CITY OF MANHATTAN BEACH
DEPARTMENT OF COMMUNITY DEVELOPMENT

TO: Parking and Public Improvements Commission

FROM: Richard Thompson, Director of Community Development
Nhung Madrid, Management Analyst

DATE: July 26, 2012

SUBJECT: Aviation Boulevard Bicycle Lane Preliminary Engineering Study - Final Report

RECOMMENDATION:
Staff recommends that the Parking and Public Improvements Commission conduct a public hearing and provide comments regarding the Aviation Boulevard Bicycle Lane Preliminary Engineering Study – Final Report.

BACKGROUND:
The provision of bicycle lanes on Aviation Boulevard is a project of the Healthways/Blue Zones Vitality City initiative. The purpose of the initiative is to improve the well-being of the Beach Cities by optimizing the physical environment, policy and social connections (city, restaurants, schools, businesses). The initiative aims to make the Beach Cities more walkable, bicycle friendly, healthy, and socially engaged, with an overall goal of improving citizens' health. The Cities of Manhattan Beach, Hermosa Beach and Redondo Beach are choosing to create a community where people can live longer and better by encouraging simple lifestyle changes that will make lasting changes in physical, mental and social health. The Vitality City Program will run from 2011 to 2013.

Bicycle lanes on Aviation Boulevard were identified as a future need in the South Bay Bicycle Master Plan, which was approved by this Commission and the City Council in 2011. Although Aviation Boulevard did not score high in the Plan's prioritized projects, this corridor was strongly recommended as a result of feedback received at workshops held by Vitality City. Aviation Boulevard is one of only a few streets that provide a continuous north-south connection, and bicycle lanes on this roadway would create a highly visible bicycle facility along a major roadway corridor within each of the participating Beach Cities.

DISCUSSION:
On February 23, 2012, representatives from Vitality City and their consultant, Michael Moule with Nelson/Nygaard Consulting Services, Inc., presented the Aviation Bicycle Lane Preliminary Engineering Study to the Parking and Public

Improvements Commission (Exhibits A and B). Based on input received at that meeting as well as Vitality City's other meetings with the Public Works Commission for Hermosa Beach and Redondo Beach, Vitality City staff and Nelson/Nygaard revised the Study's recommendations and included additional supporting information to produce the Final Report (Exhibit C) and an accompanying FAQ (Exhibit D).

The Study has been reviewed by the City's Traffic Engineer and he has provided his comments and concerns regarding how the proposed recommendations and options would impact traffic flow, parking, turn movements, the prohibition of turn movements, the effect it would have on residents and businesses along this corridor, and the long term implications to travel patterns and habits in the area. It has been stated throughout the study that this entire process will require substantial public outreach and public participation.

Tonight's meeting was noticed in The Beach Reporter during the weeks of July 12th and 19th as well as a mailed postcard notice to all addresses east of Redondo Ave to the City limit (Exhibit E). All public comments that has been received from interested parties have been provided for the Commission to review (Exhibit F). These concerns, as well as any others that may be brought up tonight will need to be addressed, if this project is pursued.

The Preliminary Engineering Study Final Report provides a good starting point to determine whether or not bicycle lanes on Aviation Boulevard are feasible. As shown in this report, a substantial amount of parking and traffic impact analyses is still required as well as public input throughout the entire process. This Final Report was presented to the Redondo Beach Public Works Commission on June 26, 2012 and to the City of Hermosa Beach Public Works Commission on July 25, 2012. Both Commissions have been asked to provide comments on the study as well. At this time, staff is recommending the Commission conduct a public hearing and provide comments on the Preliminary Engineering Study.

Exhibit
A. PPIC Staff Report for February 23, 2012 (without attachments)
B. Minutes of the February 23, 2012 PPIC Meeting
C. Aviation Boulevard Bicycle Lane Preliminary Engineering Study – Final Report
D. FAQ
E. The Beach Reporter Ad and Mailed Postcard Notice
F. Public Comments

EXHIBIT A

CITY OF MANHATTAN BEACH
DEPARTMENT OF COMMUNITY DEVELOPMENT

TO: Parking and Public Improvements Commission

FROM: Richard Thompson, Director of Community Development

BY: Nhung Madrid, Management Analyst

DATE: February 23, 2012

SUBJECT: Aviation Boulevard Bicycle Lane Preliminary Engineering Study

RECOMMENDATION:
Staff recommends that the Commission accept and discuss the presentation by Nelson/Nygaard for the Aviation Boulevard Bicycle Lane Preliminary Engineering study.

BACKGROUND/DISCUSSION:
The provision of bicycle lanes on Aviation Boulevard is a project of the Vitality City initiative. The initiative aims to make the beach cities more walkable, bike-friendly, healthy, and socially engaged, with an overall goal of improving citizens' health in the region. This study has been jointly funded by Healthways/Beach Cities Health District and by the Cities of Redondo Beach, Hermosa Beach, and Manhattan Beach's City Council. Nelson/Nygaard will be presenting the preliminary study to the appropriate Commissions and City Council for all three cities over the next few weeks.

Bicycle lanes on Aviation Boulevard and Marine Avenue were identified as a future need in the South Bay Bicycle Master Plan in 2011. This report presents the findings of the Aviation Boulevard Bicycle Lane Preliminary Engineering Study. Michael Moule with Nelson/Nygaard will be in attendance at tonight's meeting to present the preliminary engineering study and to respond to the Commission's questions and/or concerns. This item will then be brought back to the Commission at the next meeting on March 23, 2012 for further discussion. This will allow staff to perform the proper outreach, review and evaluate the bike lane and impacts it will have on the corridor and surrounding area, and provide comments before it will be presented to the City Council.

Exhibit A: Aviation Boulevard Bicycle Lane Preliminary Engineering Study dated February 2012

EXHIBIT B

CITY OF MANHATTAN BEACH
PARKING AND PUBLIC IMPROVEMENTS COMMISSION
MINUTES OF REGULAR MEETING
February 23, 2012

A. CALL TO ORDER

The regular meeting of the Parking and Public Improvements Commission of the City of Manhattan Beach, California, was held on the 23rd day of February, 2012, at the hour of 6:35p.m., in the City Council Chambers of City Hall, 1400 Highland Avenue, in said City.

B. ROLL CALL

Present:	Vigon, Fournier, Silverman and Chair Stabile.
Absent:	Adami
Staff Present:	Madrid, Rydell and Mason.
Clerk:	Schilling.

C. APPROVAL OF MINUTES

1. A motion was MADE and SECONDED (Silverman/Vigon) to approve the minutes of January 26, 2012 regular meeting with the following amendments;

Commissioner Silverman wanted to clarify that on Page 4, he asked the question regarding carpooling twice because he was concerned with children that live too far from the school that cannot be expected to walk to school.

D. AUDIENCE PARTICIPATION

None.

E. GENERAL BUSINESS

2. Aviation Boulevard Bicycle Lane Preliminary Engineering Study

Chair Stabile asked clarification from staff regarding expectations of the PPIC Commission and what role the Commission will play in the process in reference to the Aviation Boulevard Bicycle Lane Preliminary Engineering Study.

Management Analyst Madrid explained that it was the Commissions role to provide input on the plan and to establish recommendations for Council's consideration. She went on to say that the project would actually be broken into segments and they would like comments and recommendations from the Commission

on each segment, for example, if the Commission determined that further study was required in one area or if additional funding was required for some aspects.

Chair Stabile suggested that the PPIC Commission be given a more detailed analysis of the project before it was finalized.

Traffic Engineer Jack Rydell added that though what would be presented to the Commission tonight is a well done study, staff doesn't support the proposal at this stage. He stated that the project would require extensive public in-put/out-reach, there are four jurisdictions that are involved in the project and this is just the first step in what will most likely be a long process.

Chair Stabile asked for direction in how the Commission should view the project as it will be presented this evening.

Lauren Nakano with Beach Cities Health District speaking on behalf of Vitality City expressed their excitement in moving forward with making the South Bay Cities more movable, walkable and bike friendly. Aviation Boulevard Bike Lane is a very important project to Vitality City as it provides a corridor that crosses through all three cities of Manhattan Beach, Redondo Beach and Hermosa Beach. She mentioned that there are ten schools in the same group of cities that have launched the Walking School Bus Program, five of the schools are Manhattan Beach elementary schools.

Ms. Nakano stated that they support staff on this project and thanked them for beginning this journey and is excited about the process continuing.

Management Analyst Madrid introduced Michael Moule, Consultant from Nelson/Nygaard Consulting Associates, Inc to present the Power Point presentation.

Consultant Moule presented his Power Point presentation to the members of the Commission. He initiated by briefing them on the fact that the presentation they were about to see was a general overview.

Consultant Moule explained that the South Bay Bicycle Master Plan included a route connecting Aviation Boulevard and Marine Avenue for bicyclists in the area. Aviation Boulevard is a major spine in connectivity for South Bay bicyclists. Once the Aviation Boulevard bike lane is in place this will allow connections to other cross streets to become more viable.

Consultant Moule presented a number of photographs of bicyclists along the Aviation Boulevard corridor. He shared photos of bicyclists riding on sidewalks, in the street, riding in the opposing lane of traffic, etc. This is not only a huge danger to the bicyclist Mr. Moule explained but also to pedestrians and motorists. He noted that there are portions of Aviation Boulevard where pedestrian walkability is limited because there were no sidewalks in place, or the sidewalk was too restricted by power poles or overgrown landscaping.

There was a list of benefits provided by Consultant Moule regarding bike lanes;

1. Bike lanes allow bikes to travel at their own pace.
2. Bike lanes allow for good operation by cyclists.
3. Bike lanes allow motorists to be more aware of bicyclists especially as bicyclists grow in number.
4. Bike lanes provide space for pedestrians to walk if needed.
5. Bike lanes provide a buffer from cars along a street.
6. Bike lanes allow for a larger turning radius for cars.
7. Bike lanes provide a space for cars to pull over in the event that they have mechanical problems.

Consultant Moule also prefaced his presentation with the fact that their goal is to maintain as much street parking as possible along Aviation Boulevard as well as left hand turning lanes and allow the service of the same number of motorists. He stated that there was no in depth studies on these items, only preliminary as this is what was requested of the study.

The area to be reviewed by the City of Manhattan Beach includes Aviation Boulevard from Artesia Boulevard through Rosecrans Avenue. He addressed Aviation Boulevard in three sections indicating options that would be available for each of these segments. There are challenges/modifications involved in each aspect, some areas more in depth than others. Consultant Moule also asked the Commissioners to keep in mind that there are four cities that will have to buy in to this project and that each city is responsible for specific areas along the artery of Aviation Boulevard.

Consultant Moule remarked that the most challenging area along Aviation Boulevard within Manhattan Beach lies between 9th Street and 11th Street. Along this segment they have a several options that can be considered a). retain parking would need to lose the left turn lanes or would have to restrict parking and keep the left turn lanes b). eliminate parking however the business show a lot of traffic during the day c). blend a & b which would allow you to retain 4-5 parking spaces but restrict left turn lane d). create a shared lane or e). remove streetscape and widen street four feet.

Commissioner Fournier asked for clarification on "shared lanes". Consultant Moule responded by describing a shared lane as a lane that is put in place on the downhill side of the street that is shared by bicyclists and motorists alike.

Chair Stabile commented on the fact that more responsibility for the difficult changes appears to be between Manhattan Beach and Redondo Beach with Redondo Beach bearing the majority. He went on to say that the city limits rest in the middle of the street so there would have to be a buy-in by both cities in order to accomplish the expected goals. Chair Stabile added that there is some grey area on Aviation Boulevard near 11th Street as to where the city limits are.

Traffic Engineer Rydell responded that all the cities involved will have to agree on the changes to be made as each of the cities will be impacted in some way.

Another item was discussed regarding the raised medium at Manhattan Beach Boulevard and Aviation Boulevard being changed out for one that is just designated by bumps/lines in order to get the bike lane in. This discussion led to accessibility of safety vehicles at the intersection.

Commissioner Fournier suggested removing the six inch curb for the turning lane and replacing it with a three inch curb which would allow for safety vehicles to cross.

The presentation continued by Consultant Moule with examples of how a bike lane could be implemented along the entire route of Aviation Boulevard from Manhattan Beach Boulevard to Rosecrans Avenue. At the completion of the Power Point presentation there was discussion among the Commissioners;

Commissioner Silverman suggested a field trip. He said it was difficult to picture all of the changes that were provided in the Power Point presentation and felt a need to physically visit the sight.

Chair Stabile asked if the schedule for the bike lane would conflict with the schedule for the Sepulveda Boulevard Bridge widening project.

Chair Stabile also questioned the safety of crossing two lanes of traffic to make a left from Aviation Boulevard to Marine Avenue when heading southbound to get to the Green Line station. It appeared to him to be very dangerous.

Consultant Moule said he could envision bicyclists making that transition in a safe fashion.

Chair Stabile next asked about the cost break down on page 44 and available funding sources.

Consultant Moule said that an upcoming grant was a possible source for funding the project but a call for projects has not been released. He believed the applications for this money would be due soon and the City should be prepared to act on it.

Commissioner Vigon asked if cyclists have a choice to ride outside the bike lane and ride in the traffic lane. Consultant Moule responded that there is a California law which requires that cyclists use the bike lane unless it is dangerous to do so. Moule added that there were some other exceptions for example a cyclist could use the left turn lane to make a turn.

Commissioner Vigon expressed his concerns that this may cause confusion to motorists if there is a bike lane and cyclists are expected to use it, a motorist wouldn't expect to see a cyclist in traffic lane.

Chair Stabile opened the floor to public comment at 7:23 p.m.

Tang Nguyen, Westminster, CA – Owner/operator of beauty salon on Aviation Boulevard in Manhattan Beach agrees that the bike plan in a beautiful plan for our City but in his opinion, when you make a plan like this you need to ask for public opinion. If you make a plan for the bikes, keep the bikes along the ocean. Aviation Boulevard is a very busy street, it doesn't allow for cars to get out, adding in bike lanes will narrow the lanes for motorists. If Aviation Boulevard was close to High School, it would be a good choice for students to use it but it's not that way, we need to think about the resident's opinion in Manhattan Beach. Mr. Tang stated that he has owned the salon on Aviation for 12 years and there is very limited parking for his business– he accepts what you do with parking but need to listen to residents, if you lose parking, it will impact businesses, there are few cyclists and many motorists, and for the Commission to not make decision for the few but for whole.

Chair Stabile thanked Mr. Tang for attending the meeting tonight and sharing his thoughts. He affirmed that there will be more meetings in the future and said that he would welcome Mr. Tang's comments.

Nick Bhanji, Redondo Beach, CA - Owner/operator of a dry cleaning business on Aviation Boulevard in Manhattan Beach for 26 years expressed his concerns about implementing a bike lane along Aviation primarily because of safety concerns. He cited that there are many accidents on Aviation Boulevard near his business without a bike lane. Mr. Bhanji estimates that motorists travel in excess of 40 miles per hour and the street is narrow. He added that Aviation Boulevard is very busy and is used as an alternate route instead of Sepulveda Boulevard. It is very dangerous as motorists travel between 45 – 50 miles per hour noting that there is only one signal between Artesia Boulevard and Manhattan Beach Boulevard. Mr. Bhanji stated that it is not practical to install a left hand turn at Rattan, that there is a blind spot at bottom of hill and the street is not lit well. Motorists already have to look for other cars and now they will have to look out for bikes. Mr. Bhanji said that if you install a median, it will prohibit motorists from turning left into the businesses on the west side. Businesses and residents lose value if a "no left turn" prohibition is implemented. He expressed his concerns for businesses, cyclists and pedestrians.

Commissioner Fournier shared Mr. Bhanji's concerns about northbound traffic on Aviation Boulevard near the curve and downhill section of the road near 9th Street. He feels it is a dangerous area for a U turn or left turn.

Mr. Bhanji interjected that there were two children killed at Aviation and 2nd Street 10-15 years ago and that is what prompted the installation of a traffic signal at that intersection.

Commissioner Fournier asked if Mr. Bhanji would support the bike plan if it didn't include Aviation Boulevard, if it didn't include the two block area between 9th Street and 11th Street, and if the bike lane were diverted through the residential area between 9th Street and 2nd Street?

Mr. Bhanji responded that he would be in favor of the bike lane if it is done safely. He asked what would happen if they take away parking and widen the street at 9th Street, he doesn't think the project could be completed for the estimated cost shown on study. Mr. Bhanji emphasized his concerns about what may take place at 9th Street or at Nick's bar in Hermosa Beach at Aviation and Grant Avenue, and as one approaches Pacific Coast Highway – which are all very busy intersections. He has many concerns about the safety aspects of the project and about the businesses along Aviation Boulevard. He suggested that the bike lane be placed on on Vale Street as a straight through thoroughfare.

Ms. Nakano explained that the Vitality City and Beach Cities Health District support the livability/bikeability plans and suggests looking at the overall well-being the plan brings to the cities. She cited that studies show that bike lanes generally prove to be a traffic calming measure; it makes drivers more aware of their surroundings and does have a calming effect. Ms. Nakano also stated that in some cities it has been found that bike lanes encourage retail business, increase retail sales because it provides a corridor that people want to travel.

Chair Stabile closed the Public Hearing at 7:42 p.m.

Chair Stabile invited comments from the Commissioners.

Commissioner Fournier thanked everyone for all the work that has been done so far. He stated that the two block area between 9th Street and 11th Street on Aviation Boulevard would be the most impacted, that access is very important to the businesses, and how the City accommodates the businesses is a major concern along with the safety concerns on Aviation Boulevard. Commissioner Fournier thanked the business owners for attending the meeting tonight.

Commissioner Fournier then addressed a question regarding cost to Consultant Moule, and if the project could be completed with the estimated $582,000.

Consultant Moule stated that the project could be completed within the estimated budget, he explained that the majority of work is in restriping the street, there is few changes related to utilities and the stretch north of 33rd Street in the City of Hawthorne is the only area that would require the street be widened per the current proposal.

Commissioner Vigon thanked the consultant from Nelson/Nygaard and the representative from Beach Cities Health District as well as the business owners for

their contributions to the meeting. He asked if it might be possible to by-pass Aviation Boulevard and use a residential street for the bike lane between Artesia Boulevard and Marine Avenue along Aviation Boulevard. He cited safety concerns for use of residential areas.

Commissioner Fournier reiterated the fact that the bike lane would include four cities which may encourage more people to ride their bike to work or to the Green Line station.

Traffic Engineer Rydell commented that the recently adopted Bicycle Master Plan does includes alternate routes in Manhattan Beach; however Aviation Boulevard is a street that flows through all four cities.

Commissioner Silverman echoes Commissioner Fournier's thoughts concerning parking and access to businesses. He could justify a bike lane downtown bringing more retail business to the area but the businesses on Aviation Boulevard need motorists to have access to them. He stated that small businesses work hard and make a big contribution to our City. He stated that we need to make certain that the Bicycle Coalition will not do anything to negatively impact the retail businesses.

Commissioner Vigon agreed that most people are going to be driving to the businesses along Aviation Boulevard as opposed to riding a bike.

Commissioner Silverman requested that the Consultant double checked the cost estimate to make sure the estimates are accurate.

Consultant Moule stated that there is always a chance for change but most likely would only impact the City of Hawthorne. He stated that the estimates for relocation of utilities would be for four light poles, one power pole and 4-5 drainage gates, which are really minimal changes to utilities.

Commissioner Silverman reiterated that no one wants to be blindsided by costs.

Chair Stabile stated that this is a complex project, involving four entities working together, lots of moving parts but considers this to be a good starting point. He emphasized that there is a lot to consider if the project moves forward and expressed his gratitude to all who participated this evening. Chair Stabile feels that safety, traffic flow and parking are the main priorities.

Commissioner Fournier asked if he could address Consultant Moule once more. He suggested that the Consultant take a slow drive along Aviation Boulevard and assess the dangerous areas, blind spots along the route. Commissioner Fournier shared that he has driven that route for more than 30 years and that Aviation Boulevard between 2nd Street and Pacific Coast Highway is extremely dangerous.

F. COMMISSION ITEMS

1. Commissioner Vigon requested an explanation for the parking signs along Oak Avenue by the Belamar Hotel. He added that the blue no parking signs looked very tacky. Commissioner Vigon suggested that the residents along Oak Avenue go through the process and request permit parking along their street.

   Management Analyst Madrid stated that she would follow up on this item with Associate Planner Danna.

   Commissioner Vigon added that perhaps the City could expedite permit parking.

2. Commissioner Fournier brought up his concerns again about the missing tiles in the crosswalk throughout the City especially along Manhattan Beach Boulevard at Morningside Drive.

   Commissioner Silverman stated that the Downtown Business Association may get involved in this project, there are many safety concerns.

3. Chair Stabile remarked that he has not seen the added verbiage to PPIC Requests and he has asked for this information before.

   Management Analyst Madrid explained that she had sent it to him but would resend it again.

4. Chair Stabile asked about cars parking on the sidewalk between Marine Avenue and Rosecrans Avenue on Manhattan Avenue. He would like this item looked in to, he doesn't think that pedestrians should have to walk in the street or push a baby stroller in the street to get around cars that are parked illegally.

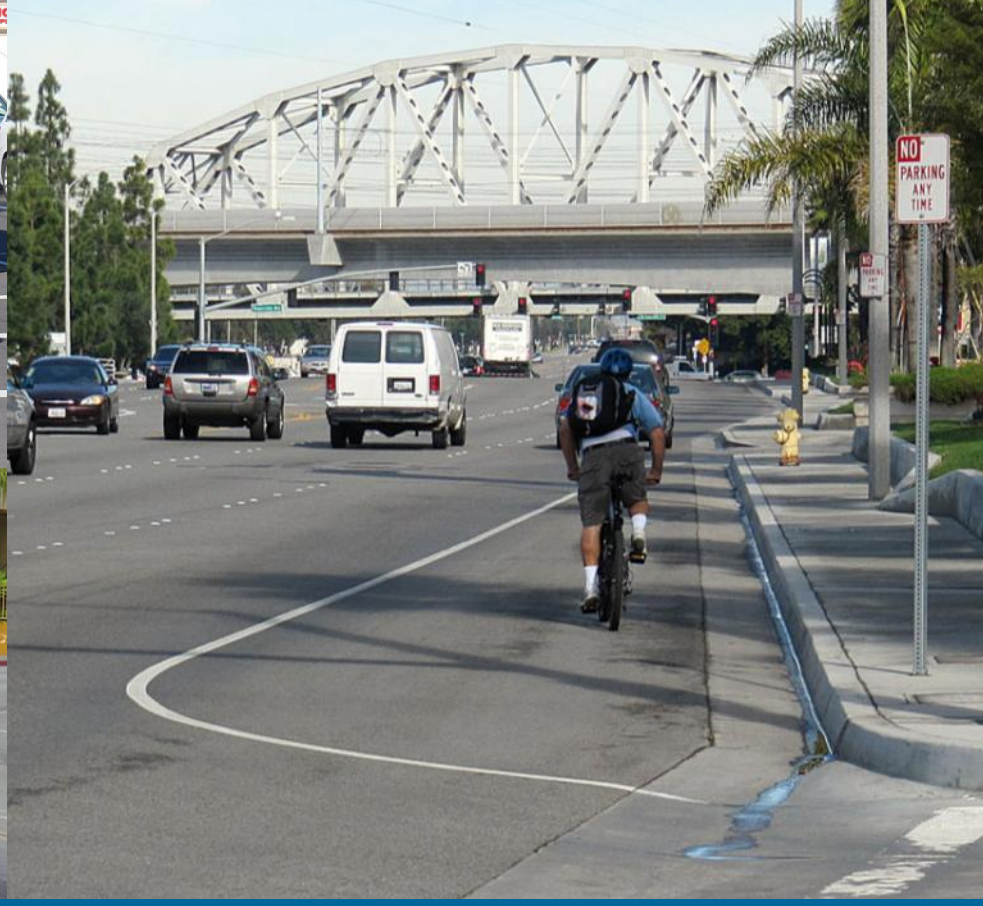
G. STAFF ITEMS

1. Management Analyst Madrid noted that Council has approved the Pennekamp Elementary School Neighborhood Traffic Management Plan.

2. Management Analyst Madrid reminded the Commissioners that there is a Traffic Commissioners Workshop coming up on March 17, 2012 in Buena Park, and that she will forward more information when it is available

H. ADJOURNMENT

The Meeting was adjourned at 8:08 p.m. to the Regular PPIC Meeting on Thursday, March 22, 2012 at in the City Council Chambers of City Hall, 1400 Highland Avenue, in said City.



Healthways / Beach Cities Health District

Redondo Beach / Manhattan Beach / Hermosa Beach

AVIATION BOULEVARD BICYCLE LANE PRELIMINARY ENGINEERING STUDY

Final Report

May 2012

NELSON
NYGAARD

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INTRODUCTION AND BACKGROUND

This report presents the findings of the Aviation Boulevard Bicycle Lane Preliminary Engineering Study. The project boundaries include Aviation Boulevard from Pacific Coast Highway (PCH) to Rosecrans Avenue as well as Marine Avenue from Aviation Boulevard to the Redondo Beach Metro Green Line station. The provision of bike lanes on Aviation Boulevard is a project of the Vitality City initiative. This initiative aims to make the beach cities more walkable, bike-friendly, healthy, and socially engaged, with an overall goal of improving citizens' health in the region.

Bicycle lanes on Aviation Boulevard and Marine Avenue were identified as a future need in the South Bay Bicycle Master Plan in 2011. Segments of Aviation Boulevard and Marine Avenue were included in the prioritized project lists in the South Bay Bicycle Plan for Hermosa Beach, Redondo Beach, Manhattan Beach, and El Segundo. The segments of Aviation Boulevard and Marine Avenue included within this study did not score high in the plan's prioritized project list for each of these cities. This is primarily due to the fact that the prioritization criteria are weighted heavily towards projects that provide connections to existing bicycle facilities. In addition, Aviation Boulevard runs along the edge of each of these cities, thus it ranks lower when evaluated for its connectivity within each individual city.

Vitality City urban planning advisor Dan Burden has conducted public involvement workshops and other events in the beach cities area. Bicycle lanes on Aviation Boulevard and Marine Avenue were strongly recommended as a result of these workshops. The recommendations provided a new perspective on the potential benefits of a bicycle facility on Aviation Boulevard and Marine Avenue. Instead of focusing on connectivity to existing facilities, the recommendations emphasize development of highly-visible bicycle facilities along major roadway corridors within the beach cities. This will create a bicycle "spine" that will serve as an important bicycling connection within the cities, with improvements focused on the neighborhoods currently poorly served by bicycle facilities. Aviation Boulevard is one of only a few streets that provide a continuous north-south connection. North of Marine Avenue the closest parallel streets to Aviation Boulevard are one mile to the west (Sepulveda Boulevard) and one mile to the east (Inglewood Avenue).

With assistance from Nelson\Nygaard, Vitality City staff has prepared a frequently asked questions (FAQ) document regarding the provisions of bike lanes on major streets like those in the study area. The FAQ document should be viewed as a companion document to this Preliminary Engineering Study Report, to provide additional background information about why bike lanes are desirable on Aviation Boulevard and Marine Drive.

1 EXISTING CONDITIONS

Nelson\Nygaard staff collected a significant amount of background data on Aviation Boulevard and Marine Avenue. This information includes planning reports, project plans for past construction projects, signal timing information, traffic counts, and crash data. In addition, Nelson\Nygaard staff spent two days on the project corridor in January 2012, measuring street and lane widths and other geometry, observing signal timing and operations, identifying parking supply and usage, and observing other factors that impact the feasibility and functionality of bicycle lanes on Aviation Boulevard and Marine Avenue.

LANE WIDTHS AND STREET GEOMETRY

The existing street and lane widths vary significantly throughout the corridor in order to accommodate varying traffic volumes, turning movements, and the presence or lack of on-street parking.

Aviation Boulevard – Pacific Coast Highway to Manhattan Beach Blvd

From PCH to Warfield Avenue (One block south of Manhattan Beach Boulevard), the curb-to-curb width is fairly consistent at 64 feet, with two through lanes in each direction. The width of the inside lanes and the center turn lanes are each typically 10 to 11 feet. The outside lane width varies significantly. It appears that there are several areas in this portion of the corridor where on-street parking was formerly allowed but currently is not, resulting in a very wide outside lane. In areas where parking is allowed, there are no markings delineating parking stalls or a parking lane, so when vehicles are not parked along the curb the effect is of a very wide outside lane. The lane configurations vary somewhat, primarily based on whether on street parking is present on none, one, or both sides of the road:

- Segments with no parking on either side typically have two through lanes in each direction, plus a center turn lane. Some of these segments have short raised medians. As discussed in the Design Alternatives chapter, bike lanes on these segments can be created by simply restriping the roadway with narrower travel lanes.
- Segments with parking on one side typically have two through lanes in each direction, plus a center turn lane. In order to add bike lanes on these segments, it will be necessary to remove the on-street parking, the center turn lane, or other travel lanes.
- Segments with parking on both sides typically have two through lanes in each direction with no center turn lane. Bike lanes can be added in these segments either by using minimum widths for all features or removing parking in areas where it is underutilized.

The block of Aviation Boulevard between Warfield Avenue and Manhattan Beach Boulevard varies in width from 64 feet at Warfield to 80 feet at Manhattan Beach Boulevard, as this is where the roadway transitions from a four lane road to a six lane road.

Aviation Boulevard – Manhattan Beach Boulevard to Rosecrans Avenue

Between Manhattan Beach Boulevard and Rosecrans Avenue, Aviation Boulevard has three through lanes in each direction, with right turn lanes at some intersections, and a painted median that transitions to become one or two left turn lanes at intersections and driveways. The curb-to-curb width varies from 78 feet to 101 feet at midblock locations; 84 feet and 87 feet are the predominant widths. The roadway is often wider (up to 111 feet) on intersection approaches to accommodate turn lanes. Lanes in this area are typically 10 or 11 feet wide.

Marine Avenue – Aviation Boulevard to Redondo Beach Avenue

Marine Avenue has a curb-to-curb width of 64 feet from Aviation Boulevard to the Redondo Beach Metro Green Line station, with two through lanes in each direction and a striped median or left turn lane. The travel lanes are typically 10 or 11 feet wide.

PARKING SUPPLY AND OCCUPANCY

In order to develop a preliminary design for a bicycle facility with minimal impact on the most valued parking areas, it is necessary to determine:

- How much parking is present throughout the corridor
- Where parking is located
- How heavily the parking is used
- To what degree the nearby land uses rely solely upon the on-street parking supply

While much of the corridor has off-street parking lot alternatives and the side roads have additional supply, the actual supply and occupancy of alternative parking was not observed in this study. It should be further noted that the occupancy observations here were not conducted during the peak season. It is recommended that a full parking study be conducted during the peak summer months.

Parking Inventory

In the southern portion— between PCH and Manhattan Beach Boulevard— there are dispersed pockets of on-street parking serving both residential and commercial uses. In the northern portion of the Aviation Boulevard corridor— between Manhattan Beach Boulevard and Rosecrans Avenue— on-street parking is fully prohibited and there is a vast amount of off-street parking. The parking supply was determined by measuring the length of the curb for the areas where parking was allowed. An average of 20 feet per parallel space is the default value used to calculate

on-street parking supply. Using this metric, a total of 126 existing on-street parking spaces were documented.

There are large portions of the corridor where parking is outright prohibited, in particular the area between Manhattan Beach Boulevard and Rosecrans Avenue. In the areas where parking is allowed, there are no paid parking locations. Much of the on-street parking in the corridor does not have explicit restrictions on its regular use. In the few areas where parking is restricted (but not prohibited), the regulations determining the appropriate use range from two hour to 15 minute time limits. The most common time restrictions allow either two hour or 90 minute visits. There were also time periods where parking is prohibited such as street cleaning restrictions in some locations not allowing parking between 12:00 pm and 2:00 pm on Mondays. There are also some time-restricted areas where parking is prohibited, for instance, between 6:00 and 7:00 pm on Fridays, or 6:00 am to 9:00 am on Thursdays.

Figure 1 Parking Inventory and Regulations Map

Parking Occupancy

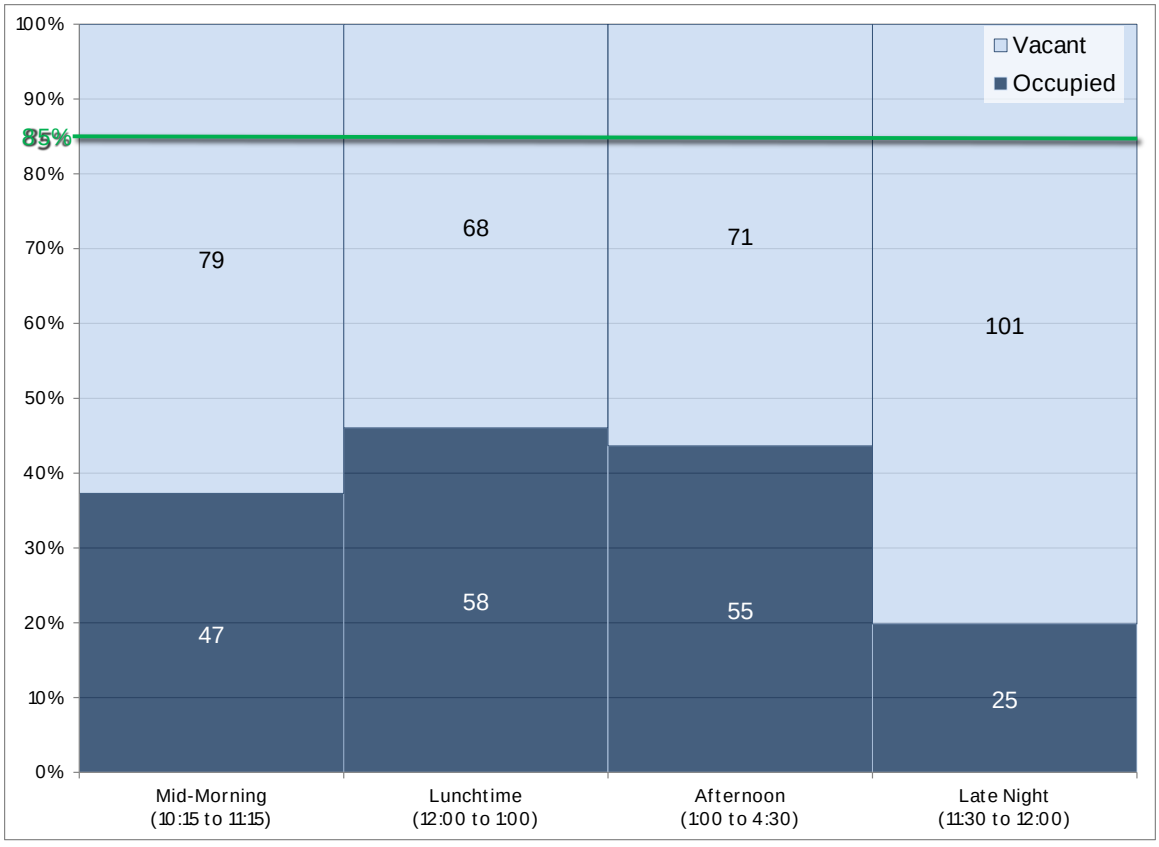
The utilization of parking in the corridor was observed during several time periods to document use in a variety of scenarios. The observations captured the following time periods:

- Mid-morning (10:15 am to 11:15 am) on Monday, February 6th;
- Lunchtime (Noon to 1 pm) on Wednesday, January 25th;
- Afternoon (1 pm to 4:30 pm) on Tuesday January 24th; and
- Late night (11:30 pm to midnight) on Tuesday, January 24th.

During these observation periods, a single sweep of the corridor was conducted and every vehicle parked on-street was counted. It may be beneficial to conduct a more thorough analysis of the parking supply and demand, including the off-street and side street supply, throughout the corridor during the peak season.

Evaluating by block face isolates parking in relationship to the land uses on the same side of the street, which is particularly important for wide streets with four or more lanes. As a general rule of thumb, ideal conditions are when on-street parking block faces are 85% occupied. At that point, the utilization of the spaces is maximized while still allowing for ease in finding a space. Anything above 85% will be perceived as an area lacking an adequate parking supply and anything significantly below 85% will be perceived as having an excessive vacant parking supply. In most commercial districts throughout the country, the heaviest use of parking, the peak demand, occurs around lunchtime and the lowest use, or least demand, occurs overnight when most customers and employees are at home. This proves true for Aviation Boulevard's on-street parking, which has 58 spaces (44%) occupied at lunchtime and only 25 spaces (20%) occupied overnight.

Figure 2 Aviation Boulevard On-Street Parking Utilization Profile



During the observations, 18 of the 21 block faces had no vehicles parked during at least one observation period. Two of the block faces between Ford Avenue and Ormond Lane / Grant Avenue account for the heaviest demand and the most concentrated supply. This block area has 25 spaces, constituting 20% of the corridor's supply. Demand here is high at all times of the day, ranging from 80% to 88% occupancy. This section is also the only section of Aviation Boulevard that is heavily parked late at night, with 21 of the 25 vehicles parked at night on the corridor parked in this area. It should be noted that the late night count occurred at about midnight, when the nearby bars were still open; it is likely that there would be fewer vehicles in this area throughout the night.

Parking Removal

Every effort has been made to minimize the impact on the on-street parking supply when considering the design of bicycle lanes in the study area. Nonetheless, in some places parking removal must be considered. As described below, in places where parking is considered essential for commercial viability and there are no good alternatives available off-street or on side streets, numerous design options are proposed with varying degrees of parking removal, ranging from complete removal to complete preservation of parking.

The Ford Avenue to Ormond Lane / Grant Avenue block area will not have any parking removed because this parking is considered absolutely essential to the neighborhood and businesses, and demand here already exceeds supply.

Assuming the preferred cross sections are selected for construction, the introduction of a bicycle facility on Aviation Boulevard will involve the removal of an estimated 36 parking spaces as shown in Figure 3. Areas where removal of parking is certainly recommended are described in more detail below. During the field observations, these areas recommended for parking removal only had a peak demand of 15 spaces[1] (as illustrated in Figure 4), which should be easy to absorb in the off-street parking lots or on the 30 intersecting streets.

Figure 3 Summary of On-Street Parking Spaces Considered for Removal

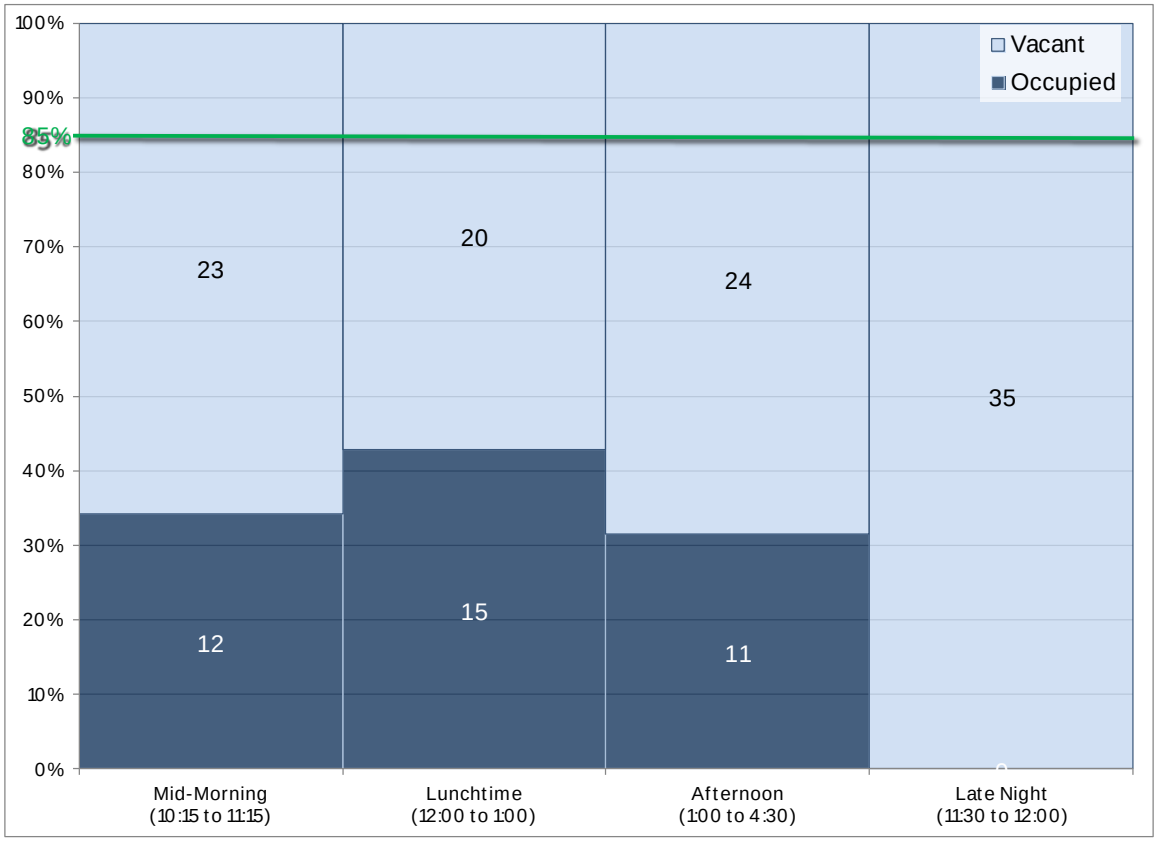
Street Segment	Spaces Recommended for Removal	Possible Additional Spaces for Removal	Intersecting Streets That May Provide Alternative Parking
Corona Street to Prospect Avenue	1	7*	3
Harper Avenue to Steinhart Ave	20	0	6
Ormond Lane to Carnegie Lane	6	0	5
Ruhland Avenue to Graham Avenue	9	0	10
Bataan Road (9th Street) to Warfield Avenue (11th Street)	0	9**	6
Total	**36**	**16**	**30**

*These spaces would only be removed if the 2nd alternative is used to provide additional storage length northbound on Aviation Boulevard at Prospect Avenue – see discussion in the Design Alternatives chapter on page 28.

**These spaces would only be removed if option 3 out of the four options is used for this street segment – see discussion in the Design Alternatives chapter on page 36.

[1] The Corona Street to Prospect Avenue section is not included because demand for the single space recommended for removal was not observed independently from the other spaces sharing its block face.

Figure 4 Parking Utilization Profile for Parking Considered for Removal[a]



[a] - The Corona Street to Prospect Avenue section is not included because demand for the single space recommended for removal was not observed independent of the other spaces sharing its block face.

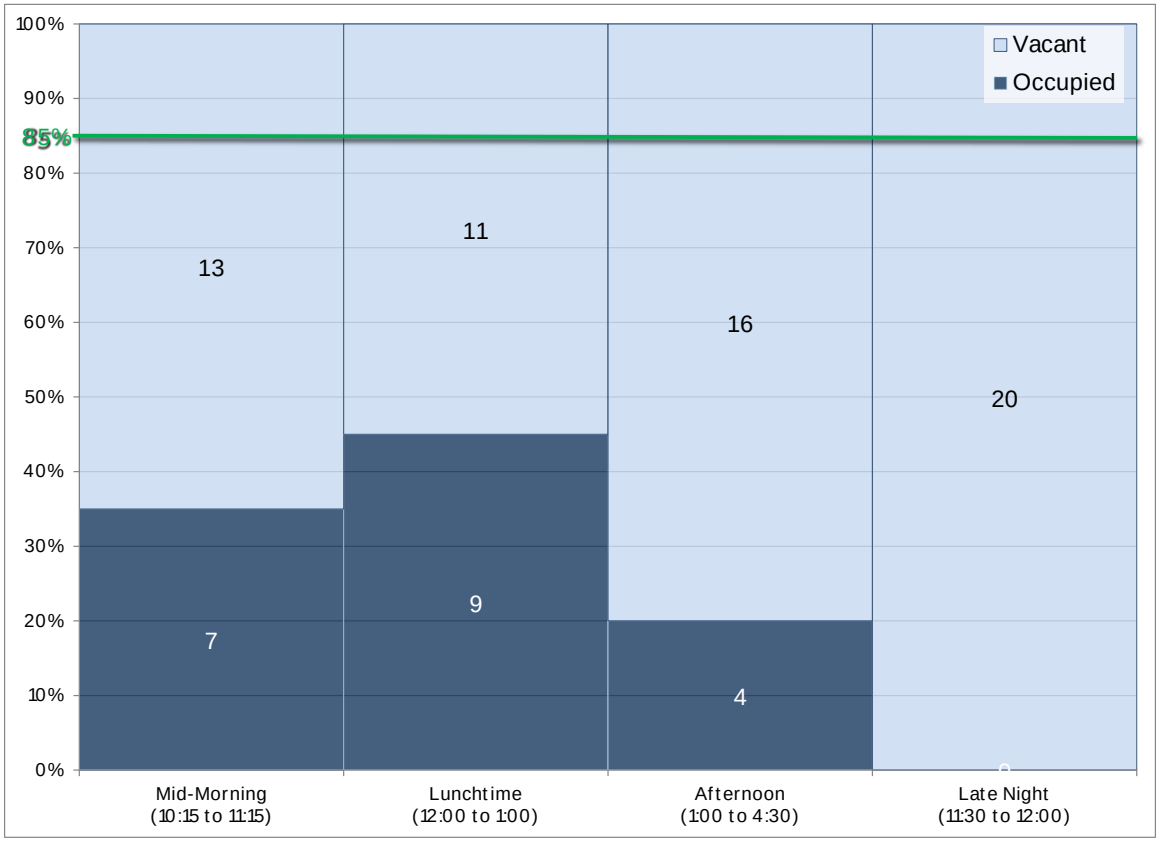
Areas Recommended for Parking Removal

The street segments below are recommended for removal of some or all of the existing parking. The city that controls each of these existing parking locations is shown in parentheses after the description of each segment. Each city might be well served by conducting public meetings to discuss potential parking removal prior to implementing any parking changes.

Harper Avenue to Steinhart Avenue (Redondo Beach)

There are 20 on-street spaces in this area that are not heavily used. In order to install the preferred bicycle facility, all 20 spaces will need to be removed. The businesses along this stretch generally have off-street parking options and in the case that a business does not have dedicated off-street parking, there is parking available on the 6 intersecting streets in this section. During the parking occupancy observation periods, the peak demand for parking was only 9 spaces, as can be seen in Figure 5 below.

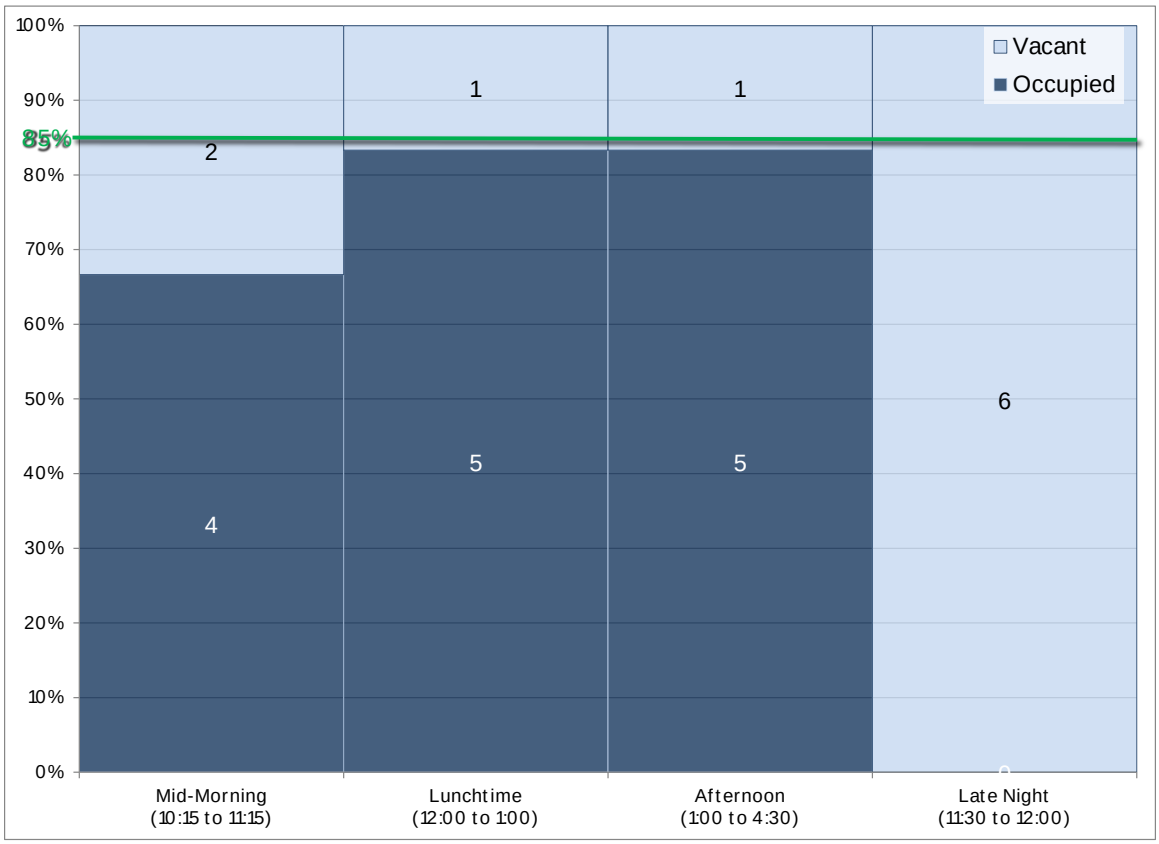
Figure 5 Harper Avenue to Steinhart Avenue: Parking Utilization Profile



Ormond Lane to Carnegie Lane (Redondo Beach)

There are 6 legal on-street parking spaces on the east side of the road in this segment (there is also parking occurring at some driveways that are unused due to a closed business, and some businesses are parking in front of their own driveways). Introducing the preferred bicycle facility design will require the removal of all 6 spaces in this section and enforcement of no-parking at driveways in this segment. There are 5 intersecting streets along this section. Additional side street parking could be accommodated by moving the parking on Rockefeller Lane from the south side to the north side, where there are significantly fewer driveways. Most businesses in the area have off-street parking and appear to be using the on-street parking for convenience. During the occupancy observations, this area did not have more than 5 vehicles parked at one time. Figure 6 provides a summary of parking utilization in this area.

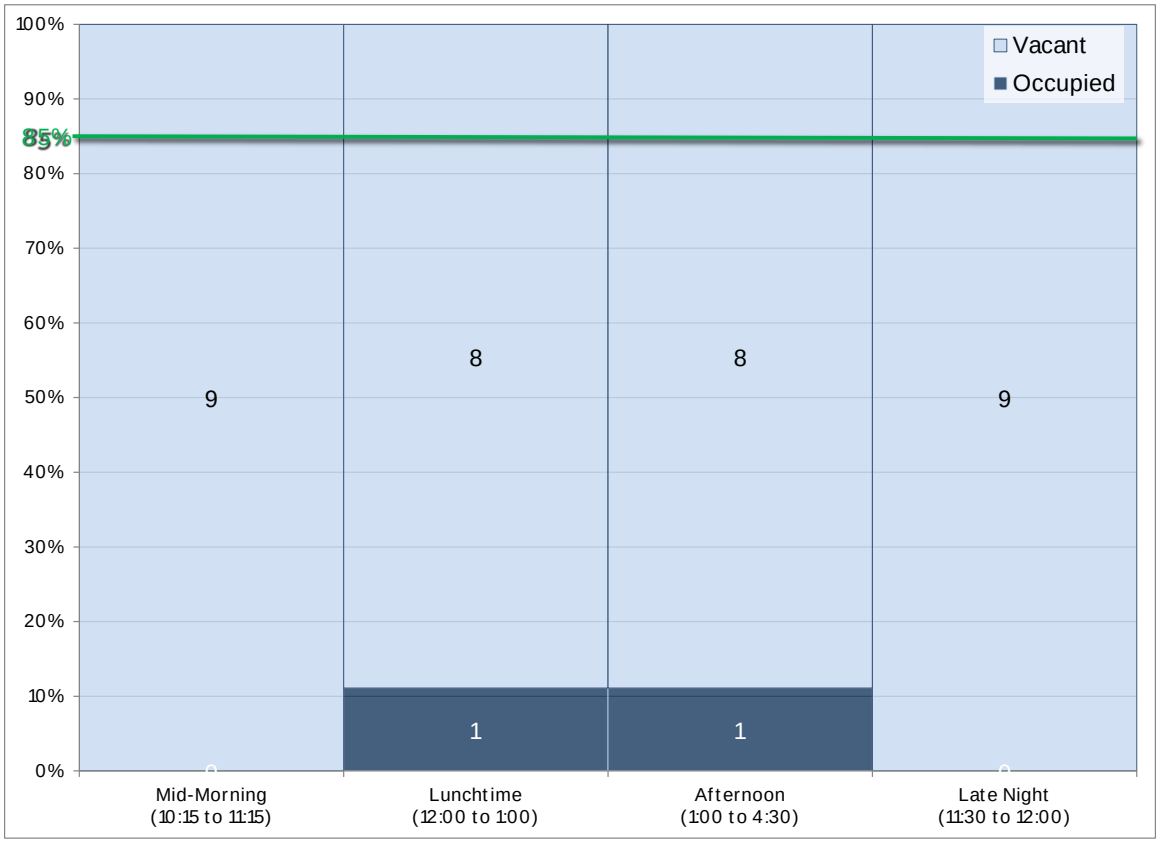
Figure 6 Ormond Lane to Carnegie Lane: Parking Utilization Profile



Ruhland Avenue to Graham Avenue (Manhattan Beach)

There are a total of 9 parking spaces in front of residences along this stretch. Adding a bicycle facility along this stretch would require the complete removal of all 9 spaces. Residents should be able to easily find parking on the 10 intersecting streets, which appear to have adequate parking availability. During the observation of parking occupancy, this area only had 1 vehicle parked. This area's parking utilization is shown in Figure 7 below.

Figure 7 Ruhland Avenue to Graham Avenue: Parking Utilization Profile



TRAFFIC SIGNALS

Nelson\Nygaard staff reviewed the signalized intersections on the project corridor to identify any signal timing elements or equipment that may need to be upgraded in order to enhance service for bicyclists. At many of the intersections, Aviation Boulevard and Marine Avenue are considered the major street, so the signals are set to recall to green along these streets, and there are no detection devices included.

Where Aviation Boulevard and Marine Avenue cross other high-volume streets, loop detectors are typically installed to detect traffic to put in a call for a green signal and to provide enhanced operations of the signals. Loop detector changes will need to be made to address the shifted lane configuration and to be able to adequately detect cyclists at these intersections. Video detection systems are in place at intersections where signal equipment has recently been upgraded, including the intersections of Aviation Boulevard with Marine Avenue and Rosecrans Avenue. The video detection systems will need to be recalibrated to detect vehicles in shifted lanes, as well as bicyclists in bike lanes.

In addition, the largest intersections are so wide that the minimum green time and yellow/all red clearance intervals are likely too short to provide enough time for bicyclists to clear the intersections.

Recommendations for signalized intersections improvements can be found in the Design Alternatives chapter of this document.

UTILITY CONFLICTS

For most of the project study area, bike lanes can be easily installed primarily through restriping, without any reconstruction. Thus the primary concern of the design is protecting cyclists from manhole covers, utility vaults, and drainage grates currently within the roadway surface. The road surface issues within the project corridor are as follows:

- Near Aubrey Park Court, there are two large sweeper inlets with grates in the gutter, one on each side of Aviation Boulevard. The grates on these two inlets have longitudinal openings. The openings are relatively narrow, and the drainage grates would be within parking lanes rather than marked bike lanes. However, when no or few vehicles are parked, bicyclists may choose to ride closer to the curb, so these grates should be replaced with ones that can be traversed by cyclists who inadvertently ride them.
- Manhole covers above grade on Aviation Boulevard southbound at Ocean Drive.
- On the west side of Aviation Boulevard, just south of Warfield Avenue, there is a drainage grate that extends out from the curb about three feet, and the original grate openings are aligned with the direction of travel on the roadway. The grate has been modified with metal straps welded onto the original grate in order to make the grate more bicycle friendly (see Figure 8). However, the openings and edges of this grate are still somewhat hazardous to bicyclists. When bike lanes are added to Aviation, this grate should be replaced with one that can be more easily traversed by cyclists who inadvertently ride over it.

Figure 8 Existing drainage grate on Aviation Boulevard at Warfield Avenue

- At the NE corner of the intersection of Aviation Boulevard and Marine Avenue, there is a metal vault cover in the roadway in the location of the proposed northbound bike lane. The cover is flush with the roadway, but should have a non-slip coating added to its surface to make the surface less slippery to cyclists when wet.

Between Bataan Road (9th Street) and Warfield Avenue (11th Street) one of the four options involves replacing the existing planter strip with a raised bike lane, which would require removing or relocating the following utilities:

- A small utility box just north Bataan Road.
- Two light poles
- One fire hydrant
- One power pole

Between Marine Avenue and 33rd Avenue, the existing curb-to-curb width of 78 feet (for about 750 feet of length) does not allow enough room for bicycle lanes to be added to the existing roadway. To provide bike lanes on this segment, the road will need to be widened, or a raised bike lane will need to be placed on the east side of the road. The following utilities will likely need to be relocated:

- A large utility box just north of the main driveway for the Fusion townhomes
- Four light poles
- Two fire hydrants
- One power pole (on the southeast corner of the intersection of Aviation Boulevard and 33rd Street)

MOTOR VEHICLE AND BICYCLE VOLUMES

Motor Vehicle Traffic

The traffic volumes in the study area are shown in Figure 9 and Figure 10.

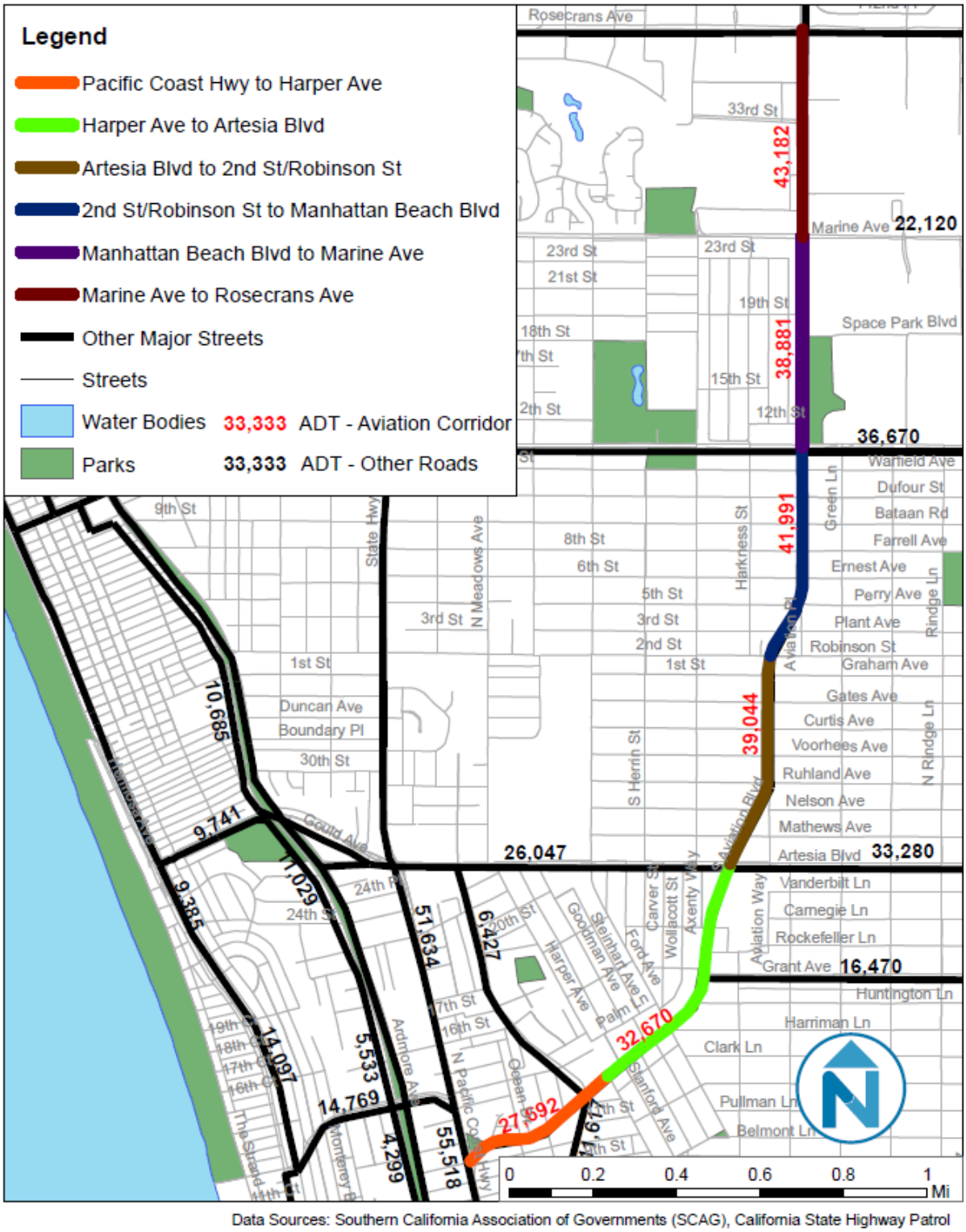
Aviation Boulevard serves as a major north-south connection for the beach cities, carrying a large volume of vehicles on the average day. Volumes vary from around 25,000 daily vehicles in the south to a little over 40,000 in the north. Data on the number or percent of trucks are not available. However, truck traffic was observed on the corridor during field visits, and the Engineering and Traffic Survey reports from the City of Manhattan Beach indicate a "moderate" volume of trucks. The posted speed limits on Aviation Boulevard are 35 mph from PCH to Artesia Boulevard and 40 mph from Artesia Boulevard to Rosecrans Avenue. Based on a review of the traffic speed data provided by the cities, the 50th percentile speed on Aviation Boulevard is consistently within 1 mph of the posted speed limit, and the 85th percentile speed on Aviation Boulevard is between 2 and 4.5 mph faster than the posted speed limit.

Motor vehicle volumes on Marine Avenue are about 22,000 vehicles per day in the study area, and the posted speed limit is 40 mph.

Figure 9 Aviation Boulevard Corridor Average Daily Traffic

- PCH to Harper – 27,692 (2005)
- Harper to Artesia – 32,670 (2007)
- Artesia to Robinson/2nd – 39,044 (2009) – 37,090 (2007)
- Robinson/2nd to Manhattan Beach Blvd – 41,991 (2009) – 40,120 (2007)
- Manhattan Beach to Marine – 38,881 (2009) - 36,370 (2007)
- Marine to Rosecrans – 43,182 (2009)
- Marine Avenue from Aviation to Redondo Beach Avenue – 22,120 (2009)

Figure 10 Map of Aviation Boulevard Corridor Average Daily Traffic

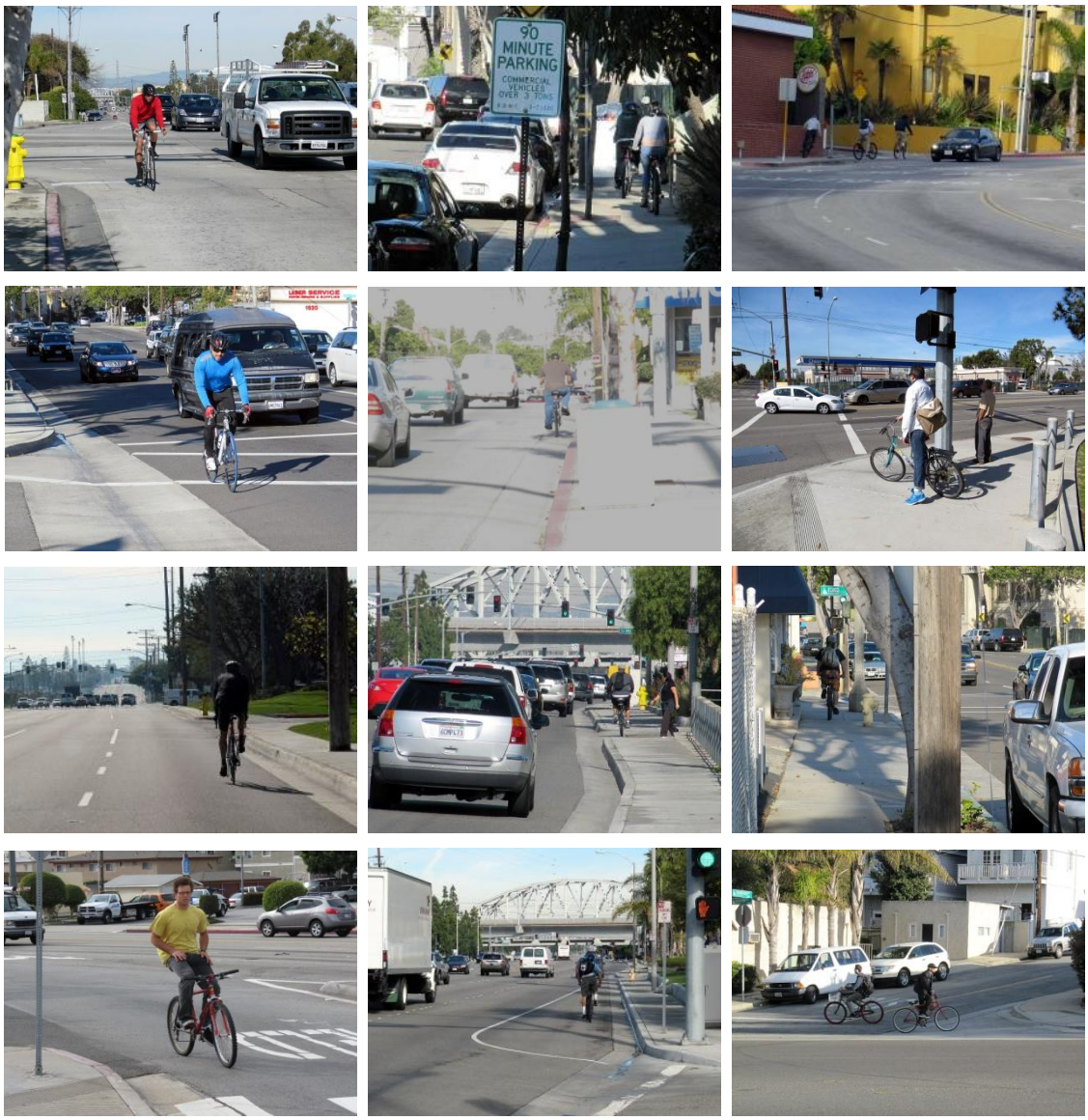


Data Sources: Southern California Association of Governments (SCAG), California State Highway Patrol

Bicycle Volumes

Unfortunately there are no known sources of bicycle volume data for the Aviation Boulevard corridor so there is no quantitative data to report. During the field visits, several dozen bicyclists were observed using the corridor, and most cyclists appeared to be on utilitarian rather than recreational trips. Given the vehicle traffic volumes and lack of formal bicycle facilities, there were a surprising number of bicyclists. Confident and experienced bicyclists were observed riding in travel lanes, operating in a vehicular manner with the flow of traffic. Other cyclists were observed riding on sidewalks or in the gutter, oftentimes against traffic. These behaviors are known to be unsafe and correctable at least in part by the installation of bicycle lanes.

Figure 11 Aviation Boulevard Bicyclists



CRASH DATA

Nelson\Nygaard staff obtained all available crash data from the Caltrans SWITRS database and also from the cities when available. Review of these data identified 16 crashes between bicyclists and motor vehicles and 13 crashes between pedestrians and motor vehicles along Aviation Boulevard. These crashes are mapped on Figure 12.

The following observations are based on a detailed review of the crashes between bicyclists and motor vehicles:

- Eight of the 16 bicycle crashes occurred when the bicyclists were riding against traffic, usually on the sidewalk. There were often other contributing factors including motorists failing to yield and bicyclists failing to yield. However, it is well-documented that riding against traffic is one of the most dangerous behaviors by bicyclists. Installation of bike lanes, including directional arrows as part of the bike lane markings, generally reduces the incidence of wrong-way riding. In this way, bicycle lanes on Aviation Boulevard can be viewed as a countermeasure to improve bicycle safety.
- At least 4 of the remaining crashes occurred when bicyclists were riding on the sidewalk with traffic. Statistics show that sidewalk riding is generally less safe than riding on the road, due to the fact that bicyclists are unexpected by motorists on sidewalks, especially when riding at any significant speed. Again, bike lanes on Aviation Boulevard may encourage bicyclists to travel on the roadway, thus serving as a countermeasure to reduce this type of crash.
- Three of the crashes occurred at night. All three of these crashes occurred at the north end of the corridor, between Marine Avenue and Rosecrans Avenue. This is the area where speeds are the highest, and lighting is probably more important than otherwise.
- Ten of the 16 bicycle crashes occurred in the areas of Redondo Beach and Hermosa Beach between Harper Avenue and Carnegie Lane. This is the area where the land use density and composition are likely to generate the most bicycle traffic.
- Several of the bicycle/vehicle and pedestrian/vehicle crashes were hit-and-run crashes.

The most important observation from the bicycle crash data is that 75% of the crashes involved sidewalk bicycling and/or wrong way bicycling, both behaviors that are usually reduced when bike lanes are installed.

Ten of the 13 pedestrian/vehicle crashes occurred in the areas of Redondo Beach and Hermosa Beach between Pacific Coast Highway and Grant Avenue. This is the area where the land use density and composition are likely to generate significant pedestrian activity, including pedestrian crossings. Most of these crashes occurred when pedestrians were crossing Aviation Boulevard.

Nelson\Nygaard staff briefly reviewed crashes between motor vehicles as well. There were several crashes that occurred between moving motor vehicles and parked vehicles. In addition, there were many crashes that involved left turn movements. These crash types may be reduced by the small amount of parking removal of parking and addition of left turn lanes as recommended in the design alternatives section. Where parking remains on the corridor, the proposed bike lane will act as a buffer between moving motor vehicles and parked vehicles, also likely reducing the incidence of crashes with parked vehicles.

Figure 12 Crashes involving Bicyclists and Pedestrians on Aviation Boulevard (2006-2010)

Data Sources: Southern California Association of Governments (SCAG), California State Highway Patrol

2 MEETINGS AND PUBLIC INVOLVEMENT

TECHNICAL STAFF MEETINGS

Kick-Off Meeting

The first meeting held for this project was a conference call on January 17, 2012 between representatives from Hermosa Beach, Manhattan Beach, Redondo Beach, Healthways, and the Nelson\Nygaard consultant team. This meeting was primarily concerned with the logistics involved in coordinating the data collection, communication, and meeting scheduling necessary for completion of this preliminary feasibility study and conceptual design.

Technical Staff Meeting

On January 25, 2012, following a day of field work, the consultant team, representatives from the communities, and Beach Cities Health District convened an internal technical meeting to discuss the findings from the previous day and issues observed during the field work and to identify any issues that may have been overlooked. The group discussed initial impressions and design concepts the team developed during field work. The upcoming public workshop and a meeting with Dan Burden were discussed to establish a strategy to maximize the value of the public input process.

Technical Staff Meeting with Dan Burden

A meeting was held with Dan Burden on February 6, 2012, two days prior to the public workshop to discuss the design proposals under consideration and to garner input from Mr. Burden on these designs. This also allowed the team to finalize the strategy for the upcoming public workshop.

PUBLIC WORKSHOP

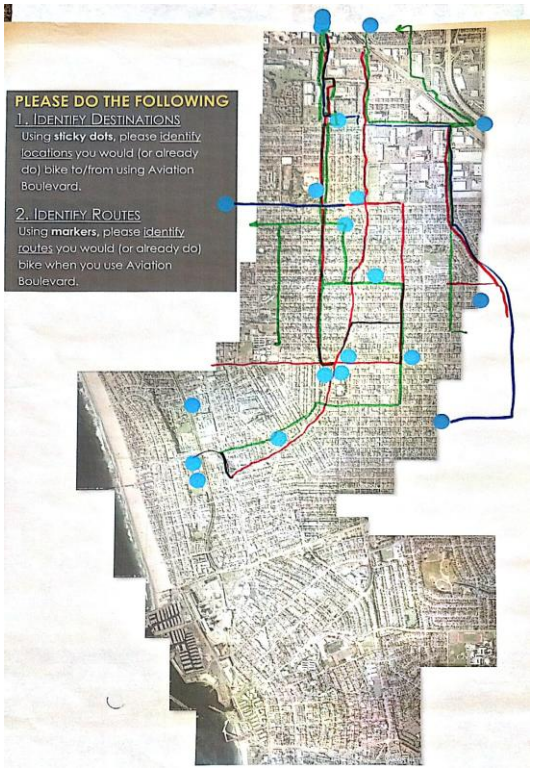
The preliminary designs were brought before the public at an interactive public workshop on February 8, 2012. This workshop was open to all interested parties and approximately 63 community members participated in an open discussion of ideas about bicycle facilities on Aviation Boulevard.

Origins/Destinations and Routes

As participants arrived at the workshop, they were asked to identify places they travel to along Aviation Boulevard, routes they travel, and to help identify ideas for traversing the hill west of PCH. While the destinations and origins of participants are spread across the corridor, the majority are north of Prospect Avenue. Only four of the origins / destinations are located directly on Aviation Boulevard.

Three north-south routes were identified, including Aviation Boulevard, although only one person identified the entire corridor as his route. Interestingly, the majority of the participants identified routes that run perpendicular to Aviation Boulevard, only interacting with the corridor to cross from one side to the other. Figure 13 provides a summary of routes designated by participants during the design workshop.

Figure 13 Origins/Destinations and Routes Exercise Map



Traversing the Pacific Coast Highway

Due to the abrupt elevation change just west of PCH, and the physical barrier of the highway itself, participants were asked to share how they would travel between Aviation Boulevard and points west of PCH. Figure 9 shows where participants indicated potential crossings locations of the PCH bluff.

Figure 14 Traversing Pacific Coast Highway Bluff

Prioritizing Concerns

After 30 minutes of informal interaction, the meeting kicked off with an introduction to the current study, followed by a presentation of the benefits of bicycle facilities, the preliminary design concepts, and the issues to be addressed. Before breaking out into smaller groups, participants were asked to share their key concerns, which were recorded on easel pads. The results were placed on the wall and all participants were invited to use sticky dots to vote for the issues they valued most.

Figure 15 Issues Prioritized According to Votes

1. Pacific Coast Highway and Aviation Boulevard intersection (12)
2. Transition from Prospect Avenue to Ocean Drive to Pacific Coast Highway (12)
3. Need for bicycle detection at signals (11)
4. Slow traffic (11)
5. Extension north to Imperial Boulevard (10)
6. Narrowing lanes (10)
7. Grant Avenue bike lane full connectivity (9)
8. Concerns with rush hour traffic and parking (9)

9. Bike safety and driver awareness at intersections (8)
10. Ocean Drive to Pacific Coast Highway is pushing cyclists onto a danger street (8)
11. Impact of increased traffic volumes (6)
12. East-west bicycle access route (6)
13. Manhattan Beach sections (5)
14. Roundabout at Prospect/Aviation intersection (4)
15. Access from feeder streets - Ruhland (2)
16. Left turns by cyclists (2)
17. Ralph's to Prospect (1)
18. Prospect to Ford & Rockefeller to Carnegie (1)
19. Above grade manhole covers at Ocean (1)
20. Redondo Avenue to Douglas (N-S alt) (1)
21. Power poles and other obstructions (0)

Interactive Group Discussions

The participants worked with others at their table to discuss ideas and/or concerns and note specifics on provided maps or note cards. At the end of this exercise, each table summarized the top 3 issues brought up during the discussion to be shared with the rest of the participants. These top issues were then brought before the entire workshop for closing discussions.

Many of the same issues were further discussed during the breakout sessions. The following are the top issues identified by each of the participant tables.

Figure 16 Top Concerns from Group Discussions

1. Parking occupancy needs to be observed during peak traffic hours and peak season (June)
2. Need to have safe connection from Grant Avenue to Pacific Coast Highway
3. Lack of southbound left-turn lanes at Ford Avenue cause unsafe backups
4. At rush hour, vehicles use the right-turn lane at Manhattan Beach Boulevard
5. Left-turns heading southbound on Aviation from Bataan, Farrell, and Ernest, near the curve are dangerous for bicyclists and lacking lighting
6. Create a connection from the Grant Avenue bicycle facility to the Aviation facility
7. Slow down traffic between Prospect and Pacific Coast Highway
8. Concerns over parking removal below Prospect
9. Consider terminating the bicycle facility at Prospect
10. Northbound left-turn from Aviation to 12th Street is dangerous, add a median
11. Add safe crossings between Manhattan Beach Boulevard and Artesia Boulevard
12. Add a sidewalk on the west side of Aviation north of 33rd Street
13. Better connection to bike lanes on Grant
14. Acquire vacant lot at the corner of Owosso Avenue and concert into public parking
15. Must connect Aviation facility to Pier Avenue and the strands
16. Business on the southeast corner of Aviation/Prospect has a lot but parks cars on street
17. Southbound vehicles using the right-turn lane at Manhattan Beach Boulevard to jump ahead of traffic
18. Need to restripe Marine Boulevard to connect the station bicycle facility to Aviation

CITY COMMISSION MEETINGS

Nelson\Nygaard staff presented the draft report to city commissions as follows:

- The Manhattan Beach Parking/Public Improvements Commission on February 23, 2012;
- The Redondo Beach Public Works Commission on February 23, 2012; and
- The Hermosa Beach Public Works Commission on March 21, 2012.

After the presentations, commission members asked questions and provided comments on the presentations. In addition, members of the public were able to make comments. Both positive and negative comments were received as discussed below

- Supportive comments noted the benefits of providing bike lanes on the corridor, including the potential health benefits of residents.
- Some of the negative comments were related to concerns about providing bike lanes on a high-volume, high-speed street. These comments have been addressed by the frequently asked questions (FAQ) document that has been produced by Vitality City.
- Many of the negative comments were related to potential parking removal, primarily associated with one of the options proposed for the segment between Bataan Road (9th Street) and Warfield Avenue (10th Street) on the border between Manhattan Beach and Redondo Beach. This same area generated several negative comments related to possible restrictions to left turn movements.

This final report takes the comments from the commission meetings into consideration, including the addition of two more options for the segment between Bataan Road (9th Street) and Warfield Avenue (10th Street)

3 DESIGN ALTERNATIVES

INTRODUCTION

Based on the evaluation of the existing conditions and all available data, the project team developed design alternatives for the provision of bicycle lanes on Aviation Boulevard (between Pacific Coast Highway and Rosecrans Avenue) and on Marine Avenue (between Aviation Boulevard and Redondo Beach Avenue). The analysis took into consideration the following:

- Minimizing reconstruction (i.e., moving curbs, drainage, etc.) by focusing the bike lane installation on restriping the existing street geometry including lane widths, roadway curvature, medians, etc.
- Safety for all users, including comfort and perceived safety. For all users, anything that discourages excessive vehicle speeds will improve safety. Other specific safety features considered are as follows:
  - For *bicyclists*, safety can be improved by encouraging cyclists to ride in the same direction as other traffic, and by providing physical separation from overtaking vehicular traffic.
  - *Pedestrians* will also benefit from the additional buffer from high-speed motor vehicle traffic provided by bike lanes.
  - For *motorists*, safety benefits of the project include travel lanes of appropriate width, more predictable bicyclist behavior, better delineation of space including separation from parked vehicles, and the presence of turn lanes wherever feasible.
- Maintaining motor vehicle capacity as much as possible: Some recommendations may have slight capacity reductions, but the design alternatives were carefully developed in order to minimize any impacts to capacity since Aviation Boulevard is an important regional connection.
- Wherever feasible, 6-foot bike lanes[2] are proposed, with a minimum width of 5 feet used in constrained locations. In some locations, buffered bike lanes[3] will achieve a higher level of comfort for bicyclists.
- Use variable travel lane widths[4] of 10, 11[5], or 12[6] feet to minimize any roadway widening or reconstruction.

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[2] Bike lane widths of 5 to 6 feet represent typical bike lane width and are an acceptable standard.

[3] On a high-volume and high-speed roadway with enough available space, more comfort can be provided to cyclists by providing buffered bike lanes, where there is a buffer between the general use travel lanes or the parallel parking and the bike lanes.

[4] Research has shown that lane widths of 10, 11, and 12 feet all have similar safety records, most recently in a study named "*Relationship of Lane Width to Safety for Urban and Suburban Arterials*" by Potts, Harwood, and Richard. In fact, the study indicates that 10 to 12 feet is the optimal lane width for safety; lanes narrower than 10 feet are less safe and lanes wider than 12 feet are less safe (much of this project corridor currently has outside lanes that are significantly wider than 12 feet. Additionally, the 2010 Highway Capacity Manual (HCM) now indicates that lane widths of 10-12 feet have the same capacity, a change from earlier versions of the HCM.

- As much as possible, maintain left turn lanes and propose new left turn lanes or center turn lanes[7] to improve safety and roadway capacity.
- Narrowed painted medians on long segments without cross streets or driveways, to allow for wider bike lanes or a buffer between the bike lane and the travel lane.
- Where possible, maintain existing raised medians to minimize the need for reconstruction unless necessary to provide sufficient width for bike lanes.
- Minimize removal of on-street parking to limit the negative impacts on businesses and residents and maintain the other benefits of on-street parking, including providing a buffer to pedestrians on the sidewalk and changing the character of the street.
- Where the design includes parallel parking adjacent to a bike lane with enough space, provide a door buffer between the bike lane and parked vehicles. The potential threat posed to cyclists from the opening of drivers' doors is a known concern with bike lanes in urban areas, but in constrained environments, bike lanes often must be placed directly adjacent to the parking lane. The fact that much of the corridor has relatively low parking occupancy and low parking turnover results in a safer situation than in many cities where this configuration is common.

The following discussion separates the corridor into three major roadway segments with similar conditions and function. Each of these segments is divided into shorter segments, so that the recommended design for each segment can be discussed with some specificity. For each segment of roadway, recommended cross sections are shown graphically with a discussion of the reconfiguration necessary to make each cross section feasible. All cross sections are shown with dimensions from west to east (or from north to south). For Aviation Boulevard, the cross sections are shown as if the corridor were being viewed starting at Pacific Coast Highway and heading north (or east) toward Rosecrans Avenue. For Marine Avenue, the cross sections are shown as if the corridor is being viewed starting at Aviation Boulevard and heading east toward Redondo Beach Avenue.

AVIATION BOULEVARD – PACIFIC COAST HIGHWAY TO MANHATTAN BEACH BOULEVARD

When considering bicycle lanes on this section of roadway, the predominate existing width of 64 feet allows for several options, depending on whether center turn lanes and parking are to be retained. As discussed above under parking supply and removal, there are a few portions of these two miles of roadway where existing parking is recommended to be removed. In order to install bicycle lanes and retain the center turn lane, there cannot be parking on either side of the roadway. Cross section 64-1, shown in Figure 17, illustrates the most common cross section that is recommended for this major segment of roadway.

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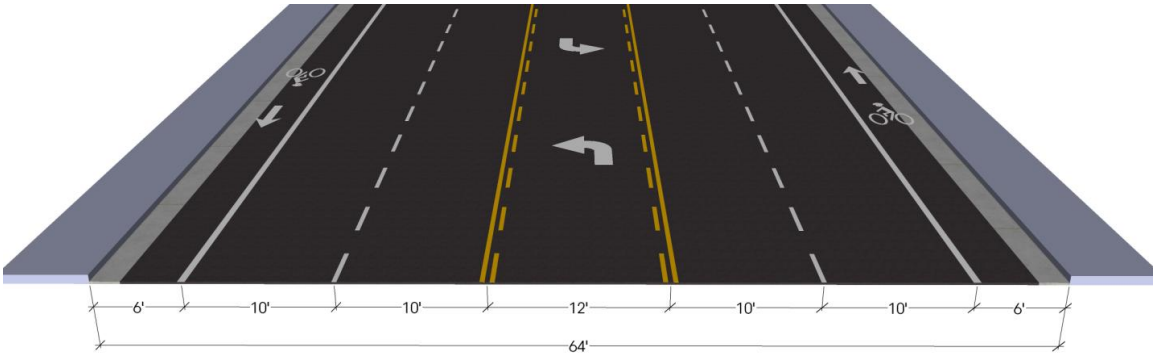
[5] City of Manhattan Beach staff has indicated a preference for 11-foot outside travel lanes to accommodate truck traffic wherever feasible, even if this results in a center turn lane that is 10 feet wide instead of the preferred width of 12 feet.

[6] City of Hawthorne staff has indicated that they want the outside lane to be 12 feet wide to accommodate truck traffic.

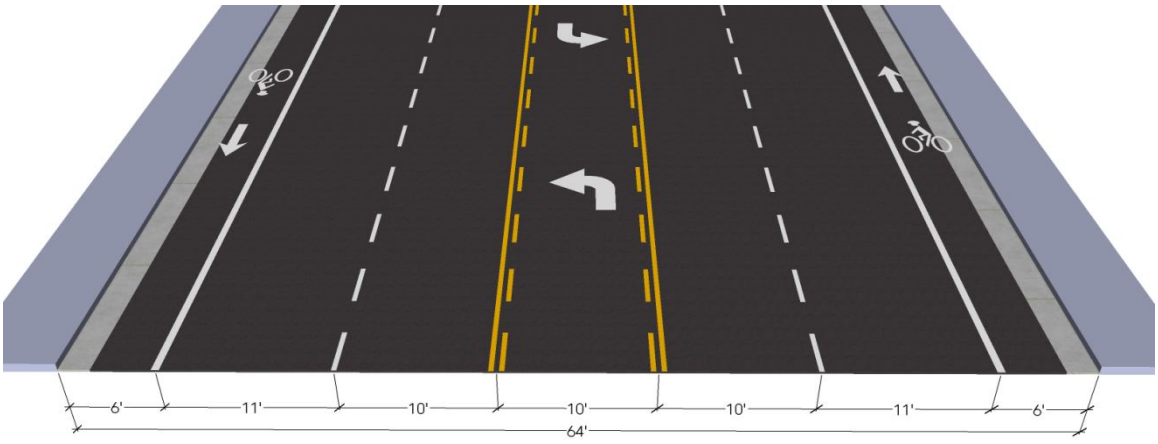
[7] In most cases, center turn lanes are designed to be 12 feet wide, which will allow for future installation of raised medians between intersections that transition to a 2-foot wide concrete traffic separator next to a 10-foot wide left turn lane on each intersection approach. Raised medians are recommended as a long-term enhancement to Aviation Boulevard (and Marine Avenue), since they provide significant safety benefits for all road users, and improve the streetscape and landscape. Center turn lane widths of 10 feet are used in constrained locations and to maintain 6-foot bike lanes and 11-foot outside travel lanes in some areas.

Figure 17 Cross section 64-1 – Most common cross section from PCH to Manhattan Beach Blvd.



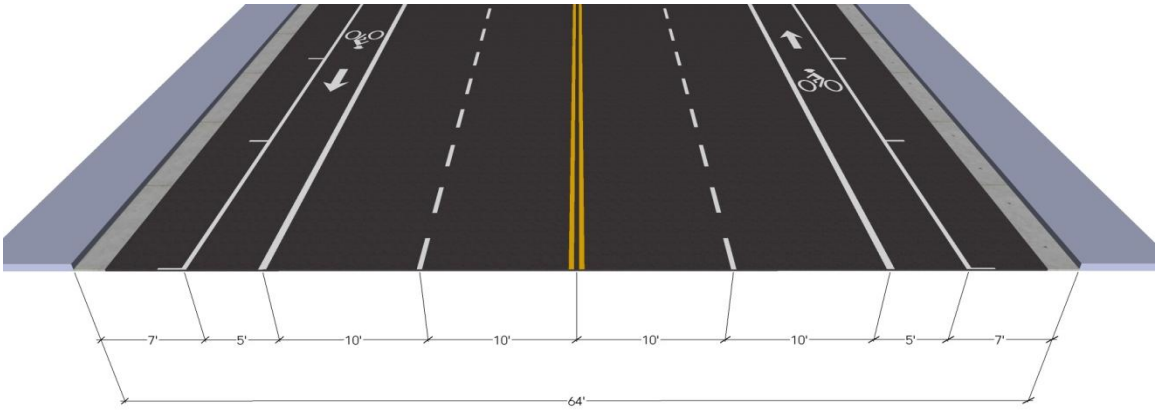
The City of Manhattan Beach staff has indicated that they would prefer a cross section with outside lanes of 11 feet and a center turn lane of 10 feet as shown in Cross section 64-1a. This would provide more room for trucks, and more space between motor vehicles in the outside lane and bicyclists. However, narrowing the center turn lane to 10 feet would not allow the installation of raised medians between intersections that transition to provide a 2-foot wide concrete traffic separator adjacent to a 10-foot wide left turn lane on each intersection approach. As the bicycle lane project on Aviation Boulevard is developed through the final design stages, the cities' staffs can choose one or both of these cross sections, or a variation on these cross sections, depending on their preferences for different segments of the corridor.

Figure 18 Cross section 64-1a – Alternative cross section from PCH to Manhattan Beach Blvd.



In areas where parking demand is moderate to high, it is recommended that parking remains on both sides of the roadway, without a center turn lane. Using the minimum dimensions for all features, it is possible to include 4 travel lanes, both bike lanes, and parking on both sides as shown in Cross section 64-2. This cross section is not ideal since these minimum dimensions result in a bike lane that is largely within the parking lane door opening zone, but this is the only feasible option in this area given the need to balance the various goals. Wherever parking remains in place, future consideration should be given to installation of curb extensions at intersections to offset and protect the on-street parking. This cross section is only proposed for use in within the cities of Hermosa Beach and Redondo Beach.

Figure 19 Cross section 64-2 – Areas with high parking demand – uses minimum dimensions



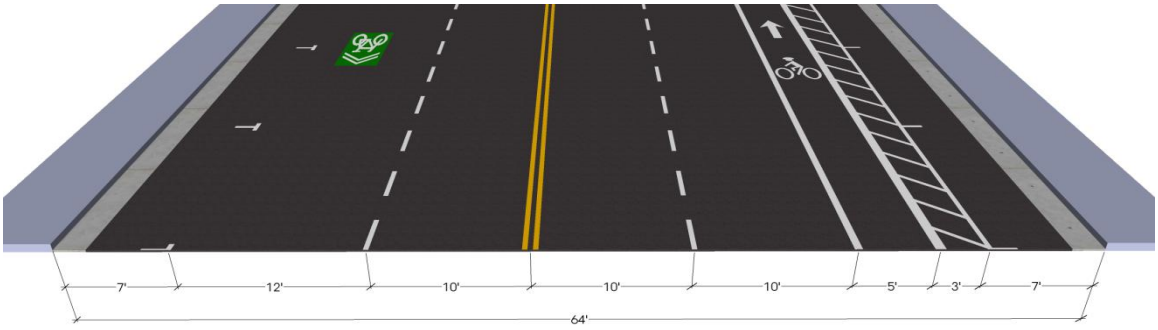
Additional cross sections are proposed for more specific segments of the roadway, as described below.

Pacific Coast Highway to Bonnie Brae Street

Parking in this area is moderately used, with heavy usage at specific locations during some times of the day. There are a few businesses (for example, a surf shop, a diner, and a nursery) that have little available off-street parking and might experience challenges if parking is removed. The recommended design for this area retains parking, but changes the configuration of the travel lanes. This segment of roadway is relatively steep, with a steady 6% grade, resulting in high bicycling speeds downhill and slow bicycling speeds uphill. With fast downhill speeds, Cross section 64-2 with minimum dimensions is not recommended. The recommended design is to eliminate the downhill bike lane and provide shared lane markings downhill, with a buffered bike lane uphill.

There are two configuration options for the remaining roadway space. First the roadway can be marked with two through lanes in each direction and no center turn lane as shown in Cross section 64-6a. For much of this corridor, the design will operate roughly as it does today. However, this design removes the left turn lanes at Ocean Drive, which will have a negative effect on vehicle capacity.

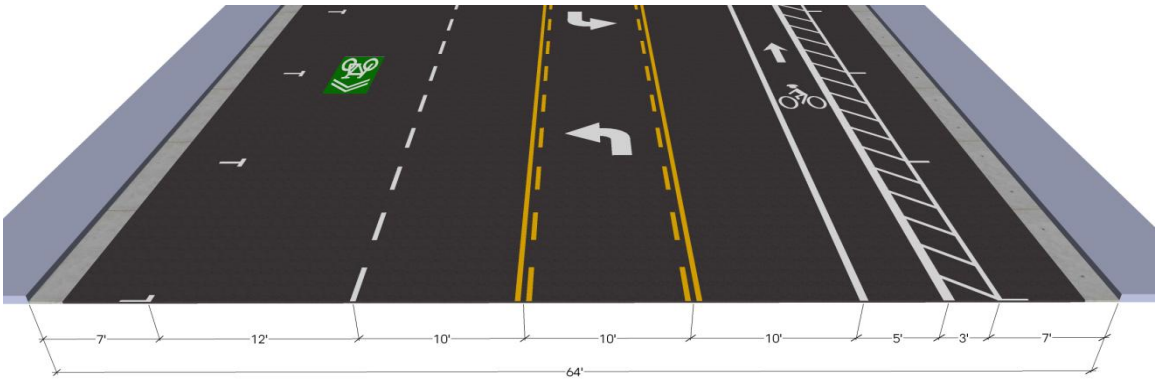
Figure 20 Cross section 64-6a – Shared lane markings downhill, buffered bike lane uphill, 4 lanes



A preferred alternative design is to remove one northbound through lane in this segment. Only one lane feeds Aviation Boulevard from PCH and two lanes are not necessary to serve the existing

traffic volume, except where signalized intersections take away too much of the green signal time for northbound traffic. At Ocean Drive, the signal timing appears provides significantly more green signal time to Aviation Boulevard than Ocean Drive; thus this intersection may operate favorably with only one northbound lane. The advantage of this option is that it provides a left turn lane for both directions, not just at Ocean Drive, but throughout the segment, which will likely improve safety for all users. Cross section 64-6 includes two southbound lanes with shared lane markings in the outside lane, a center turn lane and one northbound lane with a buffered bike lane.

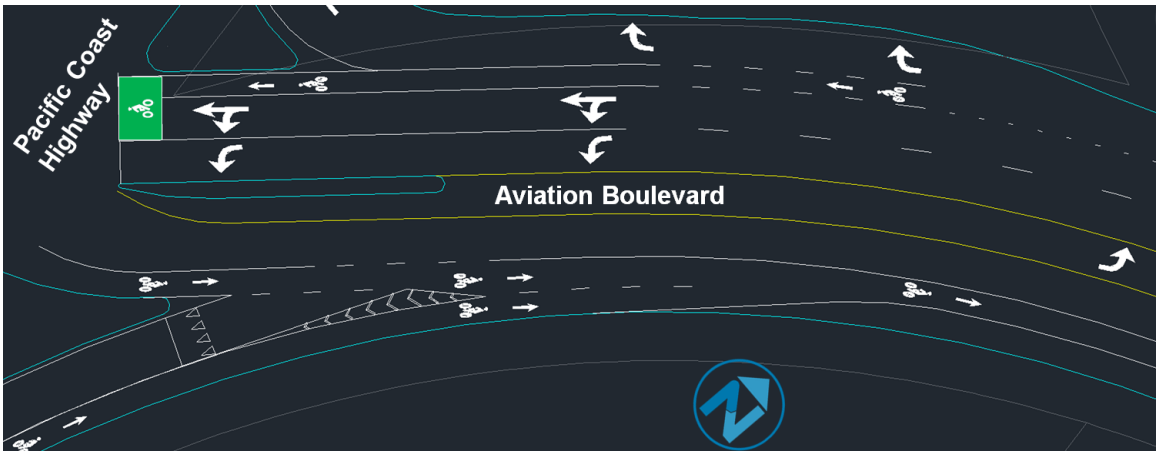
Figure 21 Cross section 64-6 – Preferred alternative – shared lane markings downhill, buffered bike lane uphill, two southbound travel lanes, one northbound travel lane



Traffic analysis at the intersection of Aviation Boulevard and Ocean Avenue should be performed in order to determine the effect on capacity and level of service, and to see which option operates most favorably. Cross section 64-6 is preferred due to its inclusion of a center turn lane to enhance safety. To provide more emphasis, the shared lane markings could be enhanced with a "super-sharrow" green treatment, similar to 2nd Street in the City of Long Beach (see Figure 37).

On the westbound (southbound) approach to the intersection with Pacific Coast Highway, Aviation Boulevard is wide enough to provide a short segment of bike lane at the signalized intersection. A bike box is also recommended to allow left-turning bicyclists to proceed ahead of vehicles in middle lane, which allows both through and left turns by motorists. Figure 22 shows this configuration.

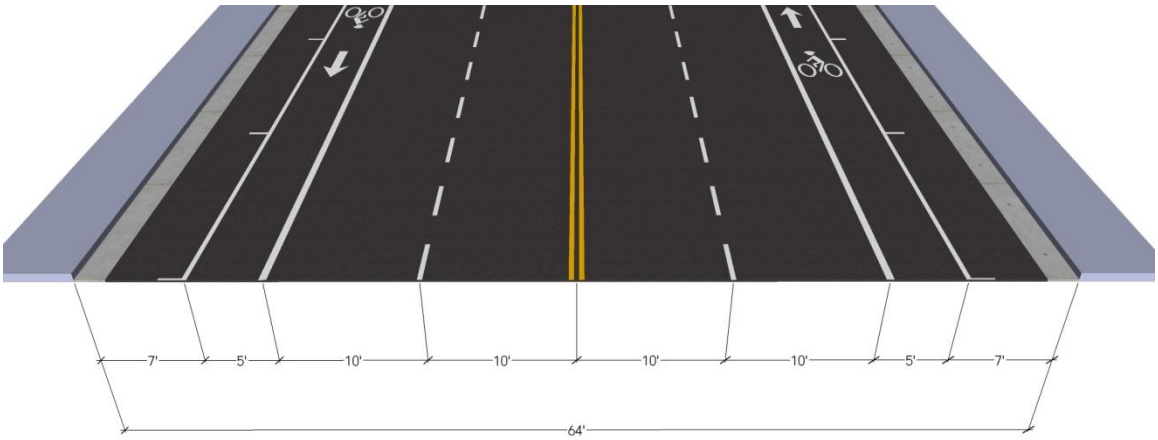
Figure 22 Plan view of Aviation Boulevard at PCH



Bonnie Brae Street to Prospect Avenue

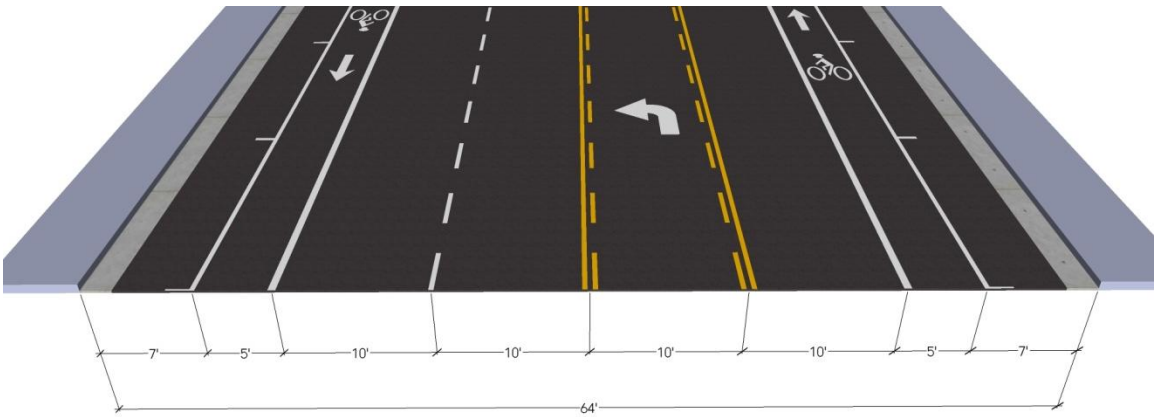
This segment is similar to the previous segment, although parking demand is lower and there is more off-street parking available. There are still several businesses that may struggle if parking is removed, so the recommended design for this segment retains the current on-street parking. The grades on this segment are only 2% to 3%, and Prospect Avenue is at the top of the hill, so cyclists will not have had much opportunity to build up significant speed. Therefore, a four-lane cross section with minimum dimensions is recommended. There are two options for the segment, and the chosen design should be coordinated with the previous segment. The first option is Cross section 64-2 with two lanes in each direction.

Figure 23 Cross section 64-2



The second option is similar, but has two southbound lanes and one northbound lane, with a center turn lane.

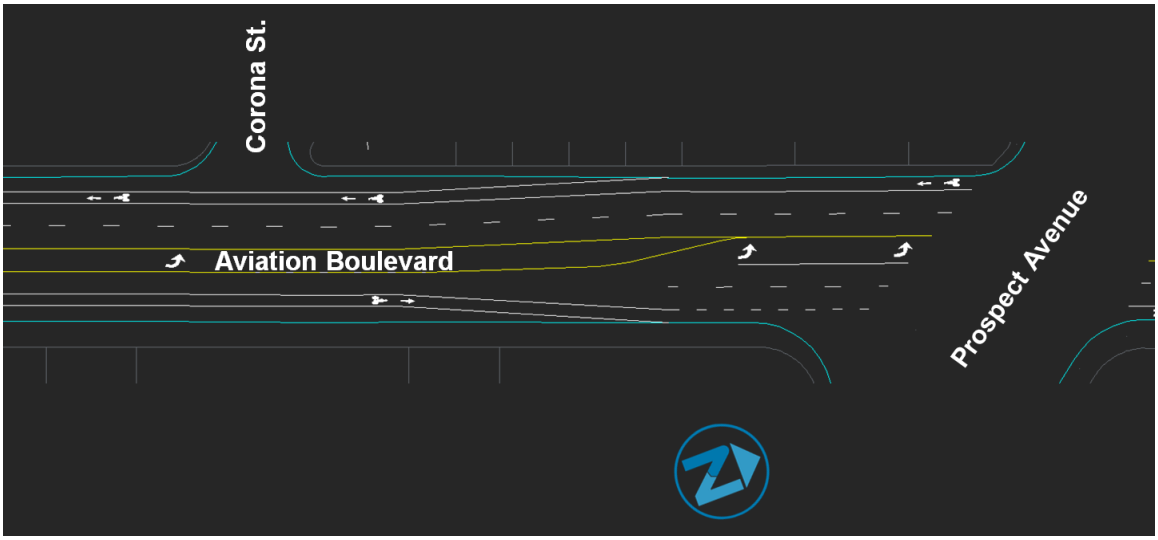
Figure 24 Cross section 64-2a – Preferred alternative with one travel lane northbound



The intersection of Aviation Boulevard and Prospect Avenue is a busy signalized intersection, so the presence of left turn lanes is critical and removing the second northbound lane will likely have a significant negative effect on delay. Therefore, the recommended design is to provide two northbound approach lanes by transitioning back to Cross section 64-1 at least 100 feet southwest

of the intersection as shown in Figure 25 below. This will require the removal of at least 1 parking space. This design with 1 parking space removed will result in relatively short storage lengths for the left turn lane and two through lanes northbound on Aviation Boulevard at Prospect Avenue. Once a traffic analysis is performed at this intersection, it may be found that longer storage lanes are desirable. All parking (a total of 8 spaces) can be removed on both sides between Corona Street and Prospect Avenue to provide longer storage lanes at the signalized intersection. The church parking lot at Corona Street may be a potential site for parking in this vicinity to make up for any loss of parking on the street.

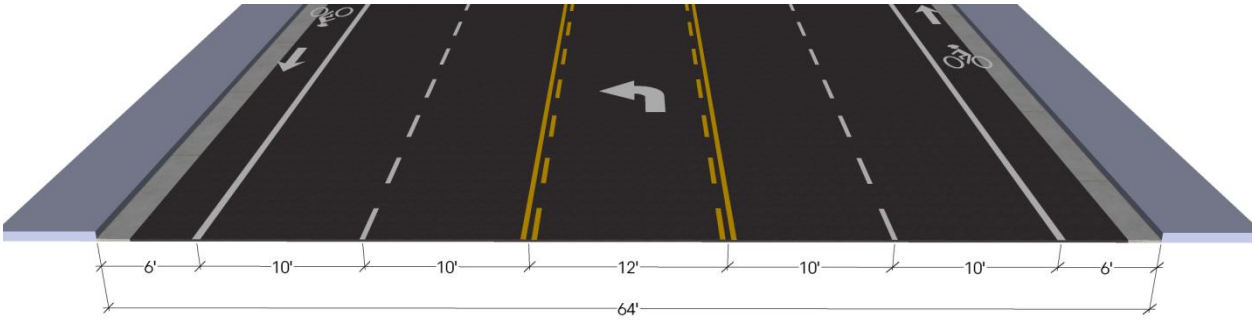
Figure 25 Plan view of preferred alternative at Aviation Boulevard at Prospect Avenue



Prospect Avenue to Steinhart Avenue

Parking is not heavily utilized in this area and businesses generally have off-street parking. Additionally, there is parking available on the cross streets. Removal of 20 parking spaces in this segment is recommended to provide room for Cross section 64-1. In addition to providing bike lanes on this segment, this cross section will allow for left turn lanes at two additional streets and several driveways, which should improve safety for all users.

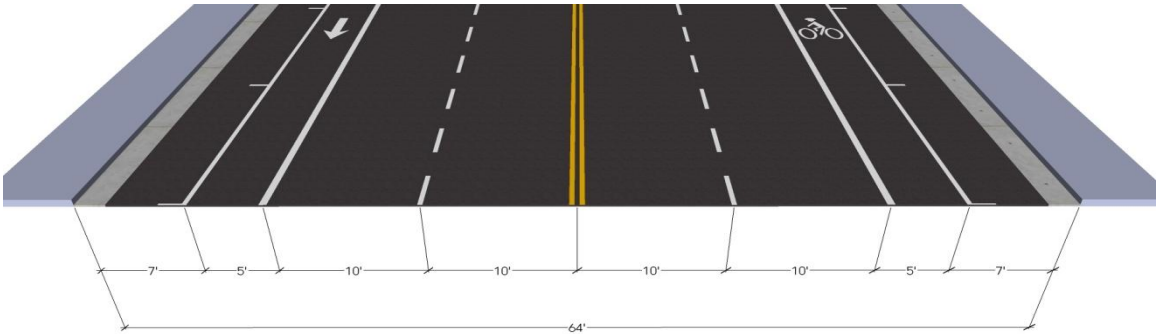
Figure 26 Cross section 64-1



Steinhart Ave to Ormond Lane

Parking on this segment is in high demand due to several businesses that have little or no off-street parking. This area has the highest consistent parking demand of any segment of the entire corridor. Cross section 64-2 retains the parking and is the best option for this segment. This area is relatively flat, and bicyclists approaching from the north will have just climbed a hill, so bicycling speeds are not anticipated to be high in the area; this helps mitigate the use of minimum dimensions at this location.

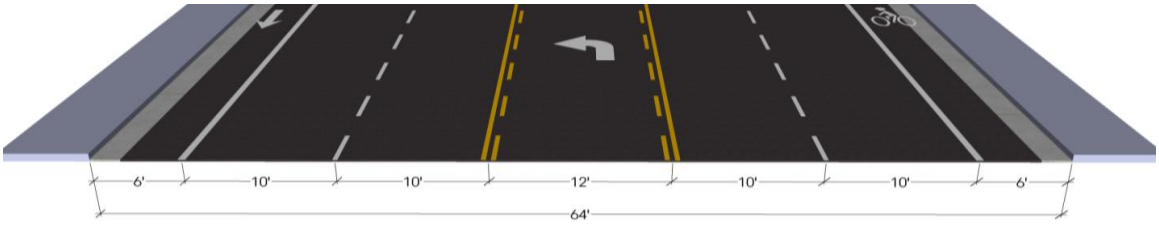
Figure 27 Cross section 64-2



Ormond Lane to Carnegie Lane

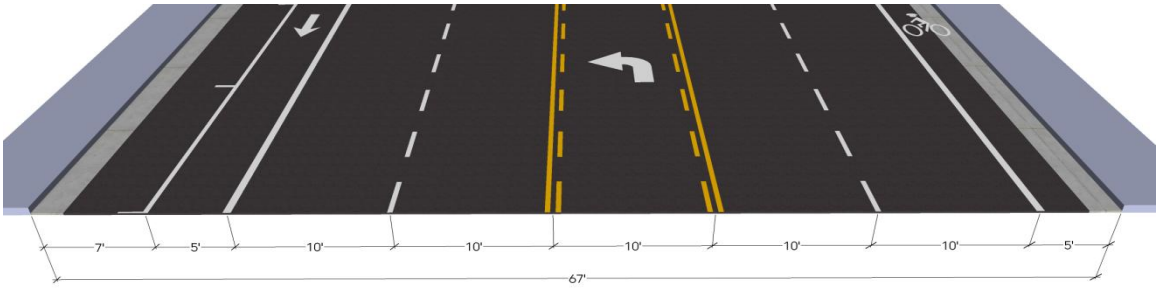
There are 6 legal parking spaces in this area and parking also occurs at some driveways. Most businesses in the area have off-street parking but appear to be using the street for convenience. There is also parking available nearby on side streets. The recommended design includes parking removal to enable the installation of Cross section 64-1.

Figure 28 Cross section 64-1



Immediately south of Carnegie Lane, there is a short segment of roadway that is 67 feet wide. At this location, the 2 existing parking spaces on the west side can be retained by narrowing the center turn lane to 10 feet and the bike lanes to 5 feet as shown in Cross section 67-1.

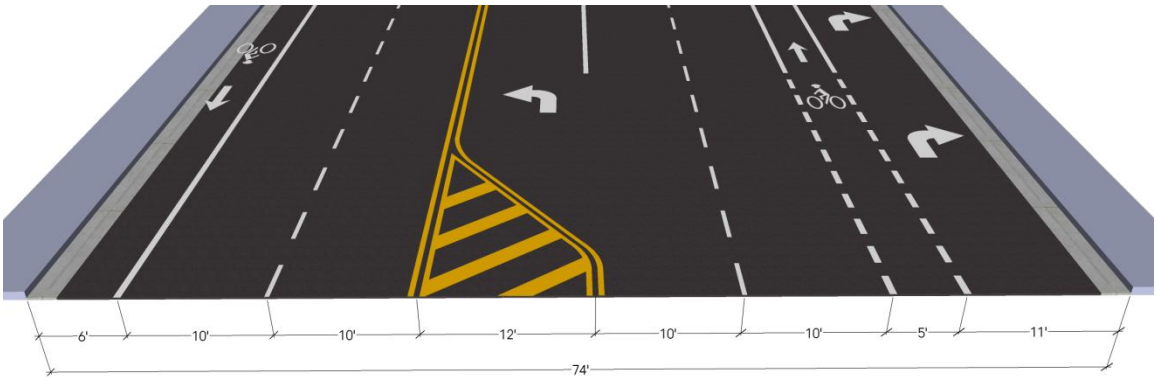
Figure 29 Cross section 67-1 – Retains two parking spaces in wide area south of Carnegie Lane



Carnegie Lane to Mathews Avenue

This segment can be easily restriped to include bike lanes with Cross section 64-1 or Cross section 64-1a. The Cities of Manhattan Beach and Redondo Beach have projects planned to add northbound and southbound right turn lanes on Aviation Boulevard at Artesia Boulevard. The project plans for the northbound right turn lane add 10 feet for the right turn lane, which will allow bike lanes to be marked as shown in Cross section 74-1. This cross section could also be adjusted slightly to narrow the left turn lane to 11 feet, in order to provide a 6-foot wide bike lane on both sides. As final plans for these projects are developed, designs should incorporate enough roadway width to provide 6-foot bike lanes along with travel lane widths as desired by each city.

Figure 30 Cross section 74-1 – Planned widening for a northbound right turn lane on Aviation Boulevard at Artesia Boulevard

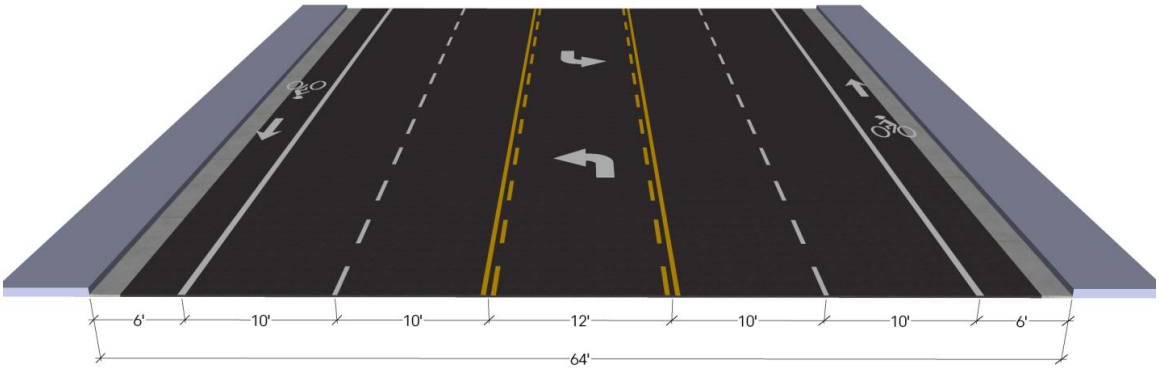


Mathews Avenue to Ruhland Avenue

This segment of Aviation has two existing 10-foot wide raised medians that are not placed in the center of the roadway, resulting in 25 feet on the west side and 29 feet on the east side. There are two options for this area:

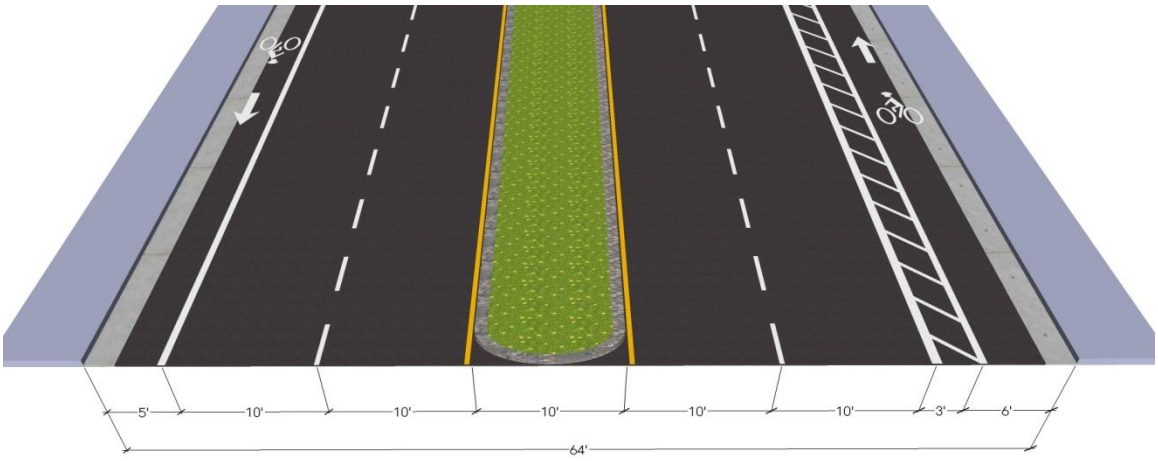
- *Preferred Option:* Use common Cross section 64-1 or 64-1a and remove and replace the medians.

Figure 31 Cross section 64-1



- *Alternative Option:* To eliminate the expense associated with median replacement by using minimum dimensions on the 25-foot side to achieve bike lanes without removing the existing raised medians. For the 29-foot width on the east side, the recommended design includes consistent travel lane widths of 10 feet, with a short section of buffered bike lane, improving the comfort and perceived safety for cyclists in this area, as shown in cross section 64-1b.

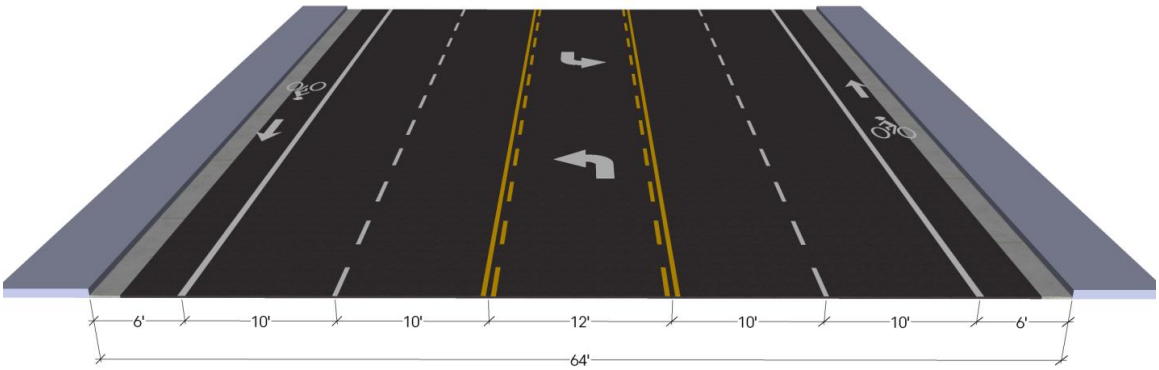
Figure 32 Cross section 64-1b – Non-preferred option for existing raised medians near Nelson Avenue



Ruhland Avenue to Graham Avenue

There are 9 parking spaces in front of residences in this segment. These spaces are rarely used, in part because residents have off-street parking areas in order to avoid parking on this busy street. The recommended design removes these parking spaces and uses common Cross section 64-1 or 64-1a. Residents can easily park around the corner on the intersecting streets, which have adequate parking availability. It is recommended that the city of Manhattan Beach conduct neighborhood meetings about this potential parking removal prior to implementing the project.

Figure 33 Cross section 64-1



Graham Avenue (1st Street) to Ernest Avenue (6th Street)

The recommended design includes Cross section 64-1 or Cross section 64-1a and removes the right turn lane at the small shopping center north of Robinson. Motorists can be encouraged to merge into the bike lane before turning into the apartment complex by using a dotted line for the bike lane on the approach to the driveway, similar to how bike lanes are dotted approaching intersections. Due to the fact that merging into the bike lane will not entirely remove right turning traffic from the travel lane, the City of Manhattan Beach may want to evaluate the traffic impacts of removing the dedicated right turn lane.

Ernest Ave (6th Street) to Bataan Road (9th Street)

This segment of Aviation Boulevard has two existing 10-foot wide raised medians that are not placed in the center of the roadway, resulting in 31 feet on west side of the medians, and 23 feet on east side. In order to install bike lanes, medians must be removed or replaced so that Cross section 64-1 or Cross section 64-1a can be used.

Bataan Road (9th Street) to Warfield Avenue (11th Street)

This segment has 14 parking spaces on the west side of Aviation Boulevard, which are used somewhat frequently. Businesses in this area would be negatively impacted by parking removal, especially close to Warfield, where the businesses front the street. These businesses have limited parking in the rear of the building. There are several options for providing bicycle facilities in this area, each with its own tradeoffs as described below. A matrix of the advantages and disadvantages of these options is included in Figure 41.

Option 1 – Raised bike lane in place of planter strip

Convert the planter strip on the east side of Aviation Boulevard to a raised bike lane. This can be accomplished by saw-cutting and grinding the existing curb to create a mountable curb, placing a new curb at the back of the raised bike lane, and back-filling the raised bike lane with asphalt or concrete (see section 64-3 in Figure 34). The mountable curb should have no more than a 1/4-inch lip at the gutter, sloping to about 1.5 inches at the back of curb. This has been done to create raised bike lanes in other places; an example is shown in Figure 35. The east side was selected because there is on-street parking on the west side, there are more utility conflicts on the west side, and a wide sidewalk is more important on the west side due to the presence of more businesses that likely attract pedestrian traffic.

As an alternative to this design, the road could simply be widened on the east side to create a normal bike lane. However, it would be more expensive to remove and replace the curb, and the raised bike lane helps provide a better buffer to the sidewalk, which would no longer have the buffer provided by the planter strip.

Figure 34 Cross section 64-3 – Raised bike lane on the east side

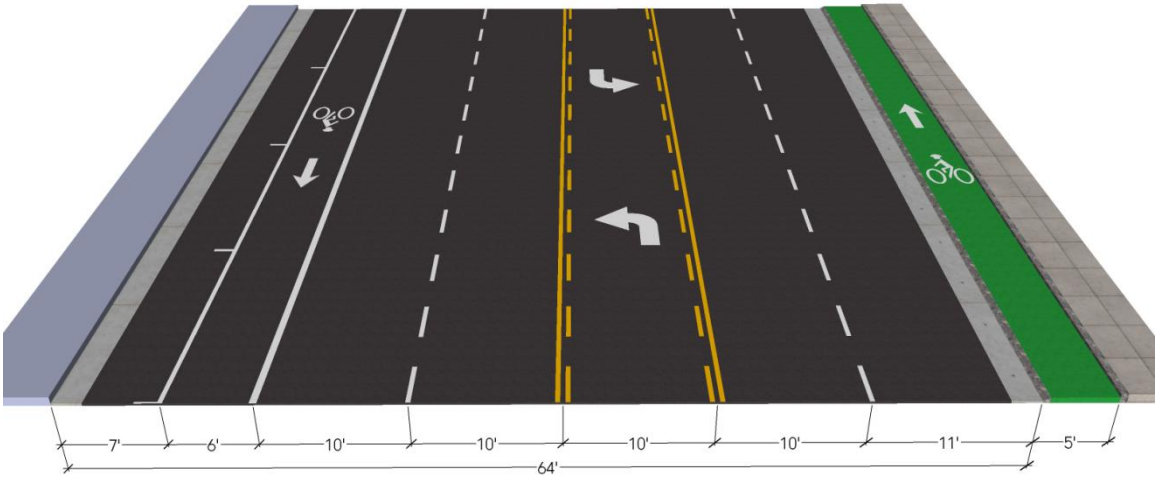
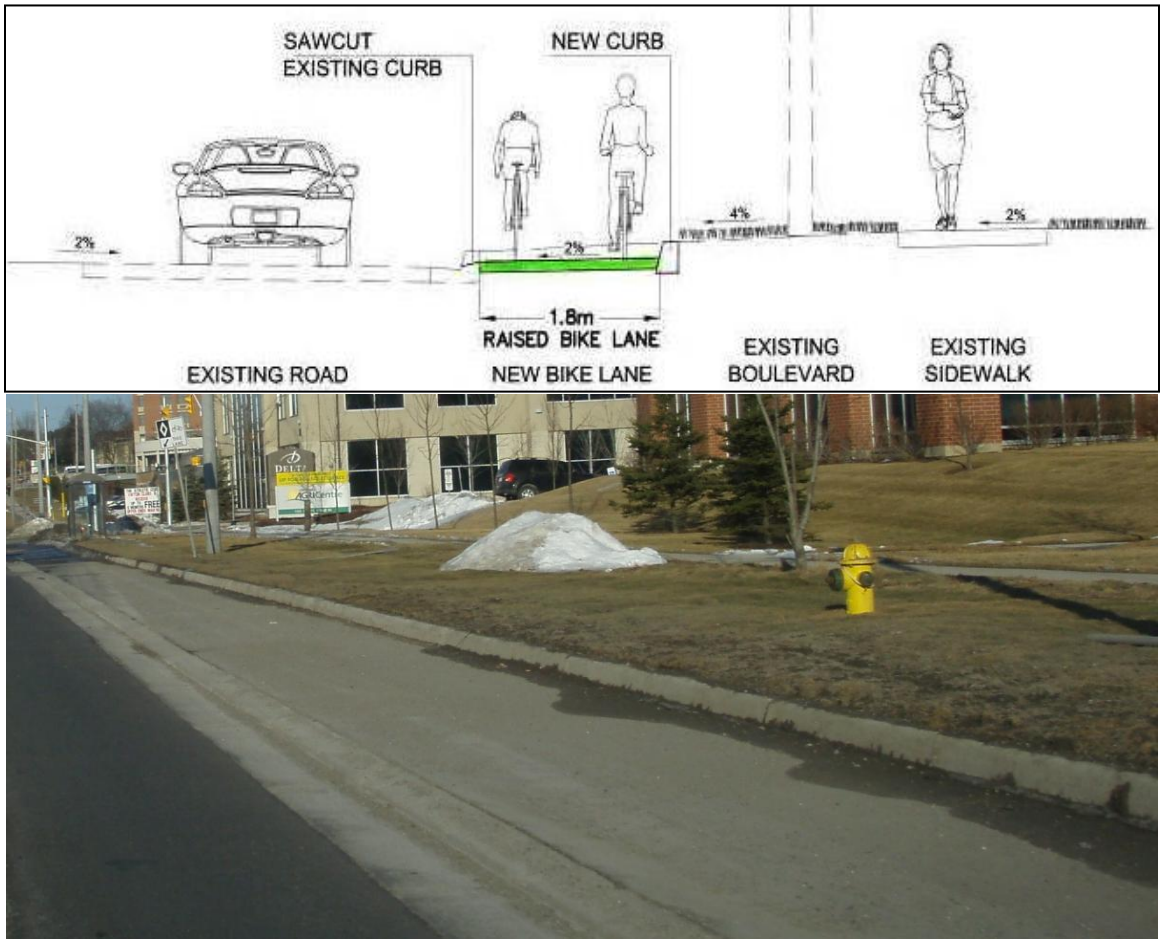


Figure 35 Raised bike lane in Guelph, Ontario, Canada created by saw-cutting the existing curb



Option 2 – Shared lane markings northbound

Because this area is so constrained, one option is to forgo a bike lane in one direction and instead use shared lane markings, as shown in Section 64-5 in Figure 36. The northbound direction is recommended because the road is slightly downhill northbound so cyclists will be traveling faster in that direction, and the traffic signal at Manhattan Beach Boulevard results in slower motor vehicle speeds in that direction as well. So the speed differential between motor vehicles and bicycles is likely to be lower here than in other segments, but there will still be a significant speed differential at times. In general, it is not ideal to have bike lanes that are missing for a short segment like this, but it is a technique that has been used by other cities in constrained locations. The City of Redondo Beach may want to consider using a "super-sharrow" treatment with green markings enhancing the shared lane marking, as has been used in Long Beach and Minneapolis, as shown in Figure 37.

Figure 36 Cross Section 64-5 - Shared lane markings northbound

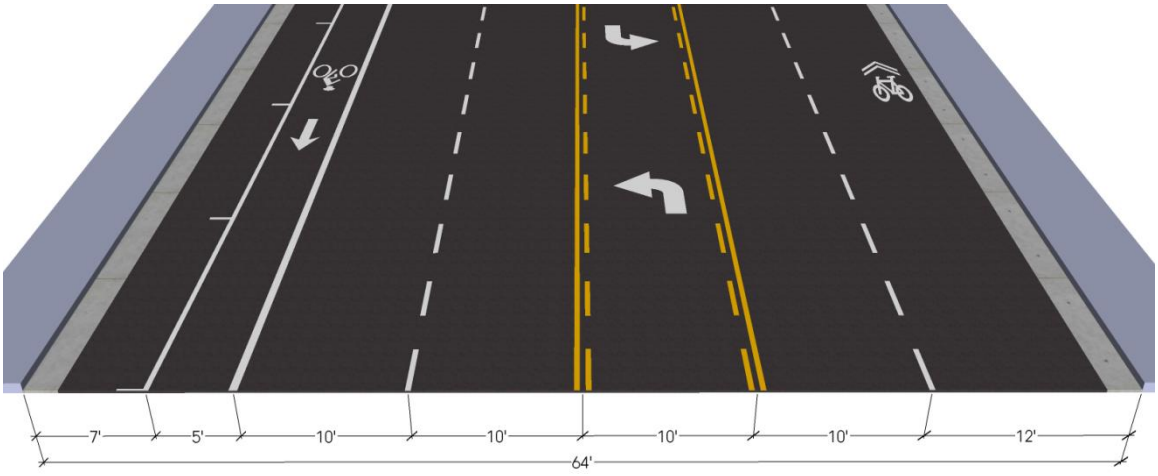


Figure 37 "Super-sharrow" green lane treatment

Option 3 – Removal of 9 parking spaces

Another option is to remove 9 of the 14 parking spaces in this segment, including the 7 parking spaces in the block between Bataan Road (9th Street) and Dufour Avenue (10th Street) and 2 spaces just north of Dufour Avenue (10th Street). The 5 spaces just south of Warfield Avenue (11th Street) directly in front of the businesses that front the street would be retained. This design would retain existing left turn movements at all streets and most of the left turn movements to private driveways (see matrix in Figure 41for more details). Common Cross section 64-1 or 64-1a would be used for this alternative, with a transition to Cross section 64-4 for northern half of the block between Dufour Avenue (10th Street) and Warfield Avenue (11th Street).

Figure 38 Cross Section 64-4 – Narrow raised median to retain parking on the west side of the street

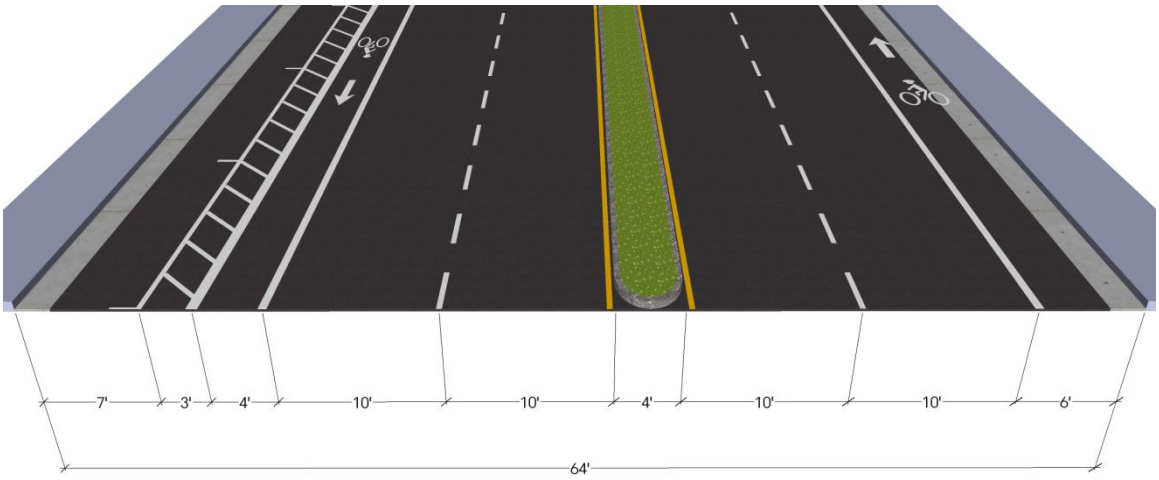
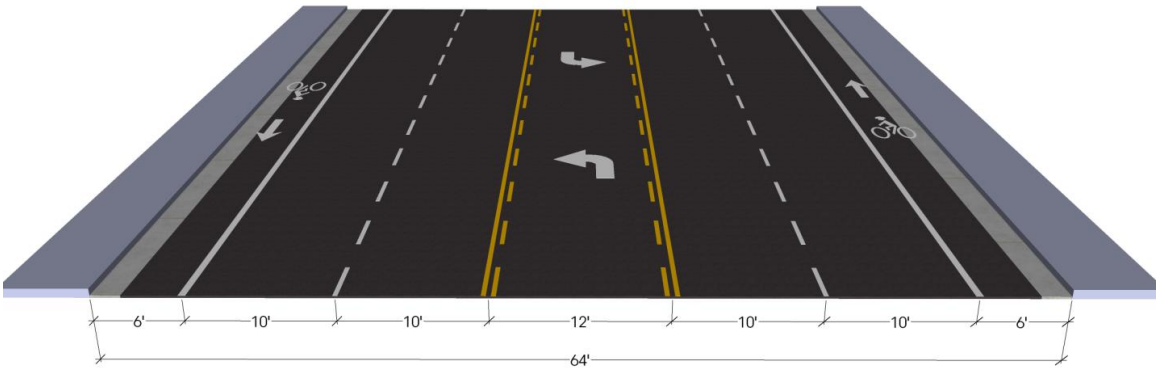


Figure 39 Cross section 64-1



Option 4 – Elimination of left turn movements

The final option for this segment involves eliminating left turn movements at Dufour Avenue (10th Street) and several private driveways in these two blocks. This would be accomplished by using Cross section 64-1 at Bataan Road (9th Street), and Cross section 64-4 from a point about 140 feet north of Bataan Road (9th Street) to Warfield Avenue (11th Street). This retains all 14 parking spaces in these two blocks, and allows all turning movements at Bataan Road (9th Street). The raised median can be opened to allow eastbound and westbound left turn movements at Dufour Avenue (10th Street), but northbound and southbound left turn movements would need to be prohibited at this intersection. In addition, the median would prevent left turn movements at private driveways for all of the block between Dufour Avenue (10th Street) and Warfield Avenue (11th Street), and most of the block between Bataan Road (9th Street) and Dufour Avenue (10th Street). This option is detailed in plan view in Figure 40.

Figure 40 Plan View for Option 4 between Bataan Road (9th Street) to Warfield Avenue (11th St.)

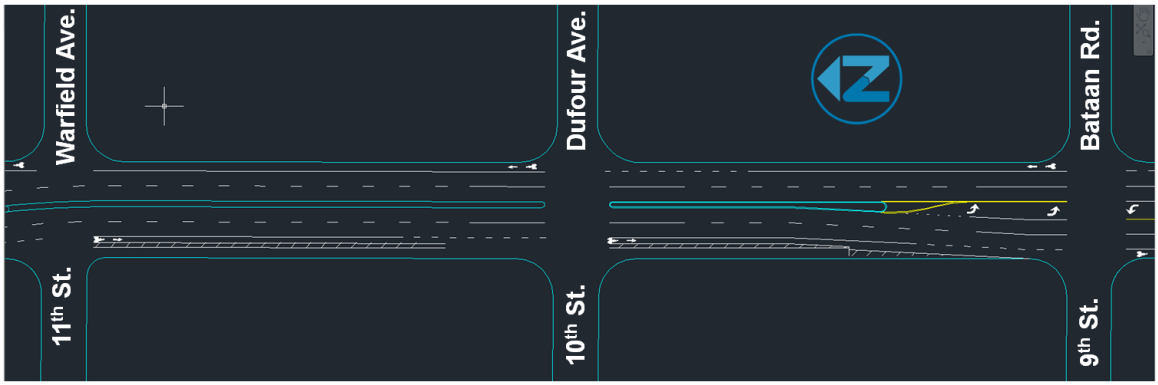


Figure 41 Matrix showing advantages and disadvantages of the four options between Bataan Road (9th Street) and Warfield Avenue (11th Street)

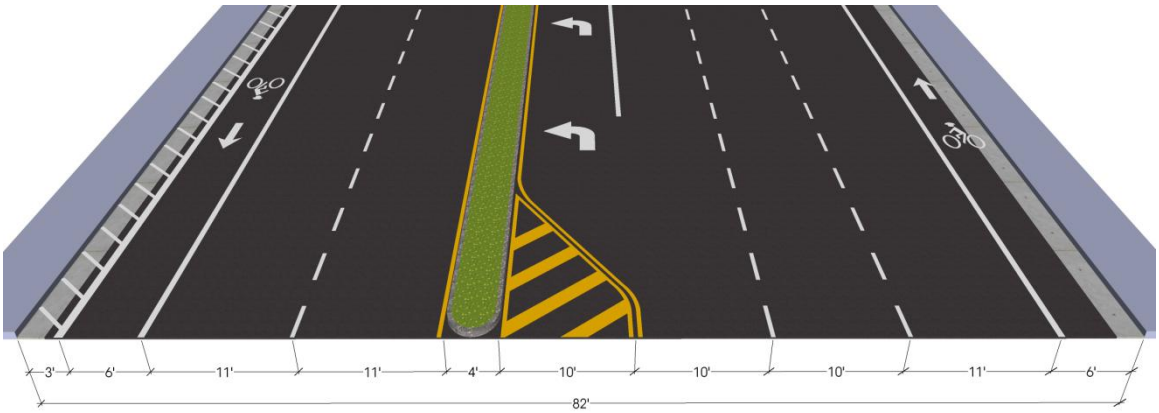
Option	Advantages	Disadvantages
Option 1: Raised bike lane in place of planter strip	▪ Provides bike lanes in both directions. ▪ Retains all parking and vehicle turning movements in this segment.	▪ Removes the existing planter strip for the east sidewalk. ▪ Requires the removal of approximately 12 trees in the planter strip. ▪ Requires relocation of several utilities from the existing planter strip (2 light poles, 1 utility box, 1 power pole, and 1 fire hydrant). ▪ More expensive than other options.
Option 2: Shared lane markings northbound	▪ Retains all parking and vehicle turning movements in this segment. ▪ Least expensive of the four options.	▪ Does not include a bike lane in the northbound direction.
Option 3: Removal of 9 parking spaces	▪ Provides bike lanes in both directions. ▪ Retains vehicle turning movements at all streets and most driveways, including the driveways for businesses on the southern half of the block between 10th Street and 11th Street.	▪ Would likely require removal of left turn movements into the driveways for the buildings (on both sides of the road) on the northern half of the block between Dufour Avenue (10th Street) and Warfield Avenue (11th Street).
Option 4: Elimination of left turn movements	▪ Provides bike lanes in both directions. ▪ Retains all parking in this segment of roadway	▪ Eliminates northbound left turn movements to 10th Street and southbound left turn movements to Dufour Avenue ▪ Eliminates all left turn movements to most driveways between Bataan Road (9th Street) and Warfield Avenue (11th Street).

As indicated in the matrix above, all of these options have both advantages and disadvantages. The Cities of Redondo Beach and Manhattan Beach would likely need to conduct public processes to make a final decision to move forward with one of the four options for final design. At commission meetings about the project, there was strong public opposition to potential elimination of left turn movements and on-street parking as indicated for options 3 and 4. These issues are significant issues for some members of the public, and must be weighed against the tradeoffs for all four options during the decision-making process.

Warfield Avenue (11th St.) to Manhattan Beach Blvd.

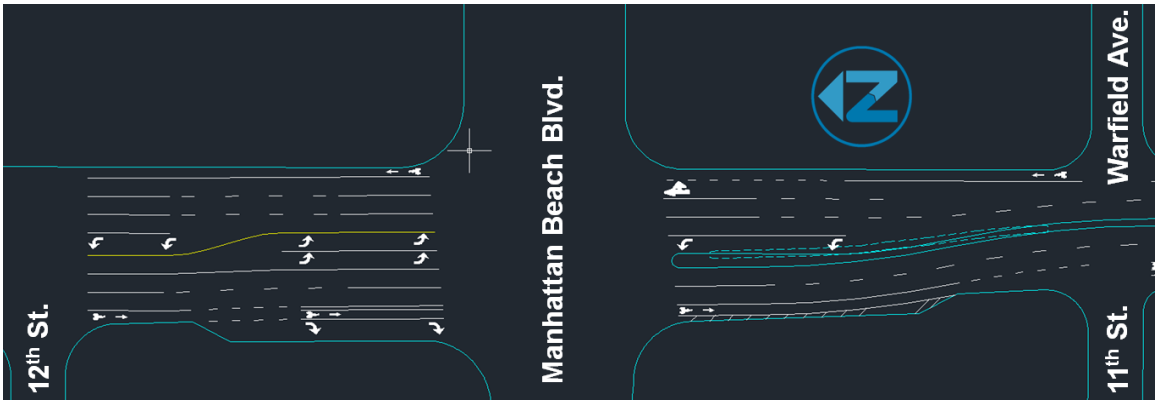
The existing width of this segment is 82 feet just south of Manhattan Beach Boulevard, with a 4-foot wide raised concrete median, 34 feet west of the median and 44 feet east of the median. This can be restriped to add bike lanes but the 4-foot wide concrete median will need to be relocated slightly, as shown in Cross section 82-1.

Figure 42 Cross section 82-1 – South leg of intersection of Aviation Blvd. and Man. Beach Blvd.



Cross section 82-1 will transition to Cross section 64-4 at Warfield Avenue (11th Street) with a set of reversing curves designed with a 550-foot radius for the 40 mph posted speed. A plan view of this design is shown in Figure 43. This proposed design retains all of the existing travel lanes and improves vehicular capacity by providing slightly longer storage lengths for the left turn lane and right-most through lane on the northbound approach to Manhattan Beach Boulevard. The design of the median island at the intersection may need to be adjusted slightly during final design, once the appropriate truck turning templates have been applied to the design.

Figure 43 Plan View of Warfield Avenue (11th Street) to 12th Street



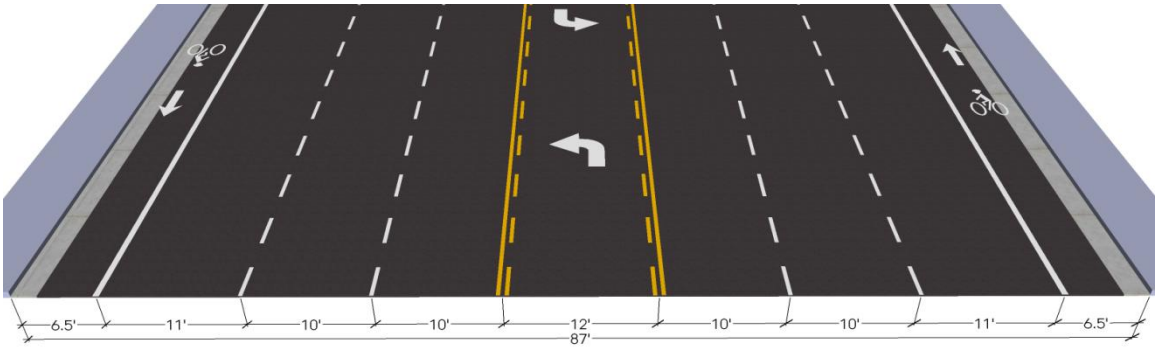
AVIATION BOULEVARD – MANHATTAN BEACH BOULEVARD TO ROSECRANS AVENUE

This one mile long segment generally has three through lanes in each direction with widths varying from 78 feet to 111 feet. With one exception discussed in more detail below, bicycle lanes can be added here by restriping the existing lanes, including narrowing travel lanes, and reconfiguring left and right turn lanes. Detailed recommendations for each sub-segment are described below.

Manhattan Beach Boulevard to Space Park Drive

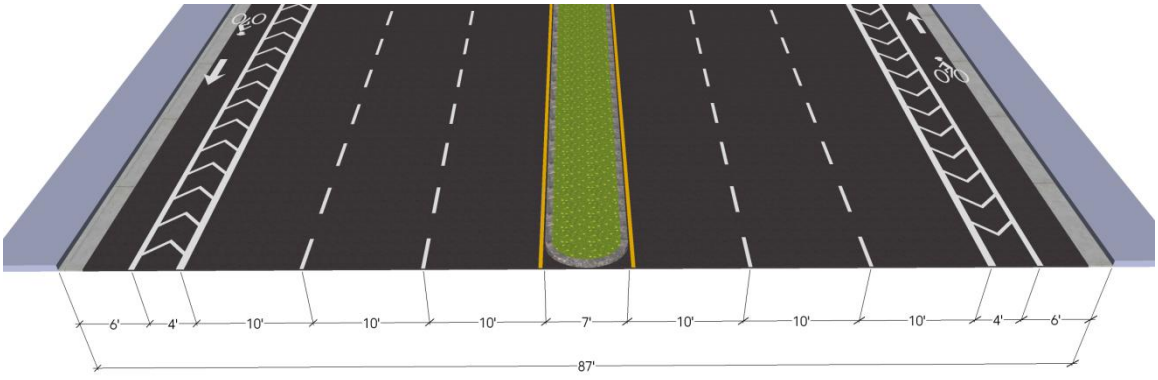
The existing width at this segment is 87 feet in general, with 94 feet at Manhattan Beach Boulevard, and a slightly narrower width (84 feet to 85 feet) between Manhattan Beach Boulevard and 12th Street. These roadway widths can be easily restriped for bike lanes as shown in Cross section 87-1 below, with slightly narrowed bike lanes at the location where the road narrows to 84 feet.

Figure 44 Cross section 87-1



There is a long segment of this road segment where there are no turning movements. In these areas, the wide painted median could be narrowed or replaced with a narrow raised median in order to provide a buffer between the bike lanes and the travel lanes. This modification will improve the comfort and perceived safety for cyclists in this area, as shown in Cross section 87-2.

Figure 45 Cross section 87-2 – Bike lane buffers improve comfort for bicyclists and pedestrians (median can also be painted and not raised)



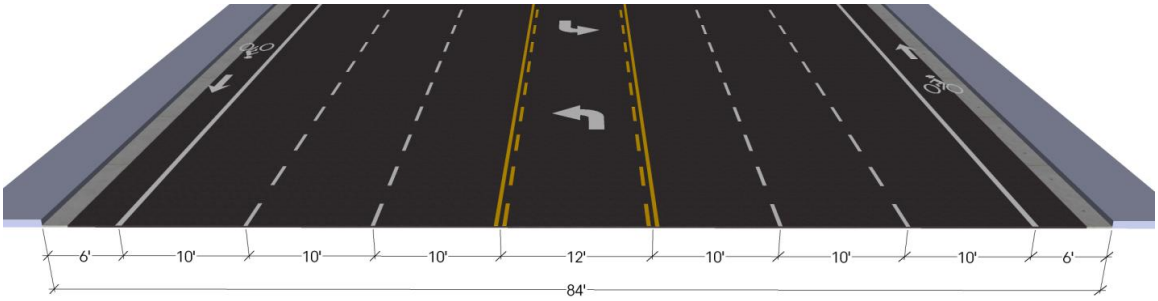
In the existing conditions, there are side-by-side left turn lanes (one in each direction) between Manhattan Beach Boulevard and 12th Street. This eight lane cross section leaves insufficient room for bike lanes. In order to resolve this issue, a change to the southbound lane drop at Manhattan Beach Boulevard is proposed. Currently the right-most through lane becomes a right turn lane at Manhattan Beach Boulevard. In the proposed design, the left-most through lane would become a left turn lane as shown in Figure 43. A traffic analysis of this intersection is recommended to see how this change will affect capacity and level of service. This new design results in several potential benefits and concerns:

- Potential benefits of changing the lane drop at Manhattan Beach Boulevard:
  - Provide room to mark bike lanes.
  - Eliminate the problem of transitioning the bike lane from the right side of the rightmost through lane to the left side of this same lane as it becomes a right turn lane. There is a standard bike lane design for this, but it requires bicyclists who want to continue straight to make a challenging merge across a lane of traffic.
  - Make the lane transitions work better, since the extra space for the right turn lane develops on the west side of the roadway, precisely where the right turn lane needs to be added.
  - Provide easier access to the southbound left turn lanes at Manhattan Beach Boulevard, since these lanes would have a dedicated approach lane. This may improve the capacity for southbound left turn and through movements.
  - May improve safety by eliminating a "multiple threat" crash scenario for motorists who are making a northbound left turn from Aviation Boulevard to 12th Street. Currently, most of the southbound lanes are frequently congested with traffic backing up from Manhattan Beach Boulevard through the intersection of 12th Street. But the right-most lane is less congested since there are fewer drivers making the right turn and right turns can be made on red. As a driver turns left onto 12th street through the "Keep Clear" gap in the other southbound lanes, there is the potential that the vehicle will be struck by an oncoming vehicle traveling at a fairly high speed approaching the right turn lane at Manhattan Beach Boulevard.
- Possible concerns about changing the lane drop at Manhattan Beach Boulevard:
  - This change will make the access to the southbound right turn lane more difficult, which may reduce the capacity of southbound right turn and through movements.
  - Drivers may be encouraged to cut through the neighborhood to make right turns onto Manhattan Beach Boulevard, by turning right onto 12th Street, left onto Harkness Street, and then right onto Manhattan Beach Boulevard.

Space Park Drive to Marine Avenue

The existing width is 84 feet throughout this segment, which can be restriped for bike lanes as shown in Cross section 84-1. Lane widths could be adjusted slightly if preferred by city staff.

Figure 46 Cross section 84-1



There are currently side-by-side left turn lanes between Space Park Drive and 19th Street, resulting in an eight-lane cross section that does not leave adequate space for bike lanes. To provide bike lanes, there are two possible ways to eliminate the side-by-side left turn lanes. Traffic analysis should be performed to identify the affects of either of these options on traffic capacity and level of service:

- The first option is to remove the northbound left turn lane for 19th Street and to install a continuous raised median or curb across the entrance to 19th Street, eliminating all left turns at this location. Signs already prohibit northbound left turn movements between 3 PM and 7 PM and prohibit eastbound left turn movements between 11 AM and 7 PM. To make northbound left turns into 19th Street, drivers could continue north to a designated U-turn location midblock. To make eastbound left turns from 19th Street, drivers could make a right turn and then a U-turn at Space Park Drive. This would require making a change to allow U-turns here, which are currently banned although there is sufficient room to allow these turns. Alternatively, drivers from this neighborhood can access northbound Aviation Boulevard by making a right turn from Redondo Avenue or Harkness Street to Marine Avenue, and then making a left turn onto Aviation Boulevard. It is recommended that the city of Manhattan Beach solicit public input from the residents of the affected neighborhood.
- The second option is to provide end to end left turn lanes for Space Park Drive and 19th Street. Since this would reduce the length of both left turn lanes, there may be traffic capacity and level of service implications of this alternative.

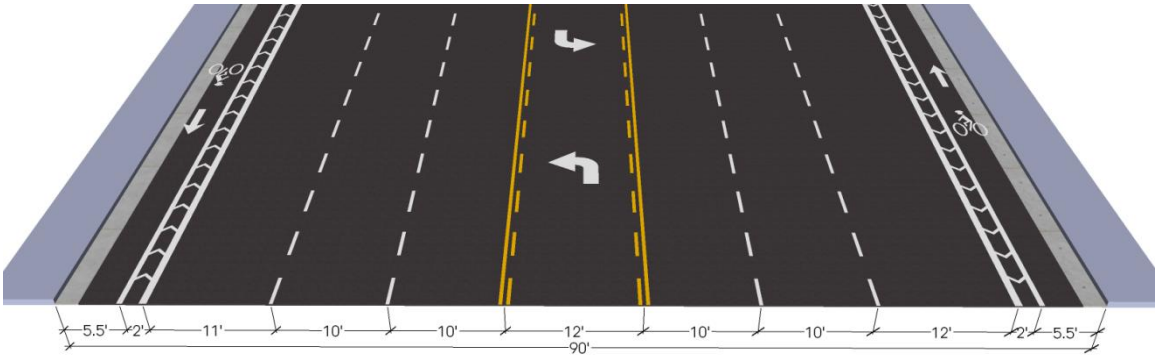
Aviation Boulevard – Marine Avenue to 33rd Avenue

The existing cross section in this area varies from 90 feet just north of Marine Avenue, to 84 feet in the middle of this segment, to 78 feet at the north end just south of 33rd Avenue.

For the 90-foot wide segment north of Marine Avenue, it is recommended to eliminate the dedicated right turn lane and provide buffered bike lanes as shown in Cross section 90-1. At Marine Avenue the buffered bike lane would become a de-facto right turn lane, with 200 feet of dotted bike lane line to encourage motorists to merge into the bike lane before turning. A traffic analysis should be conducted to see what the effect will be of converting the dedicated right turn lane into a de-facto right turn lane.

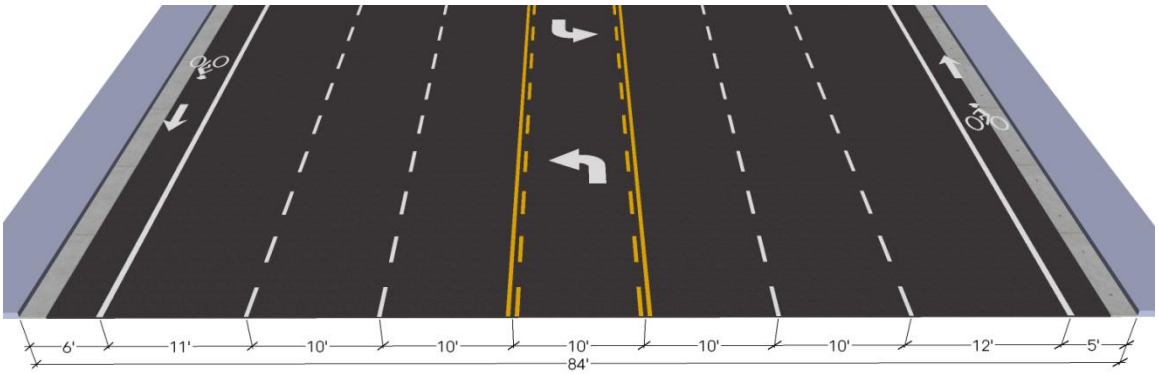
The Cities of Manhattan Beach, Hawthorne, and Redondo Beach have planned a motor vehicle capacity enhancement project that will add double left turn lanes to all four approaches to the intersection of Aviation Boulevard and Marine Avenue. As this project is developed, it is recommended that the design include enough street width to continue to provide bicycle lanes on Aviation Boulevard and Marine Avenue.

Figure 47 Cross section 90-1 –North of Marine Avenue, with buffered bike lanes



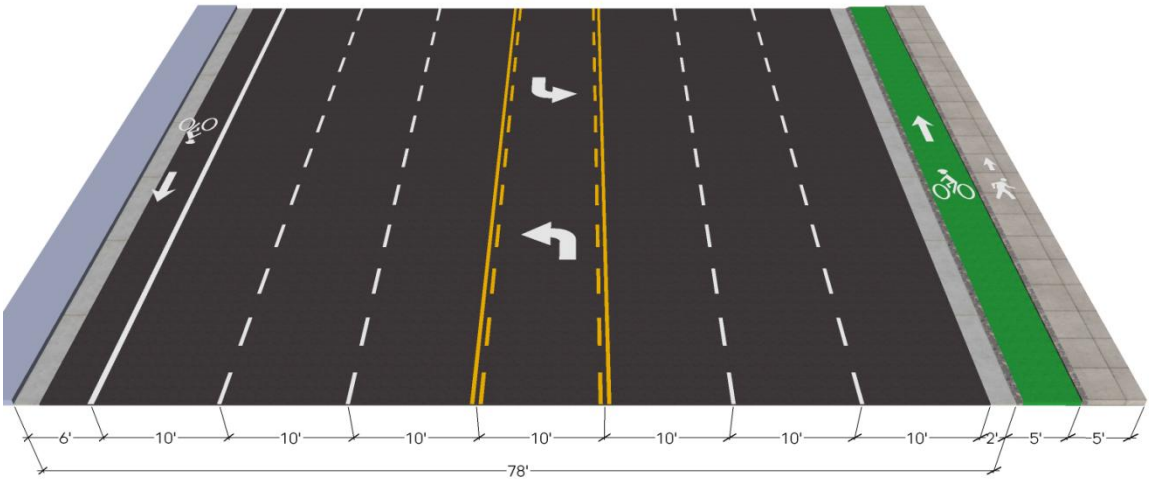
For the 84-foot wide portion, Cross section 84-1a is recommended.

Figure 48 Cross section 84-1a



Approximately 750 feet of roadway in this segment is 78 feet wide, which is too narrow to add bike lanes without removing travel lanes. One possibility for this segment is to leave the existing roadway as is, but to provide a raised bike lane on the east side for northbound bicyclists, as shown in Cross section 78-1. This can be accomplished by saw-cutting and grinding the existing curb to create a mountable curb, placing a new curb at the back of the raised bike lane, and back-filling the raised bike lane with asphalt or concrete (see section 78-1 in Figure 49). The mountable curb should have no more than a 1/4-inch lip at the gutter, sloping to about 1.5 inches at the back of curb. This has been done to create raised bike lanes in other places; an example is shown in Figure 35.

Figure 49 Cross section 78-1 – Raised bike lane on the east side



The roadway could also be widened to provide bike lanes. At a minimum, the width would need to be 80 feet to achieve 10-foot wide travel lanes and 5-foot wide bike lanes. However, the recommended width is 84 feet to provide more width at the outside edge of the roadway to improve interactions between bicyclists and large vehicles in the outside through lanes as shown in Cross section 84-1a in Figure 48.

As another alternative requiring no physical reconstruction with significantly less cost but a less desirable bicycle facility, signs could be placed to that allow bicyclists to choose to use the existing sidewalk along with shared lane markings in the travel lane.

33rd Avenue to Rosecrans Avenue

The roadway width in this segment is primarily 101 feet, but varies from 92 feet at the narrowest point (at the driveway between Western FCU and Springhill Suites) to 111 feet (at Rosecrans Avenue). Bike lanes are achievable through this segment by restriping the existing width to remove the fourth southbound lane that becomes a right turn lane at 33rd Avenue. The removal of this fourth southbound lane would eliminate the existing situation where the right-most lane becomes a right turn lane at 33rd Avenue. Providing a bike lane at drop lane locations requires the bike lane to transition from the right side of the right-most through lane to the left side of this same lane as it becomes a right turn lane, resulting in a challenging maneuver for many cyclists. Removal of this fourth southbound lane provides adequate room for buffered bike lanes through this segment as shown in Figure 50, Figure 51, and Figure 52. It will result in a slight reduction in capacity, which will likely only be an issue during the morning peak hours as employees arrive at Northrop Grumman.

Figure 50 Cross section 101-4 – Immediately north of 33rd Avenue

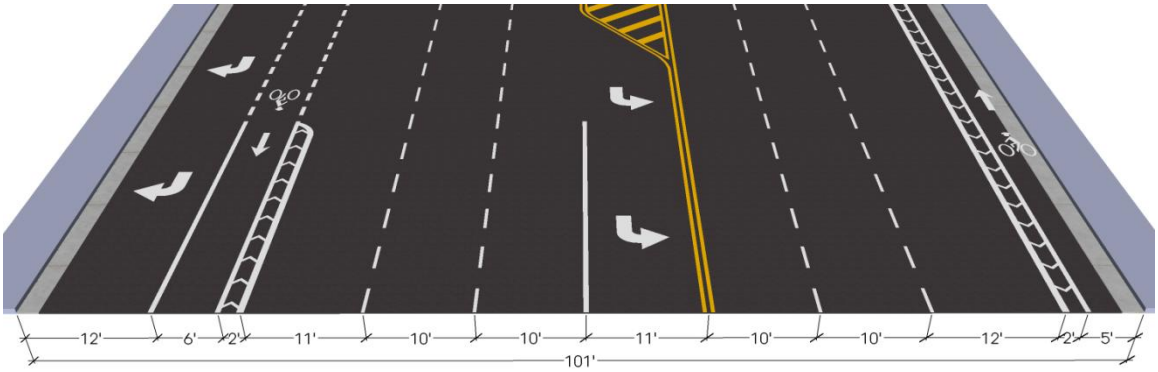


Figure 51 Cross section 92-1a – Driveway between Springhill Suites & Western Fed. Credit Union

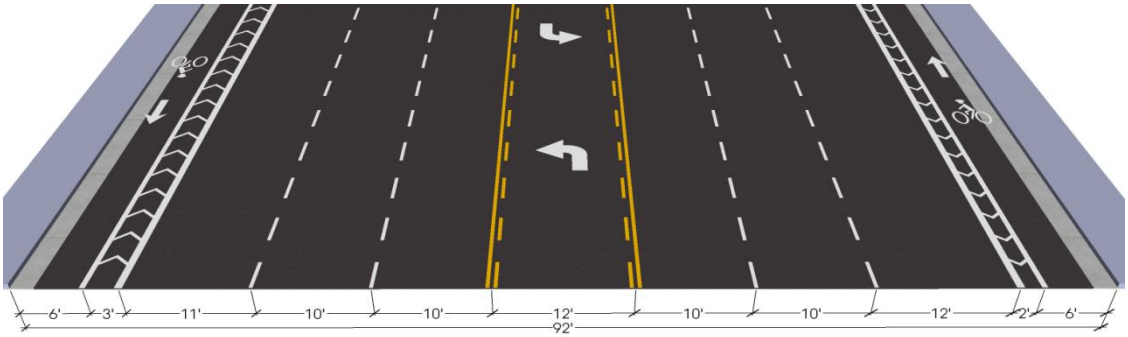
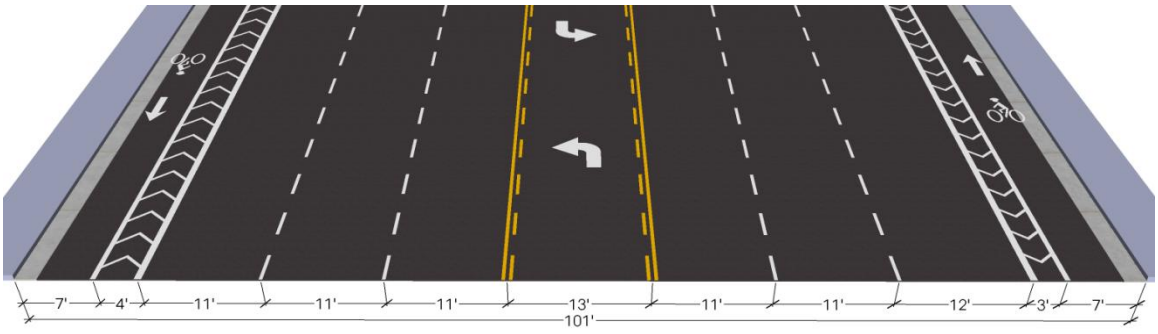


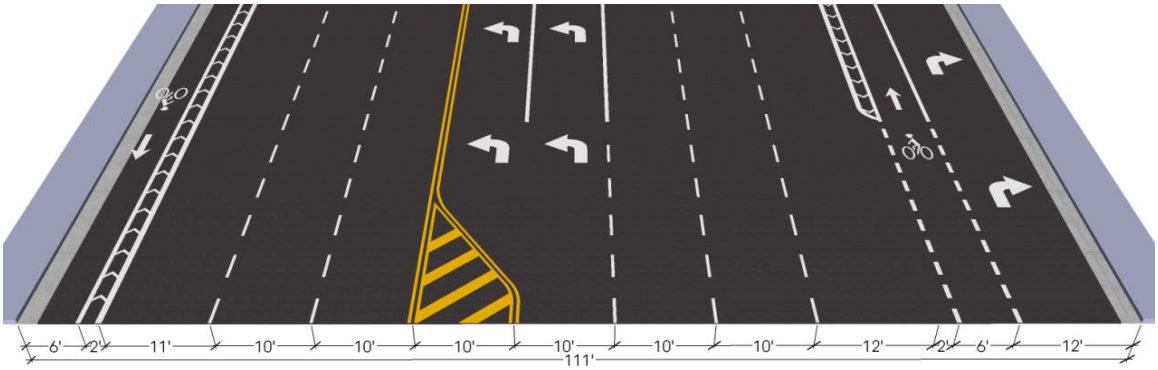
Figure 52 Cross section 101-3 – At Skyone Federal Credit Union



There are two alternatives for removing the fourth southbound lane. Both of these options should be evaluated through a traffic analysis to assess the effect of the changes on traffic capacity and level of service:

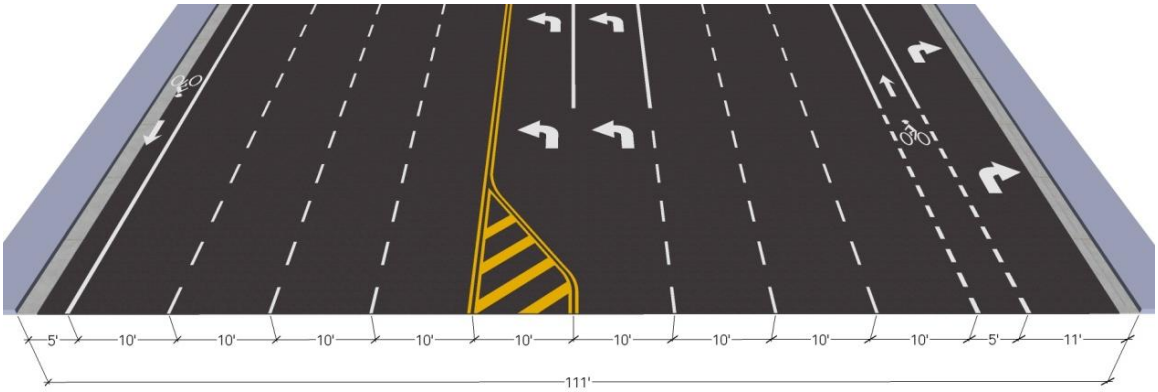
- *Alternative 1:* Eliminate one of the southbound through lanes at Rosecrans Avenue, theoretically reducing the capacity at this intersection. However, field observations indicate that the rightmost through lane is underutilized, due to the fact that it is very short on the north side of the intersection.

Figure 53 Section 111-1 – Alternative 1 immediately south of Rosecrans Avenue



- *Alternative 2:* Merge the fourth southbound lane into the other lanes south of Rosecrans Avenue, resulting in a cross section with very minimal dimensions for all lanes and bike lanes.

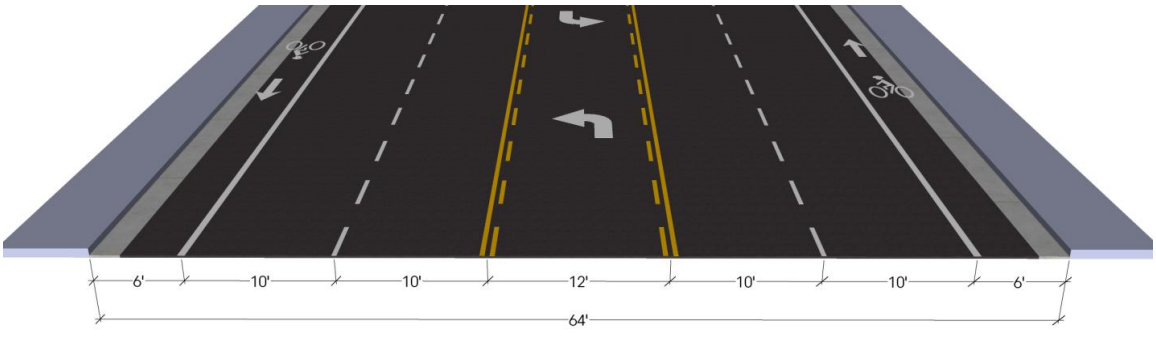
Figure 54 Section 111-2 – Alternative 2 immediately south of Rosecrans Avenue



MARINE AVENUE – AVIATION BOULEVARD TO REDONDO BEACH AVENUE

Marine Avenue has a consistent cross section of 64 feet, which can be restriped to provide bike lanes by using cross section 64-1.

Figure 55 Cross section 64-1 – Marine Avenue from Aviation to Redondo Beach Avenue



TRAFFIC SIGNAL IMPROVEMENTS TO ACCOMMODATE BICYCLISTS

Several changes are recommended in order to better accommodate bicyclists at the existing signalized intersections. The biggest necessary change is in detecting traffic at intersections, including both motor vehicles and bicycles. The standards and guidance of Section 4D.105 of the California Manual on Uniform Traffic Control Devices (CA-MUTCD) should be followed. Regardless of the technology used, a bicycle detection zone should be provided as at limit line locations to adequately detect bicyclists, as specified by the CA-MUTCD. If inductive loop detectors are used, then quadrupole loops are often the preferred technology for bicycle detection. The following general detection changes are the most important:

- Bicycle detection zones should be placed in bike lanes at the limit line for any through movements on Aviation Boulevard and Marine Avenue. The detection zone should be marked with the Bicycle Detector Pavement Marking.
- Where there is a right turn only lane with vehicle detection, a bicycle detection zone should be provided, and marked with the Bicycle Detector Pavement Marking.
- Where there is no right turn only lane on an approach, a bicycle detection zone should be placed at the limit line in the rightmost through lane, and marked with the Bicycle Detector Pavement Marking. This is due to the fact that some cyclists choose to merge out of the bike lane at intersections in order to place themselves where they can reduce the potential for right-hook type crashes with motor vehicles.
- A bicycle detection zone should be placed at the limit line in the rightmost left turn lane, and marked with the Bicycle Detector Pavement Marking.
- Where advance detection is placed for motor vehicles, advance detection should be placed in bike lanes, approximately 50 to 100 feet back from the intersection. When cyclists ride over this loop, signal timing should be adjusted for bicyclists approaching a green signal to allow cyclists traveling at an approximate speed of 10 mph to enter the intersection before the signal turns from green to yellow, and to clear the intersection before the end of the all red clearance interval.
- Wherever travel lanes are shifted by more than approximately 2 feet in order to install bicycle lanes at intersections, loop detectors for motor vehicles will likely need to be replaced and video detection zones will likely need to be reconfigured.

Signal timing adjustments are recommended for through movements on Aviation Boulevard and Marine Avenue, as well as left turn movements from or to these streets. The sum of the minimum green interval, plus the yellow interval, plus the red clearance interval should be sufficient to allow a cyclist to clear all conflicting lanes at a speed of 10 mph, per the recommendations of Section 4D.105 of the CA-MUTCD.

CONNECTIVITY TO DESTINATIONS AND OTHER BICYCLE FACILITIES

As discussed in this report's introduction, the provision of bicycle lanes on Aviation Boulevard and Marine Avenue will create a bicycle "spine" that will serve as an important bicycling connection within the cities. Bike lanes on these streets would provide a direct connection to the following bicycle facilities and destinations within the beach cities:

- The Ralphs shopping center in Hermosa Beach.
- Residential neighborhoods and businesses along Aviation Boulevard in Hermosa Beach.
- The shopping center and nearby businesses at the intersection of Aviation Boulevard and Prospect Avenue.
- Residential neighborhoods and businesses along Aviation Boulevard in Redondo Beach, including a significant cluster of "neighborhood commercial" development near Ford Avenue.
- The shopping center and nearby businesses at the intersection of Aviation Boulevard and Artesia Boulevard.
- Residential neighborhoods along Aviation Boulevard in Manhattan Beach.
- Several businesses within a few blocks of the intersection of Aviation Boulevard and Manhattan Beach Boulevard.
- Redondo Beach Performing Arts Center and the adjacent Aviation Park.
- Several large office buildings that are likely bike commute destinations, including multiple Northrop Grumman buildings, and the Federal Aviation Administration building.
- A few retail, medical offices, and lodging land uses in the vicinity of the intersection of Aviation Boulevard and 33rd Avenue.
- The Redondo Beach Green Line station.
- Existing bike lanes on Grant Avenue in Redondo Beach.
- Existing bike lanes on Redondo Beach Avenue in Redondo Beach.

Even though the list above seems significant, there are many more destinations that are not served directly by Aviation Boulevard and Marine Avenue. The South Bay Bicycle Master Plan recommends approximately 12 proposed bicycle facilities on other streets that would connect to the segments of Aviation Boulevard and Marine Avenue that are addressed in this report. Continuing to build out the facilities recommended in the master plan will provide connectivity to additional neighborhoods, parks, commercial districts, and other destinations for bicyclists, and enhance the utility of bicycle lanes on Aviation Boulevard and Marine Avenue. The sections below provide specific recommendations for future connectivity for bicyclists at the north and south ends of the studied portion of Aviation Boulevard.

Connections at the South End of Aviation Blvd. (at PCH)

Aviation Boulevard terminates at Pacific Coast Highway, which is a very high volume street and is not proposed to have bicycle facilities in the South Bay Bicycle Master Plan. Therefore, it is important to identify alternate routes from Aviation Boulevard to destinations and bicycle facilities west and south of the intersection of Pacific Coast Highway and Aviation Boulevard.

Some of the primary destinations include:

- The beach in general
- The Strand bicycle facility
- Hermosa Beach Pier

- Pier Avenue
- Future bikeway on Valley Drive
- Future bikeway on Ardmore Avenue
- Hermosa Beach City Hall
- Hermosa Beach Library

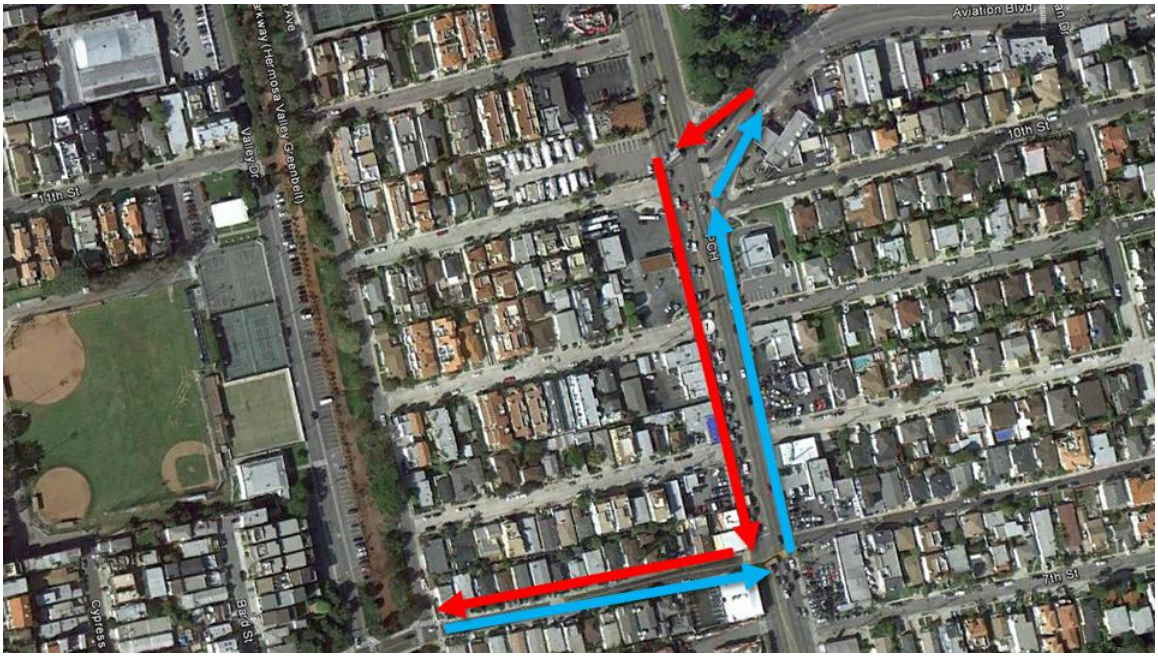
While the South Bay Bicycle Master Plan suggests future bikeways on several streets that may provide these connections - including Prospect Avenue, 21st Street, 8th Street, and Anita Street / Herondo Street - Aviation Boulevard provides a flatter grade as well as less overall climb than any of these alternatives. Of these alternative routes, only 8th Street provides a connection to the same general area (downtown Hermosa Beach) as Aviation Boulevard.

Attendees at the public workshop were asked to share how they would travel by bicycle between Aviation Boulevard and points west of PCH. While this exercise was not completed by many attendees, the suggested routes were 14th Street, 8th Street, and the west sidewalk along PCH, from Aviation Boulevard to Pier Avenue. Based on the above background information and a detailed field review of many possible options for connecting from Aviation Boulevard to areas west of PCH, the following proposed bikeway connections should be considered for future study and project development.

8th Street

8th Street provides a reasonable alternative in the short term; it provides a direct connection west to the beach but not a direct connection to Aviation Boulevard and requires cyclists to use PCH (see Figure 56). Nonetheless, consideration should be given to signing this as a designated bicycle route between the beach and Aviation Boulevard. Given the fact that Aviation Boulevard provides the least amount of climbing when ascending from PCH, it would be useful to provide a more direct connection to the south end of Aviation Boulevard on other streets, as described below.

Figure 56 8th Street Alternative



10th Street

10th Street provides a direct connection between the Aviation/PCH intersection and Ardmore Avenue but it has a very steep grade, perhaps exceeding 20% slope. This slope is reasonable for downhill travel, although some people may be uncomfortable descending by bicycle. This street is so steep that many bicyclists would have to walk up the hill. However, because this street is closed to through motorists, it has very low traffic volume and cyclists would be able to dismount their bicycles and walk without much interference from motor vehicle traffic.

11th Street

11th Street has a much flatter grade than 10th Street making it a better uphill option than 10th Street. Unfortunately, due to its non-alignment with Aviation Boulevard, it is not ideal for the downhill movement. As a result, it could make sense to create a coupled bicycle facility with 11th Street as the uphill couple.

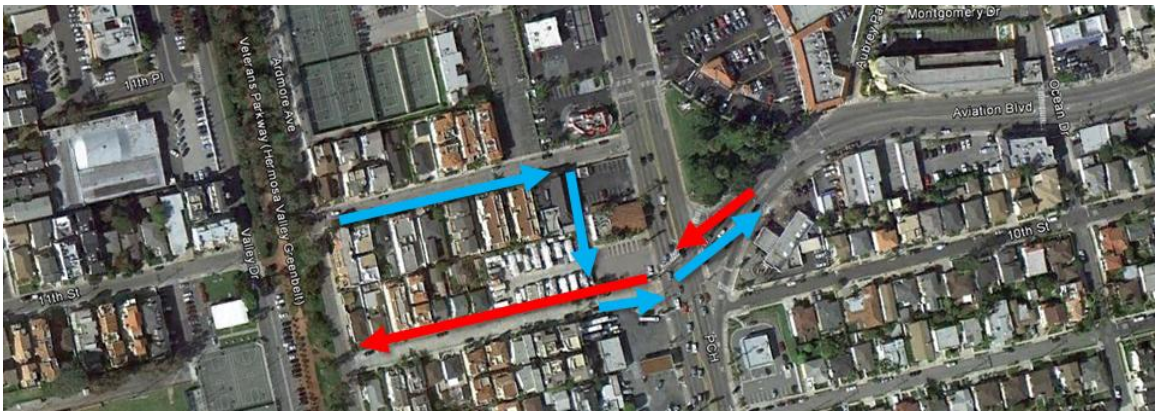
Recommendations:

- Designate 8th Street as a bicycle route and provide wayfinding to help cyclists navigate the eastbound and westbound PCH crossing.
- Make 10th Street better suited for bicyclists by replacing the existing gate with removable bollards. An odd number of bollards should be used, with a spacing of 5 feet from edge to edge.
- Designate 10th Street and 11th Street as a coupled bicycle facility.
  - Bicycle wayfinding signs with the grade of the connection should be placed to direct bicyclists to use 10th Street for uphill or downhill travel and 11th Street for uphill travel between Aviation Boulevard and Ardmore Avenue.
- Connect 11th Street to Aviation Boulevard. There are two options for achieving this:
  - Provide a cycle track on the west side of PCH between 10th Street and 11th Street as shown in Figure 57. The existing sidewalk width on the west side of PCH between 10th Street and 11th Street is about 7 feet. Widening the sidewalk is constrained by the fact that the Rocky Cola Cafe building is nearly to the sidewalk. The sidewalk could be converted to be shared between southbound bicyclists and pedestrians for this one block section of roadway. This would involve placing signs and markings allowing southbound bicyclists to use this sidewalk.

Figure 57 Cycletrack Option

– Transform the publicly owned right-of-way at the back end of the Rocky Cola Cafe into a public bicycle facility linking 10th Street and 11th Street as shown in Figure 58.

Figure 58 Public Right-of-Way Option



The complex signalized intersection of PCH and Aviation Boulevard presents a challenge for bicyclists. A detailed analysis involving Caltrans and Hermosa Beach staff is recommended for adjusting the signal phasing at this intersection. However, here are some initial thoughts on how to provide bicycle access through this intersection to and from Aviation Boulevard:

- For westbound (southbound) bicyclists, the proposed design includes a bicycle lane on Aviation Boulevard to provide through movements to 10th Street.
- The situation is more challenging for eastbound (northbound) bicyclists; two possible solutions are recommended for further study:
  - The preferred option for bicyclists would be to allow eastbound bicyclists to travel straight through the intersection from 10th Street to Aviation Boulevard. However, the current signal timing does not provide a phase when this movement could be made. Therefore a new signal phase would need to be added to accommodate this bicycle movement. This phase would operate only when actuated by a bicyclist, but it is still important to conduct an analysis to see how this new phase would affect motor vehicle capacity and level of service at this intersection. Bicycle actuation could be accomplished by one of several methods:
    - The simplest method would be to provide a pushbutton for bicyclists on the south side of Aviation Boulevard. However, this would place cyclists at the far right side, where they are more likely to come into conflict with motorists who want to make a right turn at this intersection.
    - A better solution would be to provide video detection to detect bicyclists on this approach. This would require a sophisticated system that can be calibrated to detect bicyclists, but not motor vehicles, on the approach.
    - Another possibility would be to mark an eastbound bike lane on 10th street in the middle of the roadway, leaving an 11-foot travel lane in each direction on both sides of the bike lane. A loop detector or video detection zone could be placed in this bike lane. However, the relatively narrow width of the road would result in false calls when the occasional large vehicle must encroach on the bike lane in order to make a right turn.

- If an additional signal phase cannot be provided, cyclists can be directed to use the pedestrian signals at the intersection. First, cyclists would cross in the north leg crosswalk from the northwest corner to the northeast corner, and then they would cross the east leg crosswalk to the southeast corner, where they could turn onto the bike lane. Standard "[bike symbol] USE PED SIGNAL" (R9-5) signs should be used to indicate the appropriate behavior. A series of wayfinding signs could provide more guidance. In order to improve the safety of crossing the north leg, a "NO TURN ON RED" (R10-11 series) sign should be placed facing southbound traffic. In addition, a curb ramp would need to be added at the northwest corner of the intersection, and the island on the northeast corner would need to be modified to provide access to the north leg crosswalk. The north leg crosswalk is currently inaccessible to disabled pedestrians, and these ramp and island modifications are necessary to make this crosswalk accessible.

Connections at the North End of the Study Area (at Rosecrans Avenue)

Implementing the recommendations of this report would provide bicycle lanes only as far north as Rosecrans Avenue, because this is the first phase of bicycle lane implementation that has been evaluated. The South Bay Bicycle Master Plan recommends bicycle lanes north of Rosecrans Avenue to the El Segundo City limits at Imperial Highway. Extending the bike lanes north toward LAX is important to serve the many destinations near the airport including office buildings, hotels, shopping centers, restaurants. Based on initial measurements of the existing street width of Aviation Boulevard between Rosecrans Avenue and Imperial Highway, bicycle lanes should be achievable through relatively straightforward restriping of travel lanes.

The South Bay Bicycle Master Plan also recommends bike lanes on Rosecrans Avenue. Given the fact that Rosecrans Avenue and Aviation Boulevard are some of the only connected streets in this area, it is important to develop plans for bicycle lanes on Rosecrans as well, to implement the bicycle master plan.

4 ENVIRONMENTAL ANALYSIS

The California Environmental Quality Act (CEQA) requires analysis of potential environmental impacts for projects requiring discretionary approval by public agencies. Therefore, the improvements identified in this Feasibility Study could be subject to CEQA, if discretionary approval is required prior to construction.

Based on the findings of the Feasibility Study described in this document:

- Bicycle lanes can be accommodated on most segments of Aviation Boulevard without altering motor vehicle travel lanes or on-street parking.
- However, some segments of Aviation Boulevard will require alterations to existing travel lanes or parking in order to accommodate on-street parking.

Therefore, the proposed "Project" for environmental review purposes would consist of the following elements:

- Installation of Class II bicycle lanes on a three-mile segment of Aviation Boulevard between Rosecrans Avenue and Pacific Coast Highway.
- Alterations to motor vehicle travel lanes in order to accommodate bicycle lanes on some segments of Aviation Boulevard, including:
  - Changes to motor vehicle travel lane configurations at up to eight signalized intersections.
- Removal of 36 to 52 on-street parking spaces on approximately 0.4 miles of Aviation Boulevard
  - Remaining on-street parking supply would consist of approximately 72 to 88 on-street parking spaces on Aviation Boulevard.

CEQA EXEMPTIONS

The California Environmental Quality Act (CEQA) requires analysis of potential environmental impacts for projects requiring discretionary approval by public agencies, except for specific types of projects that are exempt from CEQA by statute or category.

Categorical exemptions are described in CEQA Section 15300 for categories of projects that are unlikely to result in significant effects on the environment. Relevant examples of categorical exceptions include:

- CEQA Section 15301. Existing Facilities (Class 1 Categorical Exemption): Class 1 consists of the operation, repair, maintenance, permitting, leasing, licensing, or minor alteration of existing public or private structures, facilities, mechanical equipment, or topographical features, involving negligible or no expansion of use beyond that existing at the time of the lead agency's determination. The key consideration is whether the project involves negligible or no expansion of an existing use or alterations to existing facilities (Class 1 categorical exemption), including:

  - CEQA Section 15301 (c). Existing highways and streets, sidewalks, gutters, bicycle and pedestrian trails, and similar facilities (this includes road grading for the purpose of public safety).
- CEQA Section 15304. Minor alterations to land (Class 4 categorical exemption): Class 4 consists of minor public or private alterations in the condition of land, water, and/or vegetation which do not involve removal of healthy, mature, scenic trees except for forestry or agricultural purposes., including:
  - CEQA Section 15304 (h). The creation of bicycle lanes on existing rights-of-way.
- CEQA Section 15300.2. Exceptions to Categorical Exemptions:
  - (c) Significant Effect. A categorical exemption shall not be used for an activity where there is a reasonable possibility that the activity will have a significant effect on the environment due to unusual circumstances.
- In determining whether or not a project is exempt from CEQA, the lead agency must determine whether a project may have a significant effect on the environment.
  - A significant effect is not just any effect, but rather a "substantial, or potentially substantial, adverse change in the environment" (California Public Resources Code Section 21068). Beneficial effects are not considered significant.
  - If it can be seen with certainty that there will be no significant effect on the environment, then the exemption will apply.
  - However, if there is substantial evidence in light of the whole record that a project may have a significant effect on the environment, the lead agency must prepare an environmental impact report (California Public Resources Code, Section 21080 (d)).

CEQA FINDINGS & RECOMMENDATIONS

Based on the information described above:

- Although CEQA provides an exemption for "installation of bicycle lanes on existing rights-of-way", the exception does not apply if adverse traffic impacts results (such as where alterations to motor travel lanes or on-street parking would be necessary to accommodate bicycle lanes).
- Preparation of a Traffic Impact Analysis is recommended to determine if significant traffic impacts could result from proposed motor vehicle travel-lane modifications at approximately eight intersections.
- Removal of on-street parking spaces is not considered a significant effect based on CEQA precedent, except to the extent that secondary effects on traffic circulation could occur. In this case: the potential removal of between 36 and 52 on-street parking spaces is unlikely to result in adverse traffic effects, given current parking occupancy. Nonetheless, a peak season comprehensive parking supply and occupancy study of both on- and off-street parking facilities within the corridor during the week and on the weekend is recommended to verify the preliminary findings described in this report.

Estimated Cost of Traffic Study: $20,000

Estimated Cost of Parking Study: $15,000

5 COST ESTIMATE

The following preliminary cost estimate was developed based primarily on the median prices observed in recent bids received by the beach cities. Where the costs of specific features were not available, unit costs were taken from other sources in the greater Los Angeles area. Where this report includes different options, the more expensive option was generally used in the cost estimate.

Figure 59 Preliminary Cost Estimate for Aviation Boulevard Bicycle Facility

Item Description	Quantity	Units	Unit Price	Cost
Bike symbols	74	Each	$130.00	$9,620
Bicycle Detector Markings	58	Each	$70.00	$4,060
Loop detectors	42	Each	$450.00	$18,900
Bike Loop Detectors	29	Each	$600.00	$17,400
Adjust video detection	3	Intersection	$2,000.00	$6,000
Concrete median	1200	Square Foot	$4.25	$5,100
Concrete curb & gutter	560	Linear Foot	$36.50	$20,440
Raised bike lane	1300	Linear Foot	$50.00	$65,000
Sandblasting	68,120	Linear Foot	$1.50	$102,180
Stripe - 4"	79,163	Linear Foot	$0.88	$69,664
Stripe - 6"	25,345	Linear Foot	$1.32	$33,455
Stripe - 8"	746	Linear Foot	$1.76	$1,313
Drainage grates	3	Each	$300.00	$900
Adjust manholes	10	Each	$350.00	$3,500
Move utilities	1	Lump Sum	$90,000.00	$90,000
Signs	26	Each	$275.00	$7,150
Replace Vault Cover	1	Each	$1,000.00	$1,000
Subtotal				***$455,682***
Contingency (25%)				$113,920
Engineering (20%)				$91,136
Temporary Traffic Control (10%)				$45,568
Total				**$706,306**

Most line items in the cost estimate occur throughout the corridor. For each of the segments discussed in this report, the cost of removing existing markings and adding the recommended new markings was analyzed. For both removal and painting, the most important factors are the

number of stripes and the length of painted sections. In addition, details such as adding bicycle lane symbols, bicycle signs, adjusting loop detection at intersections, and adjusting or moving utilities were included.

A limited number of features occur only in a few places along the corridor. Existing medians have mostly been accommodated, except the two between Ernest Avenue and Bataan Road and the divider between Warfield Avenue and Manhattan Beach Boulevard that need to be relocated in order for bicycle lanes to be accommodated.

A limited number of utilities would need to be relocated or modified, as discussed in the Utility Conflicts section. Utility relocations are estimated to cost about $90,000. However, utility relocation costs vary dramatically from location to location, and costs for relocating a single utility box or power pole are hard to estimate accurately without consulting the owner of the utility, as would be done during the final design stage of the project.

The two greatest estimated expenses are sandblasting to remove existing markings, and placement of the new markings, each costing approximately $100,000. Another major expense is building raised bike lanes for a relatively short distance at two locations, estimated to cost about $65,000.

FREQUENTLY ASKED QUESTIONS

AVIATION BOULEVARD BIKE LANE

PRELIMINARY ENGINEERING STUDY

OVERVIEW (a/o June 4, 2012): In 2011, the Beach Cities communities designed the South Bay Bicycle Master Plan (SBBMP). Using an exhaustive/transparent/participatory public process, the community (particularly aerospace industry employees) identified Aviation as an arterial for which a bike lane was requested. The preliminary engineering report is a direct response to that public process request. All three city (Redondo Beach, Hermosa Beach, Manhattan Beach) councils approved the SBBMP. This Preliminary Engineering Study is going before commissions at this point as information, for public input, and to recommend further study.

The next steps are to do further parking and traffic analysis as recommended in this study, and do additional public engagement with regard to a handful of areas that need additional thought.

This FAQ responds to the issues that were raised in the initial commission meetings in Redondo Beach and Manhattan Beach and will continue to be updated as needed. Items are noted in the categories of safety, business, and other. Items marked with an "*" have been identified to be scoped into the future studies.

SAFETY

1. **Why Aviation; isn't there a safer residential street on which to put the bike lane?**
   - It is not conducive as currently designed. However, with redesign, and changing the perception of Aviation from an automobile-only street, it can be conducive to bicycling. General practice for bicycle facility planning and design is to place bike lanes on arterial and collector streets, as these are the streets that connect the bicycle network.
   - During the South Bay Bicycle Master Plan process, many routes were identified and each city is pursuing these. Aviation is one piece of the puzzle and was a route that was requested again and again by the public (SBBMP p. 121), especially those who work at the aerospace companies. It's a direct route that can be appropriate for more confident and experienced riders, while the less confident and less experienced can still opt to use some of the other less direct meandering neighborhood routes or "bicycle friendly streets."

2. **Wouldn't a bike lane increase safety problems? It is already a dangerous street (high speeds, higher than posted speed in most corridors) with documented accidents and deaths.**
   - The street, if redesigned with narrow lanes and bike lanes, will likely reduce the top-end travel speeds, which should improve safety for all users, including autos and cyclists. The presence of bike lanes may also improve safety by providing better sight lines and providing room for breakdowns to take place outside of motor vehicle travel lanes.
   - Cities with high bicycling rates tend to have lower crash rates for all road users. http://files.meetup.com/1468133/Evidence%20on%20Why%20Bike-Friendly.pdf

3. **Wouldn't bicycles be an additional distraction on an already busy street?**

1107 Vincent Street Redondo Beach CA 90277 310.683.6801

The presence of bicycle lanes would encourage better bicycling behavior, and also highlight the presence of bicyclists to motorists. Cyclists are already on this street. Cyclists who ride on the roadway have less separation from overtaking traffic than they would with bike lanes. Additionally, many cyclists ride on the sidewalks and/or against the flow of traffic, two behaviors which are known to dramatically reduce bicyclist safety.

4. What about the speed issues and blind spot issue near Bataan and Aviation?*

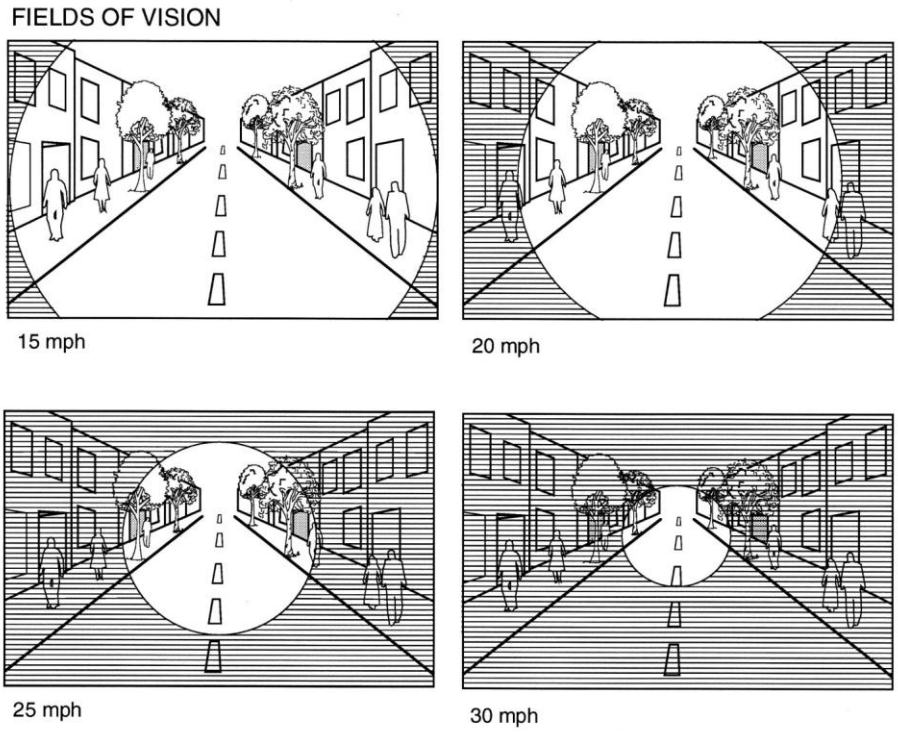
Nelson\Nygaard staff has not yet specifically evaluated the sight distance at this location, although there is a hill crest in this area that might limit sight lines somewhat. It is worth noting that this issue is only relevant if the alternative to eliminate southbound left turn movements at Dufour/10th is chosen, since it will increase the number of drivers making southbound left turns at Bataan Road, which is where this sight distance problem may exist.

5. What is known about safety of the lane widths?

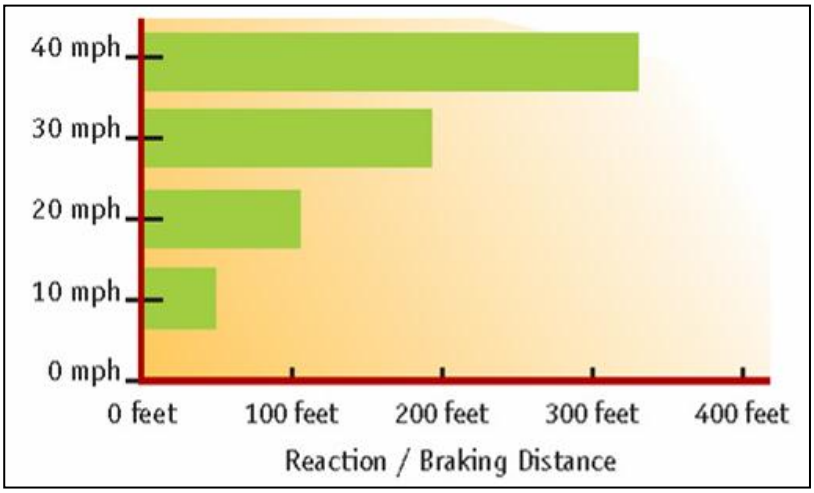
The best and most recent study on this issue is "*Relationship of Lane Width to Safety for Urban and Suburban Arterials*" by Potts, Harwood, and Richard. This study indicates that the optimal lane width for safety in these conditions is 10-12 feet. Narrower lanes are less safe, and wider lanes are less safe (much of the corridor currently has outside lanes that are significantly wider than 12 feet).

6. What are the benefits of traffic calming?

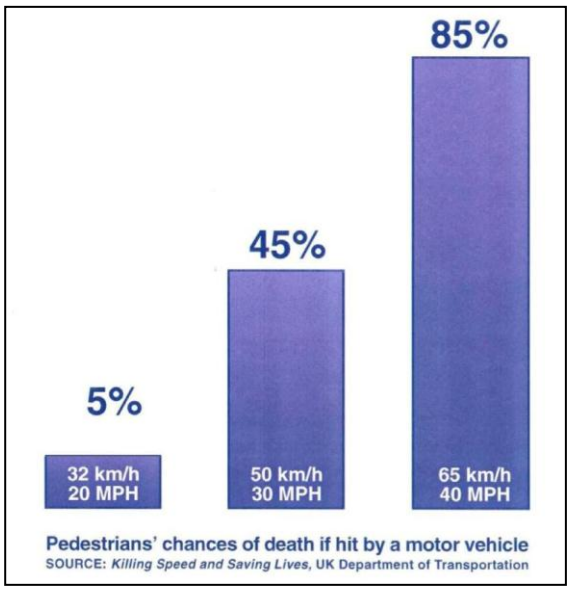
At slower speeds, drivers have a wider field of vision and are more likely to observe activity around them, especially things within their peripheral vision, as illustrated below:



At slower speeds, drivers are able to react and slow down to avoid a crash more easily, as illustrated in the image below:

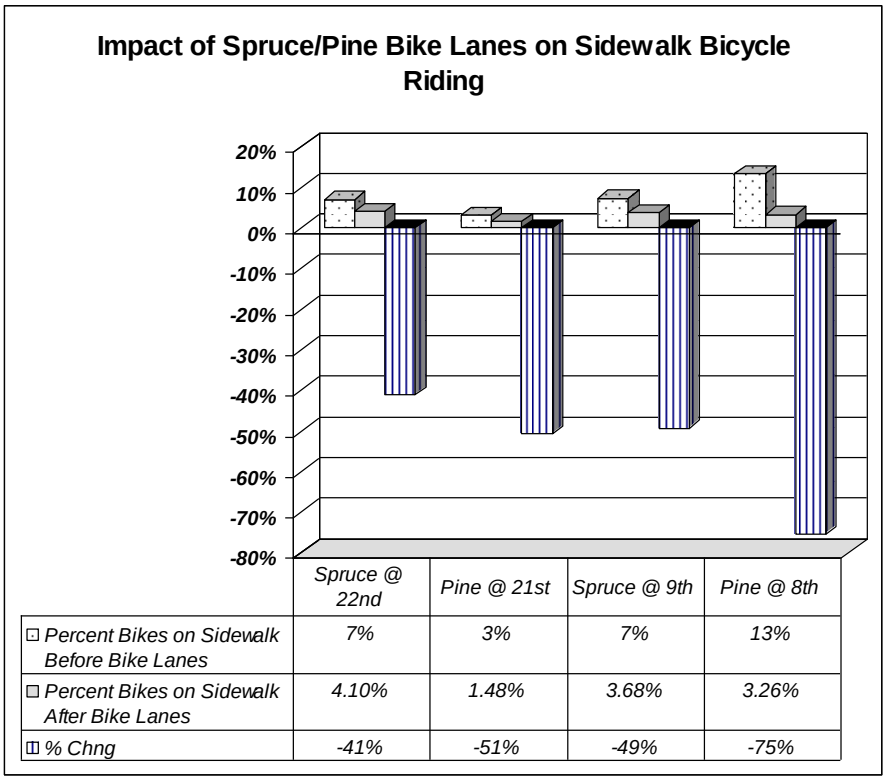


At slower speeds crashes are less severe, due to lower kinetic energy. The chart below shows how this applies to pedestrians



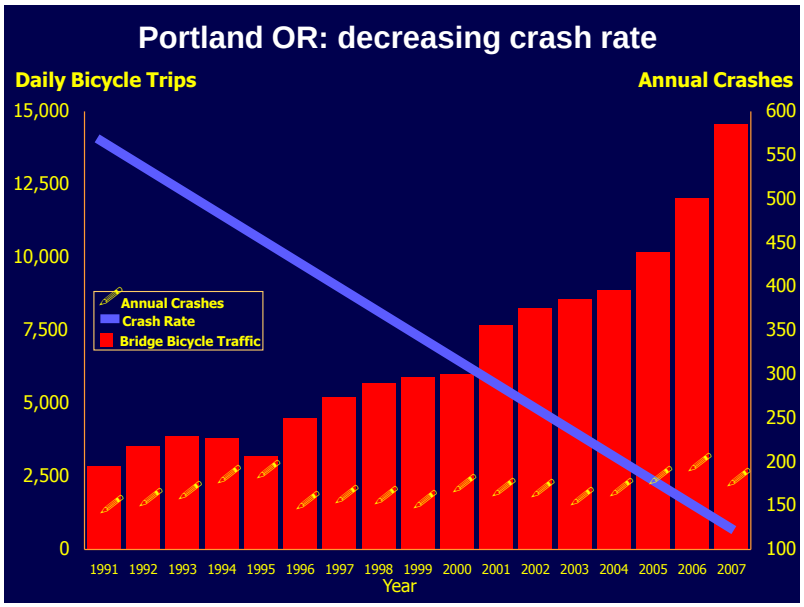
7. Is there evidence that adding a bicycle lane has a positive effect on driver and pedestrian behavior?

A bike lane study in Philadelphia on Spruce and Pine Streets evaluated behavior of cyclists before and after bike lanes were installed. The percent of bicyclists choosing to ride on sidewalks dropped dramatically after bike lanes were installed, as shown in the figure below.



	Spruce @ 22nd	Pine @ 21st	Spruce @ 9th	Pine @ 8th
Percent Bikes on Sidewalk Before Bike Lanes	7%	3%	7%	13%
Percent Bikes on Sidewalk After Bike Lanes	4.10%	1.48%	3.68%	3.26%
% Chng	-41%	-51%	-49%	-75%

In Portland, Oregon, as bicycle volumes have increased dramatically in the past two decades (as discussed above), the number of bicycle/motor vehicle crashes has remained roughly the same, indicating a significant reduction in the crash rate. This is illustrated in the image below. The reduction in the crash rate is almost undoubtedly due to improved motorist and bicyclist behavior as a result of the increased volume of bicyclists on the roadway, correlating with the increase in bicycle facilities.



8. Won't adding center turn lanes negatively impact traffic flow to neighborhoods/residential streets?*

New center turn lanes are proposed at only a few streets, including Goodman Avenue in Redondo Beach as well as Corona Street and Owosso Avenue in Hermosa Beach. Adding center turn lanes will be beneficial to safety of all users on Aviation Boulevard. It's possible that this might result in people choosing to make left turns into a handful of cross streets that would receive new left turn lanes. However, due to the well-connected street network in areas where left turn lanes are proposed to be added, it is unlikely that this will result in a significant increase in cut-through traffic on any given street.

9. Are there studies from comparable situations (urban, 40K volume, 40 mph street, arterial /commuter street)?*

- Ocean Avenue in Santa Monica: bike lanes on a four lane road with two-way left turn lane, about 30,000 vehicles per day near PICO
- Santa Monica Boulevard: from Sepulveda Boulevard to Century Park West: bike lanes on a 6-lane road with medians and left turn lanes, with 55,000 to 66,000 vehicles per day
- Lomita Boulevard from Hawthorne Boulevard to Crenshaw Boulevard in Torrance: bike lanes on 5-lane roadway with 32,000 – 37,000 vehicles per day
- Seal Beach Boulevard from I-405 to Bolsa Avenue in Seal Beach: bike lanes on a 6-lane roadway with traffic volumes ranging from 25,000 to 47,000 vehicles per day

Additional examples that also show an increase in cyclists:

- Valencia Street in San Francisco; changed from four-lane undivided to two lanes with a center turn lane and bike lanes: Bike volumes increased from 88 per hour to 215 per hour.

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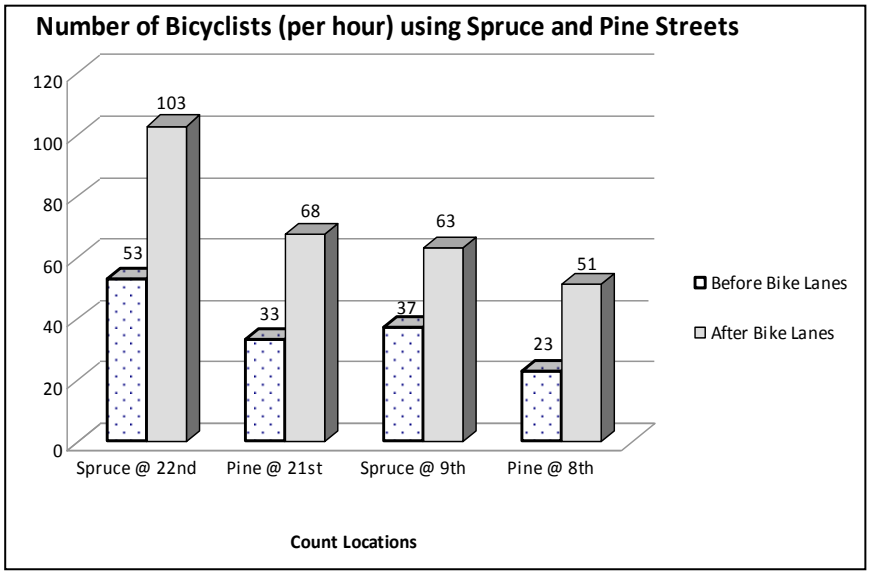
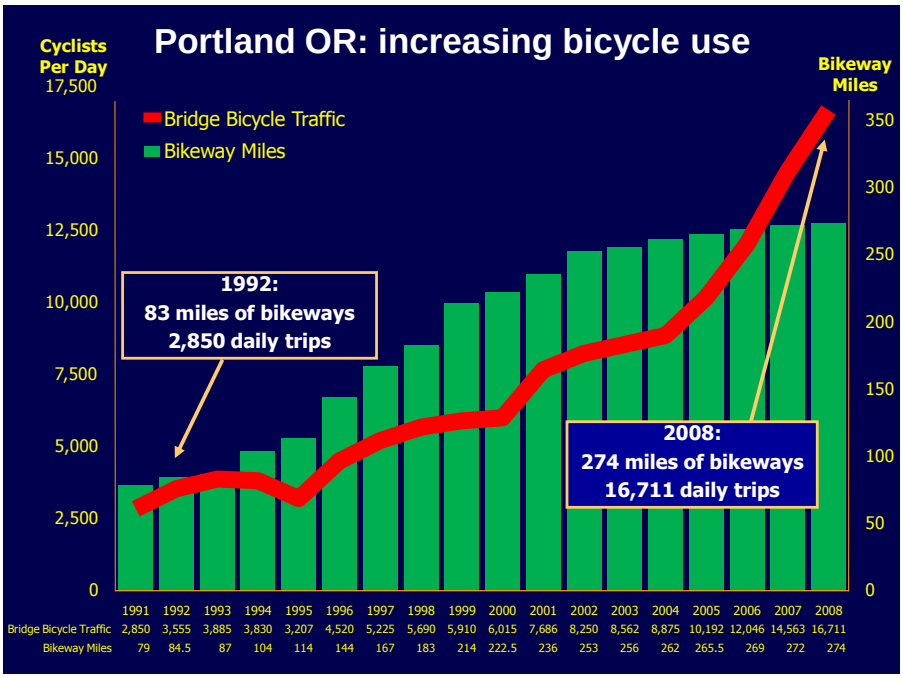
- Edgewater Drive in Orlando; changed from four-lane undivided to two lanes with a center turn lane and bike lanes: Bike volumes increased from 375 per day to 486 per day.
- St. Claude Avenue in New Orleans; Four lane divided roadway had lanes narrowed to provide bike lanes: Bike volumes on the street increased from 120 per day to 188 per day. (This was between November 2007 and November 2008, during which time the population growth was estimated to be between 10% and 17% and gas prices dropped from $2.65 per gallon to $1.67 per gallon in New Orleans.)
- On Spruce and Pine Streets in Philadelphia, these two-lane streets were converted to include two lanes plus bike lanes. Bike volumes on these streets approximately doubled after bike lanes were installed, as shown in the chart below:



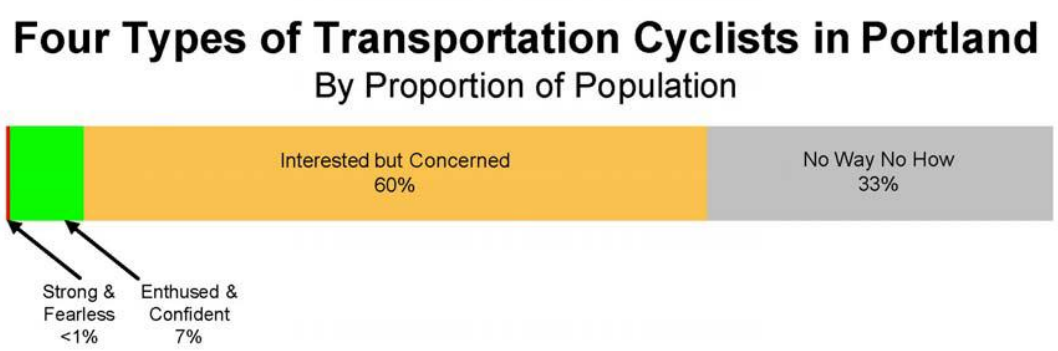
Portland, Oregon has seen dramatic increases in bicycle traffic throughout the city (measured by counting the number of cyclists crossing the four bridges most often used by cyclists), as shown in the following chart:



10. What would a full proposal look like (to include a 'best case' scenario for bicyclists to feel fully comfortable)?

As we explore this question it is useful to think about the different types of cyclists. The City of Portland, Oregon trying to get a better handle on the market for bicycle transportation, produced this model (more info at: http://www.portlandonline.com/transportation/index.cfm?&a=237507&c=44597) which, while not scientific is being more widely adopted as a useful tool throughout the cycling community. Simply described:

- **Strong and Fearless** (<1%) = those who would bike without any infrastructure improvements (examples: bicycle messengers)
- **Enthused and Confident** (7%) = those who are attracted by 'bare bones' infrastructure or those who who are unable to use their bicycles because of trip distances, terrain, other obligations, or absence of facilities along their specific route.
- **Interested but Concerned** (60%) = This category is founded on this experience of other countries that have created extensive cycling systems, as well from a basic assumption that under conditions where people feel safe and where bicycling makes sense, they will ride.
- **No way. No how.** (33%) = those who may use a bicycle for recreation, but their attitude about bicycling for transportation is generally "No way. No how."



As it applies to Aviation Blvd, the cyclists currently using the road would be categorized as "strong and fearless". They are the minority who will ride in almost any condition. A bike lane as viewed in this current Preliminary Engineering Study would initially attract the 'enthused and confident commuters'. If the cities' intent is to attract the 'interested but concerned' (like we see today on the Strand), further study would be needed.

BUSINESSES

11. Wouldn't adding a bike lane have a negative financial impact to businesses?

- Most of this concern is based on the potential loss of access with the proposed alternative that removes some left turn movements, as well as the loss of parking proposed in the corridor. These issues have been addressed above.
- When San Francisco made its Valencia Street less conducive to automobile travel and better for bicyclists and pedestrians, nearly 40% of merchants reported increased sales and 60% reported more area residents shopping locally due to reduced travel time and convenience. Two-thirds of merchants said the increased levels of bicycling and walking improved business. http://www.completestreets.org/webdocs/factsheets/cs-revitalize.pdf
- Local businesses can also benefit greatly when they support and embrace / entice bicyclists by offering incentives, events and infrastructure. For instance, more customers can park bikes in what used to be a single car parking space.

- In Portland, Oregon where there exists an extensive bicycling network, a $40-million-a-year bicycle industry is growing, providing between 850 and 1,150 jobs for area families. http://www.altaplanning.com/App_Content/files/fp_docs/2008%20Portland%20Bicycle-Related%20Economy%20Report.pdf
- By 2017, Portland, Oregon residents will have saved $64 million in health care costs thanks to bicycling. By 2040, the city will have invested $138-605 million in bicycling yet saved $388-594 million in health care costs and $143-218 million in fuel costs, a benefit-cost ratio of up to 4 to 1. http://journals.humankinetics.com/jpah-supplements-special-issues/jpah-volume-8-supplement-january/costs-and-benefits-of-bicycling-investments-in-portland-oregon

- Research in 2007 sought to identify the economic value of replacing car parking with bike parking in shopping strips. The case study in Lygon Street Carlton in Melbourne, Australia showed that cycling generates 3.6 times more expenditure. Even though a car user spends more per hour on average compared to a bike rider, the small area of public space required for bike parking suggests that each square meter allocated to bike parking generates $31 per hour, compared to $6 generated for each square meter used for a car parking space, with food/drink and clothing retailers benefiting the most from bike riders. http://colabradio.mit.edu/wp-content/uploads/2010/12/Final_Thesis_Alison_Lee.pdf

12. Won't a bike lane decrease access in and out of businesses?*

- In general, bike lanes actually increase safety and line of sight for automobiles exiting businesses. As bicycles travel more slowly than autos, cars can see oncoming bicycles and cars easier due to the addition of 5-6' of buffer.
- The concern in this case is mostly a result of specific design options (not final decisions) that are included in the report. Most notably, an option that included a continuous raised median for two blocks on Aviation Boulevard, just south of Manhattan Beach Boulevard. The raised median would prevent direct left turns to some businesses and streets leading to residences. It is important to note that the design with the median is just one of several options for this section of roadway.
- Direct left turns have also been proposed to be eliminated from Aviation Boulevard to 19th Street in Manhattan Beach, north of Space Park Drive. However, in this case, the proposed project provides an alternative method of making this left turn that involves continuing past 19th, making a U-turn, and then making a right turn into 19th Street. This maneuver is safer than the direct left turn, and it would likely be possible to allow this maneuver 24 hours a day, without the existing ban on left turns between 3 PM and 7 PM.

13. Wouldn't adding a center turn lane between Goodman and Grant be problematic to businesses?

Adding turn lanes should have a positive effect on businesses, as motorists will feel more comfortable making left turns off of Aviation Boulevard.

14. Will supporting/encouraging cycling to work (aerospace employees) along Aviation make a difference?

There are people at the major employers who are requesting cycling facilities to get to work. Of approximately 200 employees (Northrup Grumman, Aerospace Corp and Raytheon Corp) surveyed at various

health, commuter, earth day and bike to work fairs, people overwhelming said they would like to see a bike lane on Aviation Blvd. The most common reasons fell into two categories:

- People living in the South Bay and south or west of Aviation Blvd said "they would like to have a safe option to walk or ride their bicycle to work, but Aviation Blvd scares them; the cars drive way too fast and currently they would not feel safe walk or riding a bike to work."
- People living north or east of Aviation Blvd said they would like to have the opportunity to take the Metro Green Line and have a safe route to walk or ride a bicycle to work to/from the Metro stations."

15. Why recommend eliminating parking when parking is limited already?*

Based on the parking study completed, the parking in much of the corridor is underutilized. In the most heavily-used areas, no parking removal is recommended. In the less heavily-used areas where parking removal is recommended, there are alternative parking locations in off-street parking lots and/or on side streets. More details are provided in the report.

16. Once parking is taken away, isn't it gone for good?

No. Parking can be returned.

17. Would the need for parking reduce with increase in cycling?

It depends on the business and their customers. There are already some cyclists on the corridor as observed and photographed by Nelson\Nygaard staff. Some of these cyclists were observed entering businesses on Aviation Boulevard where on-street parking is located, thus there is already some reduction in parking demand due to bicycling. When this cycling activity increases, there will likely be a resulting reduction in parking demand. However, the reduction in parking demand is likely to be small.

OTHER

18. Can you provide impact studies on reducing parking and left turn lanes?*

- The report suggests that a full parking study could be conducted that would take a comprehensive look at alternative parking areas (including off-street parking). However, this comprehensive look is not within the scope of the current report.
- The report also recommends that a detailed traffic study should be performed prior to implementing the recommendations. This study would look at the signalized intersections where lane use changes are recommended by the report.

19. Why do this when bikes/cyclists are a small minority?

Community identified bicycle lanes have proven the mantra "If you build it they will come." Portland, OR and Long Beach, CA both have triple-digit percentage increases in their bike ridership since making their improvements.

20. What are the estimated bicycle counts before and after?*

- After bicycle lanes were installed post-Katrina on a New Orleans, Louisiana street, there was a 57% increase in the number of cyclists. The number of female cyclists increased 133%, and the percentage of cyclists riding in the correct direction increased from 73% to 82%.
- Other studies were noted above in earlier questions.

21. Isn't this project too expensive – the costs are likely to actually be double what is noted in the study?

It seemed that there was a general misunderstanding of the scope and scale of the project. The project primarily involves restriping, so the expenses are mainly removing and adding pavement markings and signs, with a relatively minor amount of physical construction of curbs, utilities, and other features.

22. Why are we building a bike lane for very few cyclists and inconveniencing 40,000 motorists? 100 cyclists vs. 40,000 motorists.

There are few cyclists today due to the design. Improved design can accommodate both auto and bicycle commuters. It is unsustainable to continue to build, improve and widen our streets for the exclusive use of cars. Between environmental concerns and climbing gas prices, alternative modes of transportation will become a necessity rather than a fringe culture. This is already happening in other cities much larger than any of the beach cities here and those locations are seeing a marked increase in their commuting ridership as infrastructure improvements are made. In addition, the proposed project is intended to minimize any inconvenience for motorists, by maintaining through travel lanes and turn lanes wherever possible. A detailed traffic study is recommended in order to determine the estimated effects of the proposed changes, but none of the proposed modifications are expected to have significant negative effect on motor vehicle capacity and level of service.

23. Won't a bicycle lane lead to a decrease in property values?

Bicycle infrastructure has been shown to either increase or have no impact on property values. A model developed as part of research that examined factors affecting property values in Delaware, showed that there is no information to suggest that a bike path designated as such by only the presence of a shoulder in the road would impact property values in Delaware as they are for the most part indistinguishable from the road corridor itself and are more a feature of the existing road rather than the neighboring properties. Additionally, property owners were concerned that a bicycle path (frequently put in through or directly adjacent to individual property) would decrease property values. In this case, bicycle path would be expected to increase property values by about $8,800. The research indicated that the presence of a bike path either increased property values and ease of sale slightly or had no effect.
http://128.175.63.72/projects/DOCUMENTS/bikepathfinal.pdf

QUESTIONS OR COMMENTS?
CONTACT: Katie McClure, Kathrine.mcclure@healthways.com

EXHIBIT E

PUBLIC HEARING

Aviation Blvd Bike Lanes

The Parking and Public Improvements Commission (PPIC) will conduct a public hearing to discuss a proposal to install Bike Lanes on Aviation Boulevard that would connect the three Cities of Hermosa, Redondo and Manhattan Beach. The proposed Bike Lanes on Aviation Boulevard include possible parking restrictions/removal, turn prohibitions, re-striping, street widening, and lane reconfigurations. Residents and interested parties are encouraged to attend and participate.

Parking and Public Improvements Commission Meeting
Thursday, July 26, 2012 at 6:30 p.m.
City Hall Council Chambers
1400 Highland Avenue, Manhattan Beach, CA 90266

The study is currently available at the Community Development Department counter at City Hall. The meeting Agenda and Staff Report will be available on the City's website at www.citymb.info on July 20, 2012 after 5:00 p.m. For additional information, please contact Nhung Madrid at (310)802-5540 or at nmadrid@citymb.info. Please submit all public comments in writing.

PUBLIC HEARING
AVIATION BLVD BIKE LANES

The Parking and Public Improvements Commission will conduct a public hearing to discuss a proposal to install Bike Lanes on Aviation Boulevard that would connect the three Cities of Hermosa, Redondo and Manhattan Beach. The proposed Bike Lanes on Aviation Boulevard include possible parking restrictions/removal, turn prohibitions, re-striping, street widening, and lane reconfigurations. Interested parties are encouraged to attend and participate.

PARKING AND PUBLIC IMPROVEMENTS COMMISSION MEETING

WHEN: **Thursday, July 26, 2012 at 6:30 pm**
WHERE: **City Hall Council Chambers**
1400 Highland Avenue
Manhattan Beach, CA 90266

The Preliminary Engineering Study is currently available at the Community Development Dept. counter at City Hall. The Agenda and Staff Report will be available on the City's website at www.citymb.info on July 20, 2012 after 5:00 PM. For additional information, please contact Nhung Madrid at (310) 802-5540 or email at nmadrid@citymb.info. Please submit all public comments in writing.

Published as The Beach Reporter No. 7524,
July 12, 19, 2012

EXHIBIT F

___ANDRE___

From: thang nguyen [kimdiepthang@yahoo.com]
Sent: Tuesday, February 21, 2012 8:09 AM
To: drandre@yahoo.com
Subject: No Bike Lane

Vogue Skin & Nails

909 N. Aviation Blvd. #10 Manhattan Beach, Ca 90266
Tel: 310 798 6330

Tuesday, February 21, 2012

To Mayor Mike Gin and Manhattan Beach Council Members

We are business owners along the Aviation Blvd. deeply concern the installation of bike lanes on Aviation Blvd. The Aviation Blvd is main street and quite busy all the time, the parking for patrons already shrink in and the available space on street help our business survival, especially this time. The installation of Bike lane on Aviation as proposed may cause unsafe to bicyclists due to heavy traffic and discourage our patrons stop by and come to our business.

Please reconsider our petition, we ask you to drop this proposal.
We strongly say, NO BIKE LANE on the Aviation Blvd., Please.

Sincerely yours,

Thang Duc Nguyen

Vogue Skin & Nails

APOLLO HOLDINGS, LLC

15721 S. Western Avenue, Suite 320
Gardena, CA 90247

Telephone/Fax: (310) 808-1019
Email: Apollo_holdings@yahoo.com

February 21, 2012

Manhattan Beach City Council
Manhattan Beach City Hall
1400 Highland Avenue
Manhattan Beach, CA 90266

Re: Proposed bike lanes on Aviation Boulevard

Dear City Council Members:

As the owner of the property located at 909 N. Aviation Boulevard in the City of Manhattan Beach, CA, I am writing to oppose the proposal to install bike lanes on Aviation Boulevard, and most crucially to object to the extension of the raised median curb from Warfield Avenue to Bataan Road. The cement barrier would prohibit turning left into and out of our parking lot and would be extremely detrimental to the businesses at this location. Our tenants already suffer from the lack of parking and the restrictions on signage at this location and this added inconvenience could mean the loss of current and potential customers.

In addition to the loss of revenue to businesses, however, is the impact the raised median curb will have on residents on the surrounding streets, including but not limited to increased traffic and safety issues caused by bicyclists.

I respectfully request that you reconsider the negative consequences which would result should the proposed changes be instituted. Are there not more useful projects that our tax dollars can be used for which would be less detrimental to businesses and residents, and be of more benefit to more people?

Respectfully,

ROBERT Y. NAGATA,
Owner

The Hangar Inn
1001 N. Aviation Blvd
Manhattan Beach.CA 90266

Re: Opposition to Beach Cities Health District bike lane proposal

To whom it may concern,

This letter is to inform the parties involved that The Hangar Inn, located on 1001 Aviation Blvd in Manhattan Beach, CA opposes the Aviation Bike Lane project. Being in business for over 50 years, owners and patrons of the Hangar Inn feel that this would be a detriment to our business for the following reasons.

With this Bike lane, potential customers would not to be able to access 10th street from Aviation Blvd that are heading north. It would cause them to have to make a u-turn at Manhattan Beach Blvd to access the Hangar Inn parking lot or 10th street.

During rush hour, the traffic from the adjoining businesses including the preschool next door to us on 10th Street and the parking lot that includes Valentino's Pizza, Suds and Duds and Speedy Mart gets extremely congested. 10th street gets backed up and has seen many accidents due to the congestion. My feeling is that with only one way out for most traffic, this is going to be a nightmare.

Furthermore, I feel that this will force potential customers to access 9th and 10th street to either access or leave all of the businesses mentioned.

We will be losing valuable parking on Aviation Blvd which parking is already our biggest obstacle.

Please do not move forward with this proposal without thinking of Manhattan Beach businesses and residents and what this would mean to our livelihood and quality of life.

Dean Moss

Nhung Madrid

From: ___ANDRE___ <drandre@yahoo.com>
Sent: Tuesday, March 06, 2012 3:18 PM
To: Nhung Madrid
Subject: RE: Aviation Bike Lanes Proposal
Attachments: 2012-03-01 - Petitions.pdf; 2012-03-01 - Letters from local businesses.pdf

Good afternoon Nhung Madrid:

After speaking with Nick at Rainbow Cleaners, he wanted me to e-mail you the current Petitions. Attached, please find the up-to-date Petitions AGAINST the Aviation Bike Lane proposal along with three letters from local Manhattan Beach businesses.

Is the PPIC meeting still expected to be on March 22, 2012?
When you post the announcement in the Beach Reporter, is it posted in the Legals, Public Notice section of the paper?

Sincerely
- Andre
==========
drandre@yahoo.com
310-997-0597 phone/text

-----Original Message-----
From: Nhung Madrid [mailto:nmadrid@citymb.info]
Sent: Wednesday, February 22, 2012 10:34 AM
To: ___ANDRE___
Subject: RE: Aviation Bike Lanes Proposal

Hi Andre,

It was a pleasure meeting you as well. The two meetings that are scheduled for Thursday, February 23rd (Parking and Public Improvements Commission-PPIC for MB and Public Works Commission for RB)will have the same presentation by Nelson/Nygaard. They are the consultants that prepared the preliminary engineering study for the Aviation Blvd Bike Lane. Their plan is to present in MB first and then go to RB and present. For our PPIC meeting, the consultant will provide a brief overview of the entire study area, but the discussion will focus only on segments within MB. Therefore, I would suggest that the MB citizens, business owners and property owners attend the our PPIC meeting. Also, as stated in our staff report, we will be performing more outreach through mailed notices and a Beach Reporter Ad, and we will be bringing back this item to the Commission on March 22 (there's a typo in the staff report) for additional discussion and public input.

As for future notices, I would suggest that you sign up for "e-News sign up" on our website at www.citymb.info and choose the option for Boards and Commissions and City Council. This will send you an email with links to our agendas. For now, I can tell you that the item will be going to PPIC next month on 3/22, and it is tentatively scheduled for City Council on April 17th.

Thanks,
Nhung

Nhung Madrid

Community Development Management Analyst
P: (310) 802-5540
E: nmadrid@citymb.info
City of Manhattan Beach, CA

-----Original Message-----
From: ___ANDRE___ [mailto:drandre@yahoo.com]
Sent: Wednesday, February 22, 2012 10:01 AM
To: Nhung Madrid
Subject: Aviation Bike Lanes Proposal

Good morning Nhung Madrid:

It was a pleasure to meet you last night and Thank you for talking with me more in detail about the future meetings at last night's City Council meeting. I found the preliminary engineer study on your agenda for the 02/23/12 meeting.

You mentioned there were two meetings addressing this same issue. The question I had is whether concerned Manhattan Beach citizens, business owners and property owners should attend either the Parking and Public Improvements Commission (MB) meeting or the Redondo Beach Public Works Commission meeting. Which would be the best one to state their direct concerns about this plan?

Also, is it possible for you to keep me informed of any new developments relating to the Aviation Bike Lane proposal?

Let me know at your earliest convenience.

Sincerely
- Andre
==========
drandre@yahoo.com
310-997-0597 phone/text

PETITION TO STOP THE INSTALLATION OF BIKE LANES ON AVIATION BOULEVARD.

Here is the situation:
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Suggestion of what is needed & Why this Petition is needed:
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Printed Name	Signature	Address	E-Mail/Comment	Date
MICHAEL SEYDOR	[illegible]	4560 W 165 ST 90260	CAN RIDE / BACKGROUND	2/20/12
Linda Seydor	[illegible]	4560 W 165th Lawndale		2-20-12
Bob Norman	[illegible]	1711 9th St MB		2/20/12
DENNIS ESCOTO	[illegible]	4620 W 147th ST. LAWNDALE		2/20/12
James Smith	[illegible]	1038 Dixie Ave		02/20/12
JASON PUCKETT	[illegible]	4531 145 [illegible]		2/20/12
SCOTT LIBERTY	[illegible]	1820S GREVILLEA AVE		2.20.12
Michelle Tarrant	[illegible]	2211 Nelson Ave. RB 90278		2-20-12
JAMIE DAVIS	[illegible]	2211 NELSON AVE	jamieedavis@yahoo.com	2/20/12
Dean Moss	[illegible]	8513 Ramsgate Ave		2-21-12
MARIA MOSS	[illegible]	8513 RAMSGATE		2-21-
HAROLD KINSLER	[illegible]	606 9th ST	HKALCUMFORKG mail	2/21/12
Matt Williams	[illegible]	1915 Dufour ave RB CA 90278	matt williams public agenda [illegible]	2/21/12
MARIA CARLOS	M. Carlos	520 N. Francisca #3 RB 90277		02/21/12
GILBERT GILLESPIE	[illegible]	1638 3rd ST, MB 90266		02/21/12
BARNEY STEECE	B. Steece	2304 HUNTINGTON LANE RB	B.STEECE@CINONE	2/21/12
Tyler Norcross	Tyler Norcross	2109 Matthew Ave RB		2-21-12
JAMES FINDLEY	[illegible]	842 8th ST H.B. CA	southbaysurf@[illegible]	2-21-12
Brianna Slater	[illegible]	821 Manhattan ave	brianna.slater@gmail.com	2-21-12
LANCE GARDNER	[illegible]	4926 W 135th St	[illegible]	2-21-12
Juan [illegible]	JUAN BUSTIOS	5144 W134th ST	JUANMAGM 1@AOL	2-21-12
John Free	John Free	32525 [illegible] Pl		2/21/12
Terry Davenport	[illegible]	2015 Bataan		2/21/12
Michael Holmes	[illegible]	2929 190th Redondo		2-21-12

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Printed Name	Signature	Address	E-Mail/Comment	Date
KIM HARRIGAN	[signature]	2022 PLANT Ave	Kimyada@yahoo.com	2/20/12
RON ESCOBETE	[signature]	117 1ST ST, MB	ESCOBETE@HOTMAIL.com	2/20/12
Cathleen Dominguez	[signature]	1737 1st St MB	cathydominguez@verizon	2/20/12
Samantha Landers	[signature]	844 Manhattan Bch Blvd apt B	MB	2/20/12
Marci Malone	[signature]	705 Crest DR.		2/20/12
ROB FABRETAS	[signature]	705 Crest Dr.		2/20/12
JEFFREY PATATT	[signature]	519 N. MARIA RB 90277		2-20-12
ARLETTE NELSON	[signature]	2016 PERRY AVE	ARLETTE.NELSON@SBCglobal.net	2/20/12
Suzanne Devaun	[signature]	504 Harkness Ln #2	Suzanne.devaune@gmail	2/20/12
ALAN ZACK	[signature]	1110 HARPER AVE RB.		2/20/12
CYNTHIA JULIAN	[signature]	2514 A VANDERBILT LN. RB		2/20/12
KIM WEISS	[signature]	5545 OCEAN UNIT 105		2/20/12
RICHARD Lay	[signature]	2104 Clark Lane Unit A, RB	Hooley91@roadrunner.com	2/20/12
Julie Harkins	[signature]	5206 Carmon St		2/21/12
CELIA F. GEA	[signature]	313 W 234 ST.		2/21-12
Marta Castillo	[signature]	1805 Lyngrove Ave	———	2/21/12
CARLENE KERKEZ	[signature]	2205 Magnolia Ave		2/21/12
DAVID CHANG	[signature]	1812 11th St		2/21/12
John Henry	[signature]	1924 Nelson Ave, Unit A		2/21/12
Emma McKinley	[signature]	1201 16th Street Hermosa Beach		2/22/12
Faizi Lee	[signature]	4001 Inglewood Ave RB		
Janice Boga	[signature]	2502 [illegible] Ave	RB	2-22-12
Greg Sappington	GREG SAPPINGTON	2623 GRAHAM AVE	RB	2-23-12
Jonathan (Gen)		1575 21st ST		2-23-12
CARLA ESLING	[signature]	3828 W. 226th St. RB		2/22/12
Chris Hernandez		2138 E. [illegible]		2/23/12
JOHN GASPARI	[signature]	1624 21st St MB 90266		2/23/12

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Printed Name	Signature	Address	E-Mail/Comment	Date
LESTER Scott	[signature]	3865 Nicolet	Major Disruption	2/23
Scott Hadar	[signature]	1111 S Wilton	No Bueno	2/23
LOLA GONZALEZ	[signature]	1918 Huntington RB	〃	2/23
Michael Buchan	[signature]	2910 Vail Ave	N/A	2-23-2012
Heather Blackmore	[signature]	2722 Vanderbilt #B		2-23-2012
Michael BARRY	[signature]	1751 Herrin St #2	NA	2-23-12
David Manley	[signature]	5041 Sharon Dr	NA	2/23/12
DAVID RAMIREZ	[signature]	1280 Ocean Blvd LB	N/A	2/23/12
John GAHLAU	[signature]	5828 Glider Ave	N/A	2/23/12
Mike Kuckowicz	[signature]	1107 Camas Ave	N/A	2-23-12
RICHARD CORLETT	[signature]	3506 Lindale Rd	N/A	2/23/12
[illegible]	[signature]	1000 Harkness St #B		2/23/12
Rob [illegible]	[signature]	1711 [illegible]		2/23/12
JEFF [illegible]	[signature]	2809 [illegible] Ln 90278	NA	2-23-12
Timmy Clark	[signature]	1851 [illegible] 90277	—	2-22-12
Micheal Bryson	[signature]	209 South Prospect Ave 90277		2-23-12
John [illegible]	[signature]	1817 10th St.		2-23-12
James [illegible]	[signature]	2014 Dufour		2-23-12
DAVE ROBINSON	[signature]	5324 W. 142nd PL. HAW		2-23-12
JOHN BRADFORD	[signature]	Redondo Bch	—	2-23-12
Billy Bong	[signature]	25 Mehlcrest		2-23-12
EDWARD BARDEN	[signature]	2102 FARRELL AV	N/A	2-24-12
Luke Barden	[signature]	2102 Farrell ave	N/A	2-24-12

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Printed Name	Signature	Address	E-Mail/Comment	Date
Toni Sumen	[signature]	1025 N. Aviation Blvd	tsumen@aol.com	2/20/12
Zoe Myerson	[signature]	1912 Plant Ave RB	Zoemye@yahoo.com	2/20/2012
Alan Arnold	[signature]	2020 Dufour Ave #2	TALLSKI660@AOL	2/20/2012
Nurdin S. Bhanji	[signature]	1015 N Aviation Blvd RB	[illegible]	2/20/2012
Ana M. Davila	[signature]	909 Aviation Blvd St		2-20-12
Steve Antabian	[signature]	3410 Aviation Blvd R.B	ATSMOTORS@ROADRUNNER.com	2-20-12
Bill Chaney	[signature]	13[illegible] Aviation Blvd	WRCHANEY@[illegible]	2-20-12
Andre Lerma	[signature]	2018 Dufour Ave RB	drandre@yahoo.com	2/20/12
Kathleen Rutman	[signature]	1053 N Aviation Blvd MB	Katy@Katmakcrossfit.com	2/21/12

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Printed Name	Signature	Address	E-Mail/Comment	Date
Kevin Kronfeld	[signature]	446 N Paulina Ave RB		2/20/12
Devra Kronfeld	[signature]	446 N Paulina Ave RB		2/20/12

Nhung Madrid

From: Shelly Kaytor <skaytor@verizon.net>
Sent: Thursday, July 12, 2012 5:29 PM
To: Nhung Madrid
Subject: Aviationbikelane.doc
Attachments: header.htm

nmadriCity of Manhattan Beach
Parking & Public Improvements Commission Meeting

Re: Aviation Blvd. Bike Lanes

Date: July 26, 2012

We oppose the proposal to install bike lanes on Aviation Boulevard for the following reasons:

1. Heavy traffic on the existing highway
2. Access to the bikeway unsafe for bicyclists
3. Neighborhood traffic would be negatively effected
4. Neighborhood businesses would be negatively effected

We have lived at 1055 Harkness Street for over 50 years. During that time we have become acquainted with the problems of living on a busy, narrow sidestreet. One of those problems is 'cut through' traffic: vehicles using our street to get around the busy MMB/Aviation intersection (and some of these vehicles do not observe the 4-way boulevard stop signs on Harkness). We forsee additional cut-through traffic should this proposal prevail.

Our street is not wide enough to accommodate parking on both sides in addition to two-way traffic. Parking is often full on both sides of Harkness Street during the school day due to the proximity of several schools on MBB. Heavy two-way traffic would be inconvenient, at best, and potentially dangerous.

Thank you for your attention to our remarks.

Mr. & Mrs. John Kaytor

Nhung Madrid

From: david chang <changd02@yahoo.com>
Sent: Tuesday, July 17, 2012 2:27 PM
To: Nhung Madrid
Subject: aviation blvd bike lane

hello,

my name is david chang and i live at 1812 11th street. please consider this email as my formal written objection to the aviation blvd bike lane installation. I fear I may not be able to attend the parking and public improvements commission meeting july 26th.

i am concerned that building a bike lane and blocking the left hand turn from aviation while heading northbound will directly increase traffic on 11th street eastbound. Patrons will try to turn left onto 6th or 8th streets, head north on harkness, and then east on 11th to reach the merchants located on the west side of aviation between 11th and 10th/9th streets.

i have 2 young children (3.5 and 2 years old) and fear that the increased traffic will affect their safety.

thank you,
david