

# City of Holtville



## BICYCLE MASTER PLAN



**Updated April 2014**

**Prepared for the  
City of Holtville**



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## Definitions

*AASHTO* - American Association of State Highway and Transportation Officials

*ADA* - The Americans with Disabilities Act (civil rights legislation passed in 1990, effective July 1992).

*ADT* - Average Daily Traffic. The measurement of the average number of vehicles passing a certain point each day on a highway, road, street, or path.

*Arterial (Road)* - divided or undivided, relatively continuous routes that primarily serve through traffic, high traffic volumes and long average trip lengths. Traffic movement is of primary importance, with abutting land access of secondary importance, with land access of secondary importance.

*Bicycle* - A vehicle having two tandem wheels, either of which is more than 0.4 m (16 inc.) in diameter, or having three wheels in contact with the ground, any of which is more than 0.4 m (16 inc.) in diameter, propelled solely by human power, upon which any person or person may ride.

*Bicycle Facilities* - A general term denoting improvements and provisions made by public agencies to accommodate or encourage bicycling including bicycle paths, bike lanes, parking and storage facilities, lockers and showers, maps of bikeways, marked routes and shared roadways not specifically designated for bicycle use.

*Bicycle Lane (Class II)* - A portion of a roadway (typically 1.2-1.5 m.) which has been designated by signing and pavement markings for the preferential or exclusive use by bicyclists.

*Bicycle Path (Class I)* - A separated paved or hard surface (typically 2.4 m.) that serves the exclusive use of bicycles and pedestrians.

*Bicycle Route (Class III)* - A system of roads and ways that are linked by signs to aid bicyclists. Bike routes are ineffectual unless signs are highly specific, giving a clear indication of designation.

*Bikeway* - Any road, path, or way which in some manner is specifically designated as open to bicycle travel, regardless of whether such facility is designated as open to bicycle travel, regardless of whether such facility is designated for the exclusive use of bicycles or is to be shared with other transportation modes.

*Clearance, Lateral* - the width required for safe passage of a bicyclist as measured in a horizontal plan.



*Clearance, Vertical* - The height necessary for the safe passage of bicyclists as measured in a vertical plane.

*Collector (Road)* - A road designated to carry traffic between local streets and arterials, or from local street to local street.

*Edge Line* - A painted or applied line to designate the edge of the road (150-200 mm, 6-8 inches wide).

*Enhancement funds* - Under TEA 21, set aside funds for twelve categories of projects including bicycling and pedestrian facilities and trails.

*ISTEA* - the Intermodal Surface Transportation Efficiency Act enacted in 1991. Federal legislation guiding the expenditure of federal highway funds for bicycle, pedestrian, and other improvements.

*Lateral Clearance* - The distance between the edge of a roadway or bikeway and a fixed object. Also, the separation distance a roadway user needs to feel safe operating near a fixed object.

*Shared Roadway* - Any roadway upon which a bicycle lane is not designated and which may be legally used by bicycles regardless of whether such facility is specifically designated as a bikeway.

*Shoulder (Paved)* that portion of highway, which is contiguous to the traffic lanes, allowing use for emergencies of motor vehicles, for specialized use of pedestrians and bicyclists.





## CHAPTER 1 EXECUTIVE SUMMARY

### A. *Significant Findings*

Holtville is a small community developed around Central Park with a wide roads formed in a grid system. In the core of Holt Park is City Hall and facing the park on three sides are businesses, stores, and shopping. The wide uniform streets connect elementary, junior high, and high schools, parks and recreation facilities, library, and the civic center. This uniform street system plus flat terrain, generally mild, sunny climate, and low traffic volumes provide many opportunities for cycling. Bicycling in the community should be easily and successfully accomplished. However, there are no bicycle lanes and paths within the city and due to Holtville's proximity to agriculture and agriculture packing facilities, some roadways in Holtville experience regular associated truck traffic that may deter cyclists. The purpose of this Bicycle master Plan is to recognize the advantages and disadvantages to cycling and plan for future facilities that will encourage and promote opportunities for cycling.



The City's General Plan, Circulation Element and Open Space Element provide a map of recommended bicycle routes and lanes and the General Plan goals encourage construction of bicycle facilities. However, to date no bikeways have been constructed and the City Council determined although developing bikeways are desirable, the bikeway system proposed in the City's General Plan should be reevaluated. A consultant, Wallace Roberts & Todd, Inc. were selected to assist the City staff in developing a comprehensive system of bicycle facilities.

As defined by California Department of Transportation (Caltrans), bikeways are all facilities that are provided primarily for bicycle travel (California Streets and Highways Code Section 890.4). The purpose of this Bicycle Master Plan is to revisit the recommended bikeways and to develop a recommended bikeway system and strategies for implementation.

The vision behind this plan is the recognition that:

1. Bicycling transportation facilities need to be brought up to the level of other transportation services,
2. As a growing community, there is a growing need for designated bicycle facilities.
3. Future is anticipated due to the recent additional commercial border crossing and this growing bicycle community should be planned for and accommodated.



4. State and federal funding programs can be utilized to implement bicycle programs.

At a public workshop held on May 21, 2001, the Planning Commission directed the staff and the selected consultant to proceed with a bicycle network based on connectivity to schools, parks, and employment. The City is conveniently designed where the schools, parks, and downtown activities are easily can be easily connected by a network of bicycle facilities. The Commission recognized that the opportunity to plan for bicycle facilities is now and that more students would bicycle if a system of bicycle routes were identified.

## ***B. Major Recommendations***

The Bicycle Master Plan (Figure 1.4) recommends implementation of an approximate 8.6 mile (within the City limits) and 1.75 mile (just adjacent to the City's boundaries) system of bikeways that will provide a network of bicycle facilities that connect to the schools, parks and the City's Civic Center.

Designed in a grid system surrounding Holt Park, Holtville's roadways are generally 52 feet wide with no center stripe. The general condition of the roads is good and they could easily be striped in the future. Initially, the City may post bicycle route signs to identify the specific bicycle routes and then stripe the bicycle lanes as funds become available. The Master Plan provides a map of Class I and Class II bikeways and identifies costs for both.

The majority of the proposed 11.59 miles of bikeways are recommended as Class II bicycle lanes including approximately 1.62 miles of Class I bicycle paths. The total estimated cost for improving the cities roadways to accommodate bike lanes is \$30,008 without roadway surface repair and an estimated \$198,795 with roadway surface repair. However, many of the roadways in the city do not require surface repair. The Class I bicycle path would consist of an 8' wide paved surface with pavement markings and signage with a total cost of \$126,800 if constructed of a hard surface road oyl or \$265,900 with an asphalt pavement.

In many instances, Class III bicycle routes can improve existing bicycling conditions by providing a designating route for cycling which allows motorists to be aware of the possibility of cyclists and recognizes the growing cycling community. Pending funding for completion of the ultimate facility, the City may consider providing in the interim Class III bicycle routes where appropriate at an estimated citywide cost of \$12,242.

Other education programs need to be pursued by the City to inform cyclists of safe cycling practices. The "Safe Routes to School Program" that was approved the State in 1999 will provide funding to schools and public agencies educate students and cyclists on the merits of helmets and safe cycling, as well as funding for implementation of bicycle facilities.



Chapter 5 outlines the selection criteria and describes each proposed bikeway route by type. Implementation of the bikeway system will occur over time, as funding opportunities become available through grant programs or during the construction of new roadways or regular roadway maintenance. The ultimate system is designed to meet the cyclists needs as the community grows.

After adoption of the Bicycle Master Plan, it is recommended that the plan be reviewed every four years to determine if the plan should be modified to reflect changing conditions, especially if Holtville incurs additional growth or approves annexations. Public workshops are also recommended to provide input on possible changes. A public point of contact should be established at the City to coordinate public concerns and/ or comments, public work improvements, and to pursue grant funds.





## CHAPTER 2 INTRODUCTION

### *A. Purpose*

The purpose of this plan is to identify a system of bicycle routes that will serve as a tool for the City to use when planning future bicycle facilities and roadway improvements. The General Plan identifies a future bicycle system, but currently there are no bicycle facilities in the City. The unincorporated areas of the County and the City of El Centro both have recently approved Bicycle Master Plans.



An effective bikeway system may increase the use of bicycles and enhance the unique "old-fashioned" community feel of Holtville. This plan recommends a system of bicycle routes that will connect residential areas to schools, parks and the Civic Center. The City should use this plan as a tool when planning future roadway facilities, improvements to existing roadways, scheduling capital improvements, and applying for grant funds for bikeway facilities.

Additionally, this plan responds to the provisions of the California Bikeways Act, which describes specific requirements to be included in a Bicycle Master Plan. A Bicycle Master Plan or Bicycle Transportation Plan must comply with the program guidelines as set forth in Section 890-894.2 of the Streets and Highways Code in order to be eligible for grant funds to construct bicycle facilities through the Bicycle Transportation Account.

In order to comply with the requirements of California Department of Transportation, (Caltrans), the Bicycle Transportation Plan or the Bicycle Master Plan must include the following elements:

1. A needs assessment of the estimated number of existing and future bicyclists in the project area.
2. A map and description of existing and proposed land uses and existing and proposed bikeways, destination points, parking facilities, support facilities.
3. A description of bicycle safety and education programs.
4. A community participation program.
5. A discussion of how the plan is consistent with other plans.
6. A description of each project proposed in the plan and a priority list for implementation.
7. A description of past expenditures for bicycle facilities and future financial needs for projects that will improve safety and convenience for bicycle commuters.



The Master Plan provides the following in response to the Caltrans requirements:

1. A needs analysis of the estimated number of existing and future cyclists who would benefit from the implementation of bicycle facilities (Chapter 4).
2. A map and description of each planned bicycle route (Chapter 5).
3. A description of safety and education programs (Chapter 4).
4. A recommended community participation program to encourage cycling (Chapter 4).
5. A summary of how the plan is consistent with the General Plan and a comparison of the existing planned facilities with the proposed planned facilities (Chapter 2).
6. An implementation for developing the facilities based on a prioritization list (Chapter 5).
7. The City has not previously developed any bicycle facilities other than providing bicycle racks as parks however the plan provides a cost analysis to assist the City to program implementation and to apply for grant funds.

## ***B. Project Study Area***

### ***Location***

The City of Holtville is located directly east of the City of El Centro and approximately 10 miles northeast of the City of Calexico. (See figure 1.1) To the east, the Colorado River provides recreational boating and fishing activities all year long. The city is situated 6 miles west of Highway 111 which extends from Calexico to Palm Springs and SR 115, which extends from Evan Hewes Highway to Brawley. Interstate 8 connects San Diego to Phoenix/Tucson is located approximately three miles to the south.



Bisected by Evans Hewes Highway, (SR 80), provides direct connection to the City of El Centro. The city is located along the eastern side of Imperial Valley, in the area's most fertile agricultural region. Known as the "Carrot Capitol" of the world, the city is headquarters and processing facilities for major produce companies. The city celebrates with an annual carrot festival.

### ***Land Use***

The city was founded by W. F. Holt, a banker from Missouri in 1904. Incorporating in 1908, this 1.1 square mile area (roughly 700 acres) is largely a "bedroom" community with quiet residential neighborhood and a population of 5,918 (2000 census). City covers approximately 1.1 square miles (700 acres). Residential uses are located north of 5<sup>th</sup> Street from the east to the west end of the city. Recent residential development has taken place at the northeast corner with the largest growth occurring from 1963 through 1973.





Surrounding the city are large agriculture fields and supporting services such as packing/shipping and limited processing operations are located primarily along the railroad tracks, 4<sup>th</sup> Street, Bonds Corner Road, Zenos Road, and Melon Road, all at the southern to south eastern segments of the city.

The city supports three public schools, Pine Elementary School, Holtville Junior High School and Holtville High School. A fourth school, Emmett S. Finley Elementary School is located just to the north of the city. The June 1, 2001 estimated enrollment is 2,050 students. A second high school is currently proposed in the northwest, just outside the city limits.

Commercial activity is generally located along and adjacent to 5<sup>th</sup> Street, 6<sup>th</sup> Street, Holt Avenue, and Pine Avenue. As the city expands, future commercial development may occur westerly along Evans Hewes Highway. Additional growth may be anticipated south towards Interstate 8 and Orchard Road due to the expanded trade agreement with Mexico and the recent opening of the commercial border crossing. Industrial uses are found along the railroad track, 4<sup>th</sup> Street, Bonds corner Road, Zenos Road and Melon Road. These areas are segregated from the residential areas of town and much of the available land is underutilized or undeveloped.

### ***Existing Conditions***

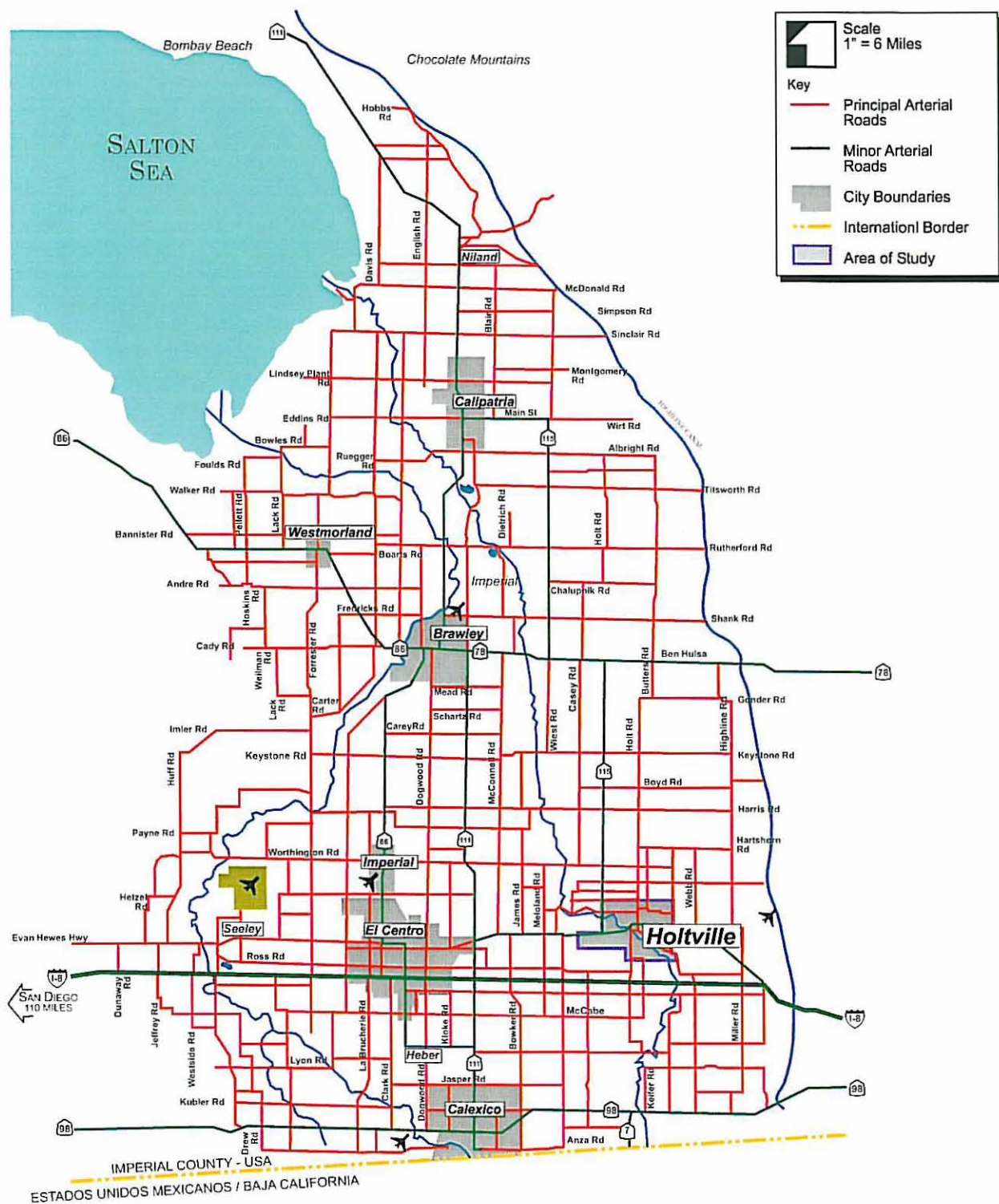
The city was developed in a simple grid fashion with large wide roadways comprising over 17 miles of city maintained streets and one mile of State Highway. The roadways are generally in good condition constructed approximately 52' wide with a 60' right of way. At the time of the preparation of the General Plan, 35% were in need of reconstruction.

The community of Holtville has few bicycle/auto related accidents. The Holtville Police Department reported two bicycle accidents in the last two years. There were no fatalities involved. It was noted that a dangerous intersection for bicyclists is at the corner of Olive Avenue and 7<sup>th</sup> Street where a stop sign is needed. The Police maintain a large impound of abandoned, found, or recovered bicycles. Consideration might be given for a joint effort with the City and the school district to develop a program whereby the high school or junior high school students refurbish the bikes for donation to children who are unable to purchase or maintain a bicycle.





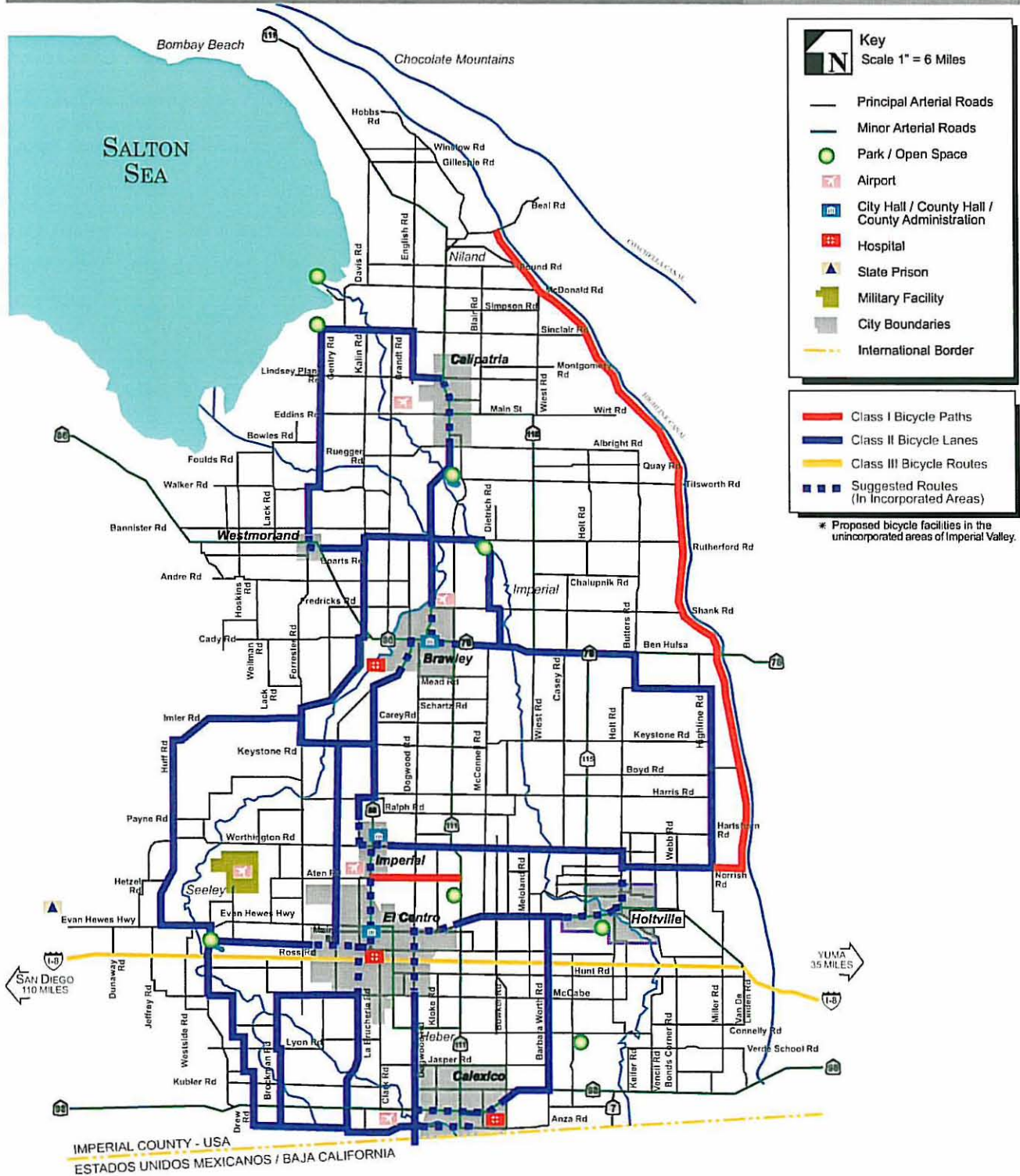
For those students who live within Holtville, bicycling or walking to school is a general occurrence. Other students arrive by bus from the outlying unincorporated areas of the County. The number of student bicycle riders is difficult to estimate and no surveys have been conducted. The elementary schools estimate that approximately 15-20 students arrive by bicycle. The number of junior high students who bike to school is somewhat higher. Since all of the schools are within walking distance many walk to school. Students arriving from outside of Holtville arrive by school bus. Bicycle activities take place primarily after school and weekends.





# City of Holtville Bicycle Master Plan

## Proposed Regional Bicycle Facilities\*





### ***C. Citizen and Community Involvement***

An important goal of this Master Plan is to develop a plan that meets the needs of the community and to plan for the future population of Holtville. In order to encourage public input, the City of Holtville conducted a public workshop on May 21, 2001 during the Planning Commission Meeting at the City Hall of Holtville. The Commission provided input on routes that would link the residential community to schools, parks, recreation facilities, library, City Hall, and stores. It was agreed that specific routes that could be easily recognized would encourage more students to bike to school.



### ***D. Relationship to General Plan and Other Plans***

The Bicycle Master Plan represents an implementation tool of the City's General Plan. The General Plan identifies key goals and objectives supporting and encouraging the development of bicycle facilities. The General Plan states that "the use of bicycles is another effective and desirable alternative form of transportation." Since the distances from residences to the parks and schools are reasonably short, bicycling other than during the hot summer months, is a feasible form of transportation and should be encouraged. The City's General Plan supports the establishment of a bikeway system as a desirable goal of the City. (General Plan pp. 104). Development of bicycle facilities is identified as an efficient and innovative form of transportation (General Plan Circulation Element, pp. 88).

"Promote mass transit, bicycle and other energy efficient and innovative forms of transportation where feasible and possible."

Additionally the General Plan sets out the following policy:

"Develop and maintain an effective and attractive bicycle route system that encourages school children, as well as adults to utilize it."  
(Circulation Element Policy (7) pp. 89)

The Bicycle Master Plan is consistent with the General Plan and when adopted by the City Council, will serve as a planning tool supporting the General Plan. The plan should be reviewed every four years by the Council to ensure applicability and consistency.





The following are goals and objectives identified in the General Plan supporting bicycle and trail facilities.

'To the south, southwest, and west of the city, the Alamo river meanders creating a natural buffer. This river area is identified by Federal Emergency Management Agency as a flood area and although uses are limited, it does have potential for developing a recreational pathway along the river.'

General Plan - Circulation Element Goals and Objectives

- (2) "Promote mass transit, bicycle and other energy efficient and innovative forms of transportation where feasible and possible." (pp.88)
- (3) "Coordinate with SCAG, CALTRANS, and Imperial County, as well as other related agencies, to insure that citywide circulation concerns are adequately addressed." (pp. 88)
- (4) "Support actions on transportation related projects that effect both the City and the County as a whole." (pp. 88)
- (7) "Develop and maintain an effective and attractive bicycle rout system that encourages school children, as well as adults to utilize it." (pp. 89)

In addition to conventional automobile transportation systems, other forms of movement throughout the City are, of course, available. They include walking, bicycling, and the use of transit systems, where feasible. (p. 103)

***Bikeway System:***

Bicycling is an effective and desirable alternative form of transportation, which may become more popular in the future. In Holtville, distances to schools, parks, and shopping are reasonably short, and with the exception of the hot summer months, bicycling as a form of transportation should be encouraged and establishing a recognized bikeway system of bicycle lanes and paths is a reasonable and desirable goal of the city.

The current General Plan identifies a system of bicycle facilities for implementation. This bicycle map was considered during the development of this Master Plan and based on bicycle trends and access routes to schools, modifications are recommended. The following is a comparison between the General Plan system of routes and the recommended system of routes within this Bicycle Master Plan.



**TABLE 1**  
**COMPARISON OF GENERAL PLAN AND BICYCLE MASTER PLAN**  
**BICYCLE FACILITIES SYSTEM**

<b>General Plan Bicycle Facilities System</b>	<b>Bicycle Master Plan Bicycle Facilities System</b>
No Bicycle route on Eleventh Street	Bicycle route on Eleventh Street between Slayton Road to Melon Avenue (approx. 1.1 mile)
Bicycle route on Ninth Street between Western City Boundary and Towland Road	Bicycle route on Ninth Street between Beale Avenue and Melon Avenue (approx. 1.2 mile)
Bicycle route on Seventh Street between Towland Road and Holtville Union High School	Bicycle route on Seventh Street between Olive Avenue and Towland Road (approx. 1.3 mile)
Bicycle route on Sixth Street between Eastern to western city boundary	Bicycle route on Sixth Street between Olive Avenue to western city boundary (approx. 0.49 mile)
No bicycle route on Fifth Street	Bicycle route on Fifth Street between Grape Avenue to Melon Avenue (approx. 1.1 mile)
No bicycle route on Fourth Street	Bicycle route on Fourth Street between Cedar Avenue to Grape Avenue (approx. 0.64 mile)
Bicycle route on Third Street between Grape Avenue and Chestnut Avenue & between Orchard Road and Melon Avenue	No bicycle route on Third Street
No bicycle route on Melon Avenue	Bicycle route on Melon Avenue between Fifth to Eleventh Street (approx. 0.8 mile)
Bicycle route on Orchard Road between city boundary to Seventh Street	Bicycle route on Orchard Road between City Boundary to Fourth Street (approx. 0.16 mile)
No bicycle route on Walnut Avenue	Bicycle route on Walnut Avenue between Water Reservoir and Fifth Street (approx. 0.5 mile)
Bicycle route on Olive Avenue between Seventh Street to northern city boundary	Bicycle route on Olive Avenue between Fifth Street to Eleventh Street (approx. 0.5 mile)
Bicycle route on Chestnut Avenue between Third Street to Seventh Street	Bicycle route on Chestnut Avenue between Sixth Street to Seventh Street (approx. 0.13 mile)
No bicycle route on Slayton Avenue	Bicycle route on Slayton Avenue between Ninth Street & Eleventh Street (approx. 0.25 mile)
Bicycle route on Beale Avenue between Seventh Street & Ninth Street	Bicycle route on Beale Avenue between Seventh Street & Ninth Street (approx. 0.25 mile)
No bicycle route on Grape Avenue	Bicycle route on Grape Avenue between Third Street and Sixth Street (approx. 0.65 mile)
Bicycle route between Fifth Street to the northern city boundary	No bicycle route on Towland Road
No bicycle route along the abandoned railroad tracks in the southwestern part of town	Bicycle path along the existing abandoned railroad tracks in the southwest (approx. 1.2 mile)
No bicycle path on Second Street	Bicycle path between Grape Avenue and Walnut Avenue along the existing water reservoirs (approx. 0.35 mile)



The main differences between the General Plan proposed bikeways and the Bicycle Master Plan proposed bikeways are:

- The Bicycle Master Plan provides for a more comprehensive bikeway system to connecting to schools, parks, and the Civic Center.
- Opportunities were explored for Class I bicycle paths along an existing utility corridor and an abandoned railroad corridor are included to provide an opportunity for bicycling and walking away from the street.

Upon adoption of the Bicycle Master Plan, it will be necessary for the City to approve a General Plan Amendment to amend the General Plan by replacing the bikeway system proposed in the General Plan with the bikeway system proposed in this Bicycle Master Plan.

#### **General Plan - Open Space Element Goals and Objectives**

The City's Open Space Element provides clear direction for the implementation of a trail system along the Alamo River, as follows;

"Identify and support that the development of area, particularly those already having natural geographic and topographic features or additional open space lands served to benefit the health, safety, and recreational opportunities of the Cities' residents." (*Open Space Element pp. 167*)

"Support the development of recreational area/open space area along the natural boundaries of the Alamo River".

"Develop a recreational based open space plan for a portion of the Alamo River from Highway 115 east to Bonds Corner Road. This plan is to provide for recreational uses such as hiking and riding trails, arenas, etc. No water based uses of the river would be allowed until the Imperial Irrigation District and Regional Water Quality Control Board concur." (*Open Space Element pp. 168*)

"The City should require special landscape setbacks and seek acquisition of lands, along with the corridor of the Alamo Canal, the primary open space recreational area." (*Open Space Element pp. 170*)

The City has, however, a unique opportunity to further utilize and develop a natural geographic/topographic region define by the Alamo River along the southern and western perimeter. This particular corridor could provide unique opportunities for the combination of open space uses; including preservation, recreation, as well as certain developments. (*Open Space Element pp. 176*)



The Bicycle Master Plan is consistent with goals of the Open Space Element as it identifies a meandering trail along the eastern edge of the Alamo River. Should recreational opportunities develop along the Alamo River, the City may consider supporting and encouraging the development of a Class I multi-use path along the Alamo River.



### ***E. Consistency with Other Adopted Plans***

This Bicycle Master Plan is consistent with the Bicycle Master Plans for the County of Imperial and the City of El Centro. Both master plans identify a bicycle lane along Evan Hewes Highway connecting from El Centro to Holtville as does this Master Plan.

Both the City of El Centro and the County of Imperial will update their master plans every four years. Since the County of Imperial adopted the first Bicycle Master Plan for the region, the County understood that as each City in the valley prepared and adopted a Bicycle Master Plan revisions to the County's plan may be necessary to ensure continuity with other planned bikeway systems. The proposed bicycle facilities for Holtville recommend a bicycle path along the abandoned railroad tracks connecting to El Centro and would suggest that the County of Imperial and the City of El Centro consider this opportunity when their master plans are updated. Additionally, the bicycle facility plan recommends a bicycle lane along Orchard Road in anticipation of additional development to the south of Holtville.



## CHAPTER 3 GOALS AND OBJECTIVES

Generally, when planning for bicycle facilities, various levels of abilities of bicyclists are considered in relation to the community and environment in which they live and cycle. Typically, the levels of cyclists are advanced, basic, and inexperienced (including children).

Advanced cyclists are highly experienced cyclists who ride frequently, are confident in all traffic conditions, and can negotiate with less operating space. These cyclists generally range in age from 20 – 50+ years representing 20% of all cyclists but accounting for an estimated 80% of all bicycle trips. They are comfortable traveling long distances, are accustomed to using their bicycle in a variety of environments and will most likely choose to bicycle for commuting or shopping.

Basic bicyclists are more casual riders, are less comfortable in traffic and have limited experience and skills. They form the largest group of bicyclists but, occasionally cycle and account for the largest group ranging in age from 9 years old to 50+ and are both male and female.

Inexperienced cyclists and children form a separate group of bicycle riders. Children have minimal riding skill, little experience, limited physical capability, and are not comfortable riding with traffic or within the roadway as are others who are inexperienced and have a high level of distrust of cycling on roadways. These cyclists lack confidence and judgement regarding safe cycling practices. Sidewalks, school grounds, parks, and Class I bicycle paths generally provide safe environments for the young riders.

The principle cyclists in Holtville fall within the categories of basic and inexperienced cyclists. All three classifications of cyclists are planned for in this document but the focus is on providing appropriate bicycle facilities for those young and inexperienced cyclists as well of making bicycling an integral component of the community.

### ***A. Key Goals***

The following goals guide the preparation of this report and the recommended bikeway routes:

1. A comprehensive, rational and equitable bikeway system connecting residential neighborhoods with parks, schools, City Hall, and existing and future employment.
2. Recreational bikeways that are accessible from residential areas.
3. School and commuter bikeways that are easily recognized and accessible from residential areas.
4. Bicycle storage facilities and/or bicycle racks for new parks, retail, and employment.





5. Design and implementation standards for bikeways on roadway improvement and/or new construction projects based on the recommended bikeways routes.

## ***B. Key Objectives***

Key objectives to consider when implementing roadway or bicycle improvements are:

1. Plan, design, and construct roadways that include facilities for bicyclists.
2. Encourage cycling by recognizing there will be cyclists and plan accordingly when developing new schools, parks, and residential communities.
3. Integrate bicycle facilities as part of the design and construction of new roadways and upgrade of existing roadways.
4. Consider the "bicycle perspective" as a guide when designing and constructing new and improving any roadway.
5. Provide opportunities for bicycle facilities that will offer facilities for all ages and physical abilities.
6. Encourage educational programs that promote the safe and efficient travel of cyclists.
7. Provide for bicycle access to employment, commercial, and other transportation and travel destinations.





## CHAPTER 4 BIKEWAY DEMAND AND BENEFITS

### *A. Demand for bicycle facilities*

Generally, the demand for bikeways is predicated on the number of cyclists evident on roadways, the number of bike related accidents, and public opinion or requests for new bikeways. Currently, although many persons bike in Holtville, there are no existing bicycle lanes or bicycle paths. Biking occurs on any street and along the sidewalks. Since other cities and the County of Imperial are beginning to implement their bicycle programs, interest for bikeways that connect to regional bikeways may increase as cyclist's desire to bike longer distances. Many roadways in Imperial County have low traffic volumes; especially early morning or evenings, so cycling throughout the region may be increased when there is evidence that there are bikeways. Future bicyclists in Holtville may consist of long distance cyclists and local residents who cycle to work, school, and for pleasure.

The latent "need" for bikeways are those cyclists that would cycle if bikeways were available. This latent need is difficult to quantify and requires reliance on evaluating other comparable communities to determine potential usage. During the months of August, September and October of 2000, surveys conducted by the Bureau of Transportation Statistics (BTS) identified that one in five adults reported using a bicycle in the last 30 days. The BTS also found that 7% or 2.9 million persons commuted to work. Bicycle usage may increase if there are more bicycle facilities. A recent study (March 2001) released by the Association of Pedestrian and Bicycle Professionals "states that 79% of voters felt bicycle trails and lanes are important to creating safe communities."

Mode split refers to the choice of transportation people make whether for work or non-work trips. Currently, the average household in the U.S. generates about 10 vehicle trips per day. Work trips account for less than 30% of these trips on average.

Using the 1990 U.S. census, Journey to Work data and the 2000 U.S. census population data, almost 1.5% (48) of all employed Holtville residents commute primarily by bicycle. This does not include those who ride to work less than 50% of the time, nor does it always include those who may walk or ride to transit and list "transit" as their primary mode.

Nationally, the mean travel time for bicycle and pedestrian commuters was 14.2 minutes, which translates roughly into a commute distance of about 3.5 miles for bicyclists or a 7-mile round trip.



The U.S. Department of Transportation in their publication entitled "National Walking and Bicycling Study" (1995) sets as a national goal to double current walking and bicycling mode shares by the year 2010, assuming that a comprehensive bicycle and pedestrian system is in place. This would translate into a commuter bicycle mode share of 3% or 82 commuters in Holtville. Add to this number, the number of commuters who bike occasionally and students who bike to schools, and the average number of daily bicyclists in Holtville increases to an estimated 492 bicycle commuters by the year 2010. These bicyclists will be saving an 114,800 estimated vehicle trips and 252,560 vehicle miles per year.

The combined benefit of these future bicycle commuters over the next 20 years is an annual reduction of about 4,647 lbs. of particulate matter in the air (PM10), and a reduction of 12,598 lbs. of NOx, and 18,336 lbs. of ROG.

Bicycling is one of the most popular forms of recreational activity in the United States, with 46% of Americans bicycling for pleasure. These figures indicate that about 2,722 permanent residents in Holtville bike or would like to bicycle for pleasure. If nothing else, this indicates a latent demand for facilities and a potent constituency to push for better facilities.

Table 2 provides a detailed summary of bicycle demand and benefits for the City of Holtville. It is assumed that although the facilities will be constructed within Holtville, once connecting routes are constructed by the County of Imperial and within the City of El Centro, more cyclists would bike between the Cities or enjoy long distance rides in the Valley. Every day the average American household makes 2,321 trips by car every year. "Forty percent of these trips are made within two miles of our homes." (*Outside*, Jan. 2000, "The Hard Way" by Mark Jenkins). As bikeways are constructed in Holtville, short distance vehicle trips are anticipated to be reduced.



**TABLE 2**  
**DEMOGRAPHICS AND BICYCLE TRANSPORTATION**

Population (2000 U. S. Census)	5,918
Estimated Holtville residents who would bike for pleasure ( <i>National estimate of 46%</i> )	2,722
Current bicycle commuters ( <i>1.5% of adults 18-65</i> )	41
Current and Future Bicycle Commute Mode Share ( <i>US DOT goal of 3% to double commuting by 2010</i> )	82
School-related bicycle commuters ( <i>20% of 7-14 year olds based on existing school enrollment of 2010</i> )	410
Total future bicycle commuters ( <i>employed + student commuters</i> )	492
Reduced Vehicle Trips/Year	114,800
Reduced Vehicle Miles/Year	252,560
Reduced PM10/lbs./Year ( <i>.0184 tons per reduced mile</i> )	4,647
Reduced NOX/lbs./Year ( <i>.04988 tons per reduced mile</i> )	12,598
Reduced ROG/lbs./Year ( <i>.0726 tons per reduced mile</i> )	18,336

1. Assume a 2.2-mile average round trip (based on city size of 1.1 square mile) and an average of 200-commute days/year bike/walk commute for adult commuters and 100-commute days/year for students.

### ***Commuter Needs***

Most of Holtville's residents are employed in agriculture producing, packaging, or distribution, for local retail services, or for government services either in Holtville or at the City of El Centro, the government center for Imperial County. The primary industry in Holtville, located to the south and west of City Hall, is comprised of a series of agricultural related packing/shipping and limited processing operations. Most of these are seasonal employees who commute from other communities in Imperial County. Commuting by bicycle to these facilities may be considered somewhat limited due to the distance and that agriculture production occurs during the hot summer and fall months when cycling is not as desirable.

Other employment facilities include the City's Police Department, City Hall, and local retail and commercial services. Most of these facilities are located immediately adjacent to the Civic Center and are easily within biking distance to the surrounding residential community. Biking to employment would generally occur during the cooler months from October to May.

In order to encourage biking to work, the City should consider employing a bicycle rack program by installing bicycle racks at various locations along the retail corridor, parks, and bus stops. In other communities, such as Denver, the city has adopted a provision that requires bicycle parking for new commercial developments. The provision requires 5%





of the automobile parking requirement of over 15 spaces shall be designated for bicycle parking. Each inverted-U bicycle rack counts as two bicycle parking spaces. (Denver Municipal Code Section 59-582(e)).

### ***Student Needs***

Within the City boundaries, there are parks, a community pool, the Civic Center, one elementary school, one Junior High School, and one high school as reflected on *Figure 1.3*. The city has a higher than average younger population compared with the rest of California. The 1990 Census showed the median age of population at 26.1 years of age. Children under the age of 17 comprise 36%, 18 - 64 comprise 56%, of the population (*Holtville General Plan*).



The region's median income is lower than the state average. The California Department of Finance estimated the annual family income of \$13,000 –14,000 (1988 *DOF*). Due to the higher than average student population and lower than average median income, bicycling becomes an economical alternative mode of transportation for student and commuter trips.

### ***Recreational Needs***

The needs of recreational bicyclists in Holtville are primarily to cycle in and around the City for short distances or to bike long distance with bicycle groups or independently in Imperial Valley. The County of Imperial has adopted a Bicycle Master Plan and over the next 20 years will be implementing that plan. One of the recreation facilities included in the County of Imperial's Master Plan is a multi-use pathway along the East Highline Canal. Once this bicycle facility is developed, bicyclists will be able to bike eastward along Evan Hewes Highway to the multi-use bikeway along the Canal.



A multi-use bikeway within the City of Holtville would also provide for bicyclists that may not use the roadways for cycling since they may be inexperienced or uncomfortable cycling along the road. Additionally, a separated pathway would be used by pedestrians, families with small children, roller bladers, and wheelchairs.



As stated above, the estimated future trips associated with new bicycle facilities is a process still in development nationally, and relies primarily on comparisons with other communities. The development of individual facilities should not be expected to significantly increase general ridership numbers rather than the development of a comprehensive network that is readily identifiable to the community would have a broader impact. Growth in non-motorized travel typically entails developing a bicycle program that includes roads designed with bike lanes, separated bicycle paths and trails, safe and secure bicycle parking at destination points, maintenance and enforcement policies, and educational programs which encourage bicycle use within the community.

### ***B. Accident/Safety Analysis***

A review of bicycle-related accidents reported in Holtville reveals that the majority of the accidents occur where children congregate at schools and parks. Although the roadways in Holtville are wide and traffic is minimal, the area of major concern is Olive Avenue and 7<sup>th</sup> Street, and roadways that experience high truck traffic.

Safety is a major concern of both existing and potential bicyclists. For those who ride, the selection of the route and the ease of utilization is an on-going reality. For those who don't ride, the hassles of riding are one of the most compelling reasons not to ride.

In discussing bicycle safety, it is important to separate out perceived dangers versus actual safety hazards. Bicycle riding in cities is commonly perceived as at least semi-dangerous because of the exposure of a lightweight, two-wheeled vehicle trying to negotiate in the no-man's land between automobiles, trucks, buses, and pedestrians. In Holtville perceived safety hazard is associated with truck movement and inexperienced cyclists.

In fact, bicyclists face only a marginally higher chance of sustaining an injury than motorists based on the numbers of users and miles traveled. Much of the perception of danger comes from motorists who have to swing into an opposing lane of traffic to pass a bicyclist(s) or who must slow down in order to accommodate a bicyclist(s) in the lane of traffic.

Some apparent dangers of cycling may be reduced by conducting regular bicycle safety programs, which may be offered by the Police Department at local schools. No bicycle safety programs are currently being conducted at the local schools. It is evident by the numbers of bicycles at the bike racks of the local schools that many children bike to school. An education program aimed at students to promote the use of wearing helmets would reduce the potential for severe accidents.

Theft and vandalism may be an issue for cyclists who bike to parks, schools, and employment centers. The lack of bike racks at parks, employment centers, and retail



areas makes it difficult for cyclists to commute to work or shopping. Bicycle racks are located at City's parks. Other retail and employment areas may consider adding bicycle racks or lockers to encourage bicycling.

### ***C. Air Quality Analysis and Health Benefits***

#### ***Air Quality***

Imperial Valley is located within the Southeast Desert Air Basin (SEDAB). Exposure to air pollutants is known to have serious effects on health. Particulate matter is a good indicator of the air pollution mix that people are exposed to and has been associated with short term and long term increases in mortality. People exposed to particulate matter have higher risks of respiratory symptoms, greater use of drugs for asthma, and respiratory and cardiovascular disease. Air pollution monitoring stations controlled by the Air Pollution Control District are located in Brawley, El Centro, and Calexico. These stations determine if the county is meeting the national air quality standards.

Several studies have linked proximity to busy roads and heavy goods vehicles (mostly with diesel engines) with respiratory problems (Occupational Environmental Medicine, 1998 and Epidemiology 1997). Car users have been shown to breathe more air pollutants than walkers, cyclists, or people using public transport on the same road due to air pollutants breathed in congested traffic, at drive-thru restaurants and banks, and at intersections.

The California Clean Air Act (CCAA) of 1988 requires that all areas of the state achieve and maintain ambient air quality standards. The Air Quality Attainment Plan for Imperial County prepared by the Imperial County Air Pollution Control District in 1991 is designed to meet these requirements. Specific air quality benefits when the bicycle system has been implemented are quantified on Table 2.

#### ***Health Benefits***

The benefits of cycling and walking are frequently overlooked. Cycling or walking can bring major health benefits. A half an hour a day can halve the risk of developing heart disease. More people are at risk of coronary heart disease due to physical inactivity than any other single risk factor. Low to moderate levels of exercise, such as bicycling can also reduce hypertension, obesity, diabetes, osteoporosis, and depression. As important as measurable health benefits, there are also the benefits of improved mental outlook and enhanced well-being that is associated with physical activity and recreation.

The health and recreational benefits of bicycling can contribute to an increased demand for recreational bicycling facilities for those who regularly migrate to the Imperial Valley for winter residence. Such demand would likely be for separated facilities such as bike paths or trails. Favorable weather combined with available and safe facilities would increase the numbers of active seniors who bicycle periodically, although statistical verification of this is difficult to establish at this time.





## ***D. Education***

An education program which promotes the advantages of cycling and explains how to cycle effectively and defensively are key to improving cycling in the community. Safety education programs should target cyclists of all ages and motorists as well. Emphasis should focus on the rules of the road, riding on the street, advantages to using helmets, using lights at night, and selecting appropriate routes for cycling.

It has been noted (The National Bicycle and Walking Study, pp. 16) that as more cyclists are evident on roadways, vehicles are more apt to expect and watch for cyclists. Making bicycling and walking more viable and attractive relies on the "four E's" of cycling as defined by the Federal Highway Administration: Engineering, Education, Enforcement and Encouragement. Each must be optimized into a cohesive strategy to make cycling a reality to the community.

The City may consider conducting a regular bicycle safety program at the local schools. Awareness efforts could include distributing bikeway maps that not only locates bicycle routes, facilities, bicycle racks, staging areas, but offers bicycle safety tips. Other areas that have been used successfully by other cities has been bicycle safety messages on bus billboards, bus benches, park and recreation brochures, local street maps, bumper stickers, school bulletin boards, radio shows, traffic signs, library bulletin boards, and trail kiosks.

Awareness of cyclists serves as an educational component for the safety of cyclists. Promoting the annual "Bike-to-Work" Week encourages commuting to work and more importantly recognizes and promotes cycling as a true form of transportation.

It is helpful to identify a staff person or local volunteer to serve as the bicycle coordinator so that local residents know who to contact when there maintenance, connectivity, and general cycling issues. This person would have the primary responsibility to implement the Master Plan by pursuing grant funds and coordinating with the Public Works or Engineering Department to incorporate bikeways into the CIP program. Other tasks for the bicycle coordinator are:

- Pursue grants for bikeway projects and bicycle programs.
- Participate in IVAG bicycle committees and other regional transportation groups involved in funding programs and transportation planning.
- Coordinate and promote bikeway education, incentives, and awareness programs and events.
- Serve as the contact person for bikeway questions and concerns.
- Review the regional Transportation Improvement Plan to ensure consistency with local and regional bikeways.
- Participate in the development of the Regional Transportation Plan as it relates to bicycle facilities.
- Assemble and store bicycle accident data, usage data, and other statistical bikeway data.



## CHAPTER 5 PROPOSED BIKEWAY SYSTEM

### A. Bikeway Standards and Guidelines

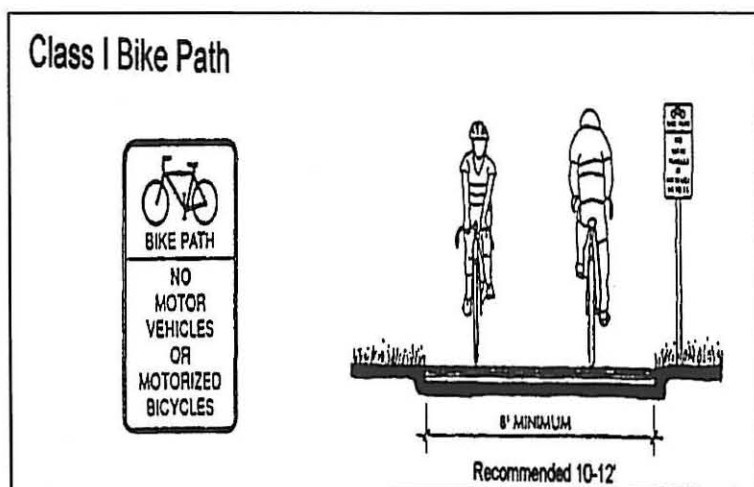
Bicyclists are entitled to travel on all roads except those that lawfully prohibited to them (Cal. Veh. Code § 21200). Many motorists do not know that legally, bicyclists on conventional roadways are never required to use a separated path or even a shoulder. There are many cyclists who prefer cycling in the lane of traffic. Like motorists, bicyclists want to reach their destinations safely, conveniently, and with minimum delay. Frequently bicycle paths are not direct or continuous and are shared with pedestrians. Each community is comprised of different types of cyclists who desire different types of facilities and each community should offer facilities that meet the varied needs of cyclists. Bicycle facilities are divided into three categories: paths, lanes and routes.

#### *Classifications*

All new bikeways should meet or exceed Caltrans guidelines as described in "Chapter 1000, Bikeway Planning and Design" found in the Appendix of this report. Planning of bikeways should concentrate on providing the highest level of safety for bicyclists and warning motorists to beware of bicyclists in the area. The three categories of bicycle facilities are Class I bikeways, Class II bicycle lanes and Class III bicycle routes and are more specifically described below:

#### **Class I - Bikeways**

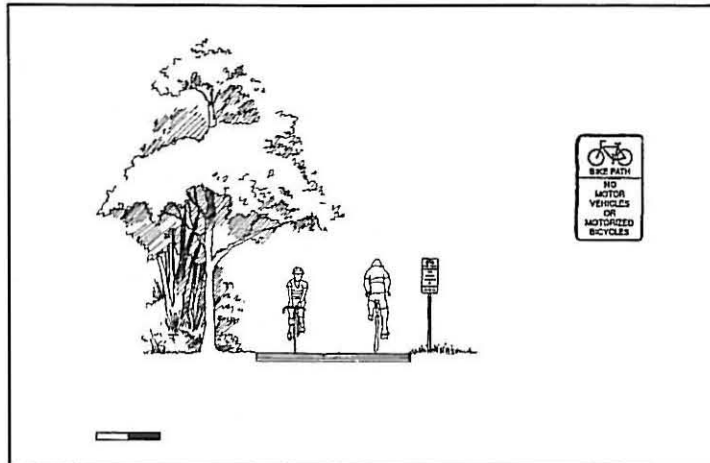
Class I bikeways are facilities where exclusive right of way with cross vehicular traffic is minimized. Class I bikeways serve the exclusive use of bicycles and pedestrians. The minimum paved width for a two way bike path shall be 2.4 m. (8 ft.). The minimum paved width for a one way bike path shall be 1.5 m. (5 ft.). A bicycle path is not a sidewalk but may be designated a multi-use to permit shared use with pedestrians, rollerbladers, and/or skateboarders.







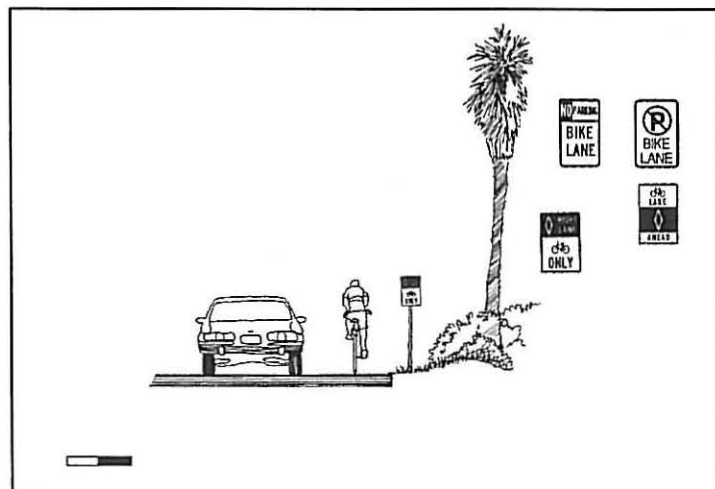
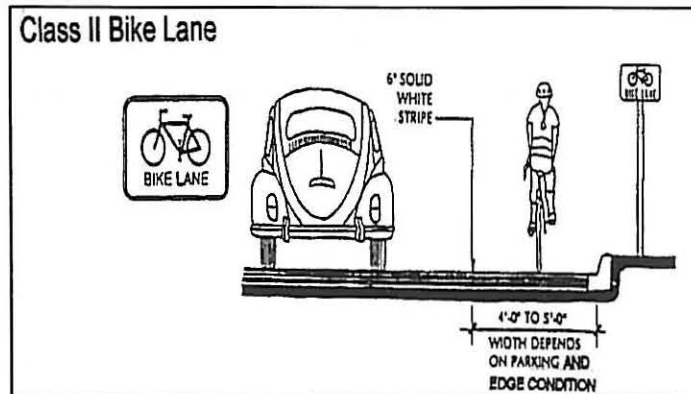
It is recommended that along Class I bikeways landscaping should be drought tolerant and low maintenance species. The use or preservation of native materials, especially along riparian habitats, is recommended.



### **Class II - Bicycle Lanes**

Class II bikeways (bike lanes) for preferential use by bicycles is established within the paved area of highways through identifiable pavement striping or markings and signage.

Caltrans recommends that in the case of rural highways used by intercity and recreational travel that a 1.2 m. (4 ft.) paved roadway shoulders with a standard 100 mm. (4 in.) edge stripe be developed and maintained to improve the safety and convenience for bicyclists and motorists (Section 1002.4(1)).



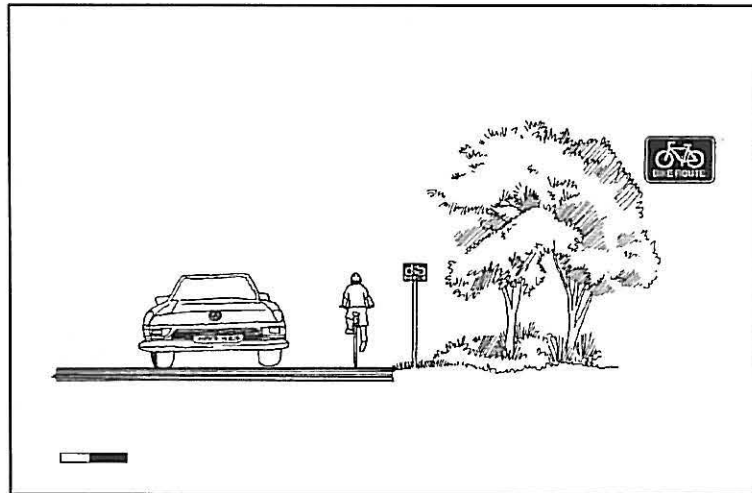
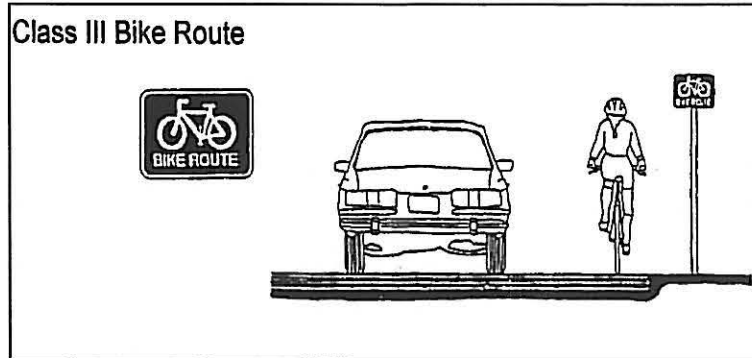


### **Class III - Bicycle Routes**

Class III bikeways (bike routes) are intended to provide continuity to the bikeway system. Bike routes are established along through routes not served by Class I or II bikeways, or to connect discontinuous segments of bikeway (normally bike lanes)

Class III facilities are shared facilities, either with motor vehicles on the street or with pedestrian on sidewalks and in either case bicycle usage is secondary. Class III facilities are established by placing Bike Route signs along roadways.

**Class III Bike Route**





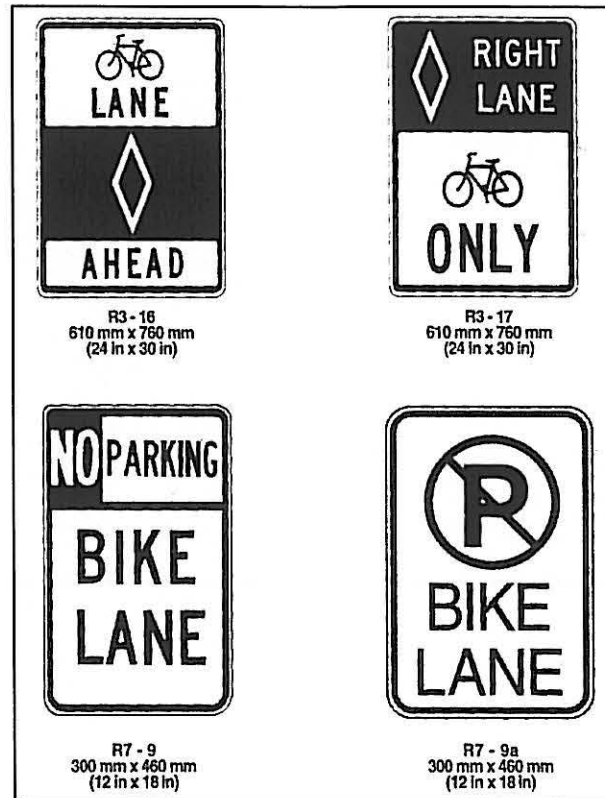
### ***Bikeway Signage***

Many standard roadway signs, such as speed limit and warning signs, apply to both motorists and bicyclists. In addition to those, Caltrans guidelines (see Appendix) require that bikeways include standard signs and pavement markings as shown.

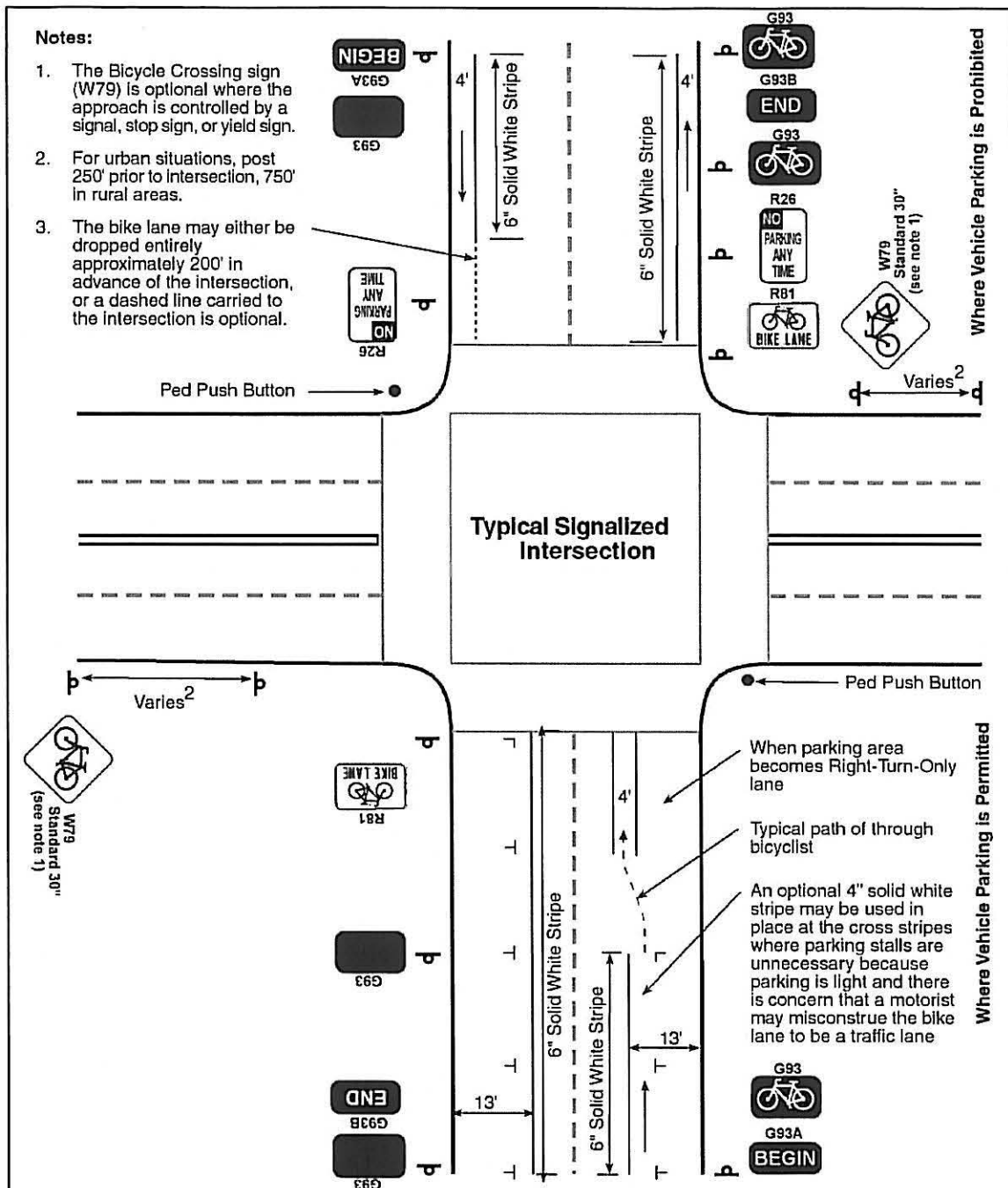
Standard regulatory, warning, and guide signs used on highways may be used on bike paths, as appropriate.

The R3-17 bike lane sign shall be placed at the beginning of all bike lanes, on the far side of every arterial street intersection, at all major changes in direction, and at maximum 1-km intervals.

Bike routes are established through placement of the G93 Bike Route sign. Bike route signs are to be placed periodically along the route.



In order to create continuity and identity of the bicycle system, a sign program utilizes an identifiable logo or City seal may be attached to the bike signs. This identifiable logo can help build support, recognition and awareness of the bikeway system and increase the number of cyclists. This identity would be used on all bikeway signage, brochures, and other materials. The logo will help define the bikeway routes as a cohesive system rather than a series of disconnected routes. A City-wide numbering system may also be used that would identify bikeways to enable cyclists to plan a route or note where support facilities are located.



The following is a typical signed intersection for bicycle lanes.



### ***Support Facilities***

Support facilities and programs are an important part of Holtville and the Imperial Valley Bikeway System. Lack of bike racks and other facilities are frequently mentioned by bicyclists and would-be bicyclists as reasons why they don't ride or ride less often. Bike racks should be located at each school and at shopping areas in excess of 50,000 square feet or where it is evident of high cycling use. Standards that have been used are one bicycle rack (10 bicycles) per 40 elementary and junior high schools students, per 100 high school students, and per 100 employees. The number of racks needed at each location can be determined when the existing rack begins to exceed 80% capacity. The type of rack should be based on a) costs, b) ease of use, and c) ability to prevent theft.

The criteria for locating bike racks on public property is based on experience and planning. Bike racks should be located so as not pose a safety hazard to pedestrians nor should they be located in areas of poor lighting or visibility.

Due to the high costs of bicycle lockers and the difficulty to maintain them, bicycle lockers are often not used. Bicycle storage lockers may be considered in transit stations or employment locations where the lockers are internal and are maintained by the employer.

Other support facilities may include staging (parking) areas at key locations where it is anticipated to have a high usage or if the facility is located a long distance from where cyclists may start their rides. These staging areas may include a number of other amenities including:

- Bike racks
- Shade shelters
- Seating
- Signage (interpretative and directional)
- Lighting
- Trash receptacles
- Emergency telephones
- Portable restrooms
- Water fountains (with bottle spouts and dog basins)

There are areas that may not require a complete staging area but would serve the cyclists by providing some of the amenities. Bike racks at schools, employment centers, and parks not only encourage cycling, but also discourage vandalism. Class I bike paths frequently have added support facilities such as lighting, signing, water fountains, and interpretative signing since the number of users are frequently higher than a roadway and the type of users include not only cyclists, but pedestrians, disabled persons, and roller bladers. Loop detectors which are calibrated to detect bicycles should be provided at signalized intersections with bikeways as part of roadway expansion or reconstruction projects where bikeways are identified in the plan.



## ***B. Route Selection***

Some general principles should guide the bicycle facilities planning process as follows:

1. Every street is a bicycling street and all locations accessible to a motor vehicle should be accessible by bike.
2. All appropriate agencies and general public should be involved in the planning process.
3. Transportation plans should overcome existing barriers to bicycle travel and create no new barriers for bicyclists.
4. Roadway improvements should provide access to all destinations through the most direct or feasible route.
5. The plan should remain flexible and anticipate changes to the system.

The bikeway system is a system of planned routes that is generally based on the following criteria:

1. Directness to schools, employment centers, or attractions.
2. Roadway conditions
3. Traffic volumes and speeds
4. Continuity
5. Access
6. Attractiveness
7. Security
8. Elimination of barriers that restrict bicycle travel
9. Delays
10. Conflicts

Based on the key goals, information collected during the public workshop, and upon conducting visual site surveys, a system of proposed bikeway routes was developed. Figure 1.3 reflects the destination points and employment centers which was the focus of developing the bikeway system. Field review revealed a several constraints and opportunities for developing bikeways.



These opportunities include the following:

- 1) Roadways within the City with right-of-way width generally 80 - 100' wide although the paving is considerably less with asphalt generally extending 22' - 24' to 30' wide allowing for the movement of two way traffic,
- 2) Limited traffic on many roadways,
- 3) Reasonable short distances from residential areas to schools, parks, and shopping and
- 4) An abandoned railway.

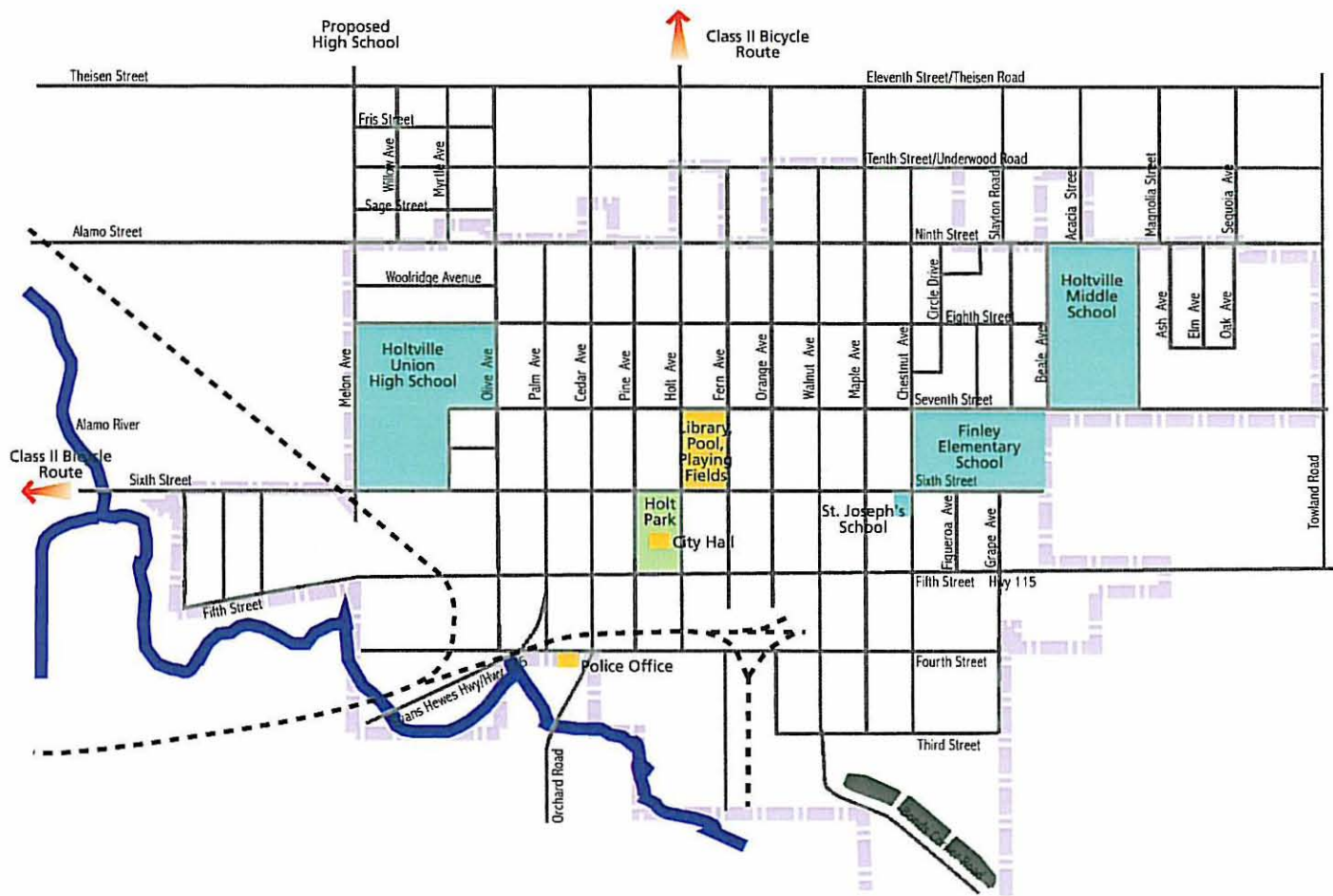
The constraints include the following:

- 5) High volumes of truck and agriculture equipment utilize major roadways and
- 6) Asphalt pavement on some of the roadways is deteriorated.

The choice of whether the bicycle facility should be a Class 1, 2 or 3 is dependent on many factors. Bicycle travel is permitted on most streets and highways without bikeway designations, however it may be desirable to place a bike route (Class 3) designations on those roadways. In areas of limited width and high traffic volumes or speeds, the use of the roadway may be unacceptable to most cyclists creating a perception of decreased safety. The planned bicycle system acknowledges that the City's roadways could easily accommodate Class 2 bike lanes by installing signs, placing striping, and conducting surfacing where necessary. These improvements would improve roadway conditions for bicyclists. Specific considerations for recommending a route include roadways that connect to schools, employment centers, and/or parks.

Opportunities for a Class 1 bicycle path exist along the abandoned railway along the southern boundary of the City. Developing a paved multi-use pathway along this corridor would provide an opportunity for all ages and abilities to bike, walk, roller blade, and/or use a wheelchair along a scenic corridor.





LEGEND



- Schools
- Parks / Open Space
- Commercial/Industrial

- Hospital / Medical Centers
- Community Facilities

- Southern Pacific Railway
- City Boundary
- Bike Routes Proposed in the Imperial County Bicycle Master Plan

NOT TO SCALE





### ***C. Proposed Bikeway System***

The proposed bicycle system (Figure 1.4) identifies approximately 8.95 miles (within the City limits) and 2.64 miles (just adjacent to the City's boundaries) consisting of bicycle lanes (Class II) and pathways (Class I). This system, once implemented, will provide a network of bicycle facilities that connect to schools, parks, employment, retail, and City Hall.

Holtville's system of roadways is designed in a grid system surrounding Holt Park. The roads are approximately 52 feet wide and unstriped. The general condition of the roadways is good and could easily be striped in the future. The Bicycle Master Plan recommends striping bicycle lanes and installing bicycle lane signs as funding is available. In the interim, it is recommended that the City install Class III bicycle routes to identify the system and provide awareness of bicyclists.

The majority of the proposed 11.59 miles of bikeways are recommended as Class II bicycle lanes including approximately 1.62 miles of Class I bicycle paths. In many instances, Class III bicycle routes can improve existing bicycling conditions by providing a designating route for cycling which allows motorists to be aware of the possibility of cyclists and recognizes the growing cycling community.

The Holtville bicycle system was based on investigating the roadway widths, destination points, and connectivity between routes. Each proposed segment was evaluated to ensure that the following general standards were met:

1. Coverage - The system should provide equitable, reasonable access from all portions of Holtville for both commuting and recreation routes.
2. System Rationale - Each route in the system should serve a definitive purpose (recreation connection, or commuting) so that users will understand and use the facilities.
3. Regional Bike System - The bikeway system should have good connections to existing and proposed bikeways in the adjacent cities and the County of Imperial.

Loop Systems – Recreation cyclists frequently cycle for exercise. Recreation bikeway loops should be provided so that cyclists can ride without having to cross major roadways or double back to their destination.

The total cost to implement the system varies on whether the roadway requires minor surface repair or no surface repair and the type of surface for the Class I paths. The cost to provide bicycle lanes and signs without roadway surface repair is \$30,008 or \$198,795 with minor surface repair. Additionally, a Class I pathway may be constructed with a hard surface path of oyl on base for a total of \$126,800 or \$265,900 for an 8' wide asphalt path. (See Table 4, page 43). As an interim measure the City may desire to install bicycle route signs for a total cost of \$12,242 and construct the Class II and Class I bikeways as funding becomes available.



## **Route Descriptions**

The route descriptions below are depicted on Figure 1.4.

### **Route 1**

#### **Description:**

*Route 1 will begin at Olive Avenue and Sixth Street and proceed north to Ninth Street, south on Beale Avenue, west on Seventh Street, south on Chestnut Avenue and west on Sixth Street to Olive Avenue. This route will connect residential communities to the three local schools, the Library, Pool, and Planing Fields and Holt Park.*

### **Route 2**

#### **Description:**

*Route 2 will proceed from the western boundary along Sixth Street, proceed south at Olive Avenue and proceed east along Fifth Avenue to Grape Avenue where it will continue north to connect to Finley Elementary School.*



### **Route 3**

#### **Description:**

*Route 3 begins at Finley Elementary School at Seventh and Chestnut Street, proceeds east to Towland Road, continues north to Ninth Street and continues west to Holtville Middle School at Beale Avenue.*

### **Route 4**

#### **Description:**

*Route 4 links the northern section of the City from Ninth Street at Olive Avenue, west to Melon Avenue, north to Eleventh Street then west to Slayton Road to Ninth Street. This route will connect the proposed High School to residential communities.*

### **Route 5**

#### **Description:**

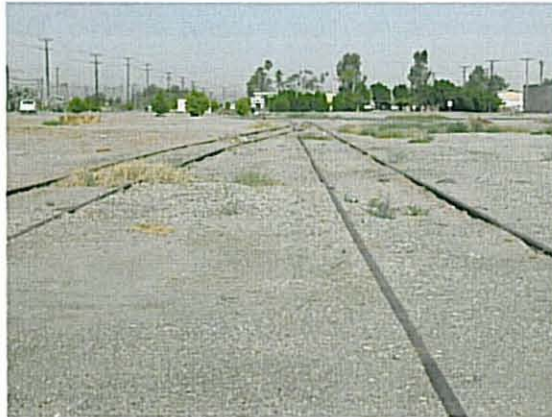
*Route 5 links the southeast communities with a bicycle lane that proceeds from Fifth Street and Walnut Avenue and proceeds south to Bonds corner Road and the south east to an unpaved utility corridor north to Main Street. Implementation of this portion may occur as the vacant parcels develop.*



### Route 6

**Description:**

*This is a Class I bicycle path proposed along the abandoned railway providing a multi-use pathway for pedestrians, bicyclists, and other non-motorized traffic. As the city develops, this corridor may be integrated with future commercial development.*



### Route 7

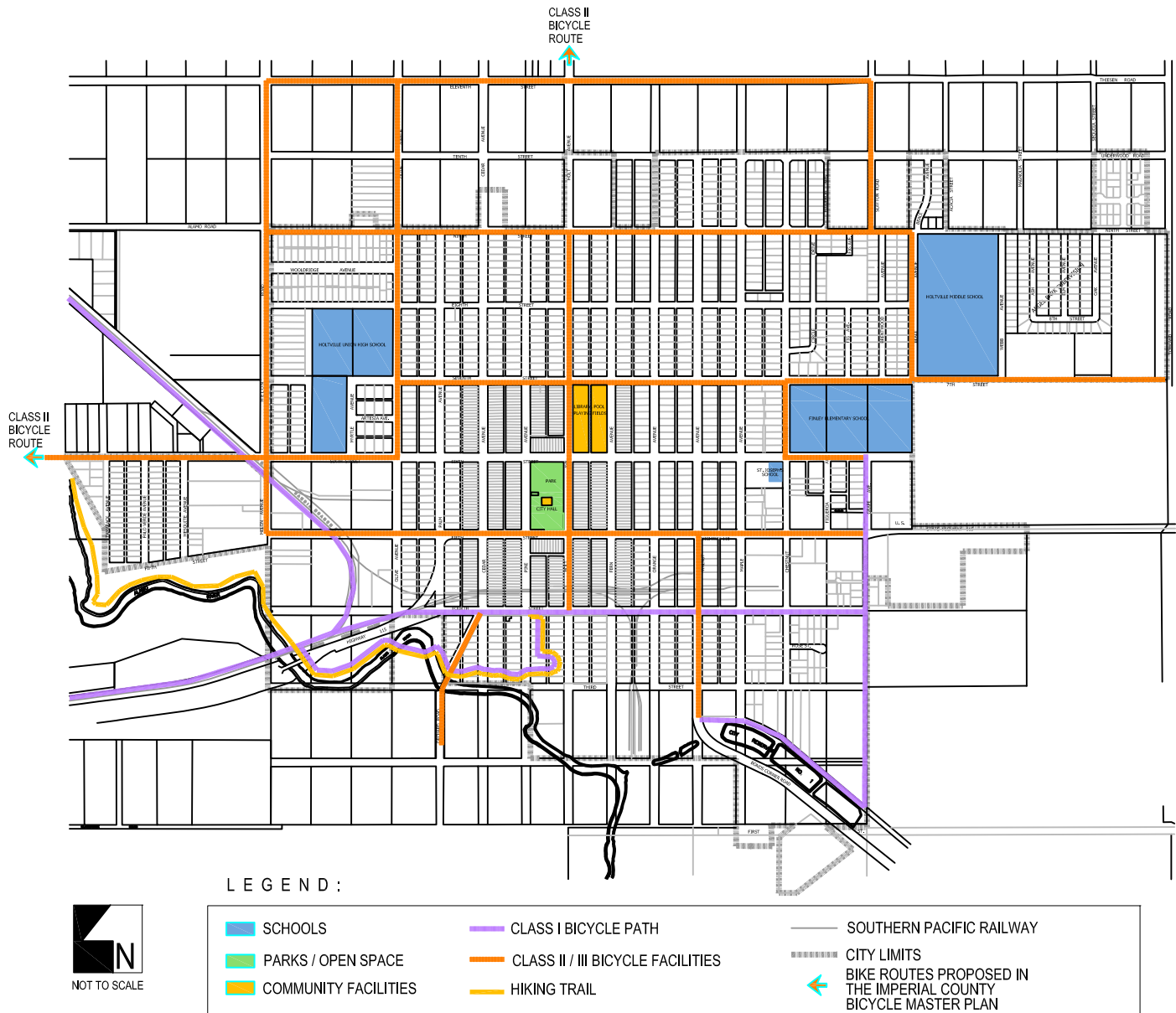
**Description:**

*Route 7 is a bicycle lane that proceeds through the City along Holt Avenue connecting the Routes 1, 2, 4, and 6 and connecting the northern and southern portions of the City.*

### Route 8

**Description:**

*Route 8 extends is a bicycle lane that would be proposed to connect along Sixth Street to the County of Imperial's bicycle lane that would connect to the City of El Centro. An alternative to the bicycle lane would be a class I bicycle path along the railroad. This would require a joint effort between the cities of Holtville, El Centro, the County of Imperial and the railroad.*







### ***Phasing Plan***

The bikeway system is anticipated to be implemented over a period of time. The first step in implementing a bicycle program is to prioritize each segment of the proposed bikeway system. Frequently, prioritizing is based on rating each segment on existing or perceived safety, connectivity to schools, parks and employment centers, and cost. The following represents each proposed segment and a rating for each. The higher the total rating, the higher the segment is on the priority list.

Roadway conditions in Holtville consist of primarily two way traffic constructed to approximately 52 feet. From a bikeway perspective bike lanes may be installed on the existing roadways without widening. Some exceptions may exist where there may be drainage ditches, curb cuts, utility poles, or lack of right-of-way. The roadways proposed for bicycle lanes may accommodate lane striping with minimal additional costs or improvements. Table 7 below identifies each segment for implementing as a Class III bicycle route or the ultimate Class II bicycle lane.

Consideration of the following criteria may warrant modifying the phasing plan:

1. An opportunity, such as a road widening or repaving, making implementation favorable and economical. Often times, bike improvements can be funded and coordinated to coincide with roadway improvements.
2. An eminent loss of an opportunity, such as sale of a railroad right-of-way or an easement.
3. Availability of funding sources with specific criteria and time limits;
4. Resolution of major obstacle, such as access to privately owned rights of way; and or
5. The segment severs as a critical connection link for other portions of the system.

### ***Project Costs***

Implementation costs for each route was based on typical costs to construct. All routes were assumed to be located within the public right-of-way and not require acquisition. The following is a list of typical costs for implementation based on the type of bicycle facility. All costs are based on 2001 dollars and should be adjusted accordingly. These costs are used to determine approximate cost to implement the proposed bikeway routes by miles. These costs may be used to determine the approximate costs to construct a route or segment. Preliminary engineering will provide a more definitive cost estimate. Implementation of the following bicycle system will result in a cost of \$6,660 to construct the Class III bicycle routes or \$131,700 to construct Class II bicycle lanes. Construction of the Class I bicycle paths are estimated at a cost of \$157,600 to construct a stabilized soil pathway and \$363,500 to construct an asphalt pathway.



**TABLE 3**  
**UNIT COST ESTIMATES**

<b>Bikeway Facility</b>	<b>Cost Per Mile</b>
<b>Class III - Bike Route</b>	
▪ Signing, minor surface repair	\$1,000
▪ Rural road widening (32" shoulder)	20% of total roadway improvement costs
<b>Class II - Bike Lane</b>	
▪ Signing, striping, minor surface repair	\$20,000
▪ Signing, striping, road widening	\$65,000
<b>Class I Bike Path</b>	
▪ Rehabilitate or upgrade existing path	\$50,000
▪ Construct Road Oyl Path on base. Includes signing.	\$52,000
▪ Construct Road Oyl Path on base. Includes signing with removal of existing railroad tracks.	\$96,000
• Construct asphalt path on existing level embankment, or right of way, includes signing, striping	\$150,000
• Construct asphalt path on existing level embankment, or right of way, includes signing, striping with removal of existing railroad tracks.	\$194,000
<b>Support Facilities:</b>	
▪ Signal Loop Detectors	\$2,500/intersection
▪ Undercrossing	\$150,000 - 350,000
▪ At-Grade Crossing	
▪ Signing, striping	\$5,000
▪ Signing, striping, signals	\$65,000
▪ Landscaping	
▪ Irrigated	\$350,000 - 600,000 mile
▪ Non-irrigated	\$150,000 - 300,000 mile
▪ Bridge (8' wide)	\$60 - 100 square foot
▪ Fencing	\$20 linear foot
▪ Railroad Crossing	\$125,000
▪ Emergency Cellular Phone (installed)	\$3,500

Cost estimates were based on actual cost experience in various California communities.

They are estimates only; more detailed estimates should be developed after preliminary engineering.



**TABLE 4**  
**ROUTE RATING AND ESTIMATED COSTS**

Segment	A	B	C	D	Total Rating	Length (Feet/miles)	Costs Class III	Costs Class II* and Class I costs	Costs Class II** and Class I costs
Route 1	3	3	5	5	16	13,140'/2.48 miles	\$2,628	\$7,490	\$49,669
Route 2	2	3	2	4	11	9,480'/1.80 miles	\$1,896	\$5,404	\$35,560
Route 3	1	2	2	2	7	5,880'/1.11 miles	\$1,176	\$3,352	\$22,226
Route 4	2	2	1	0	5	10,452'/1.97 miles (1.75 miles outside city limits)	\$2,090	\$5,958	\$39,506
Route 5 (.35 miles of Class I path)	1	1	0	1	3	6,060'/1.15 miles (.35 miles of Class I path)	\$800	\$2,400 +\$18,200 (road oyl Class I path)	\$16,000 + \$52,500 (paved Class I path)
Route 6 (Class I)	3	1	0	3	7	6,720'/1.27 miles (.52 miles outside city limits)	N/A	\$105,600 (road oyl Class I)	\$213,400 (paved Class I path)
Route 7	3	3	2	3	11	6,780'/1.28 miles (.37 miles outside city limits)	\$1,356	\$3,865	\$25,628
Route 8	2	2	1	3	8	2,700'/.52 miles	\$540	\$1,539	\$10,206
Total						61,212/11.59 miles	\$12,242	\$30,008 (Class II) \$126,800 (Class I)	\$198,795 (Class II) \$265,900 (Class I)
Legend: A. Estimated Usage (1 = low, 3 = high) B. Safety Concern (1 = low, 3 = high) C. Schools/Parks (actual number of schools) D. Employment Centers (actual number of centers)							*Costs without surface repair at \$3,000 per mile ** Costs with minor surface repair at \$20,000 per mile		



## ***D. Maintenance***

Bicycle facilities must be regularly maintained to encourage and retain bicyclists. A routine maintenance program will increase safety, encourage use of the facilities, increase longevity of the facility, and reduce potential liability claims. Roadway dirt, debris, and potholes affect cyclists to a greater extent than cars. A maintenance program should include a review of the condition of signs, pavement markings, barriers, and surface condition and the appropriate maintenance should be conducted.

## ***E. Bikeway Funding***

Federal, State and local government agencies invest billions of dollars every year in the nation's transportation systems. Only a fraction of that funding is in planning, designing and/or constructing bicycle facilities. In California, a portion of the gas tax is allocated for bicycle facilities. Funding allocated to the Bicycle Transportation Account is based on the following schedule:

2001 - \$2,000,000
2002 - \$2,000,000
2003 - \$3,000,000
2004 - \$5,000,000
Annually thereafter - \$5,000,000

With the recent passage of TEA-21 (Transportation Equity Act for the 21<sup>st</sup> Century), funding for bicycle projects in Imperial County over the next six years should increase over the levels under ISTEA since 1992.

TEA-21 was adopted by both houses of Congress on May 22, 1998. Much of the delay in adopting the new transportation legislation was the result of conflicts between donor and recipient states (states that received more or less money than they paid in gas taxes) under the old transfer arrangements. The new formulas will rectify the past imbalances, allowing large donor states with higher amounts that can be transferred between various funding programs. The follow-up to ISTEA, TEA-21 offers some important changes in funding opportunities.

1. The Surface Transportation Program (STP) was amended as follows:
  - Approximately \$33 billion available nationwide.
  - Bicycle and pedestrian projects remain eligible.
  - Sidewalk improvements to comply with the Americans with Disabilities Act (ADA) are now eligible for Surface Transportation Program funds.
2. The National Highway System (NHS) program was amended as follows:
  - Pedestrian projects may now be funded with NHS funds.





- NHS funds may now be used on bicycle and pedestrian projects within Interstate corridors.
3. The Transportation Enhancements (TE) program was amended as follows:
    - \$3.3 billion available nationwide
    - Bicycle and pedestrian safety and education programs
    - Tourist and welcome centers
    - Environmental mitigation to provide wildlife corridors
    - Requirement that each project be directly related to a surface *transportation* project
    - Eighty (80) percent Federal matching requirement applies only to total non-Federal share rather than total project cost.
    - Twenty-five (25) percent of the TE funds received over the amount received in FY 1997 may be transferred to other STP activities.
    - Eight (8) specific projects are funded off the top of the TE program, none in the Western United States.
  4. The Congestion Mitigation and Air Quality Improvements (CMAQ) program was amended as follows:
    - \$8.12 billion available nationwide
    - Bicycle project eligibility remains essentially the same
    - A small percentage can be transferred to other programs
  5. The Recreational Trails Program was amended as follows:
    - \$270 million available nationwide over the next six years
    - Bicycle project eligibility remains essentially the same
  6. The Hazard Elimination Program was amended as follows:
    - Now can be used for bicycling and walking hazards
    - Definition of a 'public road' now expanded to include bikeways, pathways, and traffic calming measures.
  7. A new category, Transit Enhancements Program, was created that calls for transit agencies in urbanized areas over 200,000 population to use 1 percent of their Urban Formula Funds for Transit Enhancements Activities. Up to \$50 million per year may be available for pedestrian access, walkways, bicycle access, bike storage facilities, and bike-on-bus racks. The program calls for 95% Federal/5% local match.
  8. Scenic Byway, bridge repair, transit, safety (non-construction), and Federal Lands programs all remain essentially the same under TEA-21, with the amounts either the same or increasing from ISTEA.

Planning provisions for states and MPO's have been streamlined, with bicycle and pedestrian needs to be given due consideration in the development of comprehensive transportation plans. Specific policies include directives to not approve any project or



regulatory action that will have an adverse impact on non-motorized safety, unless a reasonable alternative route is provided or already exists.

1. When state or local regulations permit, allow use of bicycle facilities by electric bicycles and motorized wheelchairs.
2. Railway-highway crossings should consider bicycle safety.
3. A new Surface Transportation-Environment Cooperative Research Program is established for funding non-motorized research.
4. In cooperation with AASHTO, ITE, and other groups, establish new bicycle design guidelines within 18 months.

A detailed program-by-program of available funding programs along with the latest relevant information is provided in the appendix. Specific amounts and deadlines are not available yet for many of the TEA-21 programs. The program time lines are still under deliberation between the State and the Imperial Valley Association of Governments. Once the County's bicycle and pedestrian projects costs are identified, each project can be targeted for specific funding sources where it will be expected to compete effectively.



### ***F. Plan Review and Update***

The City of Holtville should review and update the plan every four years. An assessment of the successes of completed facilities should be included and a reappraisal of cost estimates. Public review of the proposed routes should be revisited to determine if there are modifications to the routes or additional routes should be added to meet the ongoing demand for bicycle facilities.



## **APPENDIX**





**A. Sources Consulted**

1. California Department of Transportation Streets and Highways Code, Section 890-894.2.
2. Denver, City of. Rules and Regulations for Bicycle Parking in Areas in Denver, 12/23/1998.
3. Data compiled by the Pedestrian and Bicycle Information Center by Association of Pedestrian and Bicycle Professionals, March, 2001.
4. Florida Department of Transportation, Florida Bicycle Facilities Planning and Design Handbook, November 1997.
5. Holtville, City of, General Plan 1990/1991.
6. Holtville Chamber of Commerce, Web site, 2000.
7. Valley of Imperial Development Alliance, "Community Economic Profile for Holtville, Imperial County, California," June 1998.
8. "National Bicycling and Walking Study", U. s. Department of Transportation, Publication No. FHWA-PD-92-041.
9. New Jersey Department of Transportation, Bicycle Compatible Roadways and Bikeways, Planning and Design Guidelines, April 1996.
10. Wachtel, Alan, "Bicycles and the Law: The Case of California.
11. Wallace Roberts & Todd, County of Imperial Bicycle Master Plan, 1999.
12. Wallace Roberts & Todd, City of El Centro Bicycle Master Plan, 2000.



## B. Funding Summary

Funding Program:	<b>Transportation Equity Act for the 21st Century (TEA- 21)</b>
Funding Type:	Federal
Summary Description:	TEA-21 provides funding for roads, transit, safety and environmental enhancements. General state and local improvements for highways and bridges that accommodate additional modes of transit. Including, capital costs, publicly owned intercity facilities, and bicycle and pedestrian facilities.
Eligible Applicants:	Cities, counties, transit operators. Special districts may apply with sponsorship from an eligible applicant.
Typical Funding Amounts:	Estimated at approximately \$215 billion over the next 6 years, an increase of approximately \$60 billion over ISTEA legislation.
Required Matching Funds:	A 11.5% match is required.
Name of Funding Program:	<b>Surface Transportation Program Fund (STP) (Section 1108)</b>
Funding Type:	Federal
Summary Description:	The Surface Transportation Program is a block grant fund. Funds are used for roads, bridges, transit capital and pedestrian and bicycle projects.
Eligible Applicants:	Cities, counties, transit operators, Caltrans and Metropolitan Planning Organizations. Non-profit organizations and special districts may also apply with sponsorship from an eligible agency.
Typical Funding Amounts:	Approximately \$535 million annually.
Required Matching Funds:	A local match of 20% is required for bicycle and pedestrian projects, 11.5% is required for all other types of projects.
Name of Funding Program:	<b>Transportation Enhancements Program</b>
Funding Type:	Federal
Summary Description:	The TE Program is a 10% set aside of the Surface Transportation Program. Projects must have a direct relationship to the intermodal transportation system through function, proximity, or impact.
Eligible Applicants:	Local, regional and state public agencies, special districts, non-profit and private organizations. Cities, counties and transit operators must sponsor and administer the proposed projects.
Typical Funding Amounts:	Approximately \$630 million annually.
Required Matching Funds:	A 11.5% local match is required.
Name of Funding Program:	<b>Congestion Mitigation and Air Quality Improvement Program (CMAQ) (Section 1110)</b>
Funding Type:	Federal
Summary Description:	Funds are available for projects that will help attain National Ambient Air Quality Standards (NAAQS) identified in the 1990 federal Clean Air Act Amendments. Eligible projects include bicycle and pedestrian transportation facilities.
Eligible Applicants:	Cities, counties, transit operators, Caltrans and MPOs. Non-profit organizations and Special districts may also apply with sponsorship from an eligible agency.
Typical Funding Amounts:	Approximately \$277 million annually.
Required Matching Funds:	A 20% local or state match is required.



Name of Funding Program:	<b>National Highway System Fund (NHS)</b>
Funding Type:	Federal
Summary Description:	NHS funds are to provide for an interconnected system of principal arterial routes. The programs goal is to provide access to major population centers, international border crossings, transportation systems, meet national defense requirements and serve interstate and interregional travel, which includes access for bicyclists and pedestrians. Facilities must be located and designed pursuant to an overall plan developed by each MPO and State, and incorporated into the RTIP.
Eligible Applicants:	State and local governments.
Typical Funding Amounts:	Approximately \$441 million annually.
Required Matching Funds:	A local or state match of 20% is required.
Key Changes in TEA-21:	NHS funds can now be spent on nonmotorized projects within Interstate corridors. (Section 1202)
Contact:	IVAG (refer to Appendix A)
Name of Funding Program:	<b>Federal Lands Highway Program Fund</b>
Funding Type:	Federal
Summary Description:	This Discretionary Program provides funding for any kind of transportation project (including pedestrian and bicycle facilities) that are within, provide access to or are adjacent to public lands. Facilities must be incorporated into the RTIP.
Eligible Applicants:	Local jurisdictions, Caltrans, Bureau of Land Management (BLM), and the National Trail System Program.
Typical Funding Amounts:	Approximately \$150 million per annum rising to \$165 million in FY 2003.
Required Matching Funds:	No match required.
Name of Funding Program:	<b>Scenic Byways Program Fund</b>
Funding Type:	Federal
Summary Description:	This program provides funding for the planning, design, and development of a State Scenic Byways Program. Funds may be used for the construction of facilities along the highway for the use of pedestrians and bicyclist, including pedestrian/bicycle access, safety improvements, and rest areas.
Eligible Applicants:	Local government agencies.
Typical Funding Amounts:	Approximately \$10 million annually statewide.
Required Matching Funds:	A 20% local match is required.
Name of Funding Program:	<b>Bridge Repair and Replacement Program</b>
Funding Type:	Federal
Summary Description:	Funds are available for bridge rehabilitation and replacement. All bridges are eligible, and on-system bridges are eligible for discretionary funding. Bridge projects must be incorporated into the RTIP.
Eligible Applicants:	City and county agencies, park and recreation districts. All agencies must have a city, county or transit operator as a sponsor.
Typical Funding Amounts:	Approximately \$260 million annually.
Required Matching Funds:	No local match requirements specifically for bicycle accommodations.
Name of Funding Program:	<b>National Recreational Trails Fund (Section 1112)</b>
Funding Type:	Federal



Summary Description:	Funds are available for recreational trails for use by bicyclists, pedestrians, and other non-motorized and motorized users. Projects must be consistent with a Statewide Comprehensive Outdoor Recreation Plan (SCORP). Annual funding begins at \$30 million for FY 1998, it rises to \$40 million for FY 1999 and increases to \$50 million per annum for the remaining years.
Eligible Applicants:	Private individuals or organizations, counties, cities, and other government agencies.
Typical Funding Amounts:	Approximately \$3 million annually.
Required Matching Funds:	The State is required to use a portion of its tax revenue from fuel for off-highway recreation purposes.
Name of Funding Program:	<b>National Highway Safety Act (Section 402)</b>
Funding Type:	Federal
Summary Description:	The Highway Safety Program is a non-capital safety project grant program under which states may apply for funds for certain approved safety programs and activities. Eligible projects include pedestrian and bicycle safety programs, program implementation, and identification of highway hazards.
Eligible Applicants:	State departments, cities, counties, school and special districts.
Typical Funding Amounts:	Approximately \$150 million per annum rising to \$165 million in FY 2003.
Required Matching Funds:	No match required.
Name of Funding Program:	<b>Transit Enhancement Activity (Section 3003)</b>
Funding Type:	Federal
Summary Description:	This brand new program is created with a one- percent set-aside of Urban Area Formula transit grants (3007). The funding which could amount to \$50 million per year, can be used for among other things bicycle and pedestrian access to mass transportation.
Eligible Applicants:	Pending.
Typical Funding Amounts:	Formula is pending.
Required Matching Funds:	A 5% match required.
Name of Funding Program:	<b>Highway Safety, Research, and Development Fund (Section 2003)</b>
Funding Type:	Federal
Summary Description:	Provides funding for research on all phases of highway safety and traffic conditions. Uses, training and education of highway safety personnel, research fellowships in highway safety, development of improved accident investigation procedures, emergency service plan, and demonstration projects. Projects include improving pedestrian safety through education, police enforcement, and traffic engineering. Projects must be incorporated into the RTIP.
Eligible Applicants:	Cities, counties, and state agencies. Programs are often run by local community traffic safety programs.
Typical Funding Amounts:	
Name of Funding Program:	<b>Schools and Roads Grants to States</b>
Funding Type:	Federal
Summary Description:	Funds are used public roads and schools that are located in the same county as a National Forest.
Eligible Applicants:	Cities and counties containing National Forest Land.





Typical Funding Amounts:	Formula grants are 25% of the receipts collected from timber and land use fees to the respective counties. Fifty percent of these funds are used for roads.
Required Matching Funds:	No match required.
Name of Funding Program:	<b>Section 3 Mass Transit Capital Grants</b>
Funding Type:	Federal
Summary Description:	This discretionary funding program is used to finance mass transit systems, especially rail systems in urbanized areas with populations over 50,000 or more. Projects include station access, including bicycle and pedestrian access, and American with Disabilities Act projects, implementation of shelters, bicycle parking facilities, racks, and other equipment for transporting bicycles on transit vehicles.
Eligible Applicants:	States, regional and local governments, appropriate boards and commissions, and transit operators.
Typical Funding Amounts:	
Required Matching Funds:	A local match of 10% is required for bicycle projects, 5% for ADA projects.
Procedure for Project	Projects must be included in the RTIP. Congress
Name of Funding Program:	<b>Section 9 Mass Transit Formula Grants</b>
Funding Type:	Federal
Summary Description:	Eligible projects include construction, maintenance, improvement, and acquisition of transit facilities and access projects for bicycles.
Eligible Applicants:	Urban areas with a population of 50,000 or more are eligible if a comprehensive mass transportation planning process exists. State, and local governments, and transit operators are eligible. Public and private non-profit organizations are eligible for subgrants. Projects must be consistent with the RTP and must be incorporated into the RTIP.
Required Matching Funds:	A local match of 10% is required for bicycle projects.
Name of Funding Program:	<b>Local Transportation Fund (LTF), TDA Article 3</b>
Funding Type:	State
Summary Description:	TDA funds transportation improvements. One quarter cent of retail sales tax is returned to the county of origin. Up to two percent of funds can be set aside for pedestrian and bicycle facilities, and five percent can be spent for supplementing other funds to implement bicycle safety education programs. 2% TDA funds are lumped together with TransNet (Proposition A) funds in the San Diego Area.
Eligible Applicants:	Local jurisdictions.
Typical Funding Amounts:	Approximately \$2.5 million annually, of which 1 million comes from TransNet (Proposition A).
Required Matching Funds:	No matching funds are required.
Name of Funding Program:	<b>California Bicycle Transportation Act; Bicycle Transportation Account (BTA)</b>
Funding Type:	State
Summary Description:	The purpose of the Bicycle Transportation Account is to improve the safety and convenience of bicycling for utilitarian reasons. BTA funds are available for jurisdictions with approved bicycle transportation plans. No agency may receive more than 25% of the total funds appropriated. Priority projects serve bicycle commuters, have activity centers at each end point, are consistent with the bicycle plan/program,



	and close missing links. Projects must be consistent with local Bikeway Plans, the RTP and incorporated into the RTIP if projects are regionally significant.
Eligible Applicants:	Cities and counties with approved bicycle plans.
Typical Funding Amounts:	\$12million for a 5-year period 2001-2006..
Required Matching Funds:	A local match of 10% is required.
Name of Funding Program:	<b>Environmental Enhancement and Mitigation Program</b>
Funding Type:	State
Summary Description:	Funds are allocated to projects that offset environmental impacts of modified or new public transportation facilities and the acquisition or development of roadside recreational facilities, such as trails.
Eligible Applicants:	Non-profit, local, state, and federal agencies.
Typical Funding Amounts:	The program is funded at \$10 million for 10 years, a \$500,000 cap on individual projects is set.
Required Matching Funds:	No match required.
Name of Funding Program:	<b>Flexible Congestion Relief (FCR) Program</b>
Funding Type:	State
Summary Description:	This program is designed to reduce congestion on major transportation corridors by adding capacity to either roadways or urban rail transit systems. Projects must be consistent with the Regional Transportation Plan and must be included in the RTIP, particularly, the county's Congestion Management Program (CMP).
Eligible Applicants:	Cities, counties, transit operators, Caltrans, and other state and federal agencies.
Typical Funding Amounts:	Approximately \$300 million annually statewide.
Required Matching Funds:	No match required.
Name of Funding Program:	<b>Habitat Conservation Fund Grant Program</b>
Funding Type:	State
Summary Description:	This program originates from the California Wildlife Protection Act of 1990 (Prop 117). Eligible projects include the acquisition of various types of wildlife habitats, enhancement and restoration of various Projects must be incorporated into the RTIP if they are regionally significant.
Eligible Applicants:	Cities, counties, and special districts.
Required Matching Funds:	A local match of 50% is required. The local match can not be a state source.
Name of Funding Program:	<b>Land and Water Conservation Fund</b>
Funding Type:	State
Summary Description:	This program provides grants to plan, acquire, and develop recreational parks and facilities, especially in urban areas. Funds are based on a State Comprehensive Outdoor Recreation Plan, and limited to outdoor recreational projects.. Projects must be incorporated into the RTIP if they are regionally significant.
Eligible Applicants:	Cities, counties, park and recreation departments, special districts with park and recreation areas, State Department of Parks and Recreation, Wildlife Conservation Board, Department of Water Resources, and Department of Boating and Waterways.:
Required Matching Funds:	50% is reimbursed to eligible agencies.
Name of Funding Program:	<b>TransNet Local Sales Tax Program (Proposition A)</b>



Funding Type:	Local
Summary Description:	Proposition A is a local sales tax to fund transportation improvements. The tax generates \$1 million annually. The funds are used to augment the available TDA funds. Proposition A funds are lumped with 2% TDA funds.
Eligible Applicants:	Cities, County, and Transportation Agencies.
Typical Funding Amounts:	1 million annually.
Required Matching Funds:	No match required.
Name of Funding Program:	<b>Transportation Fund for Clean Air (TFCA)</b>
Funding Type:	Regional
Summary Description:	Clean Air Funds are generated by a surcharge on automobile registration. Approximately \$3 million is available biannually. These funds are competitive based on the projects cost effectiveness.
Eligible Applicants:	Cities, County, Transportation Authority, and Transportation Agencies.
Typical Funding Amounts:	Approximately \$3 million region-wide for FY 2000-01.
Required Matching Funds:	No matching funds required.



### ***Funding Program Contacts***

Imperial Valley Association of Governments  
940 West Main Street, Suite 208  
El Centro, CA 92243  
(619) 339-4290  
Contact:

Caltrans  
Office of Transportation Enhancement Activities  
1120 N Street  
Sacramento, CA 95814  
(916) 654-5275  
Contact: Marsha Mason

Caltrans  
Division of State and Local Project Development  
Office of Local Programs  
P.O. Box 942874  
Sacramento, CA 94274-0001  
(916) 653-8220  
Contact: Mel Aros

California Department of Transportation  
Division of Planning  
1120 N Street  
P.O. Box 942873  
Sacramento, CA 95814  
(916) 324-6514  
Contact: Donna Long

Caltrans Division of Structures  
Local Assistance and Programming Branch  
1801 30<sup>th</sup> Street  
Sacramento, CA 95816  
(916) 227-8023  
Contact: Gene Cowley

State Department of Parks and Recreation  
P.O. Box 942896  
Sacramento, CA 94296-0001  
(916) 653-8803  
Contact: Charlie Willard

Office of Traffic Safety



7000 Franklin Boulevard, Suite 440  
Sacramento, CA 95823  
(916) 445-0527  
Contact: Arthur L. Anderson, Director

Public Affairs Office  
United States Forest Service Department  
630 Sansome Street  
San Francisco, CA 94111  
(415) 705-2703  
Contact: Denise Mills-Ford

Caltrans District Office,  
Caltrans Office of Bicycle Facilities  
P.O. Box 942874  
Sacramento, CA 94274-0001  
(916) 653-0036  
Contact: Richard L. Blunden, Chief

State Lands Commission  
1807 13<sup>th</sup> Street  
Sacramento, CA 95814  
(916) 322-5645  
Contact: Mary Howe

State of California Resources Agency  
1416 Ninth Street, Suite 1311  
Sacramento, CA 95814  
(916) 653-9709  
Contact: Hal Waraas

San Diego Area Air Pollution Control District  
9150 Chesapeake Drive  
San Diego, CA 92123  
(619) 694-3307  
Contact: Dennis McGee

Federal Highway Administration  
Intermodal Division, Hep-50  
400 Seventh Street, S.W., Room 3222  
Washington, DC 20590  
(202) 366-5007  
Contact: John C. Fegan





### C. Cost Assumptions

COST ASSUMPTIONS FOR MULTI-USE BIKEWAY (CLASS I)	
Multi Use Trail/Bike Path (8')	Cost Per LF
Adjacent to roadway, level terrain, minimal grading	\$50 - 65
Adjacent to roadway, moderate slope, some cut and fill	\$60 - 75
Adjacent to roadway, steep slope, retaining wall	\$90 - 110
Level terrain, minimal grading	\$20 - 25
Moderate slope, some cut and fill	\$25 - 35
Roadway Improvements	Cost per LF
2 - 4 feet asphalt/base, some fill, debris removal, relocate some fencing and utilities, restripe	\$25 - 35
2 - 4 feet asphalt/base, some fill, debris removal, relocate some fencing and utilities, restripe, and new guardrail	\$60 - 70

TYPICAL BIKEWAY COST ITEMS					
Item No.	Description	Estimated Quantity	Unit	Unit Cost	Total Cost
1	Clearing & Grubbing		L.F.	\$10-40	
2	Earth/Excavation		C.Y.	\$30-40	
3	Asphalt Concrete Pavement		S.F.	\$1.20 - 1.50	
4	Traffic Bike Lane Stripe		L.F.	\$.60 - .80	
5	Pavement Markings		EA.	\$40 - 50	
6	Fencing (chainlink)		L.F.	\$16 - 20	
7	Guardrail		L.F.	\$20 - 25	
8	8' Steel or concrete Bridge		L.F.	\$1,200 - 1,500	
9	3' Retaining Walls (Concrete)		S.F.	\$32 - 40	
10	Relocate Signs/Fencing		L.F.	\$1.00 - 2.00	
11	Drainage		L.F.	\$1.00 - 5.00	
12	Environmental Mitigation		L.F.	\$.50 - 2.50	
13	Traffic/Bike Path Signing		L.F.	\$2.40 - 3.00	
14	Lighting		EA.	\$500.00	
15	Traffic Control		L.F.	\$.20 - .40	
16	Clean-up		L.F.	\$.10 - .20	
Subtotal					
15% Design					
Cost 20%					
Contingency					
Total Cost					

