **Figure 9**. These areas include:

- Alameda Depot
- Avenida de Mesilla
- Central Business District
- Lohman Avenue
- North Mesquite
- South Mesquite
- University District



*Lohman Avenue and Telshor Boulevard*

In addition to these areas, *Picturing El Paseo* is a community planning effort for El Paseo Road that involves a number of state, local and regional stakeholders in partnership with the US Environmental Protection Agency, Federal Highway Administration and the US Department of Housing and Urban Development.





Figure 7. Major Employment Centers

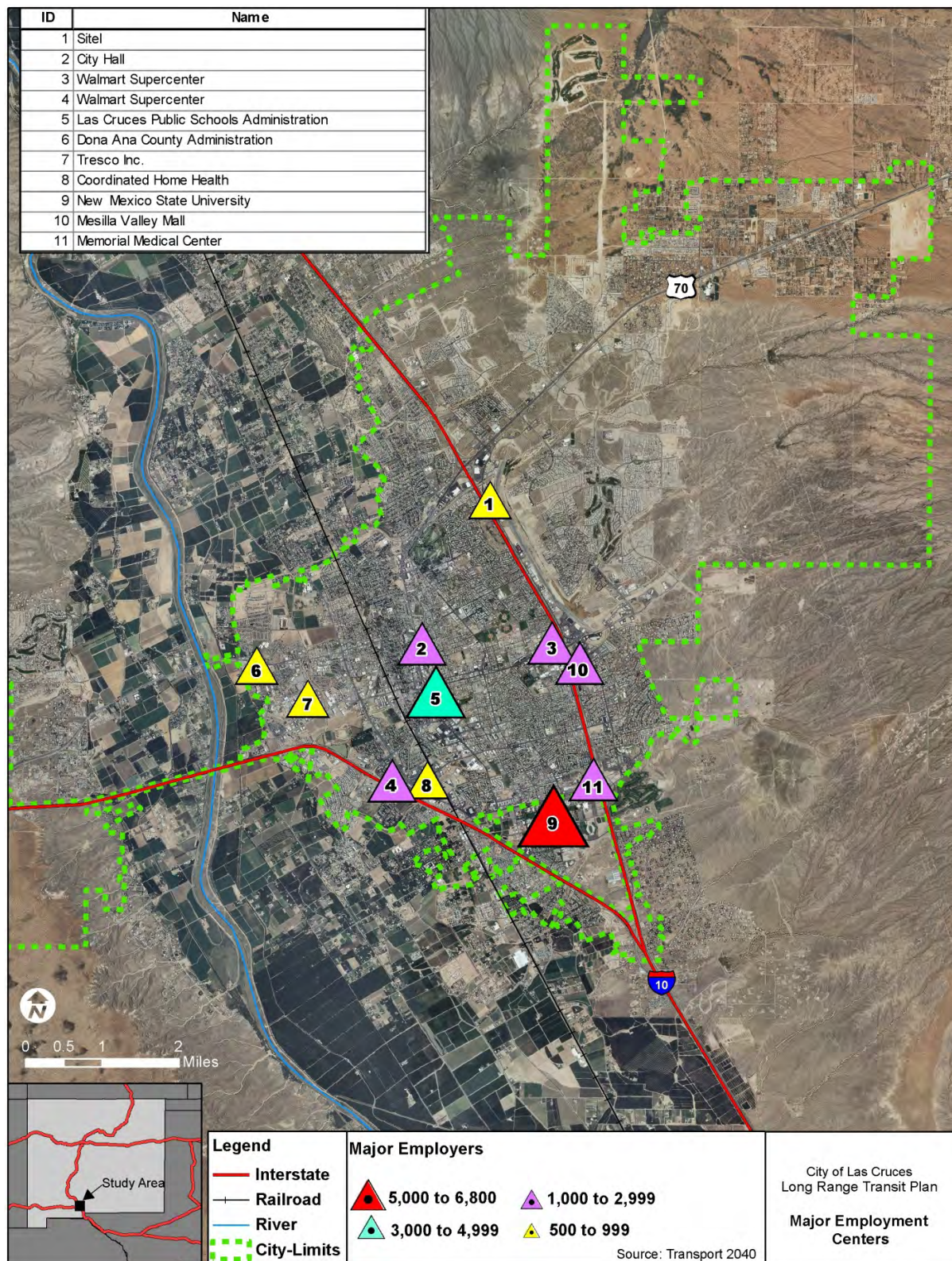






Figure 8. Traffic Volumes

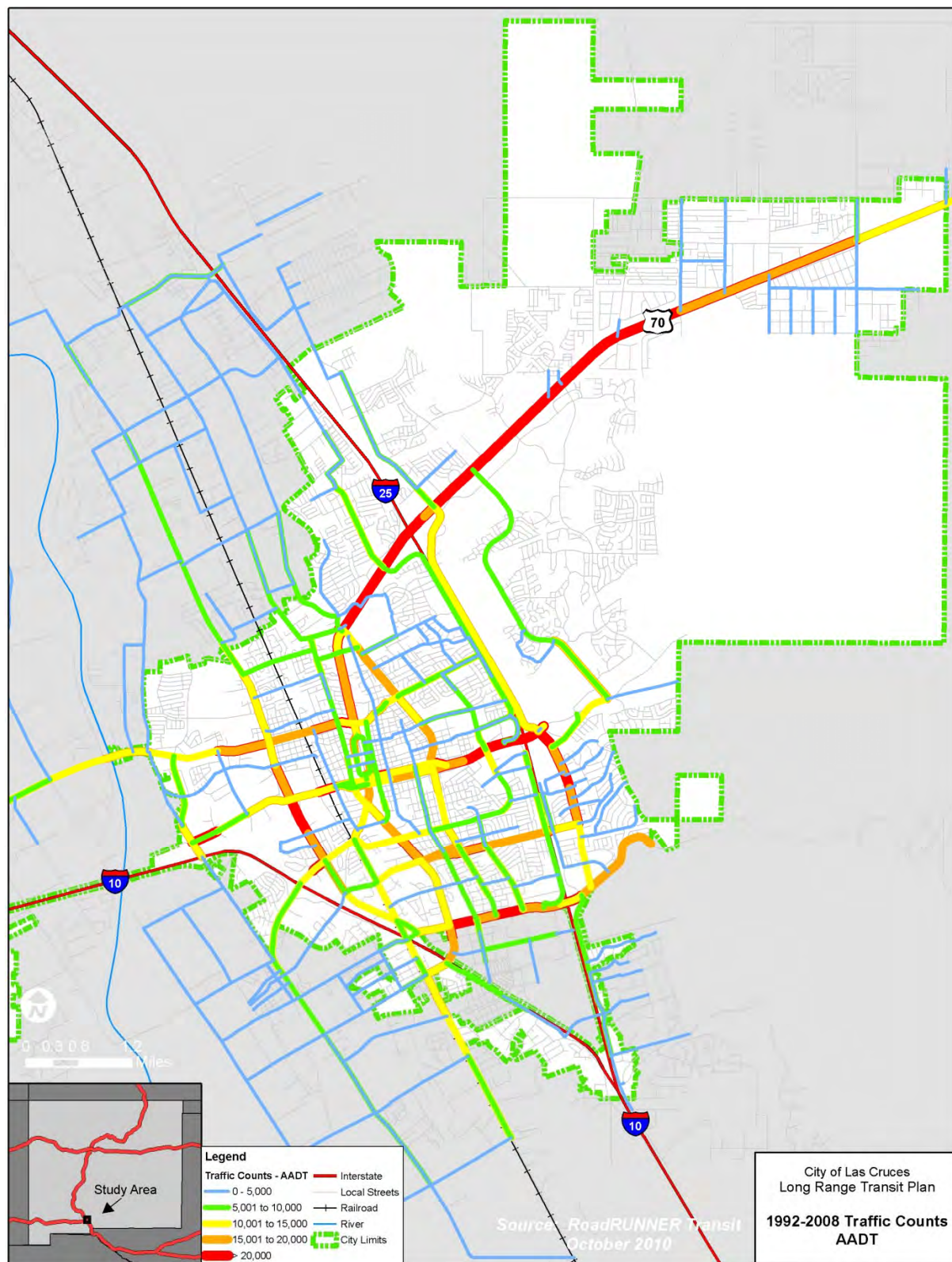
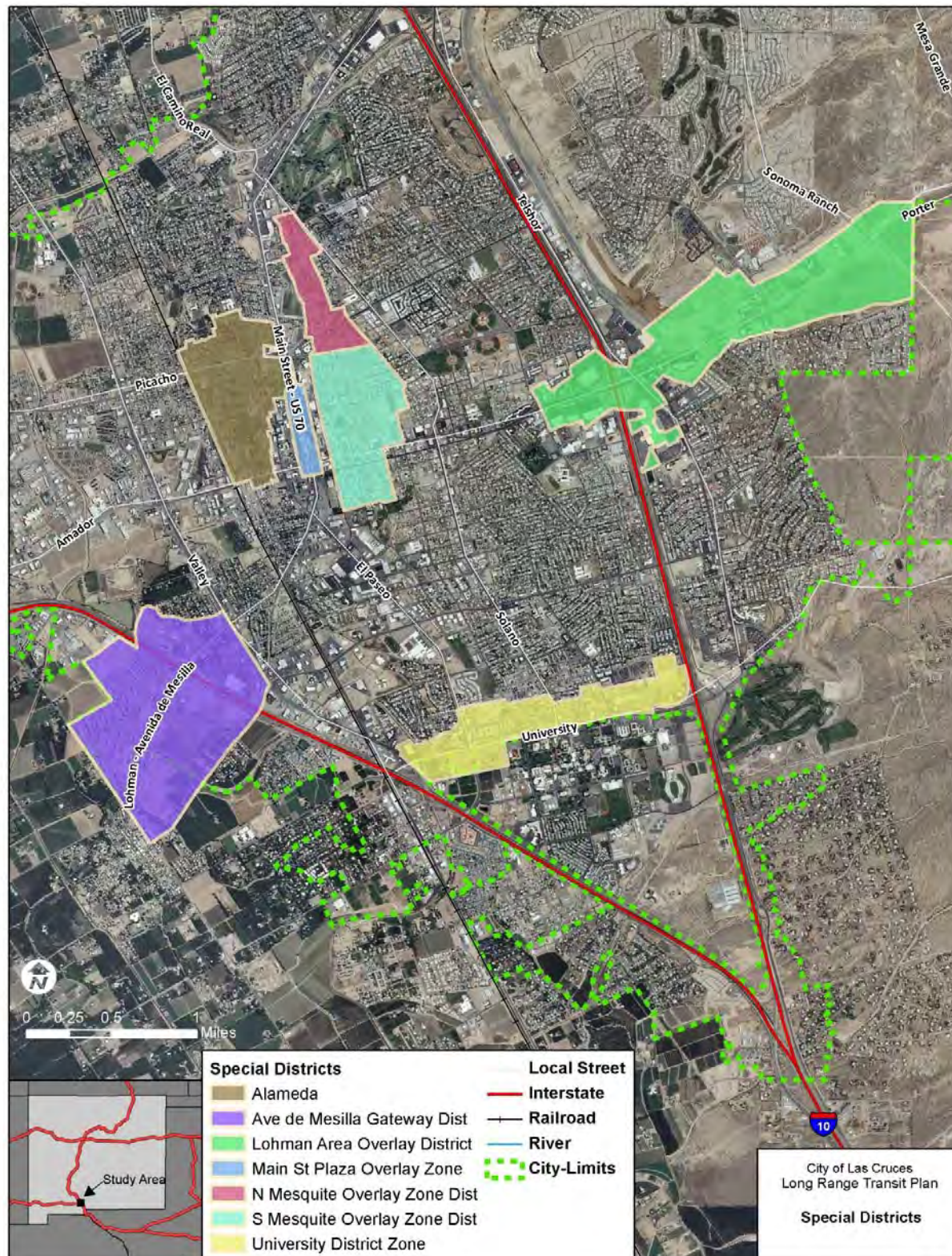






Figure 9. Special Planning Districts





## Existing and Planned Transit Service

Public transit service within the Las Cruces MPO is a combination of fixed route and express bus service, as well as several programs that provide on-demand transportation. The City of Las Cruces, under the Department of Public Services, operates RoadRUNNER Transit and provides most of the fixed route and on-demand public transit service in the City of Las Cruces, Town of Mesilla, and within the NMSU campus. Other transit services are provided through the New Mexico Department of Transportation (NMDOT), Doña Ana County and other public and private transit service operators.



RoadRUNNER Transit Vehicle

## Existing Service

### RoadRUNNER Fixed Route Service

RoadRUNNER Transit service operates nine routes, identified in *Table 4*. A new service plan, implemented in 2008, made all of the routes bi-directional, with the exception of routes 40 and 50. The hours of operation are from 6:30 AM to 7:00 PM Monday-Friday and from 9:30 AM to 6:00 PM on Saturday. There is no Sunday service.

Fares are \$1 for adults, and \$0.50 for youth (age 6-18), senior citizens (age 60+), persons with disabilities, Medicare holders, and students<sup>2</sup>. Children age five and younger are free, with a limit of three children per group. Packaged fares are available, a 30-Ride Card and a 31-Day Pass are each \$30.00 for adults and \$15.00 for youth passengers. Weekly fares are \$8.00 (adult) and \$4.00 (youth). A daily pass maybe purchased for \$2.25 (adult) and \$1.25 (youth).

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<sup>2</sup> RoadRUNNER Transit fares: <http://www.las-cruces.org/public-services/roadrunner/index.shtm#fares>, March 11, 2011.



**Table 4. RoadRUNNER Fixed Route Service**

Route	Destinations*
Route 10 (Desert Orange)	Branigan Library, Golf Course, MMC Health Plex, Onate High School, East Mesa Recreation Center, Convention & Visitors Bureau, Highland Elementary
Route 20 (Sun Yellow)	NMSU Buildings, Las Cruces High School, YWCA, Omni Apartments, Sierra Verde Apartments, Veteran's Affairs
Route 30 (Aggie Crimson)	Memorial Medical Center, Pan Am Plaza, Paisano Apartments, First Community Bank, NMSU Bldg., Good Sam Village, Telshor Apartments
Route 40 (Pecan Brown)	Wells Fargo Tower, Pueblo Plaza, St Jude's Church Zia Middle School, Wal-Mart, Prime Time Fitness, Denny's
Route 50 (Rio Grande Blue)	Wells Fargo Tower, Mayfield High School, Alameda Elementary, Senior Hospitality House, Central Elementary, Department of Labor, City Office Center
Route 60 (Sky Blue)	Solano Square, Buena Vida Apartments, Wal-Mart, Lynn Middle School, Conlee Elementary School, Teachers Center
Route 70 (Chile Green)	Sierra Middle School, St. Genevieve Parish, East Side Community Center, Fielder Memorial, Sierra Middle School, Urgent Care
Route 80 (Cactus Green)	Gospel Rescue Mission, Con Agra Foods, Detention Center, Main Post Office, Branigan Library, Chamber of Commerce, City Office Center
Route 90 (Roadrunner Red)	Mountain View Hospital, Desert Hills Elementary, Camino Real Middle School, MMC Healthplex, Veterans Park, Desert Hills Elementary, Bank of the West

\*Sampling of destinations for descriptive purposes. Source: RoadRUNNER Transit website, 2011.

This is a “pulse” system, meaning that several routes meet at and depart from a common transfer point at the same scheduled time; usually on the hour or half-hour. There are three transfer points in the RoadRUNNER system: Central Transfer Point (CTP), Mesilla Valley Mall (MVM), and Venus Transfer Point (VTP). The current CTP is located at the northeast corner of Amador Road and South Water Street. This facility will be replaced by a new CTP, to be located at Alameda Boulevard and Lohman Avenue. **Table 5** shows the transfer points and schedules.

**Table 5. Transfer Point Schedule**

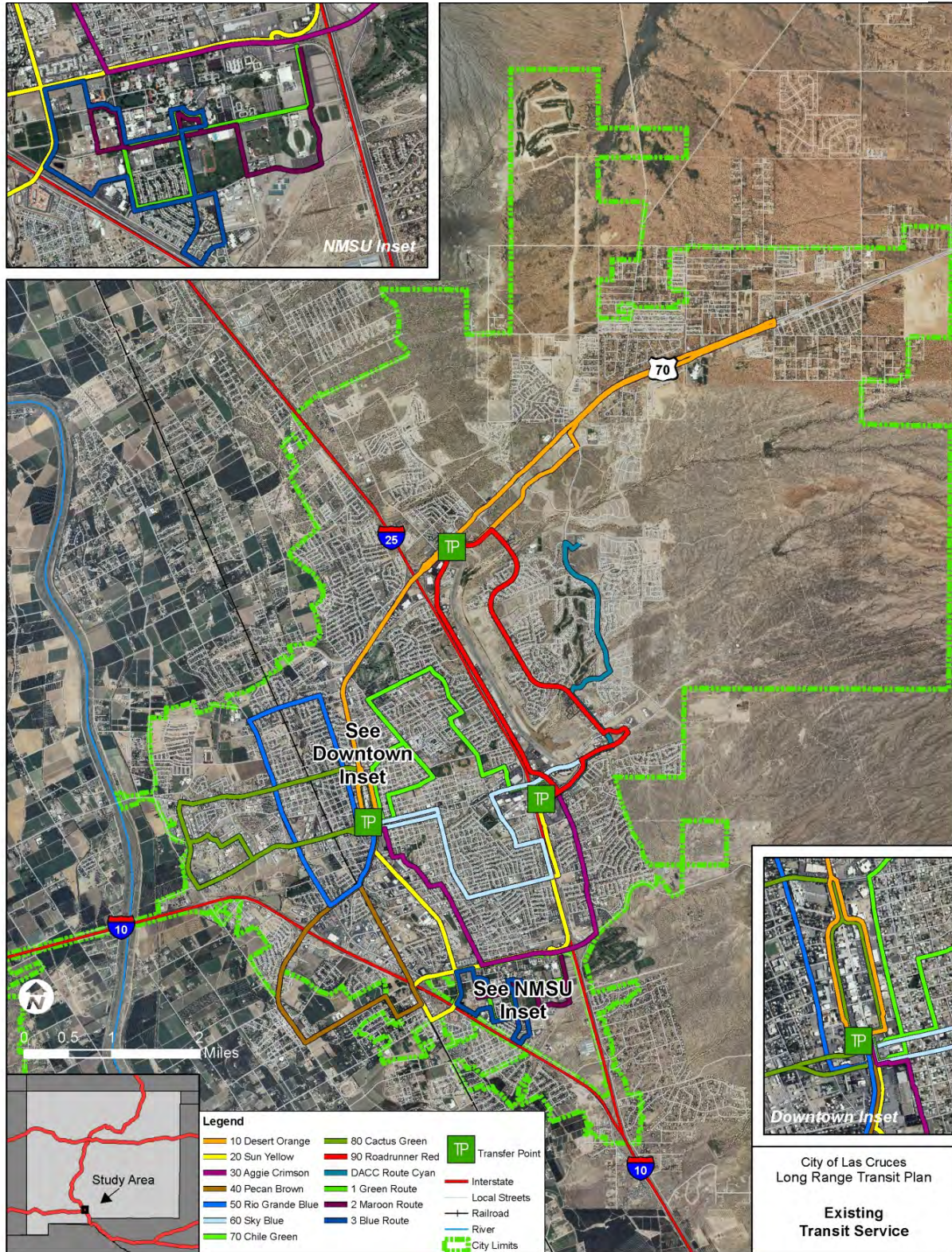
	Central Transfer Point Routes	Mesilla Valley Mall Routes	Venus Transfer Point Routes
On the Hour	30,50,70,80	20,60,90	No Routes
On the Half Hour	10,20,40,60,80	30,70,90	10, 90 (on :15 and :45)

Source: RoadRUNNER Transit website, 2011.





Figure 10. Existing RoadRUNNER Transit System







### Transit Service Ridership

In fiscal year 2010, nearly 602,000 passenger trips were taken on RoadRUNNER buses (including the Aggie and DACC routes). The two top performing routes (20 and 80) accounted for approximately 27% of the system's total ridership. Since 2003, ridership has remained above 600,000 annual boardings; however, fixed route ridership peaked in 2007 (733,128 boardings) and has declined each year since. A summary of the RoadRUNNER Transit System's historic annual ridership statistics is provided in [Table 6](#) and [Table 4](#). FY 2010 Ridership for July 2009 through June 2010 is shown in [Figure 11](#).

**Table 6. Annual RoadRUNNER Transit System Ridership**

Fiscal Year	Annual Ridership
2010	601,782
2009	656,590
2008	671,727
2007	733,128
2006	691,649
2005	622,560
2004	602,573
2003	624,166

Source: RoadRUNNER Annual Ridership Summaries

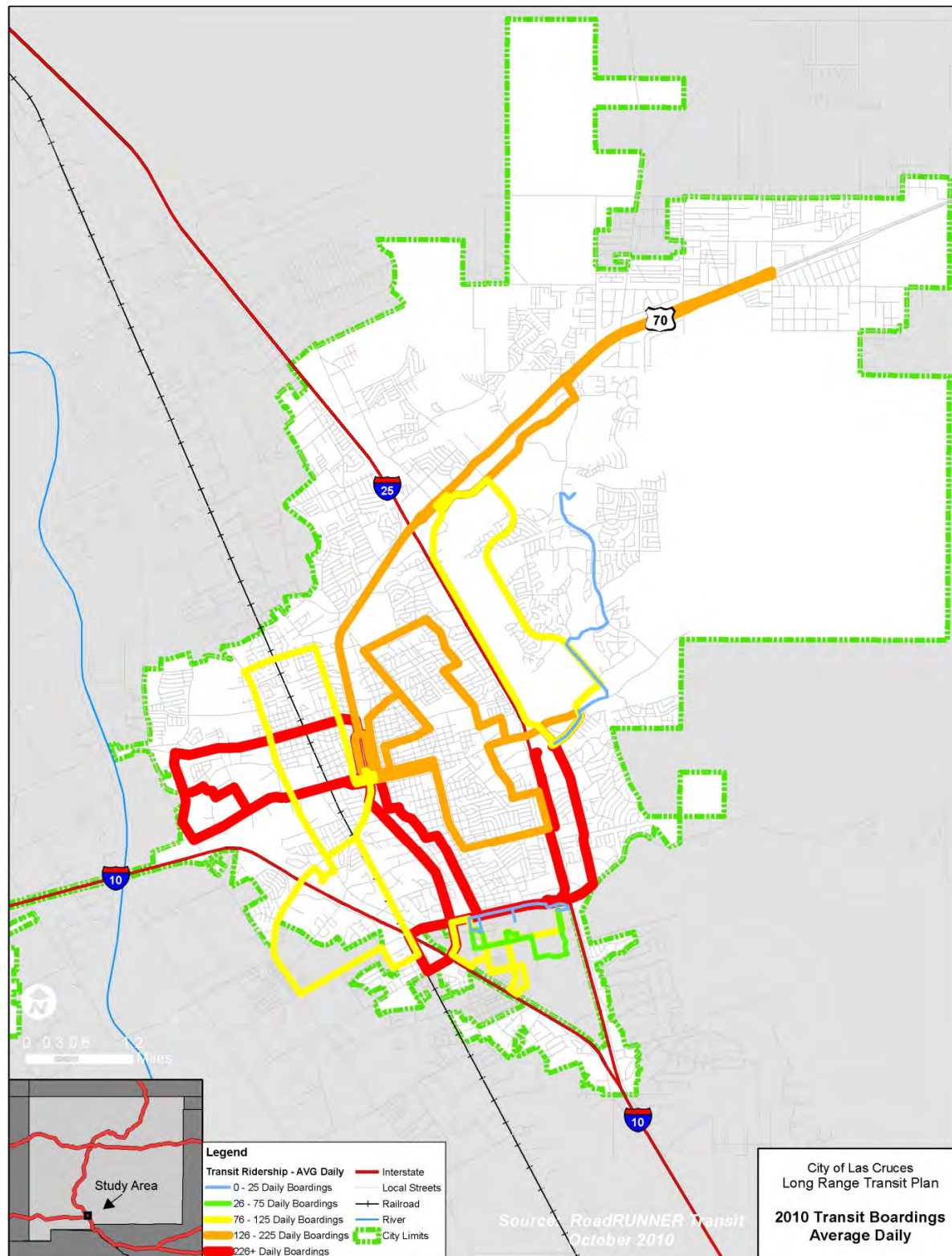
**Table 7. Annual RoadRUNNER Transit Ridership by Route**

Route	Annual Boardings	Percent
Route 10	59,179	9.80%
Route 20	82,618	13.70%
Route 30	74,196	12.30%
Route 40	31,721	5.30%
Route 50	30,583	5.10%
Route 60	66,647	11.10%
Route 70	59,151	9.80%
Route 80	92,513	15.40%
Route 90	33,339	5.50%
Route 1 Aggie	24,970	4.10%
Route 2 Aggie	17,178	2.90%
Route 3 Aggie	25,183	4.20%
DACC	4,504	0.70%
<b>Total</b>	<b>601,782</b>	<b>100.00%</b>

Source: RoadRUNNER Transit FY 2010 Ridership.



Figure 11. 2010 RoadRUNNER Transit Boardings





## Aggie Transit

Aggie Transit consists of four routes that are contracted through RoadRUNNER Transit. This is a free service and each route operates at a 20-minute frequency. Hours of operation for Aggie Transit routes are 7 AM to 6 PM, Monday through Friday. **Table 8** identifies route destinations. Three routes have a common transfer point at the NMSU Food Court. Two of the routes provide service between the Pan American parking lot and NMSU. The third route provides a circulator service to several NMSU buildings, Doña Ana Community College, apartments, residential halls, and a neighborhood. This same route provides a connection to the RoadRUNNER Transit System on University Avenue.



Aggie Transit Bus Shelter

**Table 8. NMSU Aggie Transit – RoadRUNNER Transit Service**

Route	Destinations
Green	Three loops per hour between the Pan American parking lot, the NMSU food court, and DACC.
Maroon	Three loops per hour between the Pan American parking lot, the NMSU food court, and Gerald Thomas.
Blue	Three loops per hour between the Research/Center, Union/Stewart, and the NMSU food court.
Jordan Express Shuttle (Red Route)	Knox Street parking lot, Jordan Street bus stop, and the Pan American parking lot. This route leaves the Knox Street and the Pan American parking lots every twenty minutes.

Source: RoadRUNNER Transit website, 2011

## Doña Ana Community College Shuttle

The DACC Shuttle is a free service that operates between Mesilla Valley Mall and DACC East Mesa Campus. This service only operates when the semester is in session.

## New Mexico Department of Transportation Park & Ride

The New Mexico Department of Transportation (NMDOT) Park & Ride service is a state-wide express bus service that includes seven bus routes and two local shuttles.<sup>3</sup> Two NMDOT Park & Ride routes are operated within the MPO area; the Silver Route and Gold Route. The Park & Ride Silver Route provides service from NMSU and the City of Las Cruces to White Sands Missile Range (WSMR). The service operates Monday through Friday, with the exception of holidays. Morning service operates from 6 AM to 7:45 AM. Evening service operates from 3:48 PM to 5:25 PM, Monday to Thursday. On Fridays, evening service operates between 2:38 PM and 4:15 PM. A one-way fare on the Silver Route (NMSU-Las Cruces-



NM Park & Ride Bus

<sup>3</sup> NMDOT Park & Ride information: NMDOT Silver and Gold Route Service Schedule effective May 3, 2010.



WSMR) may be purchased for \$3.00 and a monthly pass for \$90.00. Designated parking areas for Silver Route passengers are located near the US 70 / I-25 intersection and NMSU.

The Gold Route provides express bus service between downtown Las Cruces, NMSU, Anthony, and El Paso, Texas. The service operates Monday through Friday, with the exception of holidays. Fares are the same as they are for the Silver Route, \$3.00 per one-way fare and \$90 for a monthly pass. Morning service hours at the Las Cruces Terminal and NMSU are between 5:30 AM and 9:08 AM. Evening service hours for the Las Cruces Terminal and NMSU are between 4:15 PM and 8:28 PM. Pick-up and drop-off locations for the Gold Route are located in downtown Las Cruces at the Las Cruces Terminal and NMSU, east of the Pan American Center. The Gold Route serves the Bert Williams Downtown Santa Fe Transit Center and the West Side Transfer Center in El Paso, Texas. In addition, the route stops in Anthony, Texas.

### **RoadRUNNER Dial-a-Ride Service**

Dial-a-Ride service is offered by the City of Las Cruces to senior citizens and qualified individuals with disabilities as defined by the Americans with Disabilities Act (ADA). The Dial-a-Ride Senior Transportation program is provided by the City of Las Cruces for seniors 60 years of age or older. In addition, complementary ADA Paratransit service is provided to individuals who are certified as unable to access fixed route service because of a disability. The fare is \$2.00 for a one-way trip, and the hours of operation are the same as RoadRUNNER Transit fixed route service.

### **Other Transit Service**

Human services transportation programs in the MPO area consist of a mix of government agencies, nonprofit organizations, and private operators. In addition to fixed route and Dial-a-Ride service, available human services transportation options include job access service and transportation for the developmentally disabled. Transportation providers include the South Central Council of Government, Ben Archer Health Services, and Tresco, Inc.

Intercity service includes Greyhound Bus, airport shuttles, and private taxi service. A Greyhound Bus station in Las Cruces provides access to bus lines which serve Denver, CO, Albuquerque, NM, El Paso, TX, Amarillo, TX, Los Angeles, CA, and Mexico. An airport shuttle provides transportation between Las Cruces and El Paso International Airport. Private taxi services also operate in the study area.

### **Planned Transit Service**

Planned transit service investments are described in the City of Las Cruces RoadRUNNER Transit Strategic Plan 2010 to 2015 Update (Strategic Plan). In addition to the Strategic Plan, three other documents provide information about future planned transit investments. These documents include:

- Las Cruces Metropolitan Planning Organization Regional Transportation Plan: Transport 2040
- South Central Regional Transit District (SCRTD) Transit Service and Financial Plan





Coordinated Mobility Action Plan (CMAP) for Human Services TransportationTable 9 provides a summary of the planned future transit investments in the Las Cruces area. In addition to the future planned transit investments identified in *Table 9*, a long range vision for the region's transit network is identified in Transport 2040. The long range vision includes a series of circulator bus routes serving defined subareas of the community. The circulators would provide connections to local destinations and connections to transit centers. At the transit centers, passengers would be able to connect to a network of express buses or high capacity transit services such as bus rapid transit (BRT) routes, light rail or streetcar. *Figure 1* provides an illustration of the proposed long range transit vision for the planning year 2040.

**Table 9. Planned Transit Investments**

Type	Investment	Status
RoadRUNNER Bus Service	Transit route from motel to Mountain View along Lohman/Amador	Strategic Plan
RoadRUNNER Bus Service	Add/reconfigure routes to serve Elks, Del Rey, Idaho, Porter and east US 70	Strategic Plan
RoadRUNNER Bus Service	Provide bi-directional service on routes 40 and 50	Strategic Plan
RoadRUNNER Bus Service	Service out further on US 70 to Weisner Road or Brahman	Strategic Plan
RoadRUNNER Bus Service	Service along Main and Solano to University	Strategic Plan
RoadRUNNER Bus Service	Las Cruces to Anthony service along NM 478	Part of Long Range Transit Plan Study
RoadRUNNER Bus Service	Add service along Sonoma Ranch	Strategic Plan
RoadRUNNER Bus Service	Incrementally increase headway of routes to 30 minutes	Strategic Plan
Express Route Service	Modern streetcar from downtown to NMSU	Under study
Express Route Service	Express route along Lohman/Amador	Strategic Plan
Express Route Service	Express route along US 70	Strategic Plan
Express Route Service	Express routes along Main/El Paseo	Part of Long Range Transit Plan Study
Express Route Service	Express route along Solano	Part of Long Range Transit Plan Study
Express Route Service	Express route along University	Part of Long Range Transit Plan Study
Underserved Areas	East Mesa DACC connection	Bus connection between Mesilla Valley Mall and campus began in 2009
Underserved Areas	Senior transportation from Vado to Las Cruces, (especially night service)	SCRTD plan
Underserved Areas	Social service agencies in Picacho/Motel area	Part of Long Range Transit Plan Study
Underserved Areas	Service to Dina Ana serving Ben Archer, Dental Clinic, and La Clinica	Part of Long Range Transit Plan Study



Type	Investment	Status
Underserved Areas	Daily van for rural communities	CMAP Action Plan
Underserved Areas	Station in Vado	SCRTD Plan
Underserved Areas	Increase rural service connections to City transit system	SCRTD Plan
Rail Service	Rail Service (Las Cruces to Albuquerque)	SCRTD Plan
Rail Service	Rail Service (Las Cruces to El Paso) with stations at: Spaceport, Radium Springs, El Paso Airport, and UTEP.	SCRTD Plan; highest priority

### Existing/Planned Passenger Facilities

The RoadRUNNER Strategic Plan identifies capital improvements and assigns each a short, mid, or long-term implementation horizon. Some actions, such as adding 10 new bus shelters per year, are on-going projects. Short-term goals include increasing the number of locations where fare cards are sold, establishing a maintenance schedule for existing bus shelters, and providing route maps and schedules at stops without shelters. Mid to long-term goals include the following capital projects:

- Construct a primary intermodal center at Alameda and Lohman
- Make improvements to the Venus Transfer Point
- Analyze acquisition of a land parcel for future east side transfer point
- Develop and increase incorporation of design standards for bus facilities
- Make improvements to the transfer point at Mesilla Valley Mall

The RoadRUNNER Strategic Plan also identifies technological improvements for system operations and customer service. The purchase of hybrid and electric buses is identified as a transit goal. Other items identified in the Strategic Plan are Intelligent Transportation System (ITS) real-time information at major transfer points and passenger counting ITS support. Finally, Transport 2040 identifies park and ride facilities at exits on I-10 from NMSU to Anthony and US 70 as items for consideration as part of the Long Range Transit Plan Study.

### Existing/Planned O&M Facilities

The City of Las Cruces is currently planning a consolidation of fleet services at a site located on Motel Boulevard. The proposed facility would include a separate dedicated section for RoadRUNNER Transit operations and maintenance. The planned facility, for which the City of Las Cruces hopes to begin initial design work in 2012, would utilize a combination of local and Federal Transit Administration (FTA) funding.



## Transport 2040 Express Corridor Analysis

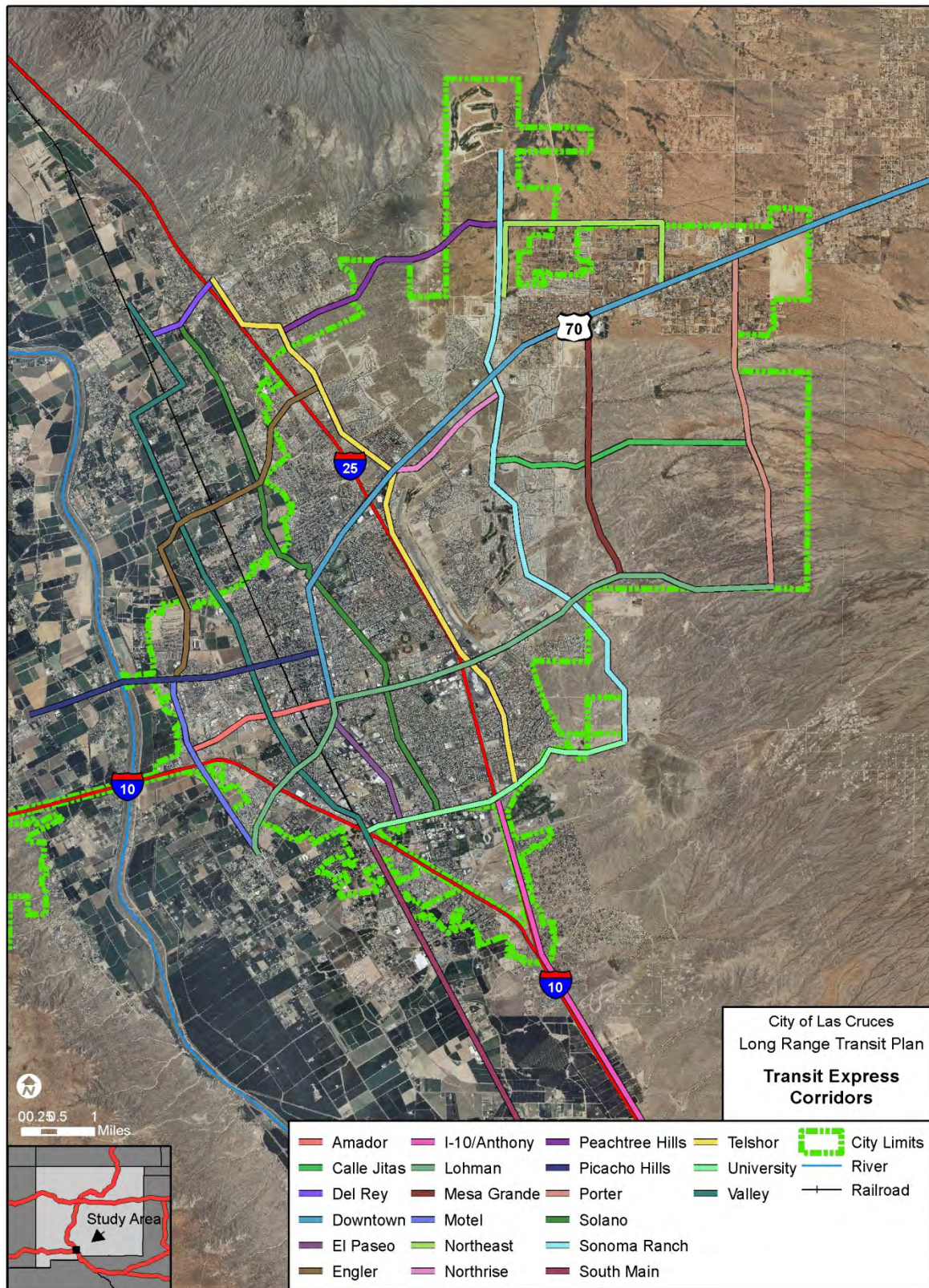
This section will identify the Transport 2040 express corridors that have the highest potential to support public transit service. Transit express corridors identified for public investment will be those that best support existing plans for growth and development. *Figure 12* shows the Transport 2040 express transit corridors. El Paseo (Main to University) was not identified by Transport 2040 as a potential transit express corridor; however, the roadway corridor is included in this analysis due to its role in on-going community area planning efforts. The roadway corridors for public transit investment consideration are as follows:

1. Amador (Downtown - County Building)
2. Calle Jitas (Sonoma Ranch - East Side)
3. Del Rey to Doña Ana Rail Stop
4. Downtown (Main Street - US 70 East)
5. El Paseo (Main - University)
6. Engler Underpass (Railroad - Doña Ana County)
7. I-10 (Las Cruces - Anthony)
8. Lohman (Avenida de Mesilla - Sonoma Ranch - East Side)
9. Mesa Grande (US 70 - Lohman)
10. Motel (Picacho - Town of Mesilla)
11. Northeast (Porter - Peachtree Hills)
12. Northrise (VTP - Sonoma Ranch)
13. Peachtree Hills/Schools (Del Rey - Doña Ana)
14. Picacho (Picacho Hills – Downtown)
15. Porter (US 70 - Lohman)
16. Solano (Doña Ana - Apodaca Park - University)
17. Sonoma Ranch (HS - Lohman - US 70 - North Golf Course)
18. South Main (Mesilla Park – Anthony)
19. Telshor (Del Rey - Doña Ana - University)
20. University (HS - Mesilla Park)
21. Valley (Thorpe - Mesilla Park)





Figure 12. Transit Express Corridors





## Corridor Analysis Criteria and Scoring

Important regional long range planning considerations include key destinations (such as universities and employment centers) and where demand for housing, jobs, and services is likely to be in the future.<sup>4</sup> Each Transport 2040 transit express corridor received an overall score that reflects its potential to become a part of the regional long range transit system. **Table 10** describes the transit express corridor analysis criteria.

**Table 10. Corridor Analysis Criteria**

Element	Transit Supportive Criteria
Residential (Transit Supportive)	Higher density, multi-family residential land uses. R-3, R-3a, R-4, R-4a and R1-b zoning designations.
Office	Clusters of major employers. Areas with office zoning designations.
Commercial Land Use and Zoning	Retail activity centers at intersections and along travel corridors. Areas with commercial zoning designations.
Municipal/Civic Land Use	Civic destinations include arts, culture, governmental and recreation facilities. Includes areas with concentrations of social services.
Special Planning Areas	Areas with special planning or zoning designations. Often have transit supportive design guidelines. Serve as places of community significance.
Transit Ridership	The average daily boardings of routes within the RoadRUNNER Transit system.
Traffic	Traffic volume and circulation patterns. 1992-2008 Annual Average Daily Traffic.

The transit express corridors with high scores for most of the criteria have a higher likelihood to support an investment in public transit than lower scoring corridors. The corridor scores provided in **Table 11**, however, do not account for every circumstance. For example, the criteria do not directly enumerate the potential transit ridership or vehicular traffic values in future growth areas where there is no existing data to accurately project future performance levels.

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<sup>4</sup> Center for Transit Oriented Development. (2011). *TOD 204: Regional Planning for TOD*. Zimbabwe, Sam and Anderson, Alia.





Table 12 shows the highest scoring transit corridors. Three corridors, Motel, Peachtree Hills/Schools, and Northeast are not recommended for priority consideration despite having higher scores than other corridors. The corridors recommended for classification as a priority transit investment corridor have been selected based on their assigned scores; however, consideration was also given to providing reasonable geographic coverage throughout the community and minimizing the number of parallel priority transit corridors that are in close proximity.

**Table 11. Long Range Transit Corridor Analysis**

	Residential Zoning (Transit Supportive)	Commercial & Office Zoning	Municipal Land Use	Special Planning Areas	Transit Ridership	Traffic	Totals (Max. 30)
Amador (Downtown - County Building)	1	3	5	3	4	4	20
Calle Jitas (Sonoma Ranch to East Side)	5	3	1	1	5	1	16
Del Rey to Doña Ana Rail Stop	1	1	3	1	1	1	8
Downtown (Main Street - US 70 East)	3	5	5	5	3	4	25
El Paseo (Main to University)	3	3	5	5	5	4	25
Engler Underpass (Railroad - Doña Ana County)	3	3	1	1	1	1	10
I-10 (Las Cruces to Anthony)	1	1	1	3	1	3	10
Lohman (Avenida de Mesilla-Sonoma Ranch - East Side)	3	5	3	5	4	4	24
Mesa Grande (US 70 - Lohman)	5	5	1	1	1	1	14
Motel (Picacho - Town of Mesilla)	1	5	3	3	5	2	19
Northeast (Porter to Peachtree Hills)	3	5	1	1	1	1	12
Northrise (VTP - Sonoma Ranch)	3	3	1	1	4	1	13
Peachtree Hills/Schools (Del Rey - Doña Ana)	5	5	1	1	1	1	14
Picacho Hills – Downtown	3	5	3	1	5	2	19
Porter (US 70 - Lohman)	5	3	1	1	1	1	12
Solano (Apodaca Park - University)	3	5	5	5	4	4	26
Sonoma Ranch (HS - Lohman - US 70 - North Golf Course)	3	5	1	1	1	4	15
South Main to Southern County-Anthony	1	3	3	1	1	2	11
Telshor (Del Rey - Doña Ana - University/MMC)	3	5	1	1	3.5	3	16.5
University (HS - Mesilla Park)	1	1	5	5	5	4	21
Valley - Mesilla Park	3	5	1	1	3	3	16

Source: HDR, Inc. 2011





**Table 12. Priority Long Range Transit Investment Corridors**

	Corridor	Score (Max. 30)
1	Solano (Doña Ana - Apodaca Park - University)	26
2	Downtown (Main - US 70 East)	25
3	El Paseo (Main - University)	25
4	Lohman (Avenida de Mesilla-Sonoma Ranch - East Side)	24
5	University (HS - Mesilla Park)	21
6	Amador (Downtown - County Building)	20
7	Motel (Picacho - Town of Mesilla)*	19
8	Picacho (TBD - Downtown)	19
9	Telshor (Del Rey - Doña Ana - University)	16.5
10	Calle Jitas (Sonoma Ranch - East Side)	16
11	Valley (Thorpe - Mesilla Park)	16
12	Sonoma Ranch (HS - Lohman - US 70 - North Golf Course)	15
13	Mesa Grande (US 70 - Lohman)	14
14	Peachtree Hills/Schools (Del Rey - Doña Ana)*	14
15	Northrise (VTP - Sonoma Ranch)	12.5
16	Northeast (Porter to Peachtree Hills)*	12
17	Porter (US 70 - Lohman)	12

\*Not recommended for priority consideration. Source: HDR, Inc. 2011.

**Figure 13** shows express corridors recommended for priority investment. **Figure 14** shows the transit express corridors recommended for priority investment and key land use/transportation considerations. The corridors with the strongest potential to have successful future transit service provide strong connections to the region's key employment, office and retail activity centers. Existing land use patterns show activity centers dispersed throughout the regional planning area. In addition, residential zoning designations indicate the potential for future transit markets east of I-25. The roadway corridors identified for priority investment create a grid-like network of express transit routes that serve activity center nodes.



Figure 13. Express Corridors Recommended for Priority Investment

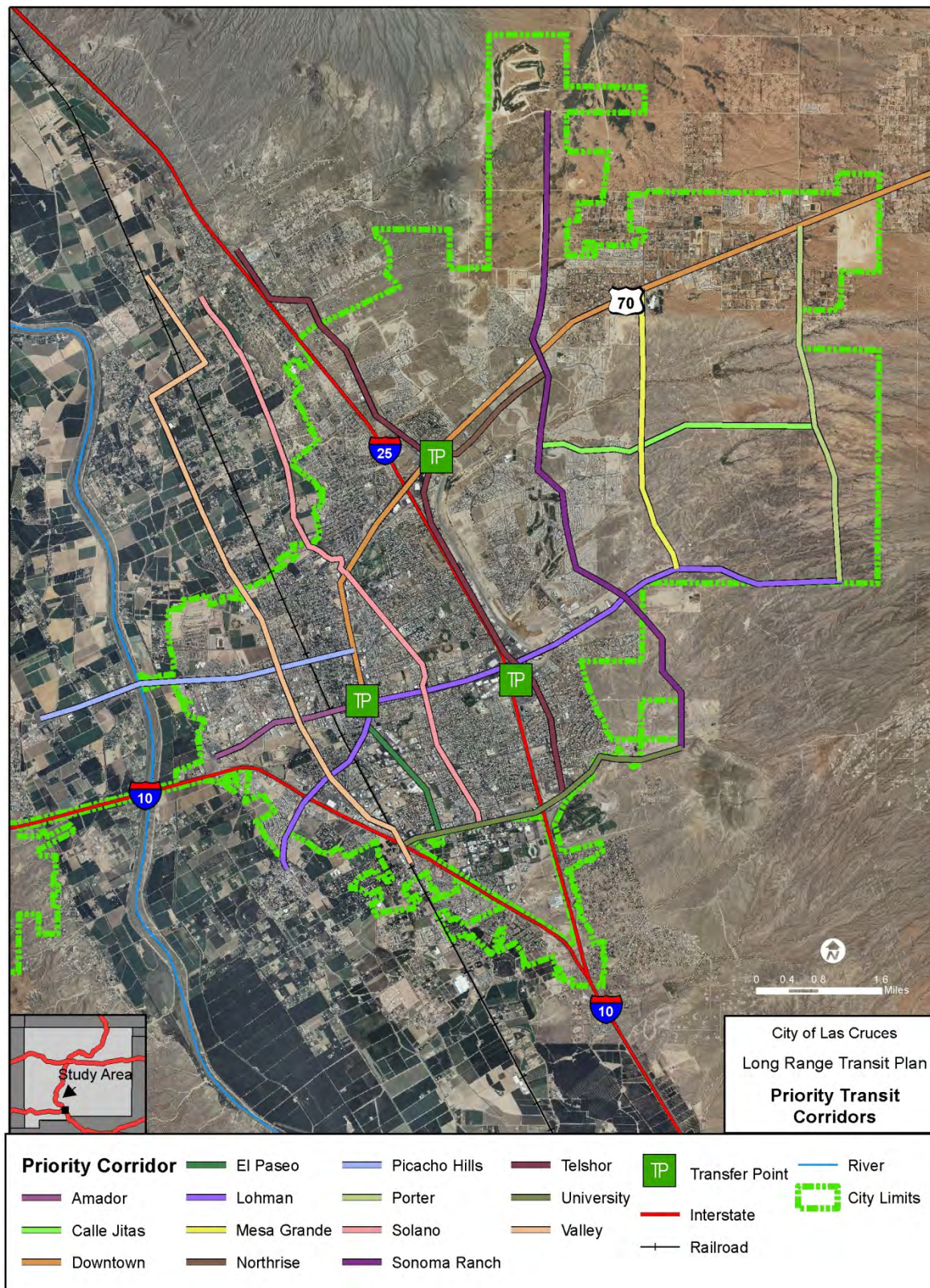
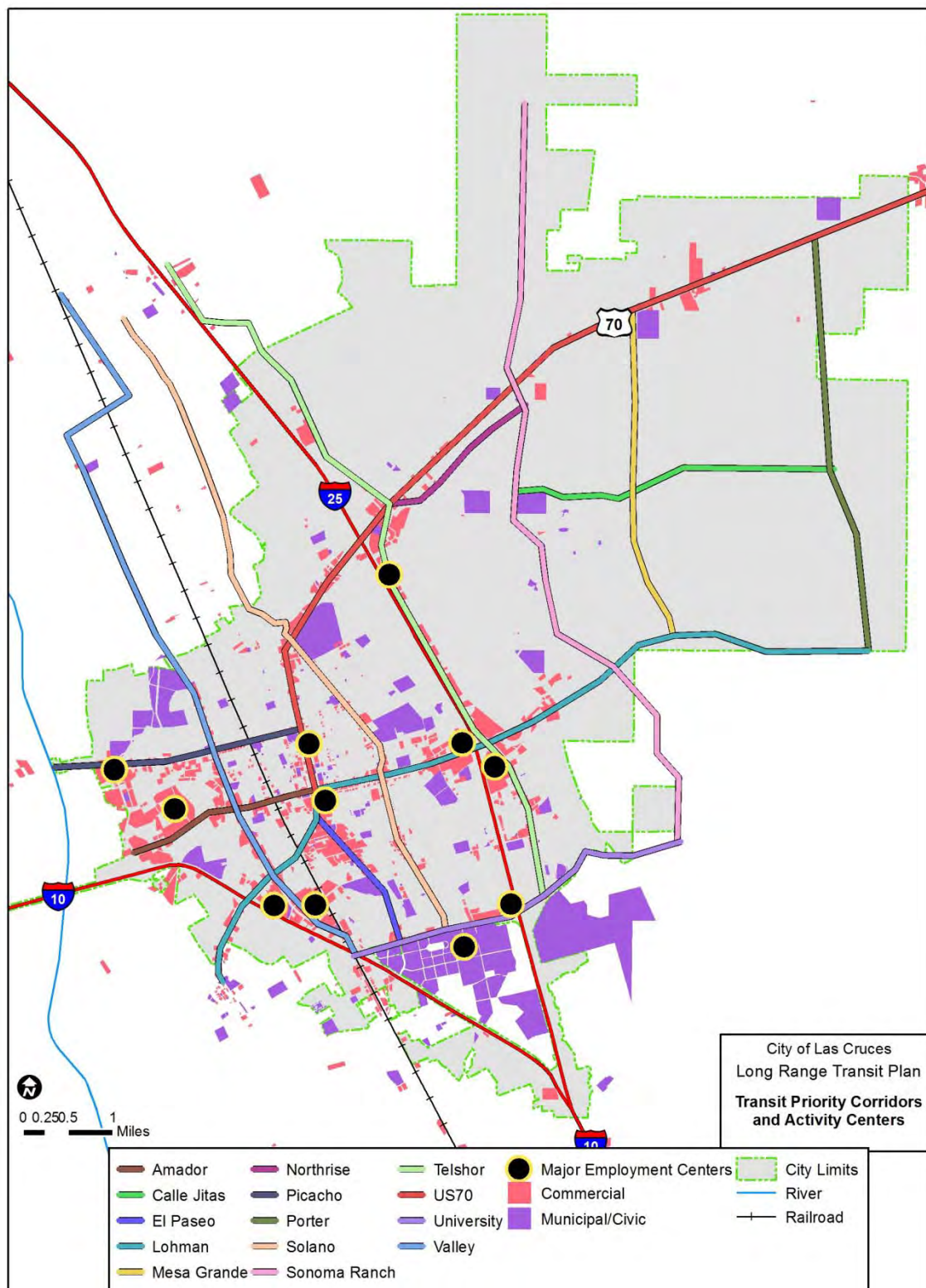






Figure 14. Priority Transit Corridors and Key Destinations







## Land Use and Transit

The primary goal of a transportation system is to move people and goods from one place to another. Land use conditions and trends are key elements of the long-range transportation decision-making process. By integrating land use information into regional transit planning, agencies benefit from an improved understanding of future regional travel patterns. Land use and transportation are symbiotic; development density and location influence regional travel patterns, and, in turn, the degree of access provided by the transportation system can influence land use and development trends.<sup>5</sup> **Table 13** shows the transit supportive zoning composition of transit express corridors recommended for priority investment.

A variety of land development patterns are found within roadway corridors recommended for priority transit investment. Zoning in undeveloped areas east of I-25 and south of US 70 provides commercial nodes at major roadway intersections with surrounding areas predominately zoned for residential development. **Figure 15** shows this type of land development pattern within ¼ mile of Porter and Calle Jitas. Zoning for higher density commercial, office and residential land use may generate a potential market for higher capacity transit. Corridors with zoning that may support higher capacity transit include Downtown (Main Street - US 70 East), and Lohman (Avenida de Mesilla-Sonoma Ranch - East Side). Appendix B contains priority corridor zoning maps.

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<sup>5</sup> Federal Highway Administration & Federal Transit Administration: Transportation Planning Capacity Building Program. (2007 Update). *The Transportation Planning Process Key Issues: A Briefing Book for Transportation Decisionmakers, Officials, and Staff* (Publication Number: FHWA-HEP-07-039).



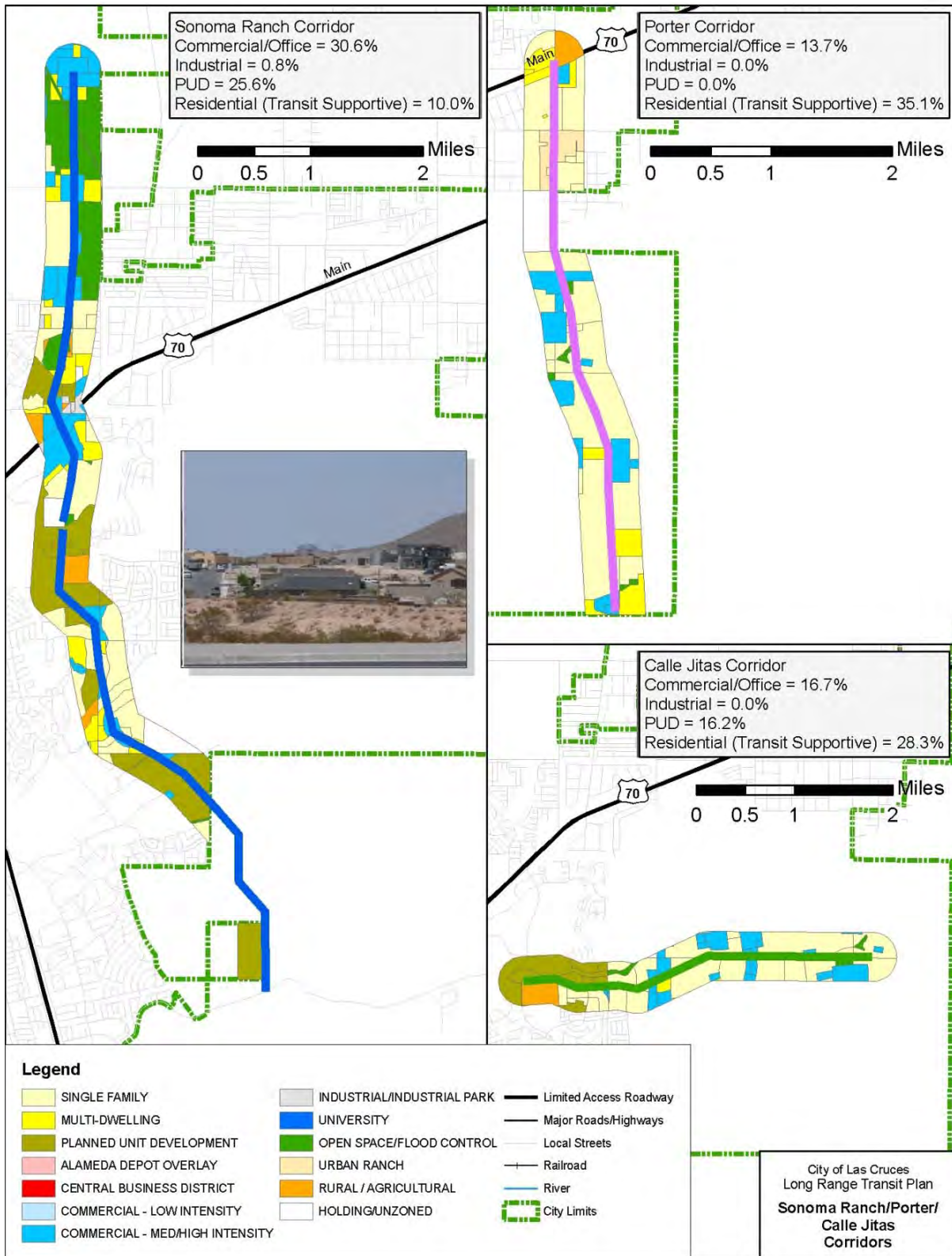
**Table 13. Transit Supportive Zoning within ¼ Mile of Transit Express Corridors**

	Commercial & Office	Industrial	PUD	Residential
Solano (Apodaca Park - University)	30.20%	1.60%	0.00%	13.10%
Downtown (Main Street - US 70 East)	29.30%	3.10%	7.60%	14.10%
El Paseo (Main to University)	36.30%	0.00%	6.10%	12.00%
Lohman (Avenida de Mesilla-Sonoma Ranch - East Side)	40.70%	5.00%	13.50%	6.80%
University (HS - Mesilla Park)	11.10%	1.60%	18.00%	2.00%
Amador (Downtown - County Building)	16.50%	49.80%	4.20%	5.20%
Picacho Hills - Downtown	23.80%	10.90%	0.60%	7.10%
Telshor (Del Rey - Doña Ana - University/MMC)	25.80%	7.00%	13.70%	11.30%
Calle Jitas (Sonoma Ranch to East Side)	16.70%	0.00%	16.20%	28.30%
Valley - Mesilla Park	28.50%	22.80%	3.20%	7.20%
Sonoma Ranch (HS - Lohman - US 70 - North Golf Course)	30.60%	0.80%	25.60%	10.00%
Mesa Grande (US 70 - Lohman)	18.50%	4.90%	8.00%	23.40%
Northrise (VTP- Sonoma Ranch)	13.00%	1.00%	30.00%	7.00%
Porter (US 70 to Lohman)	13.70%	0.00%	0.00%	35.10%

Source: City of Las Cruces Zoning Map, 2011.



Figure 15. Sonoma Ranch/Porter/Calle Jitas Corridors







## Transit Oriented Development

Transit Oriented Development (TOD) is a common vehicle for coordination between land use and transit planning. The FTA describes TOD as compact, mixed-use development within walking distance of public transportation. TOD creates an environment that makes it convenient for people to walk, bike, and use transit on a daily basis. In addition, TOD encourages a mix of development that provides people with access to employment, restaurants, and entertainment. Benefits that successful TOD can provide a community include:

- Reduced automobile trips and greenhouse gas emissions
- Increased transit ridership and agency revenues
- Improved access to jobs for households of all incomes
- Reduced transportation costs for residents<sup>6</sup>

Although TOD is often associated with high capacity transit service (such as commuter rail), it can be successful for regions with local bus and/or BRT service. Several existing areas within the study area exhibit characteristics that make them strong candidates for TOD:

1. Downtown Area
2. El Paseo Corridor (Main to University)
3. University Avenue Corridor (HS - Mesilla Park)
4. Telshor/Lohman Area

Communities that wish to incorporate TOD into their toolbox for transit development should consider a number of urban design strategies, some of which are shown in [Table 14](#). In addition, targeted public sector infrastructure investments can serve as a significant incentive to develop around transit. Items to consider that will encourage public investment in TOD include tax increment financing, expedited review processes, joint development and leveraging impact fees.

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<sup>6</sup> Center for Transit Oriented Development. (2011). *TOD 204: Regional Planning for TOD*. Zimbabwe, Sam and Anderson, Alia.



**Table 15. TOD Urban Design Strategies**

Strategy	Description
Form a Coherent Vision	Master planning for corridors or station areas can help ensure implementation of plans for TOD.
Focus on Implementation	Identify development regulations that can encourage TOD.
Make Retail Strategy Market-Driven	Transit access alone is oftentimes not enough to initiate development pressures, particularly when transit stations are located in areas where the market has not spurred development on its own. Retail is sensitive to development context and public agencies should refrain from requiring retail components as part of a transit-oriented development, especially without first analyzing its market support.
Develop Mixed-Income Housing	Provide a mixture of housing types and target homeowners and renters at multiple price points. This encourages a healthy community and provides lower income households with access to public transportation.
Promote Density	Development density can be a key strategy to ensure the success of new transit investments. Residential densities can help to create a retail market base.
Establish TOD Development Standards	Control features such as setbacks, lot size, and frontage. Oriented buildings to the street, and establish zoning regulations with maximum setback, or “build-to” lines. Require reduced frontage and lot sizes to encourage higher densities.
Create Pedestrian and Bicycle Connections	Defined and dedicated pedestrian walkways create linkages between transit (bus stops, transit stations) and surrounding areas. Traffic calming techniques can make transit infrastructure more accessible to pedestrians and bicyclists.

## Recommended Transit Modes and Technologies

The regional priority transit corridors were identified through an analysis of several factors that may impact existing and future demand for public transit services. These factors include vehicular traffic volumes, major employment centers, current transit route performance, and land use. As part of the long range transit plan being developed for the Las Cruces region, the regional priority transit corridors are envisioned to serve as the primary transit arteries. These corridors will be complimented by a network of other services such as local fixed route and commuter express bus service, neighborhood circulators, and paratransit/dial-a-ride service. Potential transit modes/technologies that may be feasible to operate within the previously identified potential priority transit corridors are discussed below.

## Potential Transit Modes/Technologies

There is a broad range of transit modes/technologies commonly used in the United States that are applicable to the Las Cruces region. Each mode/technology has a range of vehicle options and operating characteristics. This section identifies applicable modes/technologies considered for future implementation in the region.










The range of transit modes/technologies considered as part of this study address different types of transportation users (markets) such as commuters, adolescents or seniors, persons with disabilities, and non-drivers. These modes/technologies include:

- Demand response
- Regional connector
- Local fixed route bus
- Arterial bus rapid transit (BRT)
- Commuter bus
- High capacity transit (HCT) peak period
- High capacity transit (HCT) all-day

Transit systems operated in communities similar in size to Las Cruces generally operate more than one of the identified modes/technologies to efficiently serve their communities. Therefore, when reviewing the different transit modes/technologies, it is important to consider how each mode/technology may be applied in the Las Cruces region. **Figure 16** provides a comparison of the identified transit modes/technologies.

**Figure 16. Comparison of Transit Modes/Technologies**

							
	<b>Demand Response</b>	<b>Regional Connector</b>	<b>Fixed Route Bus</b>	<b>Arterial Bus Rapid Transit</b>	<b>Commuter Bus</b>	<b>HCT Peak Period</b>	<b>HCT All Day</b>
<b>Purpose/Market Type</b>	<ul style="list-style-type: none"> <li>• ADA needs</li> <li>• Senior citizens</li> <li>• Rural access</li> <li>• General public</li> </ul>	<ul style="list-style-type: none"> <li>• Long-distance, market/trip focused</li> </ul>	<ul style="list-style-type: none"> <li>• Regional and local access</li> </ul>	<ul style="list-style-type: none"> <li>• Enhanced-speed, high-demand local or regional access</li> </ul>	<ul style="list-style-type: none"> <li>• Enhanced-speed, moderate-volume commuter or regional access (morning and evening peak only)</li> </ul>	<ul style="list-style-type: none"> <li>• Higher-speed, high demand regional access (morning and evening peak only)</li> </ul>	<ul style="list-style-type: none"> <li>• Higher-speed, high demand regional access or activity center circulation</li> </ul>
<b>Technology</b>	<ul style="list-style-type: none"> <li>• Van</li> <li>• Mini-bus</li> </ul>	<ul style="list-style-type: none"> <li>• Mini-bus</li> <li>• Standard bus</li> </ul>	<ul style="list-style-type: none"> <li>• Standard bus</li> </ul>	<ul style="list-style-type: none"> <li>• High capacity bus</li> </ul>	<ul style="list-style-type: none"> <li>• Premium bus</li> </ul>	<ul style="list-style-type: none"> <li>• High capacity bus</li> <li>• Commuter rail</li> </ul>	<ul style="list-style-type: none"> <li>• High capacity bus</li> <li>• Heavy rail</li> <li>• Light rail</li> <li>• Modern streetcar</li> <li>• Automated people mover</li> <li>• Monorail</li> <li>• Maglev</li> </ul>
<b>Corridor/Area Characteristics</b>	<ul style="list-style-type: none"> <li>• Within ¼ mile of fixed route bus</li> <li>• Rural areas with no fixed route bus service</li> </ul>	<ul style="list-style-type: none"> <li>• Rural roads</li> <li>• Arterial streets</li> <li>• Freeways</li> </ul>	<ul style="list-style-type: none"> <li>• Arterial streets</li> </ul>	<ul style="list-style-type: none"> <li>• Arterial streets</li> </ul>	<ul style="list-style-type: none"> <li>• Mostly freeways</li> <li>• HOV lanes</li> <li>• Managed lanes</li> </ul>	<ul style="list-style-type: none"> <li>• Dedicated or semi-dedicated guideway</li> </ul>	<ul style="list-style-type: none"> <li>• Dedicated or semi-dedicated guideway</li> </ul>
<b>Passenger Access</b>	<ul style="list-style-type: none"> <li>• Curb-to-curb</li> </ul>	<ul style="list-style-type: none"> <li>• Limited stops along the route</li> </ul>	<ul style="list-style-type: none"> <li>• Approximately every quarter mile</li> </ul>	<ul style="list-style-type: none"> <li>• Approximately every half- to one-mile</li> </ul>	<ul style="list-style-type: none"> <li>• At park-and-ride facilities and a limited number of non-parking facilities</li> </ul>	<ul style="list-style-type: none"> <li>• At park-and-ride facilities and a limited number of non-parking facilities</li> </ul>	<ul style="list-style-type: none"> <li>• Approximately every half- to one-mile</li> </ul>





## Applicable Transit Modes/Technologies

All of the transit modes/technologies identified in the previous section may have some applicability to the Las Cruces region. However, only a limited number of transit modes/technologies are specifically applicable to the identified regional transit priority corridors. Two primary factors used in determining potential applicability include the identification of transit supportive areas (based on household density) and transit propensity (based on socioeconomic conditions such as population density, income, auto-ownership, and other variables). Transit supportive areas indicate the potential modes that may be supported in different areas of the region, while transit propensity identifies where potential ridership markets may exist.

## Transit Supportive Areas

The transit supportive area approach is based on the document “A Toolbox for Alleviating Traffic Congestion” (Institute of Transportation Engineers, 1989), which identifies minimum density requirements for households. The minimum requirements for a transit supportive area are defined as 1,920 households per square mile. **Table 16** indicates the minimum typical densities required to support different transit modes, while **Figure 17** identifies the transit supportive areas in the Las Cruces region by census block (2010 US Census).

**Table 16. Typical Household Density Requirements by Transit Service Mode**

Transit Type	Residential Household Density	Typical Service Characteristics			Passenger Trip Length in Miles		
		Capacity	Average Speed	Distance Between Stops	<5	5 -20	>20
Vanpool/ Carpool	“Limited” >1,920 dwelling units/square mile	Low	Varies	Varies		X	X
Neighborhood Circulator	“Low” >3,360 dwelling units/square mile	Low	Low	Low	X		
Regional Connector	“Low” >3,360 dwelling units/square mile	Low/Medium	Medium/High	High			X
Local Bus	“Low” >3,360 dwelling units/square mile	Medium	Low	Low	X	X	
Limited Stop Bus (including arterial BRT)	“Medium” >7,200 dwelling units/square mile	Medium	Medium	Medium	X	X	
Commuter Bus	“Medium” >7,200 dwelling units/square mile	Medium	High	High		X	X
Bus Rapid Transit (dedicated guideway)	“High” >9,600 dwelling units/square mile	High	Medium/High	Medium	X	X	X
High Capacity Transit	“High”	High	Medium/High	Medium	X	X	

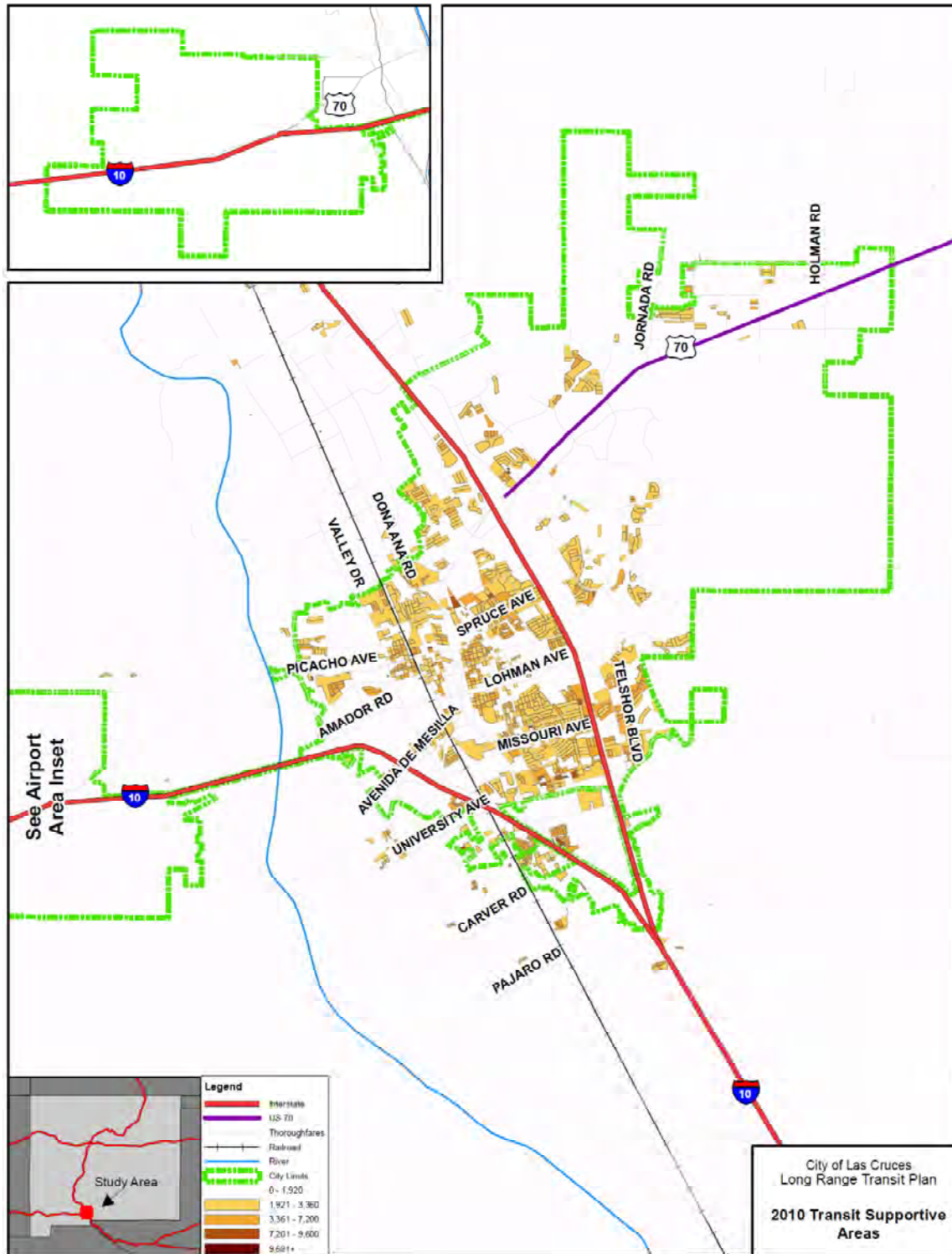


Transit Type	Residential Household Density	Typical Service Characteristics			Passenger Trip Length in Miles		
		Capacity	Average Speed	Distance Between Stops	<5	5 -20	>20
– All Day	>9,600 dwelling units/square mile						
High Capacity Transit – Peak Hour	“Medium” >7,200 dwelling units/square mile	High	High	High		X	X

Significant portions of the area between I-10, I-25, and the Rio Grande generally within the incorporated limits of the City of Las Cruces represent the area within the region identified as potentially being able to support local bus/neighborhood circulator service (or more intensive service). It is likely not a coincidence that RoadRUNNER Transit’s fixed route bus service is concentrated in the same area.



Figure 17. Transit Supportive Areas







## Transit Propensity

A transit propensity analysis statistically measures an area's relative ability to potentially support transit service. Year 2000 data helps identify areas of the region, within and outside of the initial HCT analysis corridor boundaries, which may warrant some of level of current or future transit investment regardless of projected growth. Finally, more current U.S. Census data would have been used; however, at this time, the most recently available datasets do not contain all of the variables required for a complete propensity analysis.

The transit propensity analysis relies on attributes that national studies identify as having a relationship to transit patronage. Research that supports the variables selected includes:

- Transit Cooperative Research Program (TCRP) Report 28: Transit Markets of the Future
- TCRP Report 3: Workbook for Estimating Demand for Rural Passenger Transportation
- TCRP Report 27: Building Transit Ridership

The following variables were used for the propensity analysis:

- Population Density;
- Percent of Population w/ Mobility Limitations;
- Percent of Population w/ Employment Disability;
- Percent of Population that is NOT "White, Non-Hispanic";
- Percent of Population that is Female;
- Percent of Households w/ Income under \$20,000;
- Percent of Occupied Housing Units w/o an Auto Available;
- Percent of Workforce Age 30 or Younger; and,
- Percent of Workforce Age 65 or Older.

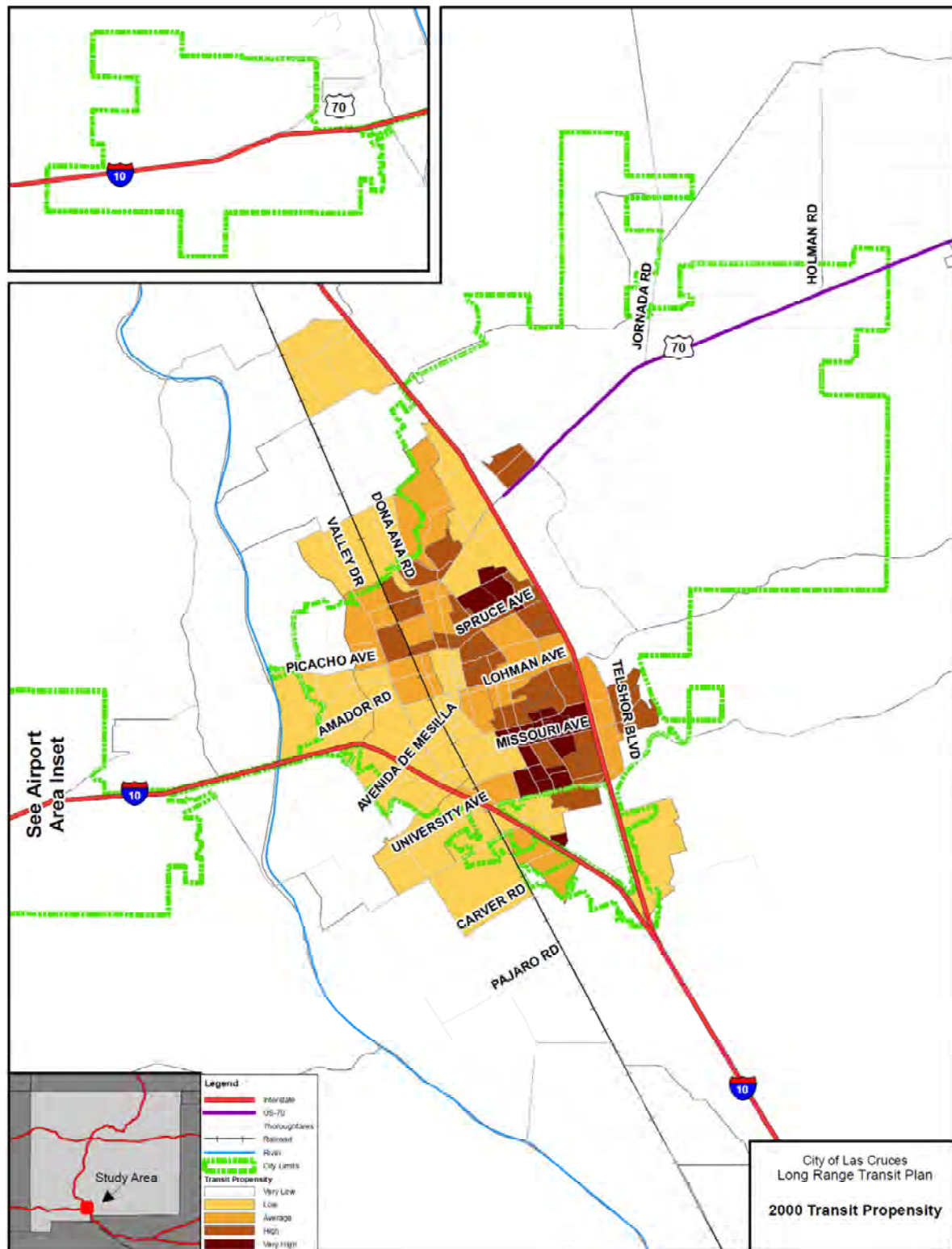
To calculate transit propensity, weights were assigned to each variable at the census block group level. The weights assigned to each variable are primarily based upon findings in TCRP Report 28. An indexed composite score for each block group was developed that shows the relative propensity of each block group to the Las Cruces region.

While this data is approximately 10 years old, it represents a pattern confirming the importance of population density to transit demand. The areas of the region indicated as having high or very high transit propensity (see [Figure 18](#)) are the areas where existing transit service performs well. The areas of the region with the highest identified transit propensity include:

- Area north of NMSU
- Area immediately northeast of downtown Las Cruces
- Areas with strong transit propensity east of I-25 include the Missouri Avenue corridor
- North of US-70 corridor between Del Rey Boulevard and Roadrunner Parkway



Figure 18. Transit Propensity





## Recommended Transit Modes and Technologies

Based on the variables considered as part of the review of transit supportive areas and transit propensity, only a limited number of transit modes/technologies are specifically applicable to the regional transit priority corridors. These include:

- High frequency local fixed route bus (minimum 15-20 minute peak frequency)
- Commuter express bus
- Arterial bus rapid transit (BRT)
- High capacity transit (HCT)

Other modes/technologies such as paratransit/dial-a-ride service, neighborhood circulator bus, and regional connector bus, which may be applicable in other corridors or areas within the region, will be considered in the later sections of this plan. **Table 17** identifies the recommended transit modes/technologies by corridor. **Figure 19** shows priority corridor system with recommended transit modes/technologies.

**Table 17. Transit Modes and Technologies by Regional Priority Corridor**

Corridor	Adjacent to Transit Supportive Areas	Transit Propensity	Recommended Long-Range Transit Mode/Technology <sup>1</sup>
El Paseo	Yes	Low to Very High	High Frequency Local Bus
Lohman - Avenida de Mesilla	Yes	Low to High	High Frequency Local Bus and Arterial BRT
Main Street - US 70 East	Yes (limited)	Very Low to High	Arterial BRT & Commuter Express Bus (Potential HCT opportunity area)
Solano (Apodaca Park to University)	Yes	Average to Very High	High Frequency Local Bus (Potential HCT opportunity area)
University (HS to Mesilla Park)	Yes	Very Low to Very High	Arterial BRT
Amador (Downtown - County Building)	Yes	Low to Average	High Frequency Local Bus
Calle Jitas (Sonoma Ranch to East Side)	No	Very Low	High Frequency Local Bus
Mesa Grande (US 70 to Lohman)	No	Very Low	High Frequency Local Bus
Northrise (VTP- Sonoma Ranch)	No	Very Low	High Frequency Local Bus
Picacho – Downtown	Yes	Very Low to High	High Frequency Local Bus
Porter (US 70 to Lohman)	No	Very Low	High Frequency Local Bus
Sonoma Ranch	Yes (limited)	Very Low	High Frequency Local Bus
Telshor (Doña Ana - University/MMC)	Yes	Very Low to Average	High Frequency Local Bus
Valley	Yes	Low to High	High Frequency Local Bus

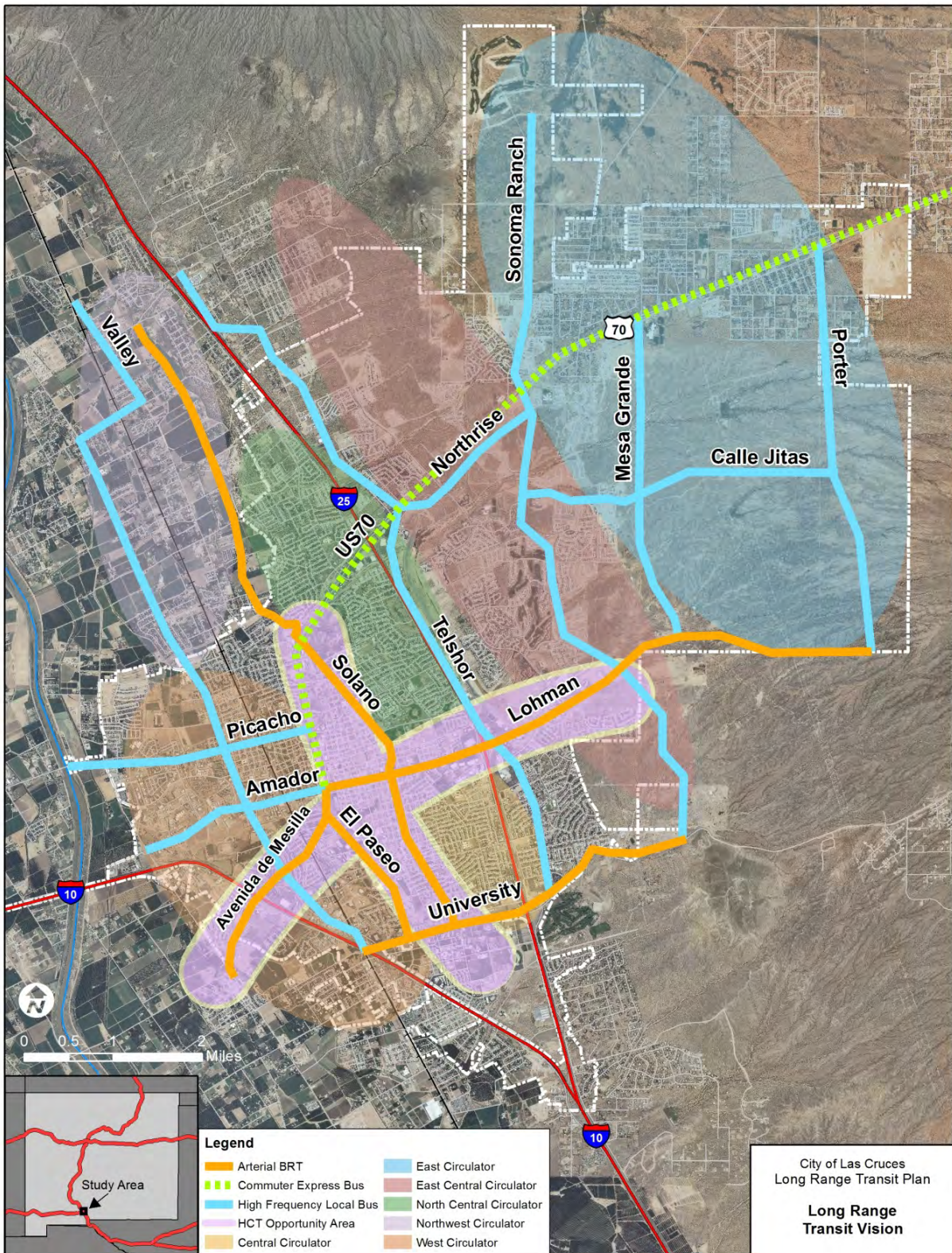
<sup>1</sup>Based on transit supportive area analysis

Source: HDR Engineering Inc., 2011





Figure 19. Long-Range Transit Modes/Technologies





## Transfer Points and Neighborhood Circulators

Transfer points provide a convenient method for transferring between regional transit services and local fixed route and neighborhood circulators. Future transfer points are recommended to be placed at primary locations where high priority transit corridors intersect, providing passengers with a quality transfer experience. Proposed future transfer points may be as simple as a set of bus stops with a passenger bench and route schedule information sign post at the route intersecting points, while others may include a more significant investment in infrastructure such as bus pull-outs or an off-street passenger station. The level of investment at each future transfer point should be defined prior to the implementation of intersecting services in the priority transit corridors. However, it may be desirable for a future transfer point to evolve from a minimal level of investment, and be upgraded over time as patronage at the location increases.

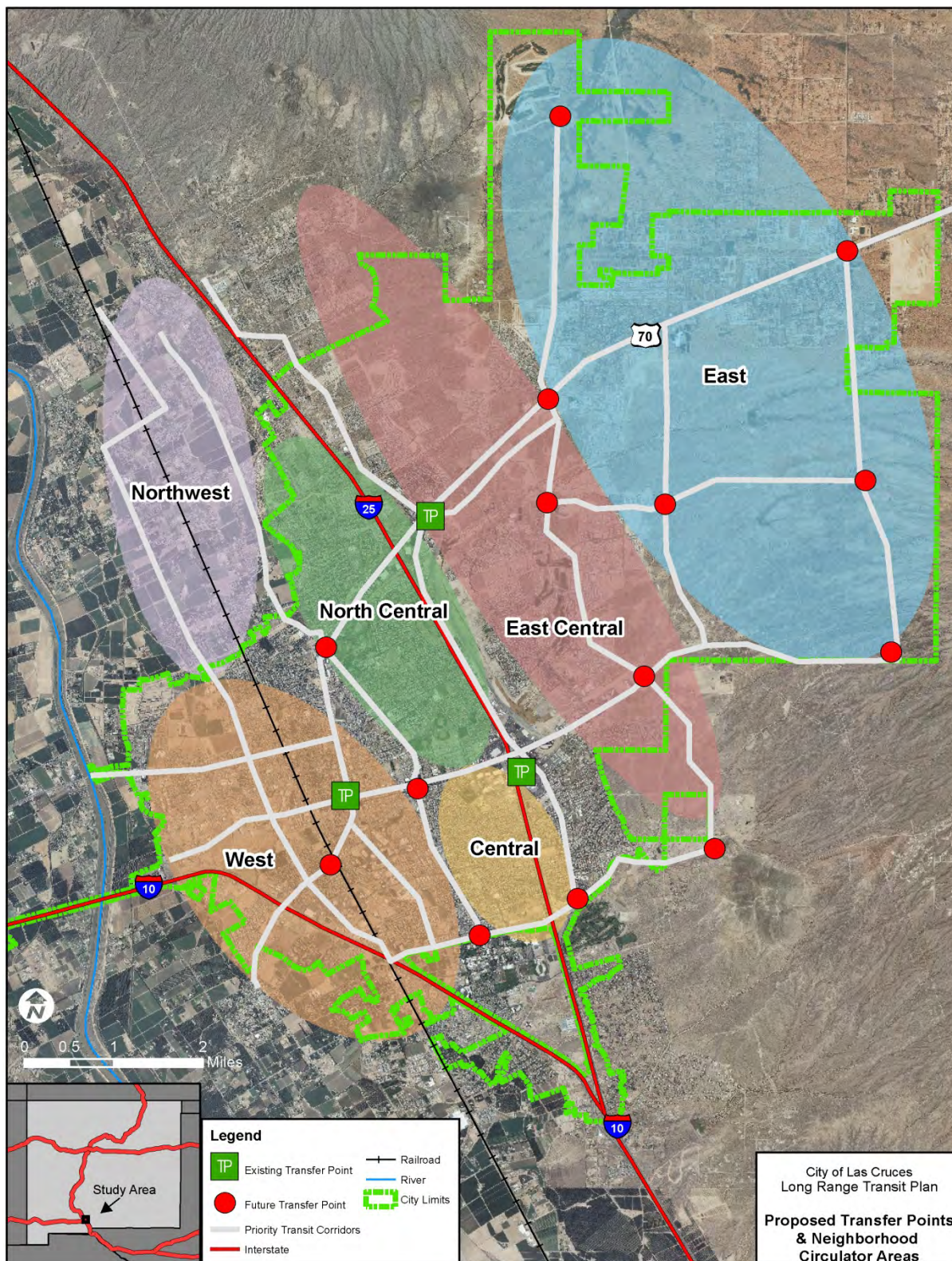
While the future transfer points are designated to help improve the passenger experience at key transfer locations between services operating in the priority transit corridors, the future transfer points are also critical to facilitating local transit access. The mechanism for providing local transit access is through neighborhood circulator services. Neighborhood circulator services are envisioned to be implemented throughout the region to provide localized mobility (short trips to the grocery store, schools, etc.) and provide access to the high frequency regional services deployed in the priority transit corridors. Circulator vehicles are typically smaller than buses that provide local fixed route service. The neighborhood circulator routes have been loosely defined as seven general areas in the region. Because of the local nature of neighborhood circulators and the fact that some of the future neighborhood circulator areas have limited or no existing roadways, it is recommended that the routing of the circulators should be planned by the community near the projected time of implementation. In some of the designated neighborhood circulator areas the community may desire to continue or redesign some existing local fixed route services in lieu of implementing a new service or services. The six proposed neighborhood circulator areas include:

- East Las Cruces (north and South of US 70 west of Rancho Sonoma)
- East Central Las Cruces (between I-25 and Rancho Sonoma)
- Central Las Cruces (between Main St and I-25)
- West Las Cruces (west of Main St)
- Northwest Las Cruces
- North Central Las Cruces





Figure 20. Proposed Transfer Points and Neighborhood Circulator Areas







## Transit Performance Measures

This section builds off of the City of Las Cruces *RoadRUNNER Transit Strategic Plan 2010 to 2015 Update's* (Strategic Plan) Goal B: Provide Cost-Effective, Efficient, and Environmentally Sound Public Transportation. The first objective of Goal B, Utilize Performance Measures, defines specific performance measures to be considered by the agency in the development of a public transportation system. When developing performance measures, the goals and objectives each measure seeks to evaluate should be clearly specified. A typical process for the development and execution of transit performance measures consists of the following steps:

- Define agency goals and objectives
- Identify users, stakeholders, and community-driven needs
- Select performance measures that fit the defined goals and meet the needs of the agency and community
- Implement the performance measure system, collect data and monitor and report performance
- Integrate results into system planning and decision-making and continuously evaluate goals and objectives

This section focuses on step three of the five step process outlined above. Recommendations are made for specific performance measures that will best indicate progress towards agency long range goals and objectives.

### Existing Goals, Objectives, and Performance Measures

There are distinct differences between goals, objectives, and measures. Goals are broad or general statements regarding an outcome that a person or entity desires to attain, while objectives are specific measureable statements that are focused on specific results. Finally, measures are the statistics or other quantifiable facts that tangibly determine if an objective has been or is being achieved. An example of an interrelated goal, objective, and measure is provided in the box to the right.

#### Existing Goals

Strategic Plan goals currently focus on customer satisfaction, efficiency, and environmental sustainability. The Strategic Plan identifies the following agency goals:

- Increase the accessibility and convenience of public transportation to all citizens
- Provide cost-effective, efficient, and environmentally sound public transportation
- Provide the highest possible level of customer service and coordination
- Maximize safety and security

#### Example

**Goal:** Provide a reliable transit system.

**Objective:** 90% of bus trips will meet scheduled time points.

**Measure:** On-time performance of each route expressed as a percentage of trips meeting scheduled times.



## Existing Objectives

The Strategic Plan identifies service related objectives, designed to help the agency evaluate actual performance towards meeting some of the defined service-related goals. The service objectives developed for the Strategic Plan, include:

- Increase geographic coverage
- Develop criteria for bus stop addition/removal
- Improvements in ADA facilities
- Increase on time performance

All of the objectives would be best measured by accessibility and convenience performance measures. These are measures of how easily potential passengers can use transit for various kinds of trips.

## Existing Measures

Existing performance measures used by RoadRUNNER Transit (this does not include additional data reported to the National Transit Database [NTD] as discussed in the next section) to assess system operations objectives include:

- Passenger boardings (unlinked passenger trips)
- Annual revenue hours
- Service frequency (by route)
- Quantity of routes
- Preventable vehicle accidents

These measures provide valuable information on the quality of system operations; however, they may not provide a full assessment of the service objectives defined in the Strategic Plan.

## Regulatory Requirements

RoadRUNNER Transit must provide operating data to the NTD on an annual basis. The NTD is a uniform data set that provides a means of comparing the nation's transit systems. Transit systems with more than nine vehicles in service must submit data to the NTD to receive FTA grant funds. RoadRUNNER Transit provides the following categories of operating data to the NTD for fixed route bus and demand response services on an annualized basis:

- Operating expenses
- Unlinked passenger trips (boardings)
- Passenger miles
- Vehicle revenue miles
- Vehicle revenue hours
- Bus and demand response vehicles available for maximum service
- Average fleet age
- Percent fleet spares



The NTD uses agency submitted data to develop a range of comparative performance measures expressed as level of performance per level of service. Examples include operating expenses per vehicle revenue mile or passenger mile, and unlinked passenger trips per vehicle revenue mile or revenue hour.

### **Planned Performance Measures**

The Strategic Plan identifies performance measures, staff, and technology required to meet the stated transit goals in short-term (1 year), mid-term (2-3 years) and long-term (4-5 years +) time frames. Two new staff positions, a Transit Technology Specialist and a Service Development Coordinator, would be required to achieve the responsibilities outlined in the Strategic Plan for performance measure monitoring.

Planned technology investments identified in the Strategic Plan include utilization of smart fare cards, purchase of mobile data terminals, and installation of signal preemption devices. Implementation of the smart fare cards and mobile data terminals would potentially increase service productivity while providing electronic performance measurement data.

### **Recommended Transit Performance Measures**

This section identifies potential performance measures for assessing whether the agency's goals and objectives are being met. The proposed performance measures will help monitor long-term transit system growth in the region and provide an indication of potential adjustments to transit services. In addition, this section provides general recommendations for greater specificity in some of the existing objectives previously defined in the Strategic Plan, as well as recommending potential objectives where a current objective hasn't been established for a stated goal. Initially, thresholds for objectives, represented as either a total value or percentage value, should be established by local transit operators based on past performance. However, future thresholds should be established based on reasonable goals focused on maintaining or improving performance. For example, if on-time performance for the transit system is 90% for the previous 3 years, the initial threshold for this objective may be 90%. If achieved, a goal for the following year may be 91%.

The implementation of any of the recommended transit performance measures would be at the discretion of RoadRUNNER Transit. Recommended objectives and performance measures as applied to the goals established in the Strategic Plan are outlined in [\*Table 18\*](#).





**Table 18. Recommended Transit Performance Measures**

Strategic Plan Goal	Recommended Objective	Recommended Performance Measures	Example
Accessibility and Convenience	Increase geographic coverage annually by X% or X square miles.  (values to be determined by transit provider)	Annually report service area size in square miles (.75 mile buffer around all fixed route lines) and change from previous year	22.3 square miles, which represents an increase in .50 sq miles compared to previous year
Accessibility and Convenience	Develop criteria for bus stop addition/removal	After development of initial criteria, it may be desirable to reassess potential warrants such as the number of daily passengers required to warrant a stop, bench, or shelter. The following potential measures are typically used by other transit agencies; however, actual measures will depend on criteria\warrants established.  Daily average passenger boardings by stop  Annual or monthly customer requests for new stops or stop improvements	72 average daily passenger boardings  16 customer requests in 2010 for a bench at A Street and B Street
Accessibility and Convenience	Increase the number of ADA facilities by 3% or a total of 10 facilities each year	Percent of bus stops in service area that are ADA accessible in previous year  Quantity of existing stops upgraded to ADA standards in previous year	76% of stops ADA accessible in 2010  19 bus stops upgraded to ADA standards in 2010
Cost Effectiveness and Efficiency	By route, increase total passengers per revenue hour each year  By route, reduce or maintain net operating cost per boarding	Total passengers/total revenue hours per route  Net operating cost per passenger boarding per route	14 boardings per revenue hour on Route 1  \$1.22 per boarding on Route 1
Environmental	Increase the number of alternative fuel or fuel saving vehicles by X% each year or X vehicles each year	Percent of fleet using alternative fuel or fuel saving technology such as hybrid technology (natural gas, electric, and ultra-low sulfur diesel or other cleaner burning fuel types)	62% of fleet powered by alternative fuel or technology in 2010
Customer Satisfaction	Annually decrease the number of complaints per boarding by complaint type (i.e. operator performance, cleanliness of vehicles)  Increase or maintain on-time performance by X% each year for each route	Annual number of customer complaints received by phone or email  Percent of routes on-time, and on-time performance of each route  Average passenger load percentage (number of passengers divided by seated capacity) at max load point (MLP) not to exceed 125% of fixed route trips	.25 annual customer complaints/boarding regarding late buses (break-out data by route) and .10 annual customer complaints/boarding regarding bus cleanliness  88% of routes on-time  Route 1 on-time 92% of each trip  Route 1 average max load at MLP 112%



Strategic Plan Goal	Recommended Objective	Recommended Performance Measures	Example
Safety and Security	Decrease or maintain the number of preventable accidents per 100,000 revenue miles each year by X%	Annual number of preventable accidents per 100,000 revenue miles*	4.8 preventable accidents per 100,000 revenue miles or 2.6% decrease from last year's rate

## Transit Investment Considerations

Investment in technology based transit infrastructure and services (generally known as ITS) have shown to improve operational efficiencies and the general experience of passengers through travel time savings and improved service reliability. Transit based technologies and applications are continually being developed and refined; however, there are four common transit-based ITS technologies. These include: vehicle management systems, real-time transit passenger information, transit signal priority, and advanced electronic fare collection systems. This section provides a general description of the four transit ITS technologies and identifies potential benefits for passengers and transit operators. Recommendations for future consideration of ITS technologies will be provided in the study final report.

### Vehicle Management Systems

A vehicle management system (VMS) is a core technology that is a prerequisite for other technologies. A VMS is generally composed of two core elements: communication and data collection. The communication element may include voice communication functions and data communication functions (including text messaging). Communication functions allow vehicle operators to maintain contact with dispatch and/or road supervisory staff, which helps improve operational efficiencies and overall transit system safety.

The data collection function of the VMS includes enumerating real-time data typically related to vehicle position (through geographic position systems [GPS]), vehicle speed, and vehicle condition (engine and component monitoring). Other data that may be enumerated through a VMS include passenger boardings and alightings (automated passenger counters [APC]) and fare payment (advanced electronic fare collection). These data attributes can be collected based on geographic location and time of day providing transit operators with valuable data for managing operations and planning future service adjustments.

There are two general approaches for deploying a VMS technology. One approach, which is typically the most expensive, is the comprehensive integrated system. This type of deployment typically includes dedicated communications and data collection hardware and software integrated as a single system. The comprehensive integrated system approach typically requires transit operators to own all hardware and software components. Federal transit funds can be used to help offset the capital investment associated with the acquiring VMS hardware and software.



The other approach is the service-based approach. This approach typically includes buying or leasing equipment and service from vendors specializing in one or more VMS components. For example, a transit operator may enter a service agreement with a vendor to provide vehicle tracking services. The capital cost is low, but there is usually a fee associated with the service. Generally, fees are reasonable keeping costs low, but some components may not be able to be integrated (i.e. GPS with advanced electronic fare collection) together. Additionally, access to source data and data archives may be more restricted in comparison to the comprehensive integrated system approach.

## Real-Time Transit Passenger Information

Real-time transit passenger data can provide passengers with information regarding when the next bus or train will be arriving and potentially where the vehicle is located. Traditionally, this data was provided by transit operators through screens or terminals at fixed locations. With wide use of cellular phones and smartphones, transit operators are deploying real-time transit information to passengers through these devices. There are three common approaches to deploying real-time passenger information systems: turn-key, proprietary system, and open source system.



*Aggie Transit Bus Shelter*

The turn-key approach utilizes a vendor based service to collect, maintain and distribute data to passengers. NextBus is an example of one industry vendor offering these complete services to transit operators. The turn-key approach provides for quick implementation and standardized passenger interfaces; however, the approach requires on-going operating costs.

The proprietary system approach relies on the development of custom systems (hardware and software) to maintain and deliver real-time transit passenger data. Advantages of this approach include the ability to create a custom user interface and potentially lower operating costs than the turn-key approach. However, a propriety system may not work with future VMS upgrades or other transit agency information system components, if the VMS is ever upgraded. This may be a preferable approach for transit operators that have an existing VMS and desire the ability to control how data is presented to passenger.

Open source systems rely on the members of the community to develop their own applications for real-time transit data, which is provided by transit operators. Transit operators in large urban areas, such as New York City, Boston, and Portland, are providing data streams of real-time transit data (generated by their VMS) to the public. Application developers and entrepreneurs have developed user interfaces to present the streaming data to local transit passengers. Open source systems have minimal costs associated with the dissemination of data; however, there typically has to be a large enough market in the transit operator's service area to entice an application developer or entrepreneur to develop a





passenger information system interface. One potential disadvantage of the open source system is the lack of control that transit operators have over the user interface.

## Transit Signal Priority

Transit Signal Priority (TSP) is a technology used by transit operators to improve service reliability and operating speeds. Implementation of a TSP system would require coordination with the City of Las Cruces Department of Public Works Traffic Engineering Section. TSP systems minimize transit vehicle delays at signalized intersections through the use of technologies that detect transit vehicles and alter signal timings to expedite the transit vehicle. TSP strategies provide priority opportunities within a coordinated traffic signal system, thereby minimizing impacts to other roadway users. There are several possible signal priority treatments to provide priority to transit vehicles. These include:

- Passive Priority
- Active Priority
  - Early green (red truncation)
  - Green extension
  - Special phase insertion
  - Phase skip
- Adaptive/Real-Time Control

Passive Priority operates continuously regardless of whether transit is present or not, and does not require a transit detection/priority request generation system. One such passive priority strategy is establishing signal progression for transit. With passive priority favoring transit vehicles and not other traffic, other traffic may experience unnecessary delays, stops, and frustration.

Active Priority strategies deploy priority treatment to a specific transit vehicle following detection and subsequent priority request activation. Some general Active Priority strategies include:

**Early green:** When a priority call is requested from a bus during the red interval, the signal controller will shorten the duration of the following non-priority phases to the minimum green time, and return the green time for bus earlier than under the normal situation. This strategy can reduce the waiting time for buses arriving during the red interval. It can also clear the queue before a bus arrival and allow it to enter a near-side bus stop.



*Solano Drive and Spruce Avenue, Las Cruces*



**Green extension:** The signal controller extends the green time for a bus at the end of a normal green phase. This strategy allows a bus to pass through the intersection without stopping when the bus arrives at the end of the green phase.

**Special phase insertion:** Some special phases, such as bus-only left-turn phase and queue jumper phase, are inserted into the normal signal plans to provide exclusive right of way for transit vehicles.

**Phase skip:** When a bus approaches an intersection during the red interval, and if there still exists more than one non-priority phase before the green phase for transit, this strategy can be set to ignore/skip one of these non-priority phases, possibly serving a low demand of traffic at that time. The time for the skipped phase can be used to provide a priority phase follow the next green phase in order to return the green phase for transit vehicles early.

Adaptive/Real-Time TSP strategies can only be deployed with the pre-existence of an adaptive traffic control system which continuously monitors traffic conditions and adjusts control strategies. These TSP strategies provide priority while simultaneously trying to optimize given performance criteria. The criteria may include person delay, transit delay, vehicle delay, and/or a combination of these criteria. They typically require early detection of a transit vehicle in order to provide more time to adjust the signals to provide priority while minimizing traffic impacts.

### Advanced Electronic Fare Collection

Fare collection equipment has evolved significantly over the last 40 years from the first electronic registering fare boxes to today's advanced validating fare equipment that can accommodate multiple payment methods ranging from cash and credit cards to SmartCards capable of managing passengers' fare revenue. Functionality of in-vehicle fare collection systems range by manufacturer; however, many manufacturers offer the following capabilities:

- on-board sales and distribution of electronic fare media
- on-board "re-loading" of electronic fare media
- enhanced ability to track fare-media usage trends by user or category (i.e. commuter service versus local)
- reduced passenger boarding times (electronic fare payment generally quicker than loading a farebox with cash and coins)
- increased security of passenger payment value (lost media can be deactivated, while credits maintained for passengers who lose media)
- flexible fare structure (transit operators can offer discounted fares based on actual volume consumed)



- increased opportunities for creating partnerships with local businesses and community services (use of SmartCard as general purpose e-wallet to buy goods and services from private businesses or other community provided services [i.e. pay for admission to community pool])
- efficient and secure data collection (wireless data streaming reduces labor associated with hardware data probe systems)

Modern, advanced fare collection systems provide many benefits compared to non-electronic and previous generation electronic systems. A technical and operational assessment of a transit operator's fare collection needs should be conducted prior to the procurement of an advanced electronic fare collection system as costs can vary based on options desired.





## Regional Long Range Transit Operations and Capital Recommendations

Public transportation is an important community asset that helps provide access to employment, education, shopping, recreation, and medical services. In addition, public transportation provides an option that serves the general mobility needs for all community members including students, persons with disabilities, senior citizens, and other community members with potentially limited transportation opportunities. Today, RoadRUNNER Transit serves more than 600,000 annual passenger trips or the equivalent of approximately 6 passenger trips each year per City of Las Cruces resident. Future public transportation options need to be closely coordinated with future land use and development patterns to ensure that future public transportation services (including transit mode, type of vehicle used, and level of service provided) are compatible with the service environment (residential neighborhoods, commercial districts, college campuses) and are appropriate for the potential service demand. Developing a transit system comprised of quality services that are compatible with area land use patterns will help the region increase public transportation's mode share (percentage of transit users compared to other modes) and become a more sustainable community asset consistent with the objectives defined in Transport 2040.

This study provides a practical (near term improvements with potentially high return on investment) and visionary (long range overall system plan) guide for the future development of investment in public transportation services and infrastructure in the Las Cruces region. This section explains the overall long range vision for the Las Cruces region's public transportation system, while subsequent sub-sections of this section outline an implementation strategy for short, mid, and long-term time periods to help achieve the vision.

To attain the goal of increased transit mode split in the Las Cruces region, two important elements are essential:

- Provide appropriate transit services where demand is warranted; and,
- Provide high quality transit services to better serve existing passengers and make transit more attractive to potential new passengers.

These ridership building elements are supported by the findings documented in *TCRP Research Results Digest 29: Continuing Examination of Successful Transit Ridership Initiatives*. This study identified the following efforts, undertaken by 22 observed transit systems, to employ strategies that “played a significant role in recent ridership success stories.”

- **Service Adjustments** – Includes the re-allocation of resources to the most productive services, improved service frequency, passenger amenities, and restructuring transit networks to utilize transit centers.



- **Fare and Pricing Adjustments** – Implementation or expansion of discounted passenger passes, additional outlets for passenger fare sales, and implementation of partnerships with businesses, organizations or institutions.
- **Planning** – Development and use of strategic planning and community-based planning practices, as well as completing comprehensive operational analyses (identifies potential service adjustments).
- **Marketing and Information** – Providing information about services and programs ranging from broad “campaigns” to specific service marketing.
- **Service Coordination, Consolidation and Market Segmentation** – Includes “integration occurring across a broad spectrum of transportation service providers and others” and targeting of specific markets or groups (e.g. students or CBD commuters).

The two most important ridership development strategies in regards to identifying a long range public transportation vision for the Las Cruces region are planning and service coordination, consolidation and market segmentation. While the other strategies represent key elements to building ridership and increasing transit mode share, they are more applicable to short and mid-term objectives.

### Long Range Public Transportation Vision

Today’s RoadRUNNER transit system is predominately comprised of local fixed route services operating on circuitous routes that connect passengers with local and regional destinations as well provide connections between other routes at strategically located transfer centers. RoadRUNNER’s transit services are part of the solution for meeting some of the community’s current mobility needs; however, to significantly increase transit mode share the following elements are necessary:

- Improved service levels (service frequency and hours of operation)
- Improved service efficiency (increased average transit vehicle operating times and directness of routes)
- Expanded transit service to new areas

The regional long range public transportation vision has been developed to address these elements through the implementation of a hierarchy of transit services designed to improve travel efficiency throughout the region and provide area specific services to connect neighborhoods, schools, NMSU, DACC, downtown Las Cruces, and other important local and regional activity centers. This approach to addressing the region’s long range public transportation needs builds on the general concepts outlined in the Transport 2040 plan.

The long range vision for regional public transportation service is comprised of three primary components: high capacity transit, transit priority services, and area focused transit services. The long range hierarchy of services is designed to work in unison to provide a total transit network that addresses local short-distance trip needs as well as longer distance regional trip needs.



High capacity transit services are contemplated in potential opportunity areas that may someday have the appropriate conditions to support high capacity transit services such as BRT operating in an exclusive or semi-exclusive guideway or modern streetcar. High capacity transit services would serve the region's most densely populated and active areas with high frequency transit service. For the long range public transportation vision, two general areas have been identified as high capacity opportunity areas:

- **Central Region Corridor** – Includes the area between Main St/US 70, Solano, Wells St (NMSU), and 3 Crosses Ave. This area includes downtown Las Cruces and NMSU and is also the region's most densely populated.
- **Lohman Ave Corridor** – Includes the area between Sonoma Ranch Blvd and Avenida de Mesilla and I-10. This area includes Mesilla Valley Mall, Mountain View Regional Medical Center and other major medical facilities and commercial centers.

Transit priority services are envisioned as a tool to reduce passenger travel times by developing a network of routes using a select number of arterial and freeway corridors throughout the region. Passenger travel times will be reduced in these corridors by operating at high frequency levels, reducing the number of stops, and/or utilizing transit signal priority. These services would also be prioritized for implementation of weekend service (Saturday and Sunday) and expanded operating hours. The transit priority services are envisioned to form a comprehensive inter-connected network throughout the region making it possible to access most major destinations in the region with a maximum of one transfer. The services considered for the regional transit priority corridors include high frequency fixed route bus, commuter express bus service, and arterial bus BRT.

In some cases, a regional transit priority corridor may evolve into a high capacity transit corridor. For example, an initial recommendation of this plan is to implement arterial BRT service in the Lohman Avenue Corridor as a mid-term investment; however, should funding be available and the need justified, an investment in a high capacity transit technology (development of an exclusive guideway for the previous implemented arterial BRT route or replacement of the arterial BRT service with modern streetcar) is recommended in the long range time frame.

Area focused transit services will form the foundation of the region's transit network. These services will include local fixed route services and neighborhood circulators. Designed to serve neighborhoods and lower volume arterial streets, these services will primarily connect passengers to local destinations such as grocery stores, education campuses, and medical offices as well as providing connections to future high capacity transit and priority transit services to reach other destinations throughout the region.





**Table 19** identifies the services long range public transportation vision services by corridor\area, while provides a graphic illustration of the long range vision for long range public transportation services in the Las Cruces region.

The following sub-sections outline an implementation strategy for short, mid, and long-term time periods to potentially achieve the region's long range public transportation vision. The short-term recommendations are generally low cost system and operations improvements designed to achieve service efficiencies and/or an improved passenger experience. The mid-term and long-term components are less financially constrained, and will require additional annual funding support beyond what is currently invested. A summary of the estimated costs of the proposed investments is provided in the *Estimated Costs and Funding Assessment* section.

There are some limited recommendations for existing RoadRUNNER Transit services in the short term to help initiate the implementation of the Regional Long Range Public Transportation Plan; however, these changes would be at the discretion of RoadRUNNER Transit. Since the mid-term and long-term time periods occur beyond five years, it is assumed that existing RoadRUNNER Transit, NM Park-and-Ride, Aggie Transit, and DACC services will be evaluated, where appropriate, prior to implementing the recommended long range service and capital investments to determine continued need for the existing service and/or compatibility with the recommended long range investments. Otherwise it is assumed that existing transit services will continue to be provided.

Land use and related policies can have a profoundly positive affect on the need for and performance of public transportation investments. Policies that encourage pedestrian oriented buildings and neighborhoods, reductions in minimum automobile parking requirements, and mechanisms that allow for multi-use developments are all examples of land-use related policies that may help encourage expanded use of public transportation services. To support the recommended investments in the Long Range Public Transportation Vision, especially within the corridors recommended for BRT or HCT services (Lohman\Avenida de Mesilla, Main\US 70, Solano, and University), early implementation of transit supportive land use policies will increase the likelihood of creating an environment that can support a successful public transportation system. Transit supportive land use policies and other transit related polices are identified in the *Key Long Range Public Transportation Policy Considerations* section of this report.



**Table 19. Long Range Public Transportation Vision – Proposed Services**

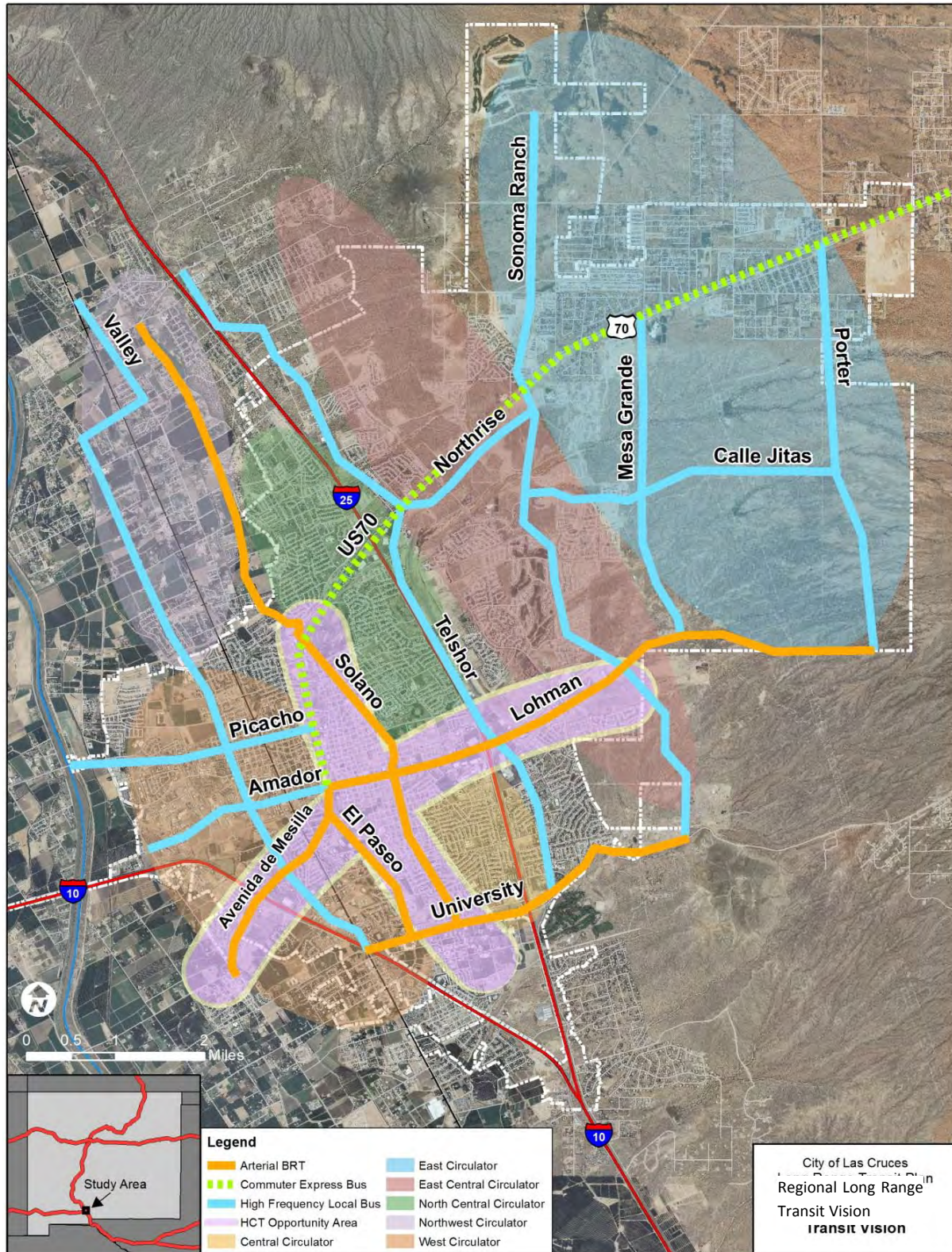
Corridor\Area	Long Range Transit Service Hierarchy	Recommended Long-Range Transit Mode\Technology <sup>1</sup>
Amador (Downtown - County Building)	Transit Priority Service	High Frequency Local Bus
Calle Jitas (Sonoma Ranch to East Side)	Transit Priority Service	High Frequency Local Bus
El Paseo	Transit Priority Service	High Frequency Local Bus
Lohman - Avenida de Mesilla	Transit Priority Service	High Frequency Local Bus and Arterial BRT
Main Street - US 70 East	High Capacity Transit	Arterial BRT & Commuter Express Bus (Potential HCT opportunity area)
Mesa Grande (US 70 to Lohman)	Transit Priority Service	High Frequency Local Bus
Northrise (VTP- Sonoma Ranch)	Transit Priority Service	High Frequency Local Bus
Picacho – Downtown	Transit Priority Service	High Frequency Local Bus
Porter (US 70 to Lohman)	Transit Priority Service	High Frequency Local Bus
Solano (Apodaca Park to University)	High Capacity Transit	High Frequency Local Bus (Potential HCT opportunity area)
Sonoma Ranch	Transit Priority Service	High Frequency Local Bus
Telshor (Doña Ana - University/MMC)	Transit Priority Service	High Frequency Local Bus
University (HS to Mesilla Park)	Transit Priority Service	Arterial BRT
Valley	Transit Priority Service	High Frequency Local Bus
East Las Cruces (north and South of US 70 west of Rancho Sonoma)	Area Focused Transit Service	Neighborhood Circulator\Local Fixed Route
East Central Las Cruces (between I-25 and Rancho Sonoma)	Area Focused Transit Service	Neighborhood Circulator\Local Fixed Route
Central Las Cruces (between Main St and I-25)	Area Focused Transit Service	Neighborhood Circulator\Local Fixed Route
West Las Cruces (west of Main St)	Area Focused Transit Service	Neighborhood Circulator\Local Fixed Route
Northwest Las Cruces	Area Focused Transit Service	Neighborhood Circulator\Local Fixed Route
North Central Las Cruces	Area Focused Transit Service	Neighborhood Circulator\Local Fixed Route

<sup>1</sup>Based on transit supportive area analysis, HDR, Inc. 2011.





Figure 21. Recommended Regional Long Range Transit Vision







### Recommended Short-Term Investments (Year 2012 – Year 2017)

Recommended short-term investments are primarily focused on low-cost system, operational, and capital investments designed to incrementally implement the concepts envisioned as part of the Long Range Public Transportation Vision.

**Table 20. Recommended Short-Term Investments**

Type	Name	Description
Passenger Information	Online Transit Trip Planner	Development of online transit trip planner service to improve availability of passenger information.
Marketing	Transit System Image Study	Undertake a transit system image study to identify a comprehensive image for the region's transit system including the range of transit services contemplated as part of this study (i.e. neighborhood circulators, arterial bus rapid transit, etc.)
Service Enhancement	Restructure Routes 70, and 80	Restructure routes to initiate the implementation of the Long Range Public Transportation Vision. The following new routes can be created from the restructuring: <ol style="list-style-type: none"> <li>1. New Route 80 – A transfer-free crosstown route (first transit priority corridor) that serves Amador and Lohman between Roadrunner Pkwy and Motel Ave.</li> <li>2. New Route 70 – Combine Route 80 Picacho segment with Route 70 to create a more direct connection with Mesilla Valley Mall.</li> <li>3. Use cost savings from the restructuring of the two routes to create a new neighborhood circulator (Central Las Cruces Neighborhood Circulator) in the area near Solano and Missouri. This route will serve as a test service to determine future operating standards for neighborhood circulators and the mode's viability in other areas of the region.</li> </ol>
Service Enhancement	New Route 80L Limited Stop Service Overlay (8 trips daily)	As one of RoadRUNNER Transit's busiest routes serving some of the region's most desired activity centers like downtown Las Cruces, the addition of up to four daily limited stop trips will reduce passenger travel times and potentially increase ridership. The limited stop service can be operated as an initial alternative to implementing arterial BRT service.
Service Enhancement	Restructure Route 90	Restructure existing Route 90 to create a neighborhood circulator service in the area identified as the East Central neighborhood circulator service area. This restructured route would serve suburban neighborhoods on collector level roadways to better serve neighborhoods that are traditionally difficult to serve. The new neighborhood circulator would be cost neutral as it would use the existing funding invested in Route 90. During the long-term phase, expansion of the East Central neighborhood circulator is recommended.
Operations Management	Deployment of RoadRUNNER Vehicle Management System	RoadRUNNER Transit is undertaking the deployment of a vehicle management system to better communicate with and track vehicles live throughout the service day to improve the overall safety and performance of the region's transit services. The implementation of this technology may help RoadRUNNER Transit provide real-time traveler information (generally expected on arterial BRT and HCT services) services to passengers in the future.

### Recommended Mid-Term Investments (Year 2018 – Year 2027)

Mid-term recommendations are focused on additional restructuring of the existing regional transit network and investments in capital facilities to further establish the network of regional transit priority services and area focused transit services. Implementation of the mid-term recommendations will require the community to identify additional funding sources to support the increased investment in public transportation.

**Table 21. Recommended Mid-Term Investments**

Type	Name	Description
Planning	Central Region Corridor High Capacity Transit Feasibility Study	The Central Region Corridor (Main Street/Soldno) High Capacity Transit Feasibility Study will identify if the conditions in the corridor are suitable to support a high capacity transit investment as previously defined in this plan. The study should be used to help the region identify an initial range of alternative alignments and technologies, identification of appropriate planning, environmental, and design engineering tasks necessary to further develop an HCT concept for the corridor. Additionally, information from the study should assist the MPO with identifying the information necessary for programming an HCT project in the regional transportation improvement program (TIP).
Planning	Arterial BRT Service and Design Guidelines	Prior to implementing the region's first arterial BRT services, it is recommended that guidelines are developed to establish service and design standards. As a premium transit service, it is highly desirable that the service has unique branding and all routes operate under uniform service characteristics (frequency, hours, stop spacing, etc.) with similar capital amenities (vehicles, stations, etc.).
Service and Capital Infrastructure Enhancement	Lohman Arterial BRT Phase I (Main St to Sonoma Ranch Blvd)	Lohman represents one of the region's busiest and most congested arterial cross-town corridors. The development of an arterial BRT service in this corridor will provide an improved level of service to passengers by providing more frequent service with limited stops to achieve reduced travel times. This enhancement includes the implementation of new transit service and the acquisition and development of transit vehicles and support infrastructure such as passenger stations and associated amenities.
Service and Capital Infrastructure Enhancement	Main St\El Paseo Arterial BRT	The Main St\El Paseo corridor links two of the region's major activity centers: downtown Las Cruces and NMSU. Similar investments associated with the Lohman Arterial BRT service would be required in this corridor.
Capital Infrastructure Enhancement	Mesilla Valley Mall Transfer Point	Implement upgrades to modernize the Mesilla Valley Mall Transfer Point and potentially relocate the transfer point to improve transit vehicle circulation.
Capital Infrastructure Enhancement	Central Transfer Point	Implement upgrades to the Central Transfer Point to ensure compatibility with the proposed Lohman and Main St\El Paseo arterial BRT services.
Service Enhancement	Priority Transit Corridors Service Upgrades	Increase the weekday service span and add Sunday service on three priority transit corridors. The routes should be determined before implementation based on current community preferences and transit demand; however, potential candidates include: <ul style="list-style-type: none"> <li>• Amador\Lohman</li> <li>• Main St\El Paseo</li> <li>• University</li> </ul>
Service Enhancement	US 70 East Commuter Express Service	Implement a new peak period commuter express service in the US 70 east highway corridor. The route would provide a park-and-ride connection between the projected residential population areas in the northeast area of the region and downtown Las Cruces and connecting routes in the area.
Capital Infrastructure Enhancement	US 70 East Public Park-and-Ride	Design and construction of a public park-and-ride facility in the east US 70 highway corridor to support the recommended US 70 East Commuter Express Service.



## Recommended Long-Term Investments (Year 2028 – Year 2040)

During the long-term time period, a majority of the transit service and capital investments identified in the Long Range Public Transportation Vision are recommended for implementation. However, the implementation of the services and infrastructure identified herein will require an annual funding commitment greater than what is currently invested in the region today.

**Table 22. Recommended Long-Term Investments**

Type	Name	Description
Planning	Lohman Corridor High Capacity Transit Feasibility Study	The Lohman High Capacity Transit Feasibility Study will identify if the conditions in the corridor are suitable to support a high capacity transit investment as previously defined in this plan. The study should be used to help the region identify an initial range of alternative alignments and technologies, identification of appropriate planning, environmental, and design engineering tasks necessary to further develop an HCT concept for the corridor. Additionally, information from the study should assist the MPO with identifying the information necessary for programming an HCT project in the regional Transportation Improvement Program (TIP). If feasible, implementation could occur beyond the horizon of this plan.
Planning	Transit Comprehensive Operations Analysis (COA)	The Transit COA will help the region identify the steps necessary to complete the implementation of the Long Range Public Transportation Vision. The COA will identify what existing transit services should remain in place or restructured based on performance and transit connectivity criteria to accommodate the new or upgraded transit services (neighborhood circulator or priority transit corridor) contemplated in the Long Range Public Transportation Vision.
Service and Capital Infrastructure Enhancement	Lohman Arterial BRT Phase II (Main St to Porter)	Extension of the previously implemented Lohman arterial BRT service west to Porter. This investment could be integrated with a possible HCT service in the corridor. The extension would require the implementation of expanded transit service and the acquisition and development of transit vehicles and support infrastructure such as passenger stations and associated amenities.
Service and Capital Infrastructure Enhancement	University Arterial BRT	The University corridor serves the residents and students near NMSU. The investment would require the implementation of expanded transit service and the acquisition and development of transit vehicles and support infrastructure such as passenger stations and associated amenities.
Service Enhancement	Priority Transit Corridors Service Upgrades	Increase the weekday service span and add Sunday service in the remaining priority transit corridors (see mid-term investments). Corridors may include: <ul style="list-style-type: none"> <li>• Calle Jitas (Sonoma Ranch to East Side)</li> <li>• US 70 East</li> <li>• Mesa Grande (US 70 to Lohman)</li> <li>• Northrise (VTP- Sonoma Ranch)</li> <li>• Picacho – Downtown</li> <li>• Porter (US 70 to Lohman)</li> <li>• Solano (Apodaca Park to University)</li> <li>• Sonoma Ranch</li> <li>• Telshor (Doña Ana - University/MMC)</li> <li>• Valley</li> </ul>
Service Enhancement	New Neighborhood circulators	Implement the remaining neighborhood circulators (actual routes to be determined based on findings of recommended Transit COA): <ul style="list-style-type: none"> <li>• East Las Cruces</li> <li>• East Central Las Cruces (<i>expansion of short-term phase service</i>)</li> </ul>





Type	Name	Description
		<ul style="list-style-type: none"><li>• Central Las Cruces</li><li>• North Central Las Cruces</li><li>• West Las Cruces</li><li>• Northwest Las Cruces</li></ul>

## Estimated Costs and Related Assumptions

The long range public transportation vision provides for a more robust transit network that will connect emerging growth areas in the region, while providing more comprehensive services (later night and new Saturday/Sunday services), that will allow passengers to travel more quickly and directly by transit than what is possible today. The vision is planned in three distinct time frames: short term (2012 – 2016), mid term (2017 - 2028), and long term (2029 – 2040).

The short-term phase primarily focuses on the implementation of projects designed to improve the efficiency of cross-town transit trips and provide enhanced passenger amenities. Annual operating costs in the short-term are projected to be only slightly higher than current costs. During the mid-term phase, more significant operations and capital investments are contemplated with the implementation of the region's BRT services and recommended service level improvements on existing routes. Significant capital and operations investments are planned for the long-term phase. By the end of the long term, annual operating costs are expected to be approximately triple the value of today's annual operating budget (in current year dollars).

This section summarizes the estimated costs and related assumptions associated with the recommended long range public transportation vision.

## Assumptions

The estimated costs include a value for the replacement of existing RoadRUNNER Transit's services and fleet through the year 2040. In addition, estimated costs are provided for new service enhancements, an expansion and replacement fleet, major planning studies, and passenger capital facilities. The estimate includes only existing or planned administrative costs for RoadRUNNER Transit's fixed route and paratransit operating costs as reported in the 2009 National Transit Database (NTD). The recommended transit service expansion will increase the existing fleet size, which may in turn require an expanded or new operations and maintenance (O&M) facility. The costs for a future O&M facility have not been included as the type and size of the facility will need to be determined based on future need.

### *Operations Assumptions*

Base assumptions for transit operations (fixed route bus and paratransit) were established for new fixed route services, enhancements to existing service, and paratransit service expansion. Operations assumptions are provided in [Table 23](#).



**Table 23. Operations and Planning Assumptions**

Operations Element	Assumptions
<b>Inflation</b>	3% annually
<b>Fixed Route Bus Operating Cost</b>	\$3.50 mile in 2010 inflated 3% annually
<b>Existing RoadRUNNER Fixed Route Bus and Paratransit Service</b>	\$3.75 million in year 2012. Value equivalent to 2009 reported NTD operating cost (less fares) inflated to year 2012. All subsequent years inflated 3% annually through 2040.
<b>New BRT Service Levels</b>	Weekday Service Span = 17 hrs per day (4 hrs peak) Weekday Headway = 15 min peak\30 min off-peak Saturday\Sunday Service Span = 14 hrs per day Saturday\Sunday Headway = 30 min
<b>Service Enhancements in Priority Transit Corridors</b>	Weekday Service = add 6 weekday trips per day Saturday\Sunday Service Span = 12 hrs per day Saturday\Sunday Headway = 60 min
<b>Paratransit Expansion</b>	Paratransit expansion based on ratio of fixed route bus operating cost to paratransit operating cost (.43) from 2005 - 2009 RoadRUNNER Transit NTD data. Coefficient applied to operating cost value of new or enhanced services.

### *Capital Assumptions*

Base assumptions for transit capital investments were established for new passenger facilities, transit corridor infrastructure, and support infrastructure. Capital assumptions are provided in **Table 24**.

**Table 24. Capital Assumptions**

Capital Element	Assumptions
<b>Inflation</b>	3% annually
<b>Street-side Passenger Amenity Fund</b>	Fund provides for the expansion and maintenance of bus stops and bus stop equipment. Funded at a level equivalent to 2% of the 2009 NTD annual operations cost (\$71,000) inflated annually.
<b>Existing Fixed Route Bus Replacement Fund</b>	Included to account for replacement of RoadRUNNER Transit's existing 17 fixed route vehicles every 12 years. A value equivalent to 17/12 of the cost of one bus at \$400,000\bus is added to the fund each year between 2012 through 2040.
<b>Existing Paratransit Vehicle Replacement Fund</b>	Included to account for replacement of RoadRUNNER Transit's existing 19 paratransit vehicles every 5 years. A value equivalent to 19/5 of the cost of one bus at \$80,000\bus is added to the fund each year between 2012 through 2040.
<b>New Fixed Route Fleet Expansion and Replacement</b>	Expansion fleet estimated based on assumed transit vehicle cycle time ([round trip travel time + layover]/peak headway). Fixed route expansion vehicles replaced every 12 years at \$400,000\vehicle inflated based on year of expenditure.
<b>New Paratransit Fleet Expansion and Replacement</b>	Expansion fleet estimated based on existing RoadRUNNER Transit 2009 NTD reported ratio of approximately one vehicle per \$60,000 in paratransit operating costs. Paratransit expansion vehicles replaced every 5 years at \$80,000\vehicle inflated based on year of expenditure.
<b>Transfer Stations (Transit Centers)</b>	A value of \$3,000,000 inflated based on year of expenditure is assumed for each facility.
<b>Park-and-Ride</b>	A value of \$8,000,000 inflated based on year of expenditure is assumed for each facility.
<b>BRT Street Improvement Infrastructure</b>	A value of \$1,000,000 inflated based on year of expenditure is assumed for each corridor mile constructed.
<b>CAD\AVL System</b>	A value of \$775,000 not inflated.



## Estimated Costs

Over the next 29 years, the estimated cost of implementing the long range public transportation vision is approximately \$450 million. For each phase of the vision, transit operations is the largest expense ranging between as high as 75% (long-term phase) of the total estimated costs and low as 57% (mid-term phase) of the total estimated costs. The concentration of investment in transit service operations is a result of the increased service area coverage and enhancements to service levels identified in the vision. Estimated costs for implementing the long range public transportation vision by phase are summarized in *Table 25*.

The estimated costs reported in *Table 25* are revenue neutral with the exception of the passenger fare offset included for the continuation of existing RoadRUNNER fixed route and paratransit services. No revenues are assumed as the source(s) of revenues must be further considered by the community. Potential revenue sources that may be considered to support the recommended investment herein include: passenger fares, federal grants (formula and discretionary), local general revenue funds, advertising revenues, and regional gross receipts taxes. These funding options are discussed in more detail in the *Key Long Range Public Transportation Policy Considerations* section of this report.

**Table 25. Long Range Public Transportation Vision Summary of Estimated Costs**

Type	Short Term (2012 - 2016)	Mid Term (2017 - 2028)	Long Term (2029 - 2040)	Total
<b>Existing Operations, Planning, &amp; Administration (OPA)</b>				
Continued Operation of RoadRUNNER Services	\$18,982,000	\$58,822,000	\$83,866,000	\$161,670,000
<b>Existing Capital</b>				
Existing Fleet Replacement Pool	\$4,904,000	\$15,197,000	\$21,667,000	\$41,768,000
<b>Existing Total</b>	<b>\$23,886,000</b>	<b>\$74,019,000</b>	<b>\$105,533,000</b>	<b>\$203,438,000</b>
<b>Planned Operations, Planning, &amp; Administration (OPA)</b>				
Fixed Route Service Enhancements	\$298,000	\$17,540,000	\$101,379,000	\$119,217,000
Paratransit Service Enhancements	\$128,000	\$7,099,000	\$22,936,000	\$30,163,000
Passenger Information System	\$42,000	\$93,000	\$133,000	\$268,000
Planning Studies	\$120,000	\$1,295,000	\$1,796,000	\$3,211,000
<b>Planned OPA Total</b>	<b>\$588,000</b>	<b>\$26,027,000</b>	<b>\$126,244,000</b>	<b>\$152,859,000</b>
<b>Planned Capital</b>				
New Fleet Expansion & Replacement	\$1,351,000	\$10,891,000	\$26,981,000	\$39,223,000
Capital Infrastructure Enhancements	\$380,000	\$39,070,000	\$19,546,000	\$58,996,000
CAD\AVL	\$775,000	\$0	\$0	\$775,000
<b>Planned Capital Total</b>	<b>\$2,506,000</b>	<b>\$49,961,000</b>	<b>\$46,527,000</b>	<b>\$98,994,000</b>
<b>Planned Total</b>	<b>\$3,094,000</b>	<b>\$75,988,000</b>	<b>\$172,771,000</b>	<b>\$251,853,000</b>
<b>Existing + Planned Total</b>	<b>\$26,980,000</b>	<b>\$150,007,000</b>	<b>\$278,304,000</b>	<b>\$455,291,000</b>





The overall implementation strategy provides incremental operations improvements throughout each phase to minimize significant increases in the annual operations budget. By the final year of the cost estimate (2040), the inflated value of the existing services annual operating cost is approximately \$8.2 million, while the inflated annual operating cost of expanded services is estimated to be \$15.3 million. Total estimated annual operating costs in 2040 are \$23.5 million or an increase by a factor of three over today's annual investment in transit operations.

For the short-term and long-term time frames, capital expenditures are largely focused on the expansion and replacement of fixed route bus and paratransit vehicles. During the short-term (84% of capital costs) and long-term (71% of capital costs) time frames, fleets account for a significant amount of the estimated capital costs. The much lower percent of capital expenditures on fleet (40% of capital costs) during the mid-term phase is due to the concentration on capital infrastructure investments to support the planned BRT services.

As previously indicated the total estimated costs in the short-term phase are only slightly higher than the existing funding for RoadRUNNER costs and may be feasible for implementation with only minimal additional funding needed. However, the estimated operating and capital costs associated with the mid-term and long-term time frames will require significant revenue streams not currently available. Some of the capital investments may be feasible through federal capital assistance; however, an increased level of local or regional funding would likely be needed to support a significant increase in operations investments. Options for operations revenues are discussed in more detail in the next section: Key Long Range Public Transportation Policy Considerations.

### **Key Long Range Public Transportation Policy Considerations**

With the expected population growth in the region, the need for additional investment in regional public transportation services and associated infrastructure will continue to increase. To support increased investment in public transportation, the region may want to consider several issues with existing and future policy implications, including: transit supportive land use, transit funding options, and public access to passenger information.

#### *Transit Supportive Land Use Policies*

Transit supportive land use policies can be vitally important catalysts in developing and sustaining future transit patronage. These include design and development policies that support increased residential and employment densities and targeted parking strategies that maximize developable land opportunities. Other transit supportive policies include requirements for enhanced pedestrian and bicycle infrastructure to make direct connections between neighborhoods, local activity centers, adjacent neighborhoods, and major roadways. Incorporating area-appropriate (i.e. downtown, university, residential areas, etc.) transit supportive land use policies will support increased investments in public transportation services while helping the community meet other local goals and objectives.



### *Transit Funding Options*

The first five years of the long range public transportation vision can be accomplished with only a minimal increase in funding; however, the mid-term and long-term time frames will require significant funding increases. Additional funding could potentially come from multiple sources; however, any future consideration of additional funding would be dependent upon local preferences and priorities. Potential funding sources may include, but are not limited to:

1. **Local General Revenues** – Local general revenues from an individual or multiple communities tax base are generally very limited as communities have finite revenues and must prioritize funding among a variety of community needs such as policing, fire protection services, public parks, etc. In addition to the commitment of tax revenues, local revenues can include user fees (passenger fares) and entrepreneurial revenue sources such as RoadRUNNER Transit’s existing advertising program. The revenue generated from passenger fares and advertising programs are highly dependent upon the fees assessed and the volume of patronage. However, passenger fares and advertising revenue are generally not enough to fully fund a transit system.
2. **Tax Increment Financing (TIF)** – TIF is a funding mechanism that can be used to help support the repayment of capital program financing (revenue bonds) or transit service operations. TIF programs generally work by dedicating new property taxes generated from a transit investment, back into transit. For example, if a community’s investment in a modern streetcar raised property values in the corridor by 10% (due to proximity to the streetcar or higher valued property use), the increase in associated property taxes would be dedicated to supplement the modern streetcar operating costs. TIF generally requires a significant public investment prior to generating any new revenue.
3. **Project Specific Grants** – The Las Cruces region currently receives federal formula grant revenues to support RoadRUNNER Transit and has also received discretionary grants on a project-by-project basis. Federal discretionary grants provide an opportunity to fund projects such as the contemplated BRT corridor infrastructure improvements and the park-and-ride identified in the Long Range Public Transportation Vision. In addition, to federal grants are available to help fund planning studies such as alternatives analyses, environmental assessments, and other project related studies that may be required prior to applying for project construction grants. Grants often require some level of local match and are not a reliable source for annual operating or other ongoing costs.
4. **Public-Private-Partnerships (P3)** – P3 funded projects can range from a stand-alone capital project like a jointly developed park-and-ride facility or the full development and operation of a system by a concessionaire. Due to the size and scope of the projects identified in the long range public transportation vision, the most likely type of P3 opportunity may be a joint development of the proposed park-and-ride project. Cost savings could potentially be realized through partnering with a private developer to utilize land at an existing development or lease space on



a publicly owned site to a private user (i.e. coffee shop, dry cleaner, restaurant, etc.) to generate ongoing revenue.

5. **Regional Transit District (Gross Receipts Tax)** – The formation of a Regional Transit District would provide a legal mechanism to levy a gross receipts tax to fund transit operations and capital investments. This would provide an ongoing dedicated funding source, but it would also require the careful consideration of local community members and policy makers.

#### *Access to Passenger Information*

Currently there are policies that protect the electronic information held by the city and other governing agencies on behalf of the community's businesses, organizations, and residents. While some data is sensitive in nature, other data, such as transit schedule information and real-time bus location data may be beneficial for use by transit passengers. As new technologies are embraced by the region's transit system, policies that open up the availability of transit system data through secure and reliable methods should be given careful consideration.