

Transportation Section 5

INTRODUCTION

The transportation element of the Carlsbad Comprehensive Plan establishes a set of goals and objectives that will provide the city with direction as to the future development of the key transportation networks that exist in the area. These networks include air transportation, rail, transit, pedestrian and bike transportation, and local and regional roads treated here as one system. The goals and objectives are developed based on the analysis of several levels of data and possible scenarios for proposed transportation system improvements. This evaluation will deal with the levels of service for each mode of transportation, the connectivity between the existing networks, and also an assessment of the land-use implications of each system.

5.1 EXISTING CONDITIONS

In order to describe existing conditions, data was collected and reviewed from each of the transportation networks. Each system in this section will be briefly summarized as to their location characteristics and their current level of service.

Regional and Local Road Systems

Carlsbad's location offers limited opportunities for connections with major metropolitan areas. The road network surrounding and connecting the city is characterized by long stretches of open space with small towns few and far between. This location has made Carlsbad distant and isolated from metropolitan centers. Table 5.1 illustrates the distances separating Carlsbad from other major cities in New Mexico and in Texas.

Connectivity to the interstate highway system is limited. The nearest interstate highway, I-20, is over 100 miles to the south of Carlsbad. I-20 runs through Texas and meets with US 285 in

Pecos, Texas. Interstate highways traveling through New Mexico include I-40, which runs north and south, and I-25, which travels east and west.

	Distance from Carlsbad (miles)
Roswell	76
Hobbs	70
Santa Fe	270
Albuquerque	277
El Paso	166
Midland	184
Dallas/Ft. Worth	474
Lubbock	175

Table 5.1 Distance of Carlsbad From Other Cities

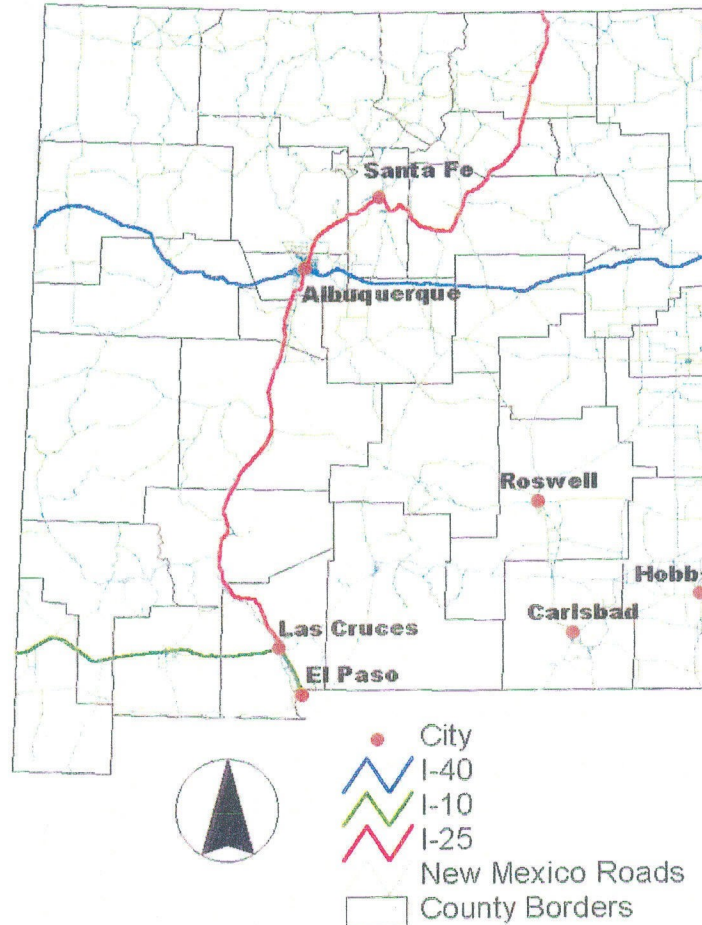
The map on the following page provides a visual representation of the relationships between Carlsbad, other metropolitan areas in New Mexico, and the interstate highway system. Texas highways, such as I-20, are not illustrated on this map.

Although Carlsbad is located in a remote area of New Mexico, being at the intersection of two major state highways has proven to be an advantage. Major regional road connections are provided by two state highways that intersect in the city. US 62/180, traveling from the northeast/southwest, and US 285, traveling from the northwest/southeast, meet in Carlsbad and they are the source of much of the regional traffic traveling through the city. US 62/180 leads to the Carlsbad Caverns, south of the city, and connects Carlsbad to the national park.

Regional truck traffic has been associated with unwanted nuisances within the city. Noise, motor exhaust, and added stress on roadway infrastructure cause unwelcome effects in the downtown area. Until recently, regional truck traffic had no choice but to travel through this part

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The Interstate Highway System and Carlsbad



of town. The Waste Isolated Pilot Plant (WIPP) brought with it some transportation improvements, including the construction of a relief route. The relief route allows truck traffic, especially that carrying hazardous materials, to bypass the city from the north, connecting US 285 and US 62/180 east of the city. The improvements, however, did not complete the loop. As a result, truck traffic wishing to continue to travel on US 285 must return to Carlsbad south of Greene St. Other funding from

the DOE for WIPP-related transportation improvements has also provided for improvements to US 285 north of Carlsbad.

Important to note is the transformation of US 285 and US 62/180 into principal arterial roads once vehicles enter the city. The state highway system complements the local road network, but also causes some conflicts between regional local traffic. The designation of Canal Street as a US

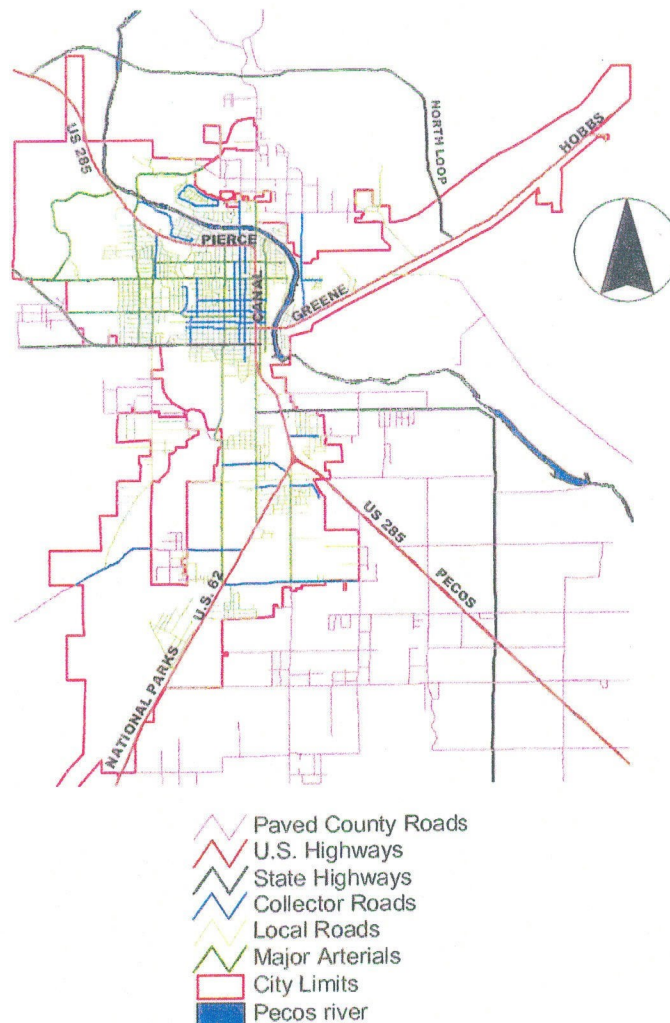
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highway also affords the City of Carlsbad with limited oversight over the design of improvements in the right-of-way. Within the city limits, the state highways are integrated into the local gridiron road pattern. The gridiron pattern west of the Pecos River provides an efficient network characterized by a high degree of accessibility and mobility. The map below details the road network within the city.

The accessibility, mobility and efficiency that characterizes Carlsbad's historic settlement pattern

west of the river is absent in the areas of Carlsbad east and north of the Pecos River. Connectivity and accessibility east of the river are impeded by the necessity for river crossings. There are three river crossings within the City of Carlsbad: Callaway Rd., Canal St, and the river crossing on Green St, which leads out of the city towards Hobbs, New Mexico. Concerns over conflicts between river crossings and the railroad have been raised by Emergency Management Services (EMS), for whom accessibility is a major

Carlsbad Local Street Network



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component of effective response time.

Railroad crossings in Carlsbad can be found at Green St., Church St., Blodgett St., and Riverside Rd. All railroad crossings are at grade, and auto traffic is halted to provide rail traffic the right-of-way.

Local street maintenance and repair is guided by the Five-year Street Maintenance Plan. The Plan is prepared by the Carlsbad Public Works Department and is financially supported through several local, state, and federal funding sources, including Community Development Block Grants, the State Highway Municipal Arterial Program, the State Highway Cooperative Program, and the State Transportation Improvement Plan. The City of Carlsbad also makes funds available for their street maintenance program through their capital improvements program.

State roads and highways, such as US 62/180 and US 285, are funded through the State Transportation Improvement Plan (STIP). Streets eligible for this funding include Pierce St. & Canal St., Green St. east of Canal St., Canyon St., and the National Parks Highway, which is the same as US 62/180. Applications for funding are submitted to the Southeast Regional Planning Organization (SERPO) every year as a part of the state highway department five year plan update.

SERPO serves as the regional transportation planning authority under federal ISTEA legislation for the southeastern New Mexico area. It comprises eight counties, including Eddy county. SERPO meets 4 to 6 times a year and consists of a technical review committee and a policy review committee. The committees consist of representatives from each municipality and county within the region, including Carlsbad. These two committees are jointly responsible for reviewing, and submitting project applications to the state highway department.

Currently, there is no transportation modeling being done at the local, county or regional level.

Traffic count data is only available for state highways through the state highway department.

Transit

The Carlsbad Municipal Transit System has been in service since 1995. It is a demand-response transit system, requiring users to contact the transit authority in order to schedule pick-up and drop-off points. It differs in this regard from a fixed route transit system in which transit riders are picked up and delivered to points along a predetermined route.

Service areas for the transit system include the cities of Carlsbad, Loving, and Artesia. Loving is located 10 miles south of Carlsbad and Artesia lies 36 miles to the north. The Carlsbad transit service charges a flat fee of \$5.00 per one way trip regardless of distance. Currently, the transit service is not operating at capacity. Only six of ten passenger vans are currently in use. Ridership information provided by the Carlsbad transit service estimates an average of 140 trips per day.

The Carlsbad Transit System has attempted a variety of transit operation alternatives. Fixed-route transit service has been provided during holidays and for special community events. This past summer, fares were also reduced from \$5.00 to \$1.00 for the duration of one month. Transit administration indicated that both of these options did produce a significant increase in ridership. The positive results gained from these experiments have encouraged the transit agency to further pursue similar strategies. According to transit officials, these services were provided in the attempt to market the transit service to sections of the population other than those with medical needs and to recoup ridership information for future transit service improvements. Future efforts that involve a mix of similar transit alternatives have been

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Air

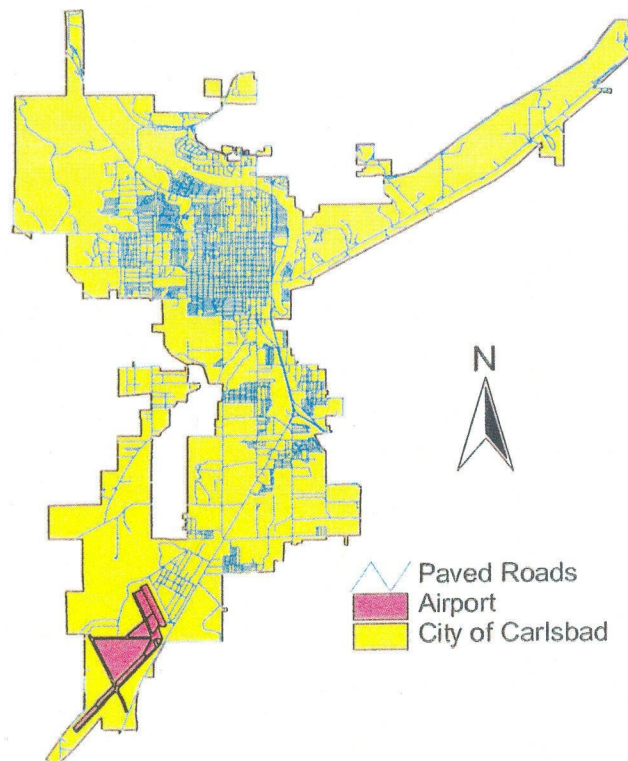
The Cavern City Air Terminal is located in the southwest corner of Carlsbad, on U.S. Hwy 62/180, also known as the El Paso Highway or National Park Road. Passenger service to the airport is provided by one carrier, Mesa Airlines. The Carlsbad airport is considered to be a regional non-hub commercial airport, indicating that less than .05% of total U.S. passengers were enplaned at this airport during the year. Direct passenger flights are available only to Albuquerque and Hobbs. Passengers who wish to fly to other destinations throughout the nation need to be serviced to Albuquerque where they can board passenger service carriers with better regional connections.

Air cargo service providers and the military regularly use the airport for their day-to-day operations. Other services available at the airport include fueling, parking, flight school/flight training,

aircraft rentals, charters, pilot supplies, car rentals, and courtesy transportation to and from the airport. Recently a medical transport service, Southwest Air Ambulance Service, began providing emergency and non-emergency medical transportation services from the Cavern City airport to regional hospitals with superior medical facilities.

Six other airports are located in the southeastern New Mexico area. Most of these are considered non-hub or non-primary commercial airport by the Southeastern New Mexico Transportation Development District. Only the airport at Roswell, located 70 miles northwest of Carlsbad, is considered a primary commercial airport. Primary commercial airports, as defined by the Southeastern New Mexico Transportation Development District, are airports with at least 10,000 scheduled annual passenger enplanements and non-primary commercial are airports that have between 2,500 and 10,000 scheduled annual enplanements.

Location of the Cavern City Air Terminal



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Enplanements at the Cavern City Airport rose when Mesa Airlines entered the service area in 1985. In 1992, total enplanements according to the Airport Master Plan Study were 10,156. The rise in enplanements since Mesa Airlines entered the market is illustrated in Chart 5.1. The sharp increase in 1985 is attributed to the fact that there were two passenger service providers once Mesa entered Carlsbad. In the same period the WIPP Project office moved from Albuquerque to Carlsbad and this may have accounted for the increase. Soon thereafter, Air Midwest Airlines, which was the competing airline, left the market. Annual enplanement data was not available for any period since 1992. According to airport officials, enplanements have averaged around 7,500 per year since 1992. A 10,000 enplanements per year threshold needs to be crossed in order to obtain increased federal funding. If the estimate given is true, enplanements have fallen since the Air Service Study was completed. One reason for the loss may be attributed to the fact that passengers have to be shuttled to Albuquerque to reach outside destinations. Passenger fares out of Carlsbad have remained expensive because of this. The Statewide Air Service Study reveals that passengers generally prefer to drive to El Paso or Midland for westerly and easterly connections.

Attempts at luring other passenger carriers to the Carlsbad market have met with little success. Airport officials outline losses in funding after efforts were made to bring Big Sky Airlines into Carlsbad two years ago. Big Sky quickly left because of the lack of passenger ridership. Future attempts to attract additional air service are likely to meet similar challenges.

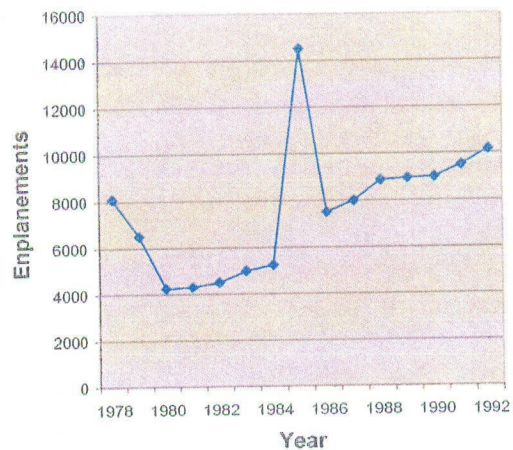


Chart 5.1 Annual enplanements at the Cavern City Air Terminal

Funding for the airport comes from several sources. Federal funding, through the federal Airport Improvement Program, provides 90% of support. Five percent comes from state grants issued by the state of New Mexico through the Aviation Division within the Highway and Transportation Department and the last 5% is provided by the city of Carlsbad.

No current encroachment from incompatible land uses is evident at this point in time. An industrial park has been planned just north of the airport border. Existing land uses currently include agriculture uses to the north, vacant land to the east, and public land and open space to the south and to the west. Federal Aviation Administration (FAA) guidelines which direct the development in and around Carlsbad airport property include Federal Air Regulations (FAR) Part 150 and Part 77. Part 150 addresses airport noise compatibility planning and Part 77 speaks to objects affecting the navigable space of aircrafts.

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Pedestrian & Bike Transportation

Pedestrian and bicycle travel is not widely apparent in Carlsbad. A network of sidewalks does exist along major arterials in the downtown area and along commercial strips, but this system appears to experience limited use. The sidewalk system along Canyon and Main St., in the downtown area, is buffered by on-street parking and is conducive to safe pedestrian travel. Immediately outside of this downtown area along major commercial strips, buffering is reduced and pedestrian travel comes into close contact with rapidly moving vehicles. This is true for the rest of the city's major arterial and collector roads. Safety for pedestrian travel is eliminated in these areas and few pedestrians can be seen traveling along the sidewalks of Carlsbad.

Biking infrastructure is minimal in Carlsbad. There is a paved bike and pedestrian way along the Canal. There are also few other bike racks. In speaking with transit officials, attempts at obtaining more bike racks has been unsuccessful because of limited available funding. There are few facilities that complement the use of bicycle travel in the city of Carlsbad. Much like pedestrian travel, bicycle travel in Carlsbad is not widely apparent. This may be a result of the lack of safe travel facilities for this kind of transportation and local preferences for automobile travel.

5.2 GOALS & OBJECTIVES

Local transportation goals and objectives were determined using a variety of resources. Documents reviewed include the Airport Master Plan Study, the New Mexico Statewide Air Service Study, the SWOT analysis from Tripp-Umbach, Community Vision 2000 provided by the Rural Community College Initiative (RCCI), an Inventory of Transportation Systems for the Southeastern New Mexico Transportation Development District (SNMEDD), the Carlsbad Five-year Street Maintenance Plan, and the State Transportation Improvement Plan.

A series of interviews was also conducted during a site visit in the month of October. City officials from several departments were interviewed regarding current conditions, goals, and perceived problems concerning their respective transportation areas. Interviews were conducted with Mickie Compton, Manager of the Carlsbad Municipal Transit System; John Haag, Airport Manager; Tony Elias, executive director of SNMEDD; Luis Camero, Director of Utilities for Carlsbad; and Russel Doss, representing the city of Hobbs in SERPO. The site visit also allowed for a qualitative assessment of the transportation networks.

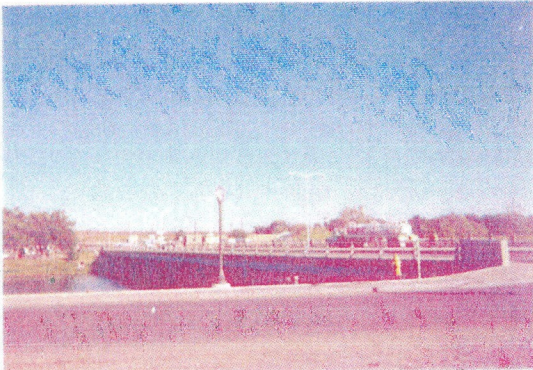
Community Values

Carlsbad residents appear to have two major areas of concern regarding the existing transportation system. First, residents indicate that they are concerned about the condition and maintenance of the local road system. Second, the current public transportation system is not adequate.

According to the Tripp-Umbach survey, 74% of respondents believe that the roadways in their town need improvement. The RCCI survey also suggests that the development and implementation of a street repair plan is a high priority among residents. The Public Works Department is attempting to address some of the community concerns noted here. Currently, the department is developing a new pavement management system, called Paver, which will be incorporated into the Five-year Street Maintenance Plan. This new system is intended to improve classification of the condition of streets so that road maintenance problems can be effectively addressed.

The second issue raised by the survey results was about public transportation. RCCI results show that residents would like to see an enhanced public transportation system along with affordable transportation for the elderly and the disabled. The

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Bridge Crossing at Green St.

Tripp-Umbach survey results indicate that 84.7% of residents believe that public transportation in Carlsbad is inadequate. Specific inadequacies were not identified in the survey. The Municipal Transit director acknowledges that the demand for public transportation is substantial and also states that attempts to improve the transit system are in the process of being implemented now. Some of these attempts involve the seasonal fixed route service and the lower fares referred to in section 5.1.

City officials have also indicated that connectivity between the east and west side of Carlsbad could be improved, signalization of certain intersections could be enhanced, and conflicts between transportation modes, especially between the railroad and the road system could be mitigated.

Community officials have also emphasized the importance of the regional road network to economic development efforts in the area. Representatives from SNMEDD and SERPO emphasize how the foundation of any economic development in southeastern New Mexico needs to be reinforced by an improved regional highway system. Without any direct access to the interstate highway system, Carlsbad is effectively cut off from the sectors of the national economy that rely on

fast, efficient transportation between major market centers. Improved efforts in regional transportation planning need to be implemented in order for Carlsbad to achieve its goals of enhancing regional highways. Similarly, despite past setbacks, more efficient and convenient air travel linking Carlsbad to a hub airport (Denver or Dallas) remains an economic development imperative.

Goal 1

The City of Carlsbad will provide for safety and connectivity of the local road system for all modes of transportation.

- Improve connectivity across the Pecos River for all modes of transportation.
- Relieve inter-modal conflicts and safety issues between the local road network and the railroad.
- Create safer pathways for all modes of transportation by improving signage, signalization, and buffering.
- Extend the North Loop road to completely bypass the urban area down to US 285.

Goal 2

The City of Carlsbad will maintain and repair local roads and keep them in good condition.

- Provide funding for long-term repair and long-term maintenance of the local road system.
- Inventory and classify roads and road conditions in a useful and maintenance effective manner.

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Goal 3

The City of Carlsbad will initiate regional transportation planning that will enhance its competitiveness for state and federal highway dollars which can be leveraged locally to improve the region's access to the interstate highway network.

- Partner with DOE and with other local government to complete professional transportation planning that can provide the data necessary to substantiate Carlsbad's case for regional highway transportation improvements

Goal 4

The City of Carlsbad will meet the service demand for public transportation in an equitable, affordable, and efficient manner.

- Clarify and specify the perceived inadequacies with public transportation by the citizens of Carlsbad.
- Improve access to public transportation to all sections of the community.
- Encourage transit-riding opportunities for all segments of the population.

Goal 5

The City of Carlsbad will protect the Cavern City Air Terminal from conflicting land uses that may threaten current and future airport operations.

- Address airport land use conflicts in the preparation of the future land use plan according to the recommendations in the land use element of the comp plan.

5.3 POLICIES

The City of Carlsbad will initiate professional regional transportation planning in order to illustrate the benefits provided by improving the connectivity of the highway transportation network in southeastern New Mexico and the benefit of enhanced access to the interstate transportation network

The City of Carlsbad will continue to prioritize local street improvements in its capital improvements planning in order to address residents concerns over the conditions of local roads. The City will improve the quality of asphalt overlays and actual road surface conditions.

In implementing local street improvements, the City will consider as part of the street improvement system the needs of pedestrians and bicyclist and opportunities to rationalize and signalize intersections and will consider the adoption of street standards for both newly developed street infrastructure as well as the redevelopment and improvement of existing street facilities.

The City of Carlsbad will mitigate the health and safety problems that result because of auto-rail mode conflicts either by locating emergency facilities and equipment east and north of the river in order to improve response times or by seeking funding for grade separation between transportation modes.

The City of Carlsbad will seek funding to extend the relief route around Carlsbad to reduce regional truck traffic traveling through the city. Simultaneously, the City will investigate with the State of New Mexico opportunities for re-aligning US 285 as it passes through Carlsbad with Main Street Program in order to mitigate

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conflicts between local traffic and pedestrians and regional transport.

Along Canyon and Canal Streets, the City will implement streetscape improvements aimed at calming traffic, enhancing the pedestrian experience, and most importantly improving the visual character of the city by providing attractive gateways and improved travel experiences for residents and visitors.

The City will investigate ways to improve access to the Carlsbad Municipal Transit System by cooperating with Senior Center Managers and those providing social services to the elderly and other transit dependent communities.

The City will continue to investigate possible regional partnerships that may result in expanded air transportation services and access to the national hub network.

The City will protect its airport facility from encroachment by adopting adequate land use regulations to limit the development of inappropriate uses in and near the airport.



Mermod St & Canal St.

5.4 RECOMMENDED IMPLEMENTATION

The implementation of the recommended policies will take place through a Transportation Improvement Plan (TIP). The Transportation Improvement Plan will connect the current and future needs of the community with the development and improvement of the transportation networks.

Development of a Transportation Improvement Plan will need to include the following elements:

- Traffic modeling software with applicability to rural areas.
- Public participation process
- Inventory of existing transportation systems.
 - Multi-modal inventory.
- Socioeconomic regional profile
- Criteria for prioritization of projects
- Identification of funding for the 20-year scope of the plan.

The public participation process gives citizens the opportunity to voice concerns and become more involved in the planning process used to develop future transportation projects. Criteria for advertising and documenting public meetings needs to be established.

A multi-modal inventory of existing transportation systems needs to be conducted. The inventory should include sidewalks, roadway miles, rail lines, bike paths, public transportation, and a comprehensive conditions assessment for each of these items. This assessment will be used as a base for projecting where future improvements on the transportation systems need to take place.

A socioeconomic profile will evaluate the population and employment characteristics of the region. This profile will be used to forecast future travel demand on transportation infrastructure.

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A method for comparing projects needs to be established. Limited funding will require the city to set criteria for the prioritization of projects. Together with the identification of funding sources, the planning and prioritization of projects should note the 20-year scope of the plan.

It is recommended that Carlsbad also create citizen advisory committees to guide the development of networks of pedestrian and bicycle pathways through the city. A Bicycle Advisory Committee (BAC) and a Pedestrian Transportation Advisory Committee (PTAC) can provide input on bicycle and pedestrian access and safety issues. The advisory committees may take the role of developing the bike/pedestrian networks. Recommendations from the advisory committees will be directed to the city commission for review.

Recommendations from the TIP should be accomplished through the ICIP and the 5-year Street Maintenance Plan. Completion of the TIP is also what will be needed to pursue regional transportation planning objectives. Appropriate data collection for the various transportation networks should be collected that will fit transportation modeling software designed for rural communities.

The policy and implementation strategy included in this document are intended to improve transportation networks in the City of Carlsbad. Together with the other elements of the plan, Carlsbad can forge a roadmap for its future. Rural communities similar to Carlsbad have the opportunity to enjoy the fruits of economic development and improve the quality of life of residents by creating a vision and goals and planning for the future.