Chapter 5

Hermosa Beach

5 Hermosa Beach

This chapter presents the Hermosa Beach sections of the South Bay Bicycle Master Plan. It begins with a table that identifies how Hermosa Beach complies with Bicycle Transportation Account requirements. The chapter is then organized into the following sections:

- Existing conditions
- City-specific goals, policies, and implementation actions
- Needs analysis
- Proposed bicycle network
- Project prioritization
- Project costs

5.1 Bicycle Transportation Account (BTA) Compliance

The Bicycle Transportation Account (BTA) is an annual statewide discretionary program that funds bicycle projects through the Caltrans Bicycle Facility Unit. Available as grants to local jurisdictions, the program emphasizes projects that benefit bicycling for commuting purposes. In order for Hermosa Beach to qualify for BTA funds, the South B ay Bicycle Master Plan must contain specific elements. **Appendix E** displays the requisite BTA components and their location within this plan in tabular form. The table includes "Approved" and "Notes/Comments" columns for the convenience of the Metro official responsible for reviewing compliance.

5.2 Existing Conditions

Hermosa Beach is located in the western portion of the South Bay region. It is bordered by the City of Manhattan Beach to the north, the City of Redondo Beach to the east and south, and the Pacific Ocean to the west. According to the 2000 Census, Hermosa Beach has a population of 18,442. The city was incorporated in 1907.

5.2.1 Land Use

Appendix A-3 displays a map of the existing land uses in the South Bay Region. Land uses in Hermosa Beach are shown at right. The largest land use is residential: approximately 40 percent of Hermosa Beach's land area is single family and 21 percent is other residential. The City also is comprised of about 15 percent open space.

Existing Land Uses in Hermosa Beach

(See Appendix A-3 for larger map)

- City Boundary
- Single Family Residential
- Multi-Family Residential
- Other Residential
- General Office
- Commercial and Services
- Public Facilities
- Education
- Military Installations
- Industrial
- Transportation, Communications, and Utilities
- Mixed Commercial and Industrial
- Mixed Urban
- Open Space and Recreation
- Agriculture
- Vacant
- Water
- Under Construction
- Undevelopable
- Unknown

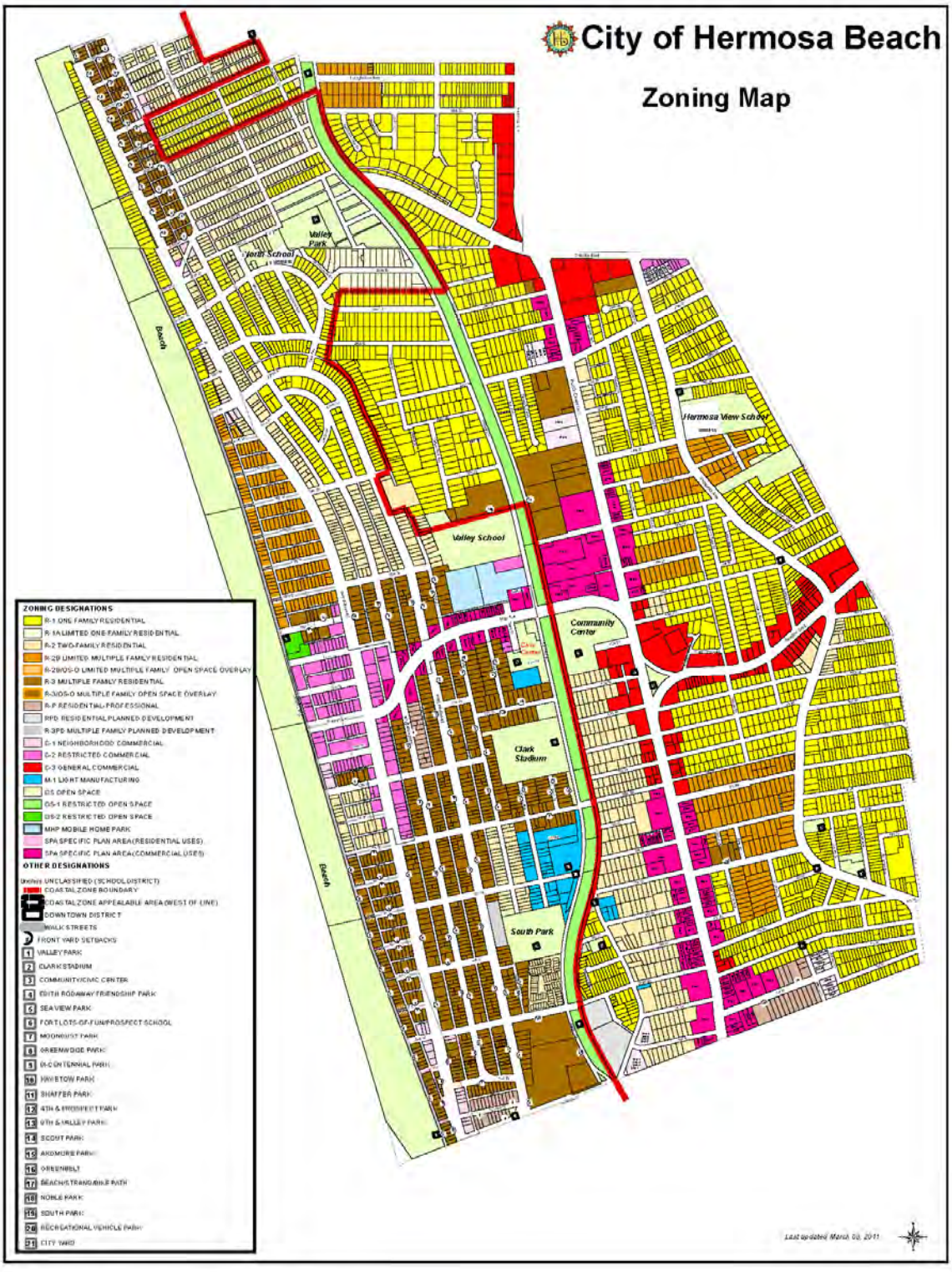

Figure 5-1: City of Hermosa Beach Zoning Map

South Bay Bicycle Master Plan

Source: City of Hermosa Beach (2011)

Figure 5-1 displays the proposed land uses for Hermosa Beach. Existing land uses are generally consistent with use types and densities on the zoning map. There is limited potential for increased densities such that future development will be largely comprised of infill on the City's small lots with negligible increases in density.

5.2.2 Bicycle Trip Generators

Bicycle trip generators refer to population characteristics that are correlated with higher bicycling activity levels, such as high population or employment densities or high concentrations of certain sub-populations, such as transit commuters or zero-vehicle households.

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Appendix A-4 shows population density in Hermosa Beach. Areas of high population density are distributed uniformly throughout the city. Population density, measured as the number of persons per acre, is a strong indicator of potential bicycle activity, because more people living in an area implies more trips to and from that area. The high population densities of urbanized environments also tend to support bicycle travel through mixed land uses, interconnected street networks, and shorter trip lengths.

Appendix A-5 displays employment density in Hermosa Beach. The City has the highest employment densities along Pier Avenue. Though not as high as Pier Avenue, Pacific Coast Highway also has high employment densities. While the City's zoning code provides very limited opportunity to develop new mixed residential-commercial land uses, the close proximity of the employment corridors to housing facilitates short trips between a variety of land uses and the potential to generate bicycle activity.

Appendix A-6, Appendix A-7, and **Appendix A-8** display the number and percent of zero-vehicle households, median annual income, and percent transit commuters by census tract. Throughout Hermosa Beach, households have median annual incomes between $75,001 and $95,000 (in 1999 dollars). There are high percentages of households that own a vehicle in most of the City, though percentages of household vehicle ownership are lower in the northeastern portion on the border of Manhattan Beach and North Redondo Beach. The northeastern and southwestern parts of Hermosa Beach have higher percentages of transit commuters. These parts of the city have greater potential for increased bicycling activity because residents who do not have vehicles must use

alternative modes and are likely to combine bicycle and transit trips.

In addition to the reasons discussed above, Hermosa Beach has the potential for increased bicycle activity from bicyclists passing through on their way to destinations outside of the city. A bicycle network that is connected within Hermosa Beach, as well as linked to bicycle facilities in adjacent communities, further generates bicycle traffic as it provides a viable transportation option to driving a motorized vehicle.

5.2.3 Relevant Plans and Policies

Table 5-1 outlines information regarding bicycles from the City of Hermosa Beach's Circulation, Transportation, and Parking Element; Proposed Bicycle Master Plan; and Municipal Code.

Table 5-1: Hermosa Beach Bicycle-Related Plans and Policies

Document	Description
General Plan Circulation, Transportation, and Parking Element (1990)	The General Plan Circulation, Transportation, and Parking Element contains a map outlining the existing bicycle facilities, as well as key bicycle traffic generating locations, such as the Pier. This map was superseded by the Proposed Bicycle Master Plan (below). The element states that there are no streets in Hermosa Beach that could accommodate properly designed bicycle facilities. This is due to right-of-way constraints, heavy traffic volumes, and conflicts with curb parking. In order to install properly designed facilities, the City would need to widen streets and purchase right-of-ways. For this reason it does not propose any additional bicycle facilities. The Proposed Bicycle Master Plan, however, identifies proposed Class II bike lanes and shared roadways. To implement the overall goal of providing a safe, efficient, and balanced transportation system, the element outlines the following objectives and policies: • Maximize the use of alternative transportation modes • Encourage bicycle travel city-wide • Provide for the transport of bicycles on public transit vehicles wherever possible • Maintain the surfaces of bike paths to maximize safety and ease of travel • Require new developments to accommodate parking consistent with TDM programs
Proposed Bicycle Master Plan (2009)	The Hermosa Beach Bicycle Master Plan consists of a map (**Appendix F-3**) that displays existing and proposed bicycle facilities. Existing facilities include two bicycle routes in the City of Hermosa Beach. Those routes are along the Strand from the southerly City boundary to 24th Street connecting to the route on Hermosa Avenue from 24th Street to the north City boundary. The Strand is largely recreational as it is shared with pedestrians and roller-skaters. At various times due to high traffic volumes and the wide variety of users this is not a truly viable connector. The bike route connects to a bike path to the north in Manhattan Beach. The path is a designated bike route in Manhattan Beach which runs north along the beach into the cities of El Segundo, Los Angeles, and Santa Monica. To the south the Strand connects to a designated bike route in Redondo Beach along Harbor Drive. Proposed Class II bike lanes are on Artesia Boulevard from Ardmore Avenue to Prospect Avenue and Herondo Street from Hermosa Avenue to the southern City limits. Proposed shared roadways are on Hermosa Avenue, 22nd Street, Monterey Boulevard, Valley Drive, Ardmore Avenue, Pier Avenue, and Prospect Avenue. To date, sharrows on Hermosa Avenue have been implemented.
Municipal Code	The Municipal Code includes bicycle parking requirements that vary by the size of the development and type of land use as part of its transportation demand and trip reduction measures; however, virtually all projects developed are too small to be subject to these regulations. Minimum parking requirements are based on square footage of the development. Specific Plan Area No. 11 (along a portion of Pier Avenue) has a separate bicycle parking requirement in which minimum requirements can be based on either square footage or number of employees and shall be in the form of bike rack, fully enclosed spaces or lockers or other secure parking. The SPA-11 Zone also provides for an in-lieu fee when it is not practical to place bike racks on the property. The Municipal Code provides that vehicle parking for any development may be reduced with a Parking Plan approved by the planning commission based on various factors including bicycle and foot traffic. Bicycle parking is reviewed during the planning process by the planner. The code does not provide any other form of guidance. Detailed bicycle parking information is presented in **Appendix G**. The Municipal Code does not prohibit riding bicycles on the sidewalk, though there is not exact language stating this.

Figure 5-2: Existing Bicycle Facilities in Hermosa Beach

South Bay Bicycle Master Plan

El Segundo - Gardena - Hermosa Beach - Lawndale - Manhattan Beach - Redondo Beach - Torrance

5.2.4 Existing Bicycle Network

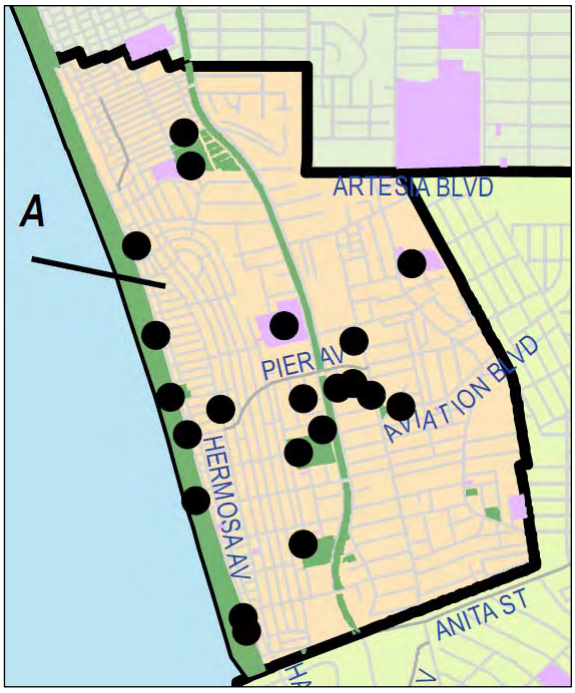
Figure 5-2 shows the existing bicycle network in Hermosa Beach. **Appendix A-2** displays a map of the existing bicycle facilities in the South Bay Region. Bicycle facility types are discussed in **Section 1.3**. The City of Hermosa Beach has a bicycle network that consists of approximately 5 miles of bicycle facilities. This includes Class I, Class II, and Class III facilities. Its Class I bike path is a portion of the Los Angeles County-maintained bicycle path that runs along the Strand. **Table 5-2** summarizes the classification and mileage of the existing network.

Table 5-2: Hermosa Beach Bicycle Network

Facility Type	Mileage
Class I (Bike Path)	1.8
Class II (Bike Lanes)	0.5
Class III (Bike Route)	2.8
Total Mileage	**5.1**

5.2.5 Existing End-of-Trip Parking Facilities

The BTA requires that this plan inventory publicly-accessible short-term and long-term end-of-trip bicycle facilities for the members of the bicycling public to park their bicycles, as well as change and store clothes and equipment. Short-term facilities consist of bicycle racks. Long-term facilities include, but are not limited to, locker, restroom, and shower facilities near bicycle parking facilities. **Appendix A-9** presents the locations of existing end-of-trip bicycle facilities in the South Bay. Existing bicycle parking in Hermosa Beach is shown at right. Bicycle racks are located in commercial shopping centers, in the Downtown, and along the Strand. Hermosa Beach does have any existing changing or showering facilities.



Existing End-of-trip Facilities in Hermosa Beach

(See Appendix A-9 for larger map)

- Existing Bike Racks
- Existing Bike Lockers

5.2.6 Multi-Modal Connections

Transit is often best for longer trips, while bicycling is better for shorter trips. Combining transit use and bicycling can offer a high level of mobility that is comparable to travel by automobile. **Appendix A-10** shows the existing Los Angeles Metropolitan Transit Authority (Metro) transit routes that serve the City of Hermosa Beach. Metro operates several bus lines with routes through the City that connect Hermosa Beach to its neighboring

communities and key activity centers. Buses are equipped with bicycle racks, which are available on a first-come, first-served basis.

LADOT operates the Commuter Express bus service. Line 438 connects the cities of El Segundo, Manhattan Beach, Hermosa Beach, Redondo Beach, and Torrance to Downtown Los Angeles. Most Commuter Express buses are equipped with bicycle racks, which are available on a first-come, first-served basis. The Commuter Express Line 438 route map is shown in **Appendix A-11**.

Beach Cities Transit (BCT) Line 109, operated by the City of Redondo Beach, and Torrance Transit Line 8, operated by the City of Torrance, also serve the City of Hermosa Beach. **Appendix A-13** shows the BCT System Map and **Appendix A-14** shows the Torrance Transit System Map. Buses are equipped with bike racks, which are available on a first-come, first-served basis.

The BTA requires that this plan inventory existing bicycle transport and parking facilities for connecting to public transit services. These facilities include, but are not limited to, bicycle parking at transit stops, rail and transit terminals, and park and ride lots; and provisions for transporting bicycles on public transit vehicles. Hermosa Beach does not currently provide any intermodal end-of-trip bicycle facilities within its jurisdiction.

Increased enforcment in Hermosa Beach has led to more citations to bicyclists for stop sign and signal violations.

5.2.7 Education and Enforcement Strategies

Bicycle education programs and enforcement of bicycle-related policies help to make riding safer for all bicyclists. To promote safe bicycling, the Hermosa Beach Public Works Commission and Police Department put together a "Share the Road" Pamphlet that has been distributed to all the bicycle shops and at bicycle events. This pamphlet could be made available to all participating South Bay cities. Hermosa Beach has also held three bicycle safety events at Valley Park in May 2009, 2010, and 2011.

The Hermosa Beach Police Department began conducting increased bicycle enforcement in May 2010. To date, this has resulted in thirty citations issued to bicyclists for stop sign and signal violations.

5.2.8 Past Bicycle-Related Expenditures

Between 2000 and 2010 the City of Hermosa Beach incurred the following bicycle-related expenditure:

- $803,000 for shared lane markings and improvements on the Strand

5.3 Needs Analysis

This section describes the needs of bicyclists in Hermosa Beach. It first summarizes feedback collected from the online survey and public workshops. This section also provides estimates and forecasts of bicycle commuting to determine the estimated bicycling demand in the city. It finally analyzes bicycle collision data between 2007 and 2009 to identify areas that would benefit from bicycle facility improvements.

5.3.1 Public Outreach

As mentioned in Chapter 1, the public had the opportunity to provide input in the planning process through an online survey and the first round of public workshops. This section summarizes locations in Hermosa Beach that the community identified as desirable for bikeways.

The locations that the community mentioned the most frequently as in need of bikeways are Valley Drive /Ardmore Avenue and Pier Avenue. The community also noted that it would like to see bicycle facilities on major north-south and east-west routes, including Aviation Boulevard and Hermosa Avenue.

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5.3.2 Bicycle Commuter Estimates and Forecasts

United States Census "Commuting to Work" data provides an indication of current bicycle system usage. **Appendix A-15** shows the percent bicycle commuters in Hermosa Beach by census tract. There are no bicycle commuters throughout most of Hermosa Beach. The highest percentages of bicycle commuters are located in the southwest portion, which corresponds with higher percentages of transit commuters.

Table 5-3 presents commute to work data estimates reported by the 2000 US Census for Hermosa Beach. For comparative purposes, the table includes commute to work data for the United States, California, and County of Los Angeles. According to the estimates, 0.22 percent of residents in Hermosa Beach commute primarily by bicycle. This is lower than the percentage of bicycle commuters in Los Angeles County, California, and the U.S. as a whole. Hermosa Beach also has low rates of carpooling and transit riding, which suggests that the city's high median incomes and high car ownership rates are a primary influence on mode split. It is important to note that this figure likely underestimates the true amount of bicycling that occurs in Hermosa Beach for several reasons. First, data reflects respondents' dominant commute mode

and therefore does not capture trips to school, for errands, or other bike trips that would supplant vehicular trips. Also, US Census data collection methods only enable a respondent to select one mode of travel, thus excluding bicycle trips if they constitute part of a longer multimodal trip. The percentage of commuters in Hermosa Beach that commute by transit is much lower than that of those that drive alone. Hermosa Beach also has a low percentage of carpooling.

In addition to bicycle commuters in Hermosa Beach, bicyclists from neighboring communities use the city's bicycle network to reach their destinations and are not reflected in this data. This Plan addresses the need for regional connectivity to accommodate bicyclists passing through Hermosa Beach's bicycle network in **Section 5.4**.

Table 5-3: Means of Transportation to Work

Mode	United States	California	Los Angeles County	Hermosa Beach
Bicycle	0.38%	0.83%	0.62%	0.22%
Drove Alone – car, truck, or van	75.70%	71.82%	70.36%	82.61%
Carpool – car, truck, or van	12.19%	14.55%	15.08%	6.61%
Transit	4.73%	5.07%	6.58%	0.95%
Walked	2.93%	2.85%	2.93%	2.42%
Other Means	0.70%	0.79%	0.76%	0.71%
Worked at Home	3.26%	3.83%	3.49%	5.98%

Source: US Census 2000

Table 5-4 presents an estimate of current bicycling within Hermosa Beach using US Census data along with several adjustments for likely bicycle commuter underestimations, as discussed above. **Table 5-5** presents the associated air quality benefits from bicycling.

Table 5-4: Existing Bicycling Demand

Variable	Figure	Source
Existing study area population	18,442	2000 US Census, P1
Existing employed population	12,784	2000 US Census, P30
Existing bike-to-work mode share	0.22%	2000 US Census, P30
Existing number of bike-to-work commuters	28	Employed persons multiplied by bike-to-work mode share
Existing work-at-home mode share	5.98%	2000 US Census, P30
Existing number of work-at-home bike commuters	76	Assumes 10% of population working at home makes at least one daily bicycle trip
Existing transit-to-work mode share	0.950%	2000 US Census, P30
Existing transit bicycle commuters	30	Employed persons multiplied by transit mode share. Assumes 25% of transit riders access transit by bicycle
Existing school children, ages 6-14 (grades K-8)	992	2000 US Census, P8
Existing school children bicycling mode share	2.0%	National Safe Routes to School surveys, 2003.
Existing school children bike commuters	20	School children population multiplied by school children bike mode share
Existing number of college students in study area	1,495	2000 US Census, PCT24
Existing estimated college bicycling mode share	5.0%	Review of bicycle commute share in seven university communities (source: National Bicycling & Walking Study, FHWA, Case Study No. 1, 1995), review of bicycle commute share at the University of California, Los Angeles
Existing college bike commuters	75	College student population multiplied by college student bicycling mode share
Existing total number of bike commuters	230	Total bike-to-work, school, college and utilitarian bike trips. Does not include recreation.
Total daily bicycling trips	459	Total bicycle commuters x 2 (for round trips)

Table 5-5: Existing Bicycling Air Quality Impact

Variable	Figure	Source
Current Estimated VMT Reductions		
Reduced Vehicle Trips per Weekday	141	Assumes 73% of bicycle trips replace vehicle trips for adults/college students and 53% for school children
Reduced Vehicle Trips per Year	36,911	Reduced weekday vehicle trips x 261 (weekdays / year)
Reduced Vehicle Miles per Weekday	1,058	Assumes average round trip travel length of 5 miles for adults/college students and 1 mile for schoolchildren
Reduced Vehicle Miles per Year	276,076	Reduced weekday vehicle miles x 261 (weekdays / year)
Current Air Quality Benefits		
Reduced Hydrocarbons (lbs/wkday)	3	Daily mileage reduction x 1.36 grams / mi
Reduced PM10 (lbs/wkday)	0	Daily mileage reduction x 0.0052 grams / mi
Reduced PM2.5 (lbs/wkday)	0	Daily mileage reduction x 0.0049 grams / mi
Reduced NOX (lbs/wkday)	2	Daily mileage reduction x 0.95 grams / mi
Reduced CO (lbs/wkday)	29	Daily mileage reduction x 12.4 grams / mi
Reduced C02 (lbs/wkday)	860	Daily mileage reduction x 369 grams / mi
Reduced Hydrocarbons (lbs/yr)	828	Yearly mileage reduction x 1.36 grams / mi
Reduced PM10 (lbs/yr)	3	Yearly mileage reduction x 0.0052 grams / mi
Reduced PM2.5 (lbs/yr)	3	Yearly mileage reduction x 0.0049 grams / mi
Reduced NOX (lbs/yr)	578	Yearly mileage reduction x 0.95 grams / mi
Reduced CO (lbs/yr)	7,547	Yearly mileage reduction x 12.4 grams / mi
Reduced $C0_2$ (lbs/yr)	224,589	Yearly mileage reduction x 369 grams / mi

Source:

Emissions rates from **EPA report 420-F-05-022** *Emission Facts: Average Annual Emissions and Fuel Consumption for Gasoline-Fueled Passenger Cars and Light Trucks.* 2005.

Table 5-6 presents projected year 2030 bicycling activity within Hermosa Beach using California Department of Finance population and school enrollment projections. The projection contains the assumption that bicycle mode share will double by 2030, due in part to bicycle network implementation. Actual bicycle mode share in 2030 will depend on many factors, including the extent of network implementation. Table 5-7 presents the associated year

2030 air quality benefit forecasts. The calculations follow in a straightforward manner from the Projected Year 2030 Bicycling Demand.

Table 5-6: Projected Year 2030 Bicycling Demand

Variable	Figure	Source
Future study area population	22,950	Calculated based on CA Dept. of Finance, *Population Projections for California and Its Counties 2000-2050.*
Future employed population	15,909	Calculated based on CA Dept. of Finance, *Population Projections for California and Its Counties 2000-2050*,
Future bike-to-work mode share	0.4%	Double the rate from 2000 US Census, P30
Future number of bike-to-work commuters	70	Employed persons multiplied by bike-to-work mode share
Future work-at-home mode share	10.8%	Calculated based on change in mode share from 1990 US Census, P49, to 2000 US Census, P30
Future number of work-at-home bike commuters	172	Assumes 10% of population working at home makes at least one daily bicycle trip
Future transit-to-work mode share	1.9%	Double the rate from 2000 US Census, P30
Future transit bicycle commuters	76	Employed persons multiplied by transit mode share. Assumes 25% of transit riders access transit by bicycle
Future school children, ages 6-14 (grades K-8)	788	Calculated from CA Dept. of Finance, *California Public K–12 Graded Enrollment and High School Graduate Projections by County, 2010 Series.*
Future school children bicycling mode share	4.0%	Double the rate of national school commute trends. National Safe Routes to School surveys, 2003.
Future school children bike commuters	32	School children population multiplied by school children bicycling mode share
Future number of college students in study area	1,860	Calculated based on CA Dept. of Finance, Population Projections for California and Its Counties 2000-2050, Sacramento, California, July 2007.
Future estimated college bicycling mode share	7.0%	A slight increase over the existing college bicycle mode share assumption, commensurate with projected increases in bicycling for other populations
Future college bike commuters	130	College student population x college student bicycling mode share
Future total number of bike commuters	480	Total bike-to-work, school, college and utilitarian biking trips. Does not include recreation.
Total daily bicycling trips	959	Total bike commuters x 2 (for round trips)

Table 5-7: Projected Year 2030 Bicycling Air Quality Impact

Variable	Figure	Source
Forecasted VMT Reductions		
Reduced Vehicle Trips per Weekday	289	Assumes 73% of biking trips replace vehicle trips for adults/college students and 53% for school children
Reduced Vehicle Trips per Year	75,357	Reduced number of weekday vehicle trips x 261 (weekdays / year)
Reduced Vehicle Miles per Weekday	2,193	Assumes average round trip travel length of 8 miles for adults / college students and 1 mile for schoolchildren
Reduced Vehicle Miles per Year	572,327	Reduced number of weekday vehicle miles x 261 (weekdays / year)
Forecasted Air Quality Benefits		
Reduced Hydrocarbons (lbs/wkday)	7	Daily mileage reduction x by 1.36 grams / mi
Reduced PM10 (lbs/wkday)	0	Daily mileage reduction x by 0.0052 grams / mi
Reduced PM2.5 (lbs/wkday)	0	Daily mileage reduction x by 0.0049 grams / mi
Reduced NOX (lbs/wkday)	5	Daily mileage reduction x by 0.95 grams / mi
Reduced CO (lbs/wkday)	60	Daily mileage reduction x by 12.4 grams / mi
Reduced $C0_2$ (lbs/wkday)	1,784	Daily mileage reduction x by 369 grams / mi
Reduced Hydrocarbons (lbs/yr)	1,716	Yearly mileage reduction x by 1.36 grams / mi
Reduced PM10 (lbs/yr)	7	Yearly mileage reduction x by 0.0052 grams / mi
Reduced PM2.5 (lbs/yr)	6	Yearly mileage reduction x by 0.0049 grams / mi
Reduced NOX (lbs/yr)	1,199	Yearly mileage reduction x by 0.95 grams / mi
Reduced CO (lbs/yr)	15,646	Yearly mileage reduction x by 12.4 grams / mi
Reduced CO_2 (lbs/yr)	465,591	Yearly mileage reduction x by 369 grams / mi

Source:

Emissions rates from **EPA report 420-F-05-022** *Emission Facts: Average Annual Emissions and Fuel Consumption for Gasoline-Fueled Passenger Cars and Light Trucks.* 2005.

This model uses the latest state projections for population growth and reasonable assumptions about future bicycle ridership. The benefits model predicts that the total number of bicycle commute trips could increase from the current daily estimate of 460 to 960, resulting in a substantial reduction of both Vehicle Miles Traveled (VMT) and associated emissions. This includes a yearly emissions reduction by 2030 of approximately 1,200 pounds of smog forming N0X and roughly 500 thousand pounds of $C0_2$, the

principal gas associated with global climate change. Providing bicycle facilities will encourage new bicyclists to begin to ride, thus positively impacting air quality by reducing harmful pollutants from driving motorized vehicles. Because this plan recommends local connections throughout and regional links between the participating cities, it has the potential to have even greater air quality benefits. Bicyclists may not need to rely as heavily on vehicles for transportation because bicycling will be a viable transportation alternative upon implementation of this Plan.

5.3.3 Bicycle Counts

To assess bicycling levels at different sites throughout Hermosa Beach, volunteers conducted bicycle counts, in which they manually recorded the number of bicyclists that rode by.

5.3.3.1 Methodology

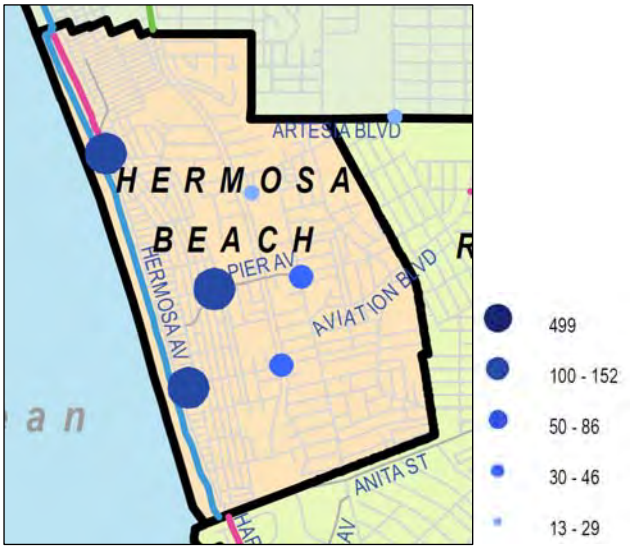
The methodology for the bicycle counts derives from the National Bicycle and Pedestrian Documentation Project (NBPD), a collaborative effort of Alta Planning + Design and the Institute of Transportation Engineers. The NBPD methodology aims to capture both utilitarian bicycling and recreational bicycling. The NBPD also provides guidance on how to select count locations.

Volunteers conducted bicycle counts in each of the seven participating cities in the South Bay on Thursday, November 4, 2010 from 3:00 p.m. to 6:00 p.m. and Saturday, November 6, 2010 from 10:30 a.m. to 1:30 p.m. These dates are meant to capture volumes of bicyclists on a typical weekday and weekend day. Fall is an appropriate time to conduct bicycle counts in California because school is back in session and vacations are typically over. In Hermosa Beach, volunteers were stationed at six stations on Thursday and seven stations on Saturday. There were 36 total locations in the South Bay region on each day.

The count locations were selected in partnership by city staff, Alta Planning + Design, Los Angeles County Bicycle Coalition staff, and South Bay Bicycle Coalition board members. This snapshot of locations is meant to capture a diverse bicycling population using the roads and streets that span the spectrum of bike-friendliness.

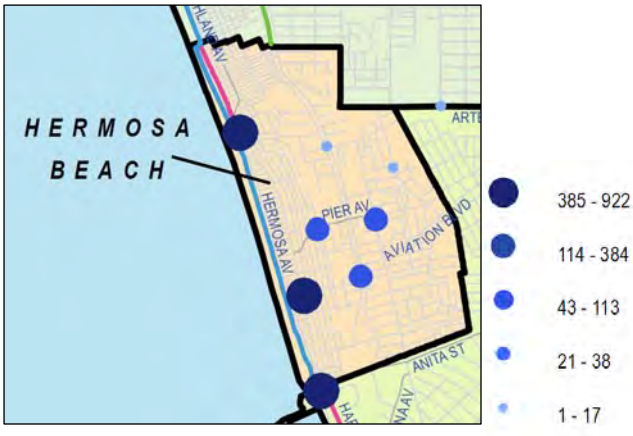
5.3.3.2 Results

The count results for the South Bay are displayed in **Appendix A-16** and **Appendix A-17**. Count results for Hermosa Beach are shown at right. Detailed count data, including a list of count locations, is



Weekday Bicycle Count Results in Hermosa Beach

(See Appendix A-16 for larger map and Appendix H for a list of count locations.)



Weekend Bicycle Count Results in Hermosa Beach

(See Appendix A-17 for larger map and Appendix H for a list of count locations.)

presented in **Appendix H**. On Thursday, the Hermosa Beach station that experienced the highest volume was Hermosa Avenue and 8th Street with 152 bicyclists during the three hour count period. The station with the most bicyclists on Saturday was Hermosa Avenue and 24th Street with 922 bicyclists during the three hour count period.

On both days, the locations with the highest numbers of bicyclists in the South Bay region as a whole were those along the Strand on the County-maintained Marvin Braude Bikeway. Apart from the Strand stations, the inland count locations in Lawndale and Gardena experienced the most riders during the week. On the weekend, there were overall fewer riders in the inland count stations and more riders along the coast. This suggests that more bicyclists ride a bicycle for commuting during the week and for recreation on the weekend.

In the region as a whole, approximately 83 percent of bicyclists were male. About 70 percent of those observed did not wear helmets and 41 percent rode on the sidewalks. On Thursday, there were 18 locations at which over half of the observed bicyclists rode on the sidewalk and on Saturday there were nine. Riding on the sidewalk can be an indicator of a lack of bicycle facilities, as bicyclists that are uncomfortable riding with traffic may choose to ride on the sidewalk instead.

Bicycle Collisions in Hermosa Beach 2007-2009

(See Appendix A-18 for larger map)

4
3
2
1

5.3.4 Bicycle Collision Analysis

Safety is a major concern for both existing and potential bicyclists. Concern about safety is the most common reason given for not riding a bicycle (or riding more often), according to national surveys. Identifying bicycle collision sites can draw attention to areas that warrant improvement, particularly if multiple collisions occur at the same location. This analysis employs the most reliable data source available, the California Highway Patrol's Statewide Integrated Traffic Records System. The data set only includes reported collisions, and so represents a subset of all the bicycle collisions in Hermosa Beach. This data does not include any assessment of conditions present at the time of the collision. There are numerous factors that may contribute to a given incident including but not limited to time of day, visibility, distractions, obstacles or traffic law obedience. This data simply reflects reported incidents, resulting injuries and the party at fault. This data does not infer faulty infrastructure, but rather provides a baseline of collisions that often decreases in correlation with bike

plan implementation and the improvements to facilities and road user behavior and awareness that accompanies it. Fault as determined by law enforcement is discussed below.

Table 5-8 presents the number of reported collisions involving bicyclists, number of bicyclists involved, and severity of the bicycle collisions for three consecutive years: 2007, 2008, and 2009. **Appendix A-18** shows locations of bicycle collisions in the South Bay region in the same time period. Bicycle collisions in Hermosa Beach are shown at right. There were 21 total reported collisions involving bicyclists from 2007-2009 in the City of Hermosa Beach. Most of the crashes occurred on Hermosa Avenue: three occurred in the northern portion of the city, and six occurred on Hermosa Avenue between 16th Street and 10th Street in the area surrounding the pier. These locations have high employment densities and recreational attractions, which correlate with bicycling activity. There were also two crashes at the intersection of Pacific Coast Highway and Artesia Blvd in the northeast portion of the city along the border with Manhattan Beach. These streets carry large volumes of vehicular traffic traveling at high speeds and intersect at a non-right angle, which creates situations that can produce conflicts between bicycles and automobiles.

Table 5-8: Bicycle Collision Data 2007-2009

Total Crashes Involving Bicyclists	Number of Bicyclists Involved	Persons Injured	Persons Severely Injured	Persons Killed
19	21	18	3	0

Source: California Highway Patrol, Statewide Integrated Traffic Records System (SWITRS)

As reported by police officers in traffic reports, bicyclists were at fault in 74 percent of collisions involving bicyclists (14 crashes).

Providing bicycle facilities encourages more people to ride. When motorists begin to look for and expect to see bicyclists, collisions between vehicles and bicyclists are reduced. The City of New York, for example, reported that as ridership increased between 1998 and 2008, the number of annual casualties from bicycle collisions decreased (see **Appendix B**).

Appendix A-1 displays estimated weekday traffic volumes in the participating cities. There is no data available for Hermosa Beach.

5.4 Proposed Bicycle Network

This section presents the proposed bicycle network for the City of Hermosa Beach, which includes bicycle parking facilities. Upon implementation of the proposed network, the City should coordinate and collaborate with adjacent participating South Bay cities to emphasize a regional bicycle network. Bicycle facilities discussed in this Plan are described in **Section 1.3** and presented in **Figure 1-3** and **Figure 1-4**. **Appendix C** outlines the recommended standards for each facility classification as compared to minimum standards. In addition to creating a comprehensive network of bikeways in Hermosa Beach, the recommended system ties into the proposed bicycle facilities for the other South Bay participating cities to create a connected regional network. This will give bicyclists from adjacent communities the opportunity to pass through Hermosa Beach to reach their destinations without losing bicycle facilities at city boundaries. Bikeway recommendations are also based on the existing City bicycle plans, public input, topography, traffic volumes, and traffic speeds.

5.4.1 Proposed Bikeway Facilities

The proposed bicycle network in the City of Hermosa Beach consists of Class II Bike Lanes, Class III Bike Routes, and Bike Friendly Streets.

The proposed bicycle network in the City of Hermosa Beach consists of Class II Bike Lanes, Class III Bike Routes, and Bike Friendly Streets, and is shown in **Figure 5-3.** The proposed bicycle network in Hermosa Beach connects with the recommended networks in Manhattan Beach and Redondo Beach. **Figure 5-3** includes a blue asterisk at the steps between Hermosa Beach and Manhattan Beach indicating that this is outside the jurisdiction of this Plan, but the connection between the two cities is a supported improvement. The proposed bicycle network for the South Bay region as a whole is presented in **Appendix A-19**.

Three tables identify the streets on which facilities are proposed, the extents of each proposed facility, and the length in miles of each proposed facility in Hermosa Beach. **Table 5-9** lists the proposed bicycle lanes, **Table 5-10** lists the proposed bicycle routes, and **Table 5-11** lists the proposed bicycle-friendly streets.

Table 5-9: Proposed Class II Bicycle Lanes in Hermosa Beach

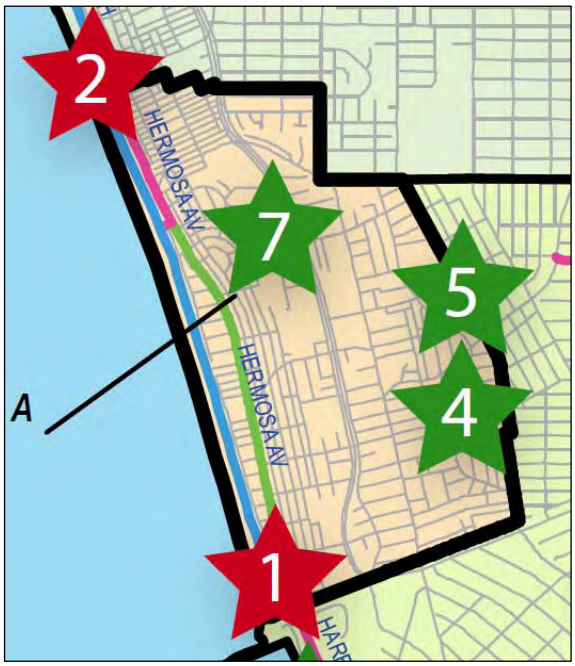
Facility Type	Street	From	To	Miles
BL	Herondo Street	Hermosa Avenue	Valley Drive	0.3
BL	Aviation Boulevard	Pacific Coast Highway	Harper Avenue	0.4
BL	Artesia Boulevard	Pacific Coast Highway	Harper Avenue	0.2
Total Bicycle Lane Mileage				**0.9**

Table 5-10: Proposed Class III Bicycle Routes in Hermosa Beach

Street	From	To	Miles
Pier Avenue	Hermosa Avenue	Ardmore Avenue	0.4
27th Street - Gould Avenue	Hermosa Avenue	Pacific Coast Highway	0.6
Longfellow Avenue	Hermosa Avenue	Valley Drive	0.3
Valley Drive	Longfellow Avenue	Herondo Street	1.8
Ardmore Avenue	North City Limits	Pier Avenue	1.0
Highland Avenue	35th Street	Longfellow Avenue	0.2
10th Street	Ardmore Avenue	Pacific Coast Highway	0.1
Hermosa Avenue	35th Street	24th St	0.5
Total Bicycle Route Mileage			**4.7**

Table 5-11: Proposed Bicycle-Friendly Streets in Hermosa Beach

Street	From	To	Miles
8th Street	Hermosa Avenue	Prospect Avenue	0.7
1st Street	Manhattan Avenue	The Strand	0.1
22nd Street - Monterey Boulevard	The Strand	Herondo Street	1.4
35th Street - Palm Drive	Hermosa Avenue	1st Street	0.1
21st Street	Ardmore Avenue	Prospect Avenue	0.3
Prospect Avenue	Artesia Boulevard	South City Limits	1.3
Total Bicycle-Friendly Street Mileage			**3.8**



Opportunities and Constraints in Hermosa Beach

(See Appendix I for larger map)

Opportunity

Constraint

There are several opportunities and constraints to recommending new bicycle facilities in Hermosa Beach. These are shown at left and are referenced by the numbers in **Appendix I**. **Appendix I** also presents opportunities and constraints in the South Bay region as a whole.

One opportunity is for a proposed Bike Friendly Street on Prospect Avenue in Hermosa Beach as this is also being proposed by Vitality City. See Vitality City's Livability Plan for further detail.

Another opportunity is for a proposed Class II on Aviation Boulevard. Hermosa Beach's section of Aviation Boulevard is particularly rich with retail and commercial uses. Bike facilities could greatly improve the area's visibility and access. See Vitality City's Livability Plan for further detail.

Finally, there is the opportunity for a proposed Class III bikeway on Valley Drive/Ardmore Avenue. While this plan recommends a Class III route, the Vitality City Livability Plan recommends additional options. See the Vitality City Livability Plan for further detail and opportunities.

Constraints to implementing the proposed bicycle facilities first include "The Wall" on the Strand at the border of Hermosa Beach and Redondo Beach. This wall severs the Marvin Braude Bikeway at the Hermosa Beach-Redondo Beach border. South-bound bicyclists are forced to make a sharp 90-degree turn and are led out to the bike lanes on Harbor Drive. This plan recommends the removal of the wall and that parking lot 13 in Redondo Beach be partially utilized to accommodate a short extension of the Class I facility that will lead to Harbor Drive in a safer and more navigable way.

Another constraint is the stairs on the Strand between Hermosa Beach and Manhattan Beach. This constraint is also noted as being

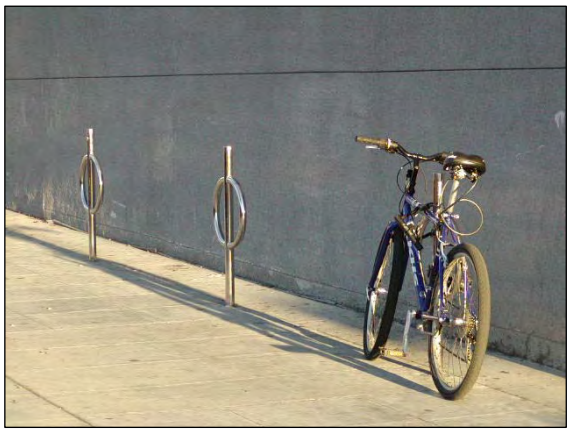
Figure 5-3: Proposed Bicycle Facilities in Hermosa Beach

South Bay Bicycle Master Plan

outside this plan's jurisdiction because those stairs (along with the rest of the Strand with the exception of Hermosa Beach) are operated by the State and maintained by the County of Los Angeles. However, this plan urges the cities to remedy the disruption caused by the stairs. This remedy could come in several forms ranging from a bike-friendly ramp that connects the two sections of the Strand to signage that warns cyclists of the disruption and safely guides them to facilities along Hermosa Avenue.

5.4.2 Proposed End-of-Trip Bicycle Facilities

Support facilities and connections to other modes of transportation are essential components of a bicycle system because they enhance safety and convenience for bicyclists at the end of every trip. With nearly all utilitarian and many recreational bike trips, bicyclists need secure and well-located bicycle parking. A comprehensive bicycle parking strategy is one of the most important things that a jurisdiction can apply to immediately enhance the bicycling environment. Moreover, a bicycle parking strategy with connections to public transit will further the geographical range of residents traveling without using an automobile.



The City should amend its Municipal Code to includebicycle parking design types.

The Hermosa Beach Municipal Code currently provides bicycle parking requirements in its Specific Plan Area No. 11 Zone and at large non-residential developments (although the threshold far exceeds the scale of various developments in the City and therefore these transportation management and demand regulations have no effect). The City should amend its Municipal Code to include requirements on the quantity of bicycle parking to be provided at new and retrofitted multi-family residential, commercial, office, and mixed-use developments of all sizes, as well as bicycle parking design types. Quantity of bicycle parking should be based on square footage of developments or by number of residents to adequately address the bicycle demand at each development.

The City should also amend its Municipal Code to include requirements on types of both short- and long-term bicycle parking facility designs, which are shown in **Appendix J**. Bicycle rack designs should include racks that provide two points of contact with the bicycle so that it can be locked from both the front wheel/frame and the rear wheel. This will provide a high degree of security and support for the bicycle. Long-term bicycle parking should be in the form of:

- Covered, lockable enclosures with permanently anchored racks for bicycles

- Lockable bicycle rooms with permanently anchored racks or
- Lockable, permanently anchored bicycle lockers

When people commute by bicycle they often sweat or become dirty from weather or road conditions. Providing changing and storing facilities encourages commuters to travel by bicycle because they have a place to clean up before work or school. Hermosa Beach's Municipal Code should require all new mid-to-large employers, offices, and businesses to supply changing and storing facilities, such as by providing showers and clothes lockers within the buildings or arranging agreements with nearby recreation centers to allow commuters to use their facilities.

Proposed end-of-trip bicycle facilities in Hermosa Beach are shown in **Figure 5-4.** The City should continue to provide short-term bicycle parking in the form of bicycle racks at all major trip attractors, including commercial and civic activity centers and transit hubs, and ensure that an adequate supply is available. The City should prioritize the installation of bicycle parking throughout the city, with particular attention directed at the following locations:

- Parks
- Schools
- Commercial/office areas
- Civic/government buildings
- Public transit stations

High-activity locations such as transit stations, offices, and major commercial districts should provide more secure, long-term bicycle parking options, such as bicycle lockers. Any future transit hubs and intermodal facilities should include secure bicycle parking areas as part of their design. Secure bicycle parking areas that provide services, such as bicycle rentals and repair, should be considered at major transit stations and commuter destinations.

The City should prioritize the installation of bicycle parking throughout the city, with particular attention directed at locations, such as parks and commercial areas.

Figure 5-4: Hermosa Beach Proposed End-of-Trip Facilities

5.5 Project Costs

This section presents the cost to implement the proposed bicycle network in Hermosa Beach.

5.5.1 Cost Estimates

Table 5-12 displays the planning-level capital cost assumptions for each facility type proposed in this plan, and **Table 5-13** displays the cost to implement the proposed network in the City of Hermosa Beach from the cost assumptions.[18] Cost assumptions are based on LA County averages and may vary depending on environmental conditions of a given facility, unforeseen construction cost variations, and similar considerations. Cost assumptions exclude specific treatments that may vary by location and must be determined by field review, such as traffic calming measures, restriping of existing travel lanes, and sign removal. Cost assumptions do not include traffic signal improvements, such as changes to phasing, recalibration of loop detectors, or installation of push buttons. For detailed cost estimations, refer to the project sheets presented in **Section 5.7**.

Table 5-12: Unit Cost Estimates for Proposed Bicycle Facility Types

Facility Type	Description	Estimated Cost[19]
Class I Bicycle Path	Paving, striping and signage	$800,000 / mile
Class II Bicycle Lanes (two sides)	Striping, signage, and travel lane restriping	$40,000 / mile
Class III Bicycle Routes (two sides)	Signage	$15,000 / mile
Class III Bicycle Routes (two sides) with sharrows	Pavement markings and signage	$25,000 / mile
Bicycle Friendly Street	Pavement markings, signage, and limited traffic calming	$30,000 / mile

[18] **Table 5-14** assumes the cost of implementing Class III Bicycle Routes with Sharrows based on the policies presented in **Chapter 2**

[19] Cost estimates include physical removals and installations (e.g. of signs and striping), contract contingency costs, preliminary engineering, and construction engineering. The source for the unit costs is the LA County Bicycle Master Plan, which are based upon a peer review of Southern California bikeway construction unit costs.

Table 5-13: Estimated Cost of Proposed Bicycle Network

Facility Type	Unit Cost per mile	Length of Proposed Network (miles)	Cost
Bicycle Path	$800,000	0.0	$ -
Bicycle Lane	$40,000	0.9	$ 36,000
Bicycle Route with sharrows	$25,000	4.8	$119,000
Bicycle-Friendly Street	$30,000	3.8	$114,000
Total		**9.5**	**$ 269,000**

5.6 Project Prioritization

A prioritized list of bicycle projects will help guide the City of Hermosa Beach in implementing the proposed bicycle facilities presented in this Plan. Each proposed facility discussed in **Section 5.4.1** is grouped into projects based on feasibility of implementation. **Table 5-14** presents the prioritized projects based on the prioritization methodology displayed in **Appendix K**. Each criterion contains information about a facility and its ability to address an existing or future need in Hermosa Beach. The projects ranked the highest should be implemented first.

Table 5-14: Hermosa Beach Prioritized Projects

Facility Type*	Facility Name	From	To	Gap Closure	Connectivity: Existing	Connectivity: Regional	Connectivity: Activity Centers	Connectivity: Multi-Modal	Safety	Public Input	Underserved Communities	Project Cost	Parking Displacement	Total
BR	Pier Avenue	Hermosa Avenue	Ardmore Avenue	3	6	0	4	0	1	2	0	2	2	**20**
BFS	8th Street	Hermosa Avenue	Prospect Avenue	3	6	0	4	0	2	0	0	2	2	**19**
BR	27th Street - Gould Avenue	Hermosa Avenue	Pacific Coast Highway	3	6	0	4	0	0	0	1	2	2	**18**
BFS	1st Street	Manhattan Avenue	The Strand	3	6	0	4	0	0	0	1	2	2	**18**
BFS	22nd Street - Monterey Boulevard	The Strand	Herondo Street	3	6	0	4	0	1	1	0	1	2	**18**
BR	Longfellow Avenue	Hermosa Avenue	Valley Drive	3	6	0	4	0	0	0	0	2	2	**17**
BL	Herondo Street	Hermosa Avenue	Valley Drive	3	6	0	2	0	0	0	1	2	2	**16**
BFS	35th Street - Palm Drive	Hermosa Avenue	1st Street	3	6	0	2	0	0	0	0	2	2	**15**
BR	Valley Drive	Longfellow Avenue	Herondo Street	0	3	0	4	0	1	2	1	1	2	**14**
BR	Ardmore Avenue	North City Limits	Pier Avenue	0	3	0	4	0	0	2	1	2	2	**14**
BR	Highland Avenue	35th Street	Longfellow Avenue	0	3	0	0	0	0	2	1	2	2	**10**
BFS	21st Street	Ardmore Avenue	Prospect Avenue	0	0	0	4	0	1	0	1	2	2	**10**
BL	Artesia Boulevard	Pacific Coast Highway	Harper Avenue	0	0	0	2	0	2	2	1	2	0	**9**

Facility Type*	Facility Name	From	To	Gap Closure	Connectivity: Existing	Connectivity: Regional	Connectivity: Activity Centers	Connectivity: Multi-Modal	Safety	Public Input	Underserved Communities	Project Cost	Parking Displacement	Total
BR - BL	10th Street - Aviation Boulevard	Ardmore Avenue	Harper Avenue	0	0	0	2	0	0	2	0	2	1	**7**
BFS	Prospect Avenue	Artesia Boulevard	South City Limits	0	0	0	2	0	0	0	1	1	2	**6**
*BP=Bike Path, BL=Bike Lane, BR=Bike Route, BFS=Bike Friendly Street														

5.7 Project Sheets

The City of Hermosa Beach selected two of its top priority projects from the previous table for more detailed concept designs. Project sheets are shown on the following pages and include:

- A review of the existing site conditions
- Site challenges
- Recommended improvements
- Estimated cost
- Photos
- Aerial images
- Concept graphics

Hermosa Beach Project #1: Prospect Avenue (Artesia Boulevard to Anita Street)

Project Site

Prospect Avenue is a north-south primarily residential road located in the eastern portion of the City of Hermosa Beach. It connects to the City of Manhattan Beach to the north and the City of Redondo Beach to the south. Prospect Avenue provides access to Hermosa View Elementary School, Rodaway Park, and scattered commercial services. There is on-street parking along most of Prospect Avenue and a posted speed limit of 25 mph.

From Artesia Boulevard to 21st Street, Prospect Avenue has two travel lanes in each direction. South of 21st Street, the road drops to one travel lane in each direction. There are many striped crosswalks throughout the segment at intersections and midblock. There is no existing on-street parking south of Aviation Boulevard on the west side of the street.

Project Challenges

Prospect Avenue has no existing bicycle facilities, thus bicyclists must share the road with vehicular traffic. Bicyclists must cross arterials that carry high volumes of vehicles traveling at high speeds. There are few existing treatments to create a safe bicycling environment for children riding to school.

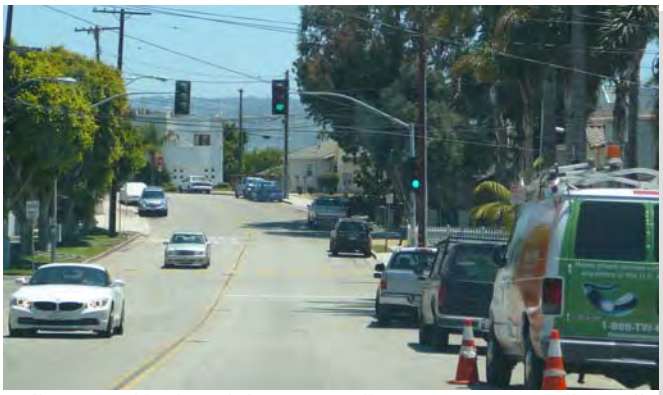
Proposed Improvements

- Install signage and stripe pavement markings, such as sharrows or bike friendly street stencils
- Add bicycle loop detectors and pavement markings at all signalized intersections
- Stripe intersection crossing markings to guide bicyclists through the intersections and increase their visibility
- Construct bulbouts with high visibility crosswalks
- Install roundabout at Artesia Boulevard to reduce vehicle speeds

Estimated Cost

$3,000,000

Photos



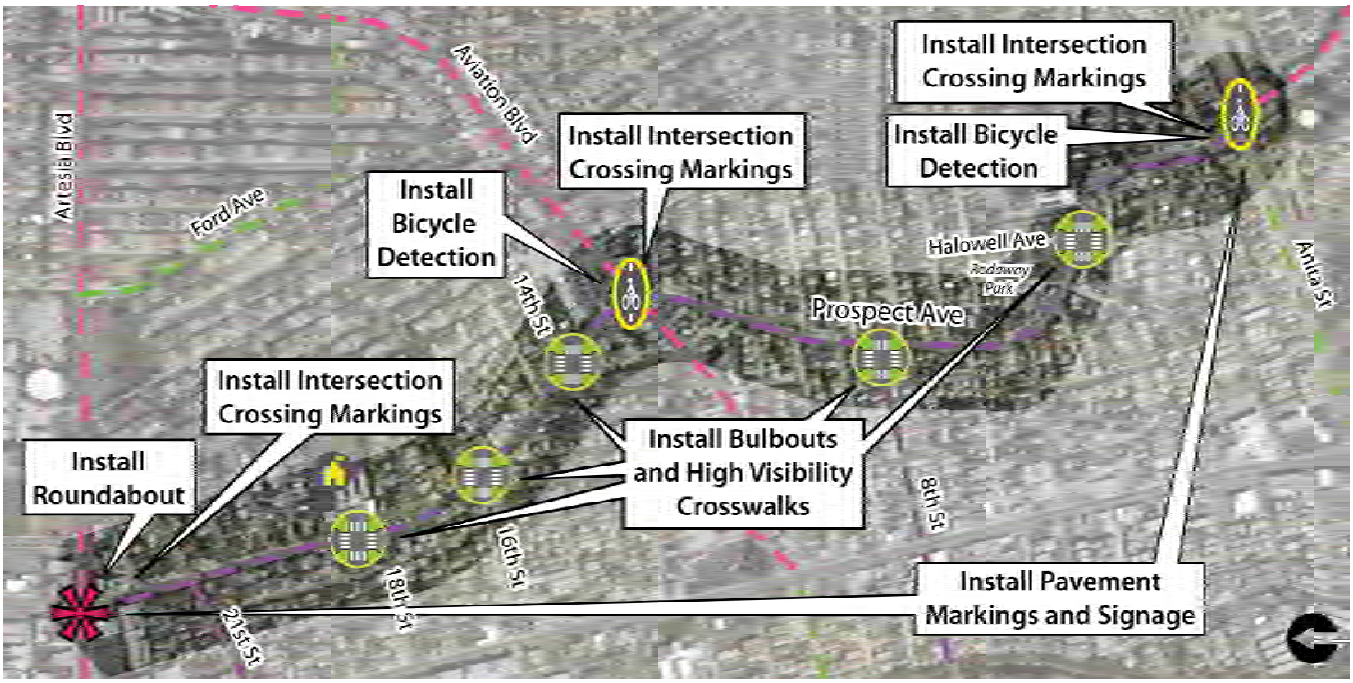
Bulbouts and high visibility crosswalks at intersection will visually narrow the road and reduce vehicle speeds.

Sharrows on Prospect Avenue will alert motorists to the presence of bicyclists and help bicyclists with proper lane positioning.

Intersection crossing markings will help guide bicyclists through the intersections and increase their visibility.

Aerial Map and Concept Graphics: Prospect Avenue

Prospect Avenue (Artesia Boulevard to Anita Street)



Example Intersection Crossing Markings Designs (Source: NACTO.org)

Hermosa Beach Project #2: Longfellow Avenue (Hermosa Avenue to Valley Drive)

Project Site

Longfellow Avenue is an east-west residential street located in the northern portion of the City of Hermosa Beach. It connects to the Hermosa Valley Greenbelt to the east and an existing cycle track that leads to the beach on Hermosa Avenue to the west. Longfellow Avenue provides secondary access to restaurants and commercial services on Hermosa Avenue and Manhattan Avenue. There is metered parallel parking along most of Longfellow Avenue and a posted speed limit of 25 mph.

Longfellow Avenue has one travel lane in each direction with a striped center line. There are stop controlled intersections at most intersections.

Project Challenges

Longfellow Avenue is a popular route to the beach for both bicyclists and vehicles. Because it is highly utilized by both bicyclists and motorists, there is the potential for conflicts between the two modes.

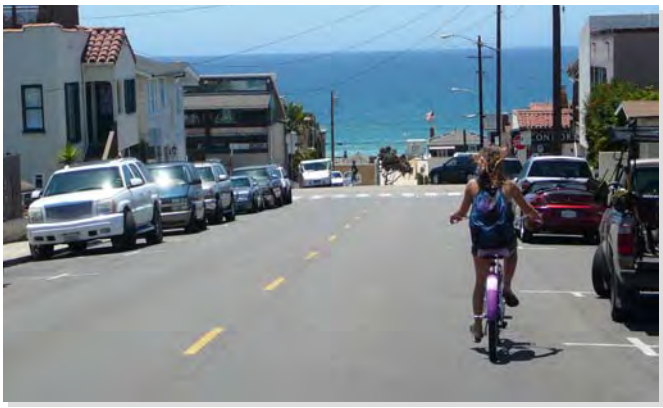
Proposed Improvements

- Stripe sharrows and install "Share the Road" signage
- Install wayfinding signage at intersections with existing bicycle facilities (and future facilities once implemented)

Estimated Cost

$10,000

Photos



Sharrows on Longfellow Avenue will help bicyclists with lane positioning so they ride outside of the door zone of parked cars.

Hermosa Avenue is highly utilized by both bicyclists and vehicles; therefore, there is the potential for conflicts between the two modes.

Wayfinding signage at intersections with other bicycle facilities, such as the Hermosa Ave cycle track shown above, will help bicyclists to navigate through the network.

Aerial Map and Concept Graphics: Longfellow Avenue

Longfellow Avenue (Hermosa Avenue to Valley Drive)

Example Signage and Sharrows

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