

Appendix F Traffic Impact Study

LINSCOTT LAW & GREENSPAN

engineers

TRAFFIC IMPACT ANALYSIS

GOLDEN SHORE MASTER PLAN

Long Beach, California October 2, 2009

Prepared for: **PCR SERVICES CORPORATION** One Venture, Suite 150 Irvine, CA 92618

and

THE CITY OF LONG BEACH Department of Development Services 333 West Ocean Boulevard Long Beach, California 90802



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October 2, 2009

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LLG Reference: 2.08.2995.1

Subject: **Traffic Impact Analysis for the Golden Shore Master Plan** Long Beach, California

Dear Mr. Crook:

Linscott, Law & Greenspan, Engineers (LLG) is pleased to submit this Traffic Impact Analysis for the Golden Shore Master Plan. The proposed Project site is located on the east side and west side of Golden Shore, south of Ocean Boulevard and north of Shoreline Drive in downtown Long Beach. The proposed Project includes the construction of 1,110 high-rise residential condominium units, a 400-room hotel, and 367,000 square-feet (SF) of office space in place of 294,003 SF of existing office space.

This traffic impact analysis presents an inventory of existing characteristics and traffic volumes at 30 key study intersections within the vicinity of the Project, forecasts vehicular traffic generated by the proposed Project, and evaluates potential project-related traffic impacts on the surrounding street system.

We appreciate the opportunity to prepare this study. A summary of findings, conclusions and recommendations can be found on pages 48 and 52 of this report. Should you have any questions or comments regarding the findings this report, please contact our office at (714) 641-1587.

Very truly yours, Linscott, Law & Greenspan, Engineers

Davitte

Richard E. Barretto, P.E. Principal

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TRAFFIC IMPACT ANALYSIS GOLDEN SHORE MASTER PLAN Long Beach, California October 2, 2009

1.0 INTRODUCTION

This Traffic Impact Analysis report addresses the potential traffic impacts and circulation needs demand associated with the Golden Shore Master Plan project (hereinafter referred to as Project). The proposed Project site is located on the east side and west side of Golden Shore, south of Ocean Boulevard and north of Shoreline Drive in downtown Long Beach. The Project site is currently developed with three multi-level office buildings totaling 294,003 square-feet (SF) and 920 parking spaces. The proposed Project includes the construction of 1,110 high-rise residential condominium units, a 400-room hotel, 367,000 square-feet (SF) of office space and 3,430 parking spaces, which will be provided in a combination of structure and surface parking facilities in place of the existing uses.

1.1 Scope of Work

This report documents the findings and recommendations of the traffic impact analysis, as well as the parking analysis, conducted by Linscott, Law & Greenspan, Engineers (LLG) for the proposed Project. The traffic analysis evaluates the existing operating conditions at thirty (30) intersections within the project vicinity, estimates the trip generation potential of the proposed Project, and forecasts future operating conditions without and with the Project. Where necessary, intersection improvements/ mitigation measures are identified.

The traffic report satisfies the traffic impact requirements of the City of Long Beach and is consistent with the requirements and procedures outlined in the 2004 Congestion Management Program (CMP) for Los Angeles County. The Scope of Work for this report has been developed in coordination with City of Long Beach staff.

The project site has been visited and an inventory of adjacent area roadways and intersections was performed. Existing peak hour traffic information has been collected at thirty (30) study locations on a "typical" weekday for use in the preparation of intersection level of service calculations. Information concerning cumulative projects (planned and/or approved) in the vicinity of the Project has been researched at the City of Long Beach. Based on our research, there are nineteen (19) related projects in the City of Long Beach that will contribute to the traffic analysis. These nineteen (19) proposed projects were considered in the cumulative traffic analysis for this project.

This traffic report analyzes existing and future weekday AM peak hour and PM peak hour traffic conditions for the Year 2020 upon completion of the Proposed Project. Peak hour traffic forecasts for the Year 2020 horizon year have been projected by increasing existing traffic volumes by an

annual growth rate of 1.0% per year and adding traffic volumes generated by nineteen (19) related projects.

1.2 Study Area

The thirty (30) key area intersections selected for evaluation in this report provide both regional and local access to the study area. They consist of the following:

- 1. Magnolia Avenue at 7th Street
- 2. Pacific Avenue at 7th Street
- 3. Pine Avenue at 7th Street
- 4. Long Beach Boulevard at 7th Street
- 5. Atlantic Avenue at 7th Street
- 6. Martin Luther King Jr. Ave at 7th St
- 7. Alamitos Avenue at 7th Street
- 8. Magnolia Avenue at 6th Street
- 9. Magnolia Avenue at 5th Street
- 10. Alamitos Avenue at 4th Street
- 11. Magnolia Avenue at 3rd Street
- 12. Magnolia Avenue at Broadway
- 13. Pacific Avenue at Broadway
- 14. Pine Avenue at Broadway
- 15. Alamitos Avenue at Broadway

- 16. Golden Avenue\Golden Shore at Ocean Boulevard
- 17. Magnolia Avenue at Ocean Boulevard
- 18. Chestnut Place at Ocean Boulevard
- 19. Pacific Avenue at Ocean Boulevard
- 20. Pine Avenue at Ocean Boulevard
- 21. Long Beach Boulevard at Ocean Boulevard
- 22. Atlantic Avenue at Ocean Boulevard
- 23. Alamitos Ave/Shoreline Drive at Ocean Boulevard
- 24. Golden Shore at Seaside Way
- 25. Chestnut Place at Seaside Way
- 26. Pine Avenue at Seaside Way
- 27. Golden Shore at I-710 Southbound Off-Ramp
- 28. Golden Shore at Eastbound Shoreline Dr On-Ramp
- 29. Chestnut Place at Shoreline Drive
- 30. Pine Avenue at Shoreline Drive

Figure 1-1 presents a Vicinity Map, which illustrates the general location of the project and depicts the study locations and surrounding street system.

Level of Service (LOS) calculations for the AM and PM peak hours at these thirty (30) study intersections were performed to evaluate the future potential traffic impacts associated with anticipated area growth, related projects, and the proposed Golden Shore Master Plan project. Included in this traffic and parking analysis are:

- Existing traffic counts,
- Estimated project traffic generation/distribution/assignment,
- Estimated cumulative project traffic generation/distribution/assignment,
- AM and PM peak hour capacity analyses for existing conditions (Year 2008),
- AM and PM peak hour capacity analyses for future (Year 2020) conditions without and with project traffic,
- Area Traffic Improvements,
- Site Access Evaluation,
- Parking Evaluation; and.
- Congestion Management Program Compliance Assessment.



2.0 **PROJECT DESCRIPTION**

The proposed Project site, consisting of two parcels with a total land area of 5.87 acres, is located on both the east side and west side of Golden Shore, south of Ocean Boulevard and north of Shoreline Drive in downtown Long Beach.

2.1 Existing Land Uses

The West Site, which totals 4.31 acres of land and is located west of Golden Shore and south of Ocean Boulevard, is currently developed with two multi-level office buildings with a total floor area of 136,341 square-feet (SF) and a parking supply of 557 spaces located in combined surface and subterranean parking facilities.

The East Site, which totals 1.56 acres of land and is located east of Golden Shore and south of Ocean Boulevard, is currently developed with a 14-story, 157,662 SF office building as well as 363 spaces located in combined surface and structure parking facilities. Combined, the site is currently developed with three multi-level office buildings totaling 294,003 SF of general office uses (includes 11,860 SF of ancillary retail space) and 920 parking spaces. All existing site uses will be demolished as part of the proposed Project.

2.2 Proposed Project

The proposed Golden Shore Master Plan, to be constructed in two separate phases, involves the development of up 1,110 residential condominiums, a 400 room hotel and 367,000 SF of office space in place of the existing development. The project would provide on-site parking in parking structures. *Table 2-1* summarizes the existing and proposed Project development totals for the West Site and East Site of the project. *Figure 2-1* presents the proposed site plan for the Project.

As shown in *Table 2-1*, the development on the West Site consists of 574 residential units, 279,000 SF of office space (includes 19,000 SF of ancillary retail space), a 400-room hotel with 27,000 SF of banquet space and 2,265 parking spaces. The proposed Project uses on the East Site consists of 536 residential units, 88,000 SF of office space (includes 8,000 SF of ancillary retail space) and 1,165 parking spaces. The proposed Project is anticipated to be completed by Year 2020.

2.3 Site Access

As illustrated in the conceptual site plan in *Figure 2-1*, access to the project will be provided from Golden Shore and Seaside Way; no direct vehicle access is proposed from Ocean Boulevard or Shoreline Drive. As currently proposed, primary access to the West Site and East Site of the Project will be provided via one full-access driveway on Golden Shore, between Ocean Boulevard and Seaside Way, with secondary access provided from Seaside Way.

Land Use / Project Description	(1) Existing Development Totals	(2) Proposed Development Totals
Golden Shore Master Plan		
West Site		
One Golden Shore Office Building	32,000 SF	
 11 Golden Shore Office Building 	104,341 SF (includes 4,705 SF of retail space)	
High-Rise Residential Condominiums		574 DU
Hotel		400 rooms with 27,000 SF of banquet space
 Office Buildings 		279,000 SF (includes 19,000 SF of retail)
Parking Supply	557 spaces	2,265 spaces
East Site		
• 400 Oceangate Tower	157,662 SF (includes 7,155 SF of retail space)	
High-Rise Residential Condominiums		536 DU
Office Buildings		88,000 SF (includes 8,000 SF of retail)
Parking Supply	363 spaces	1,165spaces
Total		
Office	294,003 SF	367,000 SF (includes 27,000 SF of retail)
High-Rise Residential Condominiums		1,110 DU
Hotel		400 rooms with 27,000 SF of banquet space
 Parking Supply 	920 spaces	3,430 spaces

 TABLE 2-1

 PROJECT DEVELOPMENT SUMMARY¹

Notes:

• SF = square foot of development

• DU = dwelling unit

¹ Source: Golden Shores Master Plan Project Description, prepared by PCR, Issued Date July 2009.



3.0 EXISTING CONDITIONS

Regional access to the Project site is provided by the Long Beach (I-710) Freeway, which is a northsouth regional highway located west of the Project site. The Long Beach (I-710) Freeway begins at Queensway Bay in Long Beach and extends north to Valley Boulevard in Alhambra. The 1-710 Freeway generally provides four travel lanes in each direction. Freeway access to the Project site is provided via on and off-ramps with Golden Shore.

The network of roadways that surround our project include Golden Shore, Magnolia Avenue, Pacific Avenue, Long Beach Boulevard, Atlantic Avenue, Alamitos Avenue, 7th Street, 6th Street, 3rd Street, Broadway, Ocean Boulevard, and Seaside Way, and Shoreline Drive. The following discussion provides a brief synopsis of these key area streets. The descriptions are based on an inventory of existing roadway conditions.

3.1 Street Network

Golden Shore is a four-lane divided roadway that extends primarily in the north-south direction, through the project site. Parking is not permitted on either side of this roadway within the vicinity of the project. The posted speed limit on Golden Shore is 30 miles per hour. The intersection of Golden Shore at Ocean Boulevard is controlled by a traffic signal, while the intersections of Golden Shore at Seaside Way, Golden Shore at Shoreline Drive Off-Ramp, and Golden Shore at Shoreline Drive On-Ramp are stop-controlled.

Magnolia Avenue is a two-lane divided roadway that extends in the north-south direction, east of the project site. Parking is permitted on both sides of this roadway within the vicinity of the project. The posted speed limit on Magnolia Avenue is 25 miles per hour. The intersections of Magnolia Avenue at 7th Street, Magnolia Avenue at 6th Street, Magnolia Avenue at 3rd Street, Magnolia Avenue at Broadway, and Magnolia Avenue at 0^{cean} Boulevard are all controlled by traffic signals, while the intersection of Magnolia Avenue at 5th Street is stop-controlled.

Pacific Avenue is a four-lane divided roadway that extends in the north-south direction, east of the project site. Parking is generally not permitted on either side of this roadway within the vicinity of the project. The intersections of Pacific Avenue at 7th Street, Pacific Avenue at Broadway, and Pacific Avenue at Ocean Boulevard are controlled by traffic signals.

Long Beach Boulevard is a four-lane divided roadway that extends in the north-south direction, east of the project site. Parking is generally not permitted on either side of this roadway within the vicinity of the project. The posted speed limit on Atlantic Avenue is 30 miles per hour. The intersections of Long Beach Boulevard at 7th Street and Long Beach Boulevard at Ocean Boulevard are both controlled by traffic signals.

Atlantic Avenue is a four-lane divided roadway that extends in the north-south direction, east of the project site. Parking is permitted on both sides of this roadway within the vicinity of the project. The posted speed limit on Atlantic Avenue is 30 miles per hour. The intersections of Atlantic Avenue at 7th Street and Atlantic Avenue at Ocean Boulevard are both controlled by traffic signals.

Alamitos Avenue is a four-lane divided roadway that extends in the north-south direction, east of the project site. Parking is generally permitted on both sides of this roadway within the vicinity of the project. The intersections of Alamitos Avenue at 7th Street, Alamitos Avenue at 4th Street, Alamitos Avenue at Broadway, and Alamitos Avenue at Ocean Boulevard are all controlled by traffic signals.

7th Street is generally a one-way roadway that consists of three lanes flowing in the west direction, north of the project site. East of Martin Luther King Jr. Avenue, 7th Street is a four-lane roadway with traffic flowing in both directions. Parking is generally permitted on both side of this roadway within the vicinity of the project. The posted speed limit on 7th Street is 30 miles per hour. The intersections of 7th Street at Pine Avenue and 7th Street at Martin Luther King Jr. Avenue are controlled by traffic signals.

 6^{th} Street is a one-way roadway that consists of three lanes flowing in the east direction, north of the project site. Parking is permitted on both sides of this roadway within the vicinity of the project. West of Long Beach Boulevard, the posted speed limit is 30 miles per hour. East of Long Beach Boulevard, the posted speed limit is 25 miles per hour.

 3^{rd} Street is a one-way roadway that consists of three lanes flowing in the west direction, north of the project site. East of Alamitos Avenue, 3^{rd} Street is a two-lane divided roadway with traffic flowing in both directions. Parking is generally permitted on both sides of this roadway within the vicinity of the project. The posted speed limit on 3^{rd} Street is 30 miles per hour.

Broadway is a one-way roadway that consists of three lanes flowing in the east direction, north of the project site. East of Alamitos Avenue, Broadway is a two-lane divided roadway with traffic flowing in both directions. Parking is generally permitted on both sides of this roadway within the vicinity of the project. The posted speed limit on Broadway is 30 miles per hour. The intersection of Broadway at Pine Avenue is controlled by a traffic signal.

Ocean Boulevard is primarily a six-lane divided roadway that extends in the east-west direction, bordering the project site directly to the north. West of Golden Shore, Ocean Boulevard is a fourlane divided roadway. Parking is generally permitted on both sides of this roadway within the vicinity of the project. East of Golden Shore, the posted speed limit on Ocean Boulevard is 30 miles per hour. West of Golden Shore, the posted speed limit on Ocean Boulevard is 45 miles per hour. The intersections of Ocean Boulevard at Chestnut Place and Ocean Boulevard at Pine Avenue are controlled by traffic signals.

Seaside Way is a four-lane divided roadway that extends in the east-west direction, through the project site. West of Magnolia Avenue, parking is not permitted on either side of this roadway within the vicinity of the project. East of Magnolia Avenue, parking is permitted on both sides of the roadway within the vicinity of the project. The intersection of Seaside Way at Chestnut Place is stop-controlled, while the intersection of Seaside Way at Pine Avenue is controlled by a traffic signal.

Shoreline Drive is a six-lane divided roadway that extends in the east-west direction, bordering the project site directly to the south. Parking is generally not permitted on either side of this roadway within the vicinity of the project. The posted speed limit on Shoreline Drive is 40 miles per hour. The intersections of Shoreline Drive at Chestnut Place and Shoreline Drive at Pine Avenue are controlled by traffic signals.

Figure 3-1 presents an inventory of the existing roadway conditions for the arterials and intersections evaluated in this report. The number of travel lanes and intersection controls for the key area intersections are identified.

3.2 Existing Public Transit

The Los Angeles County Metropolitan Transportation Authority, Long Beach Transit (LBT), and the Orange County Transportation Authority (OCTA) provide public transit services in the vicinity of the proposed Project. In the vicinity of the Project, the Metro Blue Line, Metro Local Line No. 232, Metro Express Line No. 577X, OCTA Route No. 60, Los Angeles Department of Transportation (LADOT) Commuter Express 142, and LBT Route No. 1 currently serves Easy Avenue, LBT No. 7 serves Orange Avenue, LBT Nos. 21, 22, and 23 serves Cherry/Downey Avenue, LBT Nos. 45 and 46 serves Anaheim Street, LBT Nos. 51 and 52 serves Long Beach Boulevard, while LBT Route Nos. 61, 62, 63, and 66 serves Atlantic Avenue. LBT Route No. 81 currently serves 10th Street, LBT Route Nos. 91, 92, 93, 94, and 96 serves 7th Street, LBT Route Nos. 111 and 112 serves Broadway, LBT Route Nos. 171, 172, 173 and 174 serves Pacific Coast Highway, LBT Route Nos. 181 and 182 serves 4th Street, LBT Route Nos. 191, 192, 193 serves Santa Fe Avenue, LBT Passport Routes A and D serves Ocean Boulevard, while LBT Passport Route B serves Downtown Long Beach's East Village and West Gateway attractions, and LBT Passport Route C serves Pine Avenue. A brief description of the transit services is as follows:

Metro Blue Line:

- The Metro Blue Line runs from 7th Street in downtown L.A., through the communities of Vernon, Huntington Park, South Gate, Watts, Compton, Carson, ending in downtown Long Beach.
- The route traverses the study area on Long Beach Boulevard, 7th Street, Pacific Avenue, and Ocean Boulevard and operates throughout the day, Monday through Sunday.
- During the weekday AM peak hour, in the northbound/southbound directions, the Metro Blue Line provides headways of 6 buses in the northbound direction and 5 buses in the southbound direction. During the weekday PM peak hour, in the northbound/southbound directions, the Metro Blue Line provides headways of 5 buses in the northbound direction and 6 buses in the southbound direction.

Metro Local Line 232:

- The Metro Local Line 232 runs from downtown Long Beach Transit Station to LAX City Bus Center.
- The route traverses the study area on Long Beach Boulevard, 7th Street, Pacific Avenue, and Ocean Boulevard and operates throughout the day, Monday through Sunday.



During the weekday AM and PM peak hour, in the northbound direction, the Metro Line 232 provides headways of 3 buses. During the weekday AM and PM peak hour, in the southbound direction, the Metro Line 232 provides headways of 3 buses during the AM peak hour and 4 buses in the PM peak hour.

Metro Express Line 577X:

- The Metro Local Line 232 runs from downtown Long Beach Transit Station to El Monte Transit Center.
- The route traverses the study area on Long Beach Boulevard, 7th Street, Pacific Avenue, Ocean Boulevard and Long Beach Boulevard and operates throughout the day, Monday through Friday.
- During the weekday AM and PM peak hour, in the northbound/southbound directions, the Metro Blue Line provides headways of 1 bus in each direction.

OCTA Route 60:

- The OCTA Route 60 runs from Larwin Square in Tustin to 1st Street and Elm Avenue in downtown Long Beach.
- The route traverses the study area on 7th Street, Pacific Avenue, and Ocean Boulevard and operates throughout the day, Monday through Sunday.
- During the weekday AM peak hour, in the eastbound/westbound directions, the OCTA Route 60 provides headways of 4 buses in the eastbound direction and 3 buses in the westbound direction. During the weekday PM peak hour, in the northbound/southbound directions, the Metro Blue Line provides headways of 3 buses in the northbound direction and 4 buses in the southbound direction.

LADOT Commuter Express 142:

- The LADOT Commuter Express 142 runs from Port O'Call and Sampson Way in San Pedro to downtown Long Beach Transit Mall Station.
- The route traverses the study area on Ocean Boulevard, Long Beach Boulevard and Pacific Avenue and operates throughout the day, Monday through Sunday.
- During the weekday AM and PM peak hour, in the eastbound/westbound directions, LADOT Commuter Express 142 provides headways of 2 buses in each direction.

Route 1:

- The route extends from the Long Beach Transit Mall Station to Wardlow Station.
- The route traverses the study area on Long Beach Boulevard, Pacific Avenue and 6th Street and operates throughout the day, Monday through Sunday.
- During the weekday AM and PM peak hour, in the northbound/southbound directions, Route 1 provides headways of 3 buses in each direction.

Route 7:

- The route extends from the Long Beach Transit Mall Station to Orange Avenue and Rosecrans in City of Norwalk.
- The route traverses the study area on Atlantic Avenue, 7th Street, Long Beach Boulevard, 6th Street, and Pacific Avenue and operates throughout the day, Monday through Sunday.

 During the weekday AM and PM peak hour, in the northbound/southbound directions, Route 7 provides headways of 3 buses in each direction.

Routes 21, 22, and 23:

- Routes 21 provide services from Long Beach Transit Mall Station to Garfield Avenue at Alondra Boulevard. Route 22 provides services from downtown Long Beach Transit Mall Station to Downey Avenue at Alondra Boulevard. Route 23 provides services from Long Beach Transit Mall Station to Cherry Avenue at Carson Street.
- The route traverses the study area on Long Beach Boulevard, Ocean Boulevard, and Pacific Avenue. Route 21 and 22 operates throughout the day, Monday through Sunday. On weekdays, route 23 northbound only provides bus service between the hours 8:05 PM to 12:55 AM and southbound only provides bus service between the hours 9:00 PM to 12:21 PM.
- During the weekday AM and PM peak hour, in the northbound/southbound directions, Routes 21 and 22 provide headways of 2 buses in each direction.

Routes 46:

- Route 46 provides services from downtown Long Beach Transit Mall Station to Pacific Coast Highway at Anaheim Street.
- Route 46 traverses the study area on Long Beach Boulevard, Pacific Avenue, and Broadway and operates throughout the day, Monday through Sunday.
- During the weekday AM and PM peak hour, in the eastbound/westbound directions, Routes 46 provide headways of 4 buses in each direction.

Routes 51 and 52:

- The routes extend from downtown Long Beach Transit Mall Station to Artesia Transit Station.
- The route traverses the study area on Long Beach Boulevard, Pacific Avenue, and 7th Street. Route 51 operates throughout the day, Monday through Sunday. On weekdays, Route 52 northbound only provides bus service between the hours 10:05 PM to 12:11 AM, and southbound only provides bus service between the hours 10:47 PM to 12:25AM.
- During the weekday AM and PM peak hour, in the northbound/southbound directions, Route 51 provides headways of 4 buses in each direction.

Routes 61, 62, 63 and 66:

- Routes 61, 62, 63, and 66 provide service between the downtown Long Beach Transit Mall Station and Artesia Transit Station.
- Within the study area, Routes 61, 62, 63 and 66 traverse the study area on Atlantic Avenue, 7th Street, Long Beach Boulevard, Pacific Avenue, and 6th Street. Routes 61 and 62 operate throughout the day, Monday through Sunday. On weekdays, Route 63 northbound only provides bus service between the hours 10:05 PM to 1:10 AM, and southbound only provides bus service from 10:48 PM to 12:25AM. On weekdays, Route

66 northbound only provides bus service till 5:17 PM, southbound only provides service till 5:10 PM, and does not service on weekends.

During the AM and PM peak hour, in the northbound and southbound directions, Routes 61 and 62 provides headways of 2 buses in each direction. During the AM and PM peak hour Route 66 provide headways of 4 buses and 2 buses respectively in each direction.

Route 81:

- The route extends from the Long Beach Transit Mall Station to Studebaker Road at Atherton Street.
- The route traverses the study area on Pacific Avenue, Long Beach Boulevard and 3rd Street and operates throughout the day, Monday through Friday.
- During the weekday AM and PM peak hour, in the eastbound/westbound directions, Route 81 provides headways of 2 buses in each direction.

Routes 91, 92, 93 and 94:

- Routes 91 and 93 provide service between the downtown Long Beach Transit Mall Station and Bellflower Boulevard at Harvard Street. Route 92 provides service from the Long Beach Transit Mall Station to Woodruff Avenue at Alondra Boulevard. Route 94 provides service from the Long Beach Boulevard Transit Station to Bellflower Boulevard at Stearns Street.
- Within the study area, Routes 91, 92, 93 and 94 traverse the study area on 7th Street, Pacific Avenue, Long Beach Boulevard, and 6th Street. Route 91 operates throughout the day, Monday through Sunday and Routes 92 and 93 operates throughout the day, Monday through Friday. On weekdays, Route 94 eastbound only provides bus service between the hours 5:25 PM to 9:05 PM, and westbound only provides bus service from 6:24 PM to 9:00 PM.
- During the AM and PM peak hour, in the eastbound/westbound directions, Routes 91, 92, 93 provides headways of 1 bus in each direction.

Route 96:

- The route extends from the Long Beach Transit Mall Station to Los Altos Market Center.
- The route traverses the study area on 7th Street, Pacific Avenue, Long Beach Boulevard, and 6th Street and operates throughout the day, Monday through Friday, eastbound only from 6:33 AM to 9:09 PM and westbound from 1:00 PM to 5:14 PM.
- During the weekday AM peak hour, in the eastbound direction, Route 96 provides headways of 6 buses. During the weekday PM peak hour, in the westbound direction, Route 96 provides headways of 5 buses.

Routes 111 and 112:

- The route extends from the Long Beach Transit Mall Station to Downey Avenue at South Street.
- The route traverses the study area on Alamitos Avenue, Pacific Avenue, and Broadway and operates throughout the day, Monday through Sunday.
- During the weekday AM and PM peak hour, in the northbound/southbound directions, Routes 111 and 112 provides headways of 2 buses in each direction.

Routes 172, 173 and 174:

- Routes 172, 173 and 174 provide service between the downtown Long Beach Transit Mall Station and Norwalk Metro Green Line Metro Station.
- Within the study area, Routes 172, 173 and 174 traverse the study area on Pacific Avenue, Long Beach Boulevard, and 7th Street. Routes 172 and 173 operate throughout the day, Monday through Sunday. On weekdays, Route 174 northbound only provides bus service between the hours 10:05 PM and 12:50 AM, and southbound only provides bus service from 5:42 AM to 6:05 AM and from 12:05 AM to 12:25 AM.
- During the AM, PM and Saturday peak hour, in the northbound and southbound directions, Routes 172 and 173 provides headways of 2 buses in each direction.

Routes 181 and 182:

- The route extends from the Colorado Lagoon and Wardlow Transit Station.
- Route 181 traverses the study area on Magnolia Avenue, Broadway, Pacific Avenue, Long Beach Boulevard, 4th Street, and 3rd Street and operates throughout the day, Monday through Sunday. Route 182 traverses the study area on 4th Street, Long Beach Boulevard, Pacific Avenue, and 3rd Street and operates throughout the day, Monday through Sunday.
- During the weekday AM and PM peak hour, in the eastbound and westbound directions, routes 181 and 182 provide headways of 2 buses in each direction.

Routes 191, 192 and 193:

- Route 191 provides service between Long Beach Transit Mall and Bloomfield Street at Del Amo Boulevard. Route 192 provides service between Long Beach Transit Mall and Los Cerritos Center. Route 193 provides service from the downtown Long Beach Transit Mall Station to Del Amo Station.
- Within the study area, Routes 191, 192 and 193 traverse the study area on Magnolia Avenue, Pacific Avenue, and 3rd Street. Routes 191 and 192 operate throughout the day, Monday through Sunday. On weekdays, Route 193 northbound only provides bus service between the hours 10:05 PM and 1:06 AM, and southbound only provides bus service from 11:50 PM to 12:25 AM.
- During the AM and PM peak hour in the northbound/southbound directions, Routes 191 and 192 provides headways of 2 buses in each direction.

Passports Routes A, B, C and D:

- Route A provides free ride service between Alamitos Bay Landing and Catalina Landing. Route B runs from Pine Avenue at 1st Street through downtown Long Beach's East Village, West Gateway and hotspots. Route C provides service between Pine Avenue, downtown Long Beach and Queen Mary. Route D provides service between Los Altos Market Center and Catalina Landing.
- Within the study area, Routes A and D traverse the study area on Ocean Boulevard and Golden Shore and operate throughout the day, Monday through Sunday. Route B traverse the study area on 7th Street, Ocean Boulevard, Pine Avenue, 3rd Street, 6th Street, 4th Street, and Atlantic Avenue. Route C traverse the study area on Long Beach

Boulevard, 5th Street, Pine Avenue, Shoreline Drive, and 7th Street. On weekdays, Route B's Daily East Village Tour only operates from 10:00 AM to 6:55 PM and Route B's Daily West Gateway Tour only operates from 9:40 AM to 7:15 PM. Route C operates throughout the day, Monday through Sunday.

 During the AM and PM peak hour in the eastbound/westbound directions, Routes A and D provides headways of 2 buses in each direction. During the PM peak hour the Route B's Daily East Village Tour provides headways of 1 bus and the Route B's Daily West Gateway Tour provides headways of 2 buses. During AM peak hour in the southbound/northbound directions, Route C provides headways of 4 buses in each direction. During PM peak hour in the southbound/northbound directions, Route C provides headways of 6 buses in each direction.

3.3 Existing Area Traffic Volumes

Manual vehicular turning movement counts were conducted at 30 study locations during the weekday morning and evening peak commuter periods to determine the existing AM peak hour and PM peak hour traffic volumes. Traffic counts at the study intersections were conducted in June 2008 by National Data and Surveying Services.

Figures 3-2 and *3-3* depict the existing AM and PM peak hour traffic volumes at the key study intersections, respectively. *Appendix A* contains the detailed manual turning movement count sheets for the 30 key study intersections evaluated in this report.



GOLDEN SHORE MASTER PLAN, LONG BEACH



engineers

EXISTING PM PEAK HOUR TRAFFIC VOLUMES GOLDEN SHORE MASTER PLAN, LONG BEACH

3.4 Existing Intersection Conditions

Existing AM and PM peak hour operating conditions for the thirty (30) key study intersections were evaluated using the *Intersection Capacity Utilization* (ICU) methodology for signalized intersections and the methodology outlined in Chapter 17 of the *Highway Capacity Manual 2000* (HCM2000) for unsignalized intersections.

3.4.1 Intersection Capacity Utilization (ICU) Method of Analysis

In conformance with the City of Long Beach and LA County CMP requirements, existing AM and PM peak hour operating conditions for the key signalized study intersections were evaluated using the *Intersection Capacity Utilization* (ICU) method. The ICU technique is intended for signalized intersection analysis and estimates the volume to capacity (V/C) relationship for an intersection based on the individual V/C ratios for key conflicting traffic movements. The ICU numerical value represents the percent signal (green) time, and thus capacity, required by existing and/or future traffic. It should be noted that the ICU methodology assumes uniform traffic distribution per intersection approach lane and optimal signal timing.

The ICU value translates to a Level of Service (LOS) estimate, which is a relative measure of the intersection performance. The six qualitative categories of Level of Service have been defined along with the corresponding ICU value range and are shown in *Table 3-1*. The ICU value is the sum of the critical volume to capacity ratios at an intersection; it is not intended to be indicative of the LOS of each of the individual turning movements.

In the City of Long Beach, LOS D is the minimum acceptable condition that should be maintained during the peak commute hours, or the current LOS if the existing LOS is worse than LOS D (i.e. LOS E of F). Please note that the study intersections of Alamitos Avenue at 7th Street and Alamitos Avenue/Shoreline Drive at Ocean Boulevard are a part of the CMPHS of Los Angeles County where LOS E is the minimum acceptable operating condition.

Per LA County CMP requirements, the ICU calculations use a lane capacity of 1,600 vehicles per hour (vph) for left-turn, through, and right-turn lanes, and dual left turn capacity of 2,880 vph. Clearance intervals are based on the number of phases in the intersection and whether the left turning movements are all fully protected or whether some of them are permitted with other left-turn movements being protected. *Table 3-2* shows the clearance intervals used in the analysis of the key study intersections within the City of Long Beach.

Level of Service (LOS)	Intersection Capacity Utilization Value (V/C)	Level of Service Description
А	≤ 0.600	EXCELLENT. No vehicle waits longer than one red light, and no approach phase is fully used.
В	0.601 - 0.700	VERY GOOD. An occasional approach phase is fully utilized; many drivers begin to feel somewhat restricted within groups of vehicles.
С	0.701 - 0.800	GOOD. Occasionally drivers may have to wait through more than one red light; backups may develop behind turning vehicles.
D	0.801 – 0.900	FAIR. Delays may be substantial during portions of the rush hours, but enough lower volume periods occur to permit clearing of developing lines, preventing excessive backups.
Е	0.901 – 1.000	POOR. Represents the most vehicles intersection approaches can accommodate; may be long lines of waiting vehicles through several signal cycles.
F	> 1.000	FAILURE. Backups from nearby locations or on cross streets may restrict or prevent movement of vehicles out of the intersection approaches. Potentially very long delays with continuously increasing queue lengths.

 TABLE 3-1

 Level of Service Criteria For Signalized Intersections

Number of Signal Phases	Left-turn Phasing Type	Clearance Interval (percent)
2	Permitted	10%
3	Protected and Permitted	12%
3	Fully Protected	15%
4	Protected and Permitted	14%
4	Fully Protected	18%

 TABLE 3-2

 CITY OF LONG BEACH CLEARANCE INTERVALS²

² Source: *City of Long Beach Guidelines for Signalized Intersection Analysis, 2004.*

3.4.2 Highway Capacity Manual (HCM) Method of Analysis (Unsignalized Intersections)

The 2000 HCM unsignalized methodology for stop-controlled intersections was utilized for the analysis of the unsignalized intersections. This methodology estimates the average control delay for each of the subject movements and determines the level of service for each movement. For all-way stop controlled intersections, the overall average control delay measured in seconds per vehicle, and level of service is then calculated for the entire intersection. For one-way and two-way stop-controlled (minor street stop-controlled) intersections, this methodology estimates the worst side street delay, measured in seconds per vehicle and determines the level of service for that approach. The HCM control delay value translates to a Level of Service (LOS) estimate, which is a relative measure of the intersection performance. The six qualitative categories of Level of Service have been defined along with the corresponding HCM control delay value range, as shown in *Table 3-3*.

3.5 Existing Level of Service Results

Table 3-4 summarizes the existing peak hour service level calculations for the thirty (30) key study intersections based on existing traffic volumes and current street geometrics. Review of *Table 3-4* indicates that, based on the ICU or HCM method of analysis and the City's LOS criteria, one (1) of the thirty (30) key study intersections currently operate at an unacceptable LOS E or F during the AM and/or PM peak hours. The remaining key study intersections currently operate at an adverse level of service is:

	AM Peak	Hour	PM Peak	Hour
Key Intersection	ICU/HCM	LOS	ICU/HCM	LOS
23. Alamitos Avenue/Shoreline Drive at Ocean Boulevard	1.120	F	1.062	F

Appendix B presents the peak hour LOS calculation worksheets for the key study intersections.

Level of Service (LOS)	Highway Capacity Manual Delay Value (sec/veh)	Level of Service Description
А	≤ 30.0	Little or no delay
В	$> 30.0 \text{ and } \le 15.0$	Short traffic delays
С	$> 15.0 \text{ and } \le 25.0$	Average traffic delays
D	> 25.0 and ≤ 35.0	Long traffic delays
Е	$> 35.0 \text{ and } \le 50.0$	Very long traffic delays
F	> 50.0	Severe congestion

 Table 3-3

 Level of Service Criteria For Unsignalized Intersections

	Key Intersection	Time Period	Control Type	ICU/Delay	LOS
	Magnolia Avenue at	AM	2Ø Traffic	0.679	В
1.	7 th Street	PM	Signal	0.576	А
•	Pacific Avenue at	AM	3Ø Traffic	0.651	В
2.	7 th Street	PM	Signal	0.513	А
2	Pine Avenue at	AM	2Ø Traffic	0.551	А
э.	7 th Street	PM	Signal	0.452	А
4	Long Beach Boulevard at	AM	3Ø Traffic	0.714	С
4.	7 th Street	PM	Signal	0.531	А
5	Atlantic Avenue at	AM	2Ø Traffic	0.675	В
5.	7 th Street	PM	Signal	0.476	А
6	Martin Luther King Jr. Avenue at	AM	2Ø Traffic	0.298	А
0.	7 th Street	PM	Signal	0.474	А
7	Alamitos Avenue at	AM	3Ø Traffic	0.872	D
7.	7 th Street	PM	Signal	0.735	С
8	Magnolia Avenue at	AM	2Ø Traffic	0.477	А
0.	6 th Street	PM	Signal	0.705	С
0	Magnolia Avenue at	AM	Two-Way	12.7 s/v	В
9.	5 th Street	PM	Stop	17.2 s/v	С
10	Alamitos Avenue at	AM	2Ø Traffic	0.707	С
10.	4 th Street	PM	Signal	0.888	D
11	Magnolia Avenue at	AM	3Ø Traffic	0.602	В
11.	3 rd Street	PM	Signal	0.545	А
12	Magnolia Avenue at	AM	2Ø Traffic	0.471	А
12.	Broadway	PM	Signal	0.462	А
13	Pacific Avenue at	AM	3Ø Traffic	0.485	А
13.	Broadway	PM	Signal	0.654	В
14	Pine Avenue at	AM	2Ø Traffic	0.395	А
14.	Broadway	PM	Signal	0.672	В
15	Alamitos Avenue at	AM	5Ø Traffic	0.774	С
13.	Broadway	PM	Signal	0.747	С

 TABLE 3-4

 EXISTING PEAK HOUR LEVELS OF SERVICE³

Notes:

Bold ICU/Delay/LOS values indicate adverse service levels based on City LOS standards. s/v = seconds per vehicle (delay).

³ Appendix B contains ICU and HCM LOS sheets for key study intersections.

	Key Intersection	Time Period	Control Type	ICU/Delay	LOS
	Golden Avenue/Golden Shore at	AM	3Ø Traffic	0.616	В
16.	Ocean Boulevard	PM	Signal	0.759	С
17	Magnolia Avenue at	AM	2Ø Traffic	0.783	С
17.	Ocean Boulevard	AM $2 \oslash$ Traffic 0.783 C PM Signal 0.722 C AM $2 \oslash$ Traffic 0.556 A PM Signal 0.634 B AM $3 \oslash$ Traffic 0.634 B AM $3 \oslash$ Traffic 0.634 B PM Signal 0.632 B PM Signal 0.632 B PM Signal 0.774 C AM $2 \oslash$ Traffic 0.634 B PM Signal 0.774 C AM $3 \oslash$ Traffic 0.718 C PM Signal 0.584 A PM Signal 0.598 A Drive at AM $8 \oslash$ Traffic 1.120 F PM Signal 1.062 F PM Signal 1.062 F PM Stop $16.2 s/v$ C AM All-Way $8.5 s/v$ A PM Stop $8.6 s/v$ <td>С</td>	С		
19	Chestnut Place at	AM	2Ø Traffic	0.556	А
10.	Ocean Boulevard	PM	Signal	0.634	В
10	Pacific Avenue at	AM	3Ø Traffic	0.689	В
19.	Ocean Boulevard	PM	Signal	0.632	В
20	Pine Avenue at	AM	2Ø Traffic	0.634	В
20.	Ocean Boulevard	PM	Signal	0.774	С
21	Long Beach Boulevard at	AM	3Ø Traffic	0.718	С
21.	Ocean Boulevard	PM	Signal	0.584	А
$\gamma\gamma$	Atlantic Avenue at	AM	2Ø Traffic	0.651	В
22.	Ocean Boulevard	PM	Signal	0.598	А
23	Alamitos Avenue/Shoreline Drive at	AM	8Ø Traffic	1.120	F
23.	Ocean Boulevard	PM	Signal	1.062	F
24	Golden Shore at	AM	Two-Way	13.3 s/v	В
24.	Seaside Way	PM	Stop	16.2 s/v	С
25	Chestnut Place at	AM	All-Way	8.5 s/v	А
25.	Seaside Way	PM	Stop	8.6 s/v	А
26	Pine Avenue at	AM	5Ø Traffic	0.263	А
20.	Seaside Way	PM	Signal	0.308	А
27	Golden Shore at	AM	One-Way	11.9 s/v	В
27.	I-710 SB Off-Ramp	PM	Stop	9.5 s/v	А
28	Golden Shore at	AM	One-Way	11.8 s/v	В
20.	SB Shoreline Drive On-Ramp	PM	Stop	12.2 s/v	В
20	Chestnut Place at	AM	6Ø Traffic	0.345	А
27.	Shoreline Drive	PM	Signal	0.573	А
20	Pine Avenue at	AM	8Ø Traffic	0.355	А
50.	Shoreline Drive	PM	Signal	0.486	А

TABLE 3-4 (CONTINUED) EXISTING PEAK HOUR LEVELS OF SERVICE⁴

Notes:

Bold ICU/Delay/LOS values indicate adverse service levels based on City LOS standards.

s/v = seconds per vehicle (delay).

⁴ Appendix B contains ICU/LOS sheets for key study intersections.

4.0 TRAFFIC FORECASTING METHODOLOGY

In order to estimate the traffic impact characteristics of the proposed Project, a multi-step process has been utilized. The first step is traffic generation, which estimates the total arriving and departing traffic on a peak hour and daily basis. The traffic generation potential is forecast by applying the appropriate vehicle trip generation equations or rates to the project development tabulation.

The second step of the forecasting process is traffic distribution, which identifies the origins and destinations of inbound and outbound project traffic. These origins and destinations are typically based on demographics and existing/expected future travel patterns in the study area.

The third step is traffic assignment, which involves the allocation of project traffic to study area streets and intersections. Traffic assignment is typically based on minimization of travel time, which may or may not involve the shortest route, depending on prevailing operating conditions and travel speeds. Traffic distribution patterns are indicated by general percentage orientation, while traffic assignment allocates specific volume forecasts to individual roadway links and intersection turning movements throughout the study area.

With the forecasting process complete and project traffic assignments developed, the impact of the project is isolated by comparing operational (LOS) conditions at selected key intersections using expected future traffic volumes with and without forecast project traffic. The need for site-specific and/or cumulative local area traffic improvements can then be evaluated.

5.0 **PROJECT TRAFFIC CHARACTERISTICS**

5.1 Project Traffic Generation

Traffic generation is expressed in vehicle trip ends, defined as one-way vehicular movements, either entering or exiting the generating land use. Generation equations and/or rates used in the traffic forecasting procedure are found in the 8th Edition of *Trip Generation*, published by the Institute of Transportation Engineers (ITE) [Washington D.C., 2008]. The approach for estimating the trip generation potential of the proposed Project is consistent with the information published in *Chapter 3 – Guidelines for Estimating Trip generation* of *Trip Generation Handbook*, ITE October 1998 and the City's requirements.

Table 5-1 summarizes the trip generation equations and rates used in forecasting the vehicular trips generated by the proposed Project and the existing land uses. *Table 5-2* summarizes the Project's trip generation forecast for a typical weekday.

Review of *Table 5-1* shows the trip generation potential of the proposed uses of the Golden Shore Master Plan and existing land uses were estimated using trip rates/equations from ITE Land Use 232: High-Rise Residential Condominium/Townhouse, ITE Land Use 310: Hotel and ITE Land Use 710: General Office Building.

Review of *Table 5-2* shows that the proposed Golden Shore Master Plan project, prior to adjustment for existing land uses, is forecast to generate 12,349 daily trips, with 1,242 trips (752 inbound, 490 outbound) produced in the AM peak hour and 1,258 trips (487 inbound, 771 outbound) produced in the PM peak hour on a "typical" weekday.

With the application of trip generation credits applied for the existing mixed-use development on the site, the proposed Project is forecast to generate 8,761 net daily trips, with 731 net trips (302 inbound, 429 outbound) produced in the AM peak hour and 772 net trips (405 inbound, 367 outbound) produced in the PM peak hour on a "typical" weekday.

The proposed Project uses on the West Site is forecast to generate 7,202 net daily trips, with 641 net trips produced in the AM peak hour and 652 net trips produced in the PM peak hour on a "typical" weekday.

The proposed Project uses on the East Site is forecast to generate 1,559 net daily trips, with 83 net trips produced in the AM peak hour and 120 net trips produced in the PM peak hour on a "typical" weekday.

ITE Land Use Code	Time Period	Rates/Equations	Percent Entering	Percent Exiting
	Daily	T = 3.77 (X) + 223.66	50%	50%
• 232: High-Rise Residential	AM Peak	T = 0.29 (X) + 28.86	19%	81%
Condominium/Townhouse (TE/DU)	PM Peak	T = 0.34 (X) + 15.47	62%	38%
	Daily	T = 8.92 (X)	50%	50%
• 310: Hotel (TE/Occupied Room)	AM Peak	T = 0.67 (X)	58%	42%
	PM Peak	T = 0.70 (X)	49%	51%
	Daily	LN(T) = 0.77 LN(X) + 3.65	50%	50%
 710:General Office Building (TE/1000 SE) 	AM Peak	LN(T) = 0.80 LN(X) + 1.55	88%	12%
(-2, -000 21)	PM Peak	T = 1.12 (X) + 78.81	17%	83%

TABLE 5-1 **PROJECT TRAFFIC GENERATION EQUATIONS AND RATES⁵**

Notes:

TE/DU = Trip ends per dwelling unit TE/1,000 SF = Trip ends per 1,000 square feet of development

5

Source: Trip Generation, 8th Edition, Institute of Transportation Engineers, (ITE) [Washington, D.C. (2008)].

Project Description	Daily	AM Peak Hour			PM Peak Hour		
	2-Way	Enter	Exit	Total	Enter	Exit	Total
West Site - Proposed Project Uses:							
 High-Rise Residential Condominiums (574 DU) 	2,388	37	158	195	131	80	211
 Hotel (400 Rooms) 	3,568	156	112	268	136	144	280
• General Office (279,000 SF)	<u>2,940</u>	<u>375</u>	<u>51</u>	<u>426</u>	<u>67</u>	<u>325</u>	<u>392</u>
West Site Trip Generation	8,896	568	321	889	334	549	883
West Site-Existing Uses							
• Office Building (136,341 SF)	<u>-1,694</u>	<u>-212</u>	<u>-29</u>	<u>-241</u>	<u>-39</u>	<u>-192</u>	<u>-231</u>
Net West Site Trip Generation	7,202	356	292	648	295	357	652
East Site - Proposed Project Uses:							
 High-Rise Residential Condominiums (536 DU) 	2,244	35	149	184	123	75	198
 General Office (88,000 SF) 	<u>1,209</u>	<u>149</u>	<u>20</u>	<u>169</u>	<u>30</u>	<u>147</u>	<u>177</u>
East Site Trip Generation	3,453	184	169	353	153	222	375
East Site-Existing Uses							
• Office Building (157,662 SF)	-1,894	-238	<u>-32</u>	<u>-270</u>	<u>-43</u>	-212	<u>-255</u>
Net East Site Trip Generation	1,559	-54	137	83	110	10	120
Total Project Trip Generation	12,349	752	490	1,242	487	771	1,258
Less Existing Trip Generation	-3,588	-450	-61	-511	-82	-404	-486
Total Net Project Trip Generation	8,761	302	429	731	405	367	772

 TABLE 5-2

 PROJECT TRAFFIC GENERATION FORECAST⁶

⁶

Source: Trip Generation, 8th Edition, Institute of Transportation Engineers, (ITE) [Washington, D.C. (2008)].

5.2 Project Traffic Distribution and Assignment

The general directional traffic distribution patterns for the proposed/existing site are graphically presented in *Figure 5-1* through *Figure 5-5*. Project traffic volumes both entering and exiting the site have been distributed and assigned to the adjacent street system based on the following considerations:

- 1. The site's proximity to major traffic carriers (i.e. Ocean Boulevard, Golden Shore, etc).
- 2. Expected localized traffic flow patterns based on adjacent street channelization and presence of traffic signals,
- 3. Existing intersection traffic volumes at the project driveways,
- 4. Ingress/egress availability at the Project site and the location of existing and proposed parking areas, and
- 5. Input from City staff.

The anticipated AM and PM peak hour net Project traffic volumes associated with the proposed Project are presented in *Figures 5-6* and *5-7*, respectively. The traffic volume assignments presented in *Figures 5-6* and *5-7* reflect the traffic distribution characteristics shown in *Figures 5-1, 5-2, 5-3, 5-4 and 5-5* in combination with the traffic generation forecast presented in *Table 5-2*.

It should be noted that the traffic volumes presented in these figures represent the net traffic volumes after the trip credit for the existing land uses is applied to the proposed Project trip generation forecast.












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6.0 FUTURE TRAFFIC CONDITIONS

6.1 Ambient Traffic Growth

Cumulative traffic growth estimates have been calculated using an ambient growth factor. The ambient traffic growth factor is intended to include unknown and future related projects in the study area, as well as account for regular growth in traffic volumes due to the development of projects outside the study area. The future growth in traffic volumes has been calculated at one percent (1%) per year. Applied to existing Year 2008 traffic volumes results in a twelve percent (12%) increase of growth in existing volumes to horizon year 2020.

6.2 Related Projects Traffic Characteristics

In order to make a realistic estimate of future on-street conditions prior to implementation of the proposed Project, the status of other known development projects (related projects) in the area has been researched. With this information, the potential impact of the proposed Project can be evaluated within the context of the cumulative impact of all ongoing development. Based on our research, there are nineteen (19) related projects within a two-mile radius of the project that are located in the City of Long Beach. These projects have either been built, but not yet fully occupied, or are being processed for approval and have been included as part of the cumulative setting. *Table 6-1* provides the location and a brief description for each of the nineteen (19) related projects.

Figure 6-1 graphically illustrates the location of the related projects. These related projects are expected to generate vehicular traffic, which may affect the operating conditions of the key study intersections.

Table 6-2 presents the development totals and resultant trip generation for the related projects. As shown in *Table 6-2*, the related projects are expected to generate a combined total of 29,432 daily trips on a "typical" weekday, with 2,036 trips (862 inbound and 1,174 outbound) forecast during the AM peak hour, and 2,591 trips (1,408 inbound and 1,183 outbound) during the PM peak hour.

The AM and PM peak hour traffic volumes associated with the nineteen (19) related projects are presented in *Figures 6-2* and *6-3*, respectively.

6.3 Year 2020 Traffic Volumes

Figures 6-4 and *6-5* present future AM and PM peak hour Cumulative traffic volumes at the key study intersections for the horizon year (Year 2020). Please note that the Cumulative traffic volumes represent the accumulation of existing traffic, ambient growth traffic (calculated at one percent per year) and the nineteen (19) related projects traffic.

Figures 6-6 and *6-7* illustrate Year 2020 forecast AM and PM peak hour traffic volumes with the inclusion of the net trips generated by the proposed Project.

No.	Location/Address	Description
1.	432-440 W. Ocean Boulevard	107 DU apartments
2.	110 W. Ocean Boulevard	82 hotel rooms
3.	1598 Long Beach Boulevard	64 DU apartments and 15,000 SF commercial
4.	301 Pine Avenue	375 DU apartments and 26,000 SF commercial
5.	150 W. Ocean Boulevard	216 DU condominiums
6.	777 E. Ocean Boulevard	358 DU high-rise condominiums and 13,561 SF commercial
7.	1628-1724 Ocean Boulevard	51 DU condominiums and 47 hotel rooms
8.	2010 Ocean Boulevard	56 DU condominiums
9.	600 Queensway Drive	178 hotel rooms
10.	25 S. Chestnut Place	246 DU high-rise condominiums
11.	433 Pine Avenue	18 DU apartments and 15,000 SF of commercial
12.	285 Bay Street	138 hotel rooms
13.	421 W. Broadway	291 DU apartments and 15,580 SF commercial
14.	350 Long Beach Boulevard	82 DU single family detached housing and 7,000 SF commercial
15.	201 The Promenade	165 hotel rooms
16.	155 Long Beach Boulevard	191 hotel rooms
17.	1235 Long Beach Boulevard	79,543 SF of Retail floor/Restaurant floor area, 152 DU Senior Apartments and 210 Condominiums.
18.	New Long Beach Court House	370,000 SF courtrooms for the Superior Court, 80,000 SF for the County, 75,000 SF commercial offices, and 20,000 SF retail.
19.	Hotel Sierra	125 hotel rooms

 TABLE 6-1

 LOCATION AND DESCRIPTION OF RELATED PROJECTS⁷

⁷ Source: City of Long Beach Project Statues List – June 2009





	Daily	AN	I Peak H	our	PN	I Peak Ho	our
Related Projects Description	2-Way	In	Out	Total	In	Out	Total
1. Apartments (107 DU)	712	11	44	55	43	24	67
2. Hotel (82 rooms)	731	32	23	55	28	30	58
3. Apartments (64 DU) & Commercial (15,000 SF)	1,070	15	32	47	53	43	96
4. Apartments (375 DU) & Commercial (26,000 SF)	3,610	54	164	218	198	132	330
5. Condominiums (216 DU)	1,255	15	80	95	76	37	113
6. High-Rise Condominiums (358 DU)& Commercial (13,561 SF)	2,078	29	105	134	111	76	187
7. Condominiums (51 DU) & Hotel (47 rooms)	715	22	32	54	34	26	60
8. Condominiums (56 DU)	325	4	21	25	20	10	30
9. Hotel (178 rooms)	1,588	69	50	119	61	64	125
10. High-Rise Condominiums (246 DU)	1,028	15	69	84	59	34	93
11. Apartments (18 DU) & Commercial (15,000 SF)	764	11	13	24	34	33	67
12. Hotel (138 rooms)	1,231	54	39	93	47	50	97
13. Apartments (291 DU) & Commercial (15,580 SF)	2,604	39	125	164	145	94	239
14. Single Family Detached (82 DU) & Commercial (7,000 SF)	1,086	20	49	69	65	43	108
15. Hotel (165 rooms)	1,472	64	46	110	56	59	115
16. Hotel (191 rooms)	1,704	74	53	127	65	69	134
 Retail floor/Restaurant floor area (79,543 SF), Senior Apartments (152 DU), and Condominiums (210 DU)⁹ 	4,424	129	168	297	210	147	357
18. New Long Beach Court House ¹⁰	1,920	156	26	182	60	167	227
19. Hotel Sierra	1,115	49	35	84	43	45	88
Total Related Projects Trip Generation Potential	29,432	862	1,174	2,036	1,408	1,183	2,591

 TABLE 6-2

 Related Projects Traffic Generation Forecast⁸

⁸ Source: *Trip Generation*, 8th Edition, Institute of Transportation Engineers (ITE) [Washington, D.C. (2008)].

⁹ Source: Traffic Impact Analysis for 1235 Long Beach Boulevard Mixed-Used Project, prepared by LLG, October 16, 2008.

¹⁰ Source: Traffic Impact Analysis for New Long Beach Court House, prepared by LLG, December 8, 2008.



AM PEAK HOUR RELATED PROJECTS TRAFFIC VOLUMES GOLDEN SHORE MASTER PLAN, LONG BEACH



PM PEAK HOUR RELATED PROJECTS TRAFFIC VOLUMES GOLDEN SHORE MASTER PLAN, LONG BEACH



YEAR 2020 AM PEAK HOUR CUMULATIVE TRAFFIC VOLUMES GOLDEN SHORE MASTER PLAN, LONG BEACH



YEAR 2020 PM PEAK HOUR CUMULATIVE TRAFFIC VOLUMES GOLDEN SHORE MASTER PLAN, LONG BEACH





7.0 TRAFFIC IMPACT ANALYSIS METHODOLOGY

7.1 Impact Criteria and Thresholds

The relative impact of the added project traffic volumes generated by the Golden Shore Master Plan project during the AM and PM peak hours was evaluated based on analysis of future operating conditions at the thirty (30) key study intersections, without, then with, the proposed Project. The previously discussed capacity analysis procedures were utilized to investigate the future volume-to-capacity relationships and service level characteristics at each study intersection. The significance of the potential impacts of the project at each key intersection was then evaluated using the City's LOS standards and traffic impact criteria defined below.

7.1.1 LOS Standards and Impact Criteria:

Within the City of Long Beach, impacts to local and regional transportation systems are considered significant if:

- An unacceptable peak hour Level of Service (LOS) (i.e. LOS E or F) at any of the key intersections is projected. The City of Long Beach considers LOS D (ICU = 0.801 0.900) to be the minimum acceptable LOS for all intersections. For the City of Long Beach, the current LOS, if worse than LOS D (i.e. LOS E or F), should also be maintained; and
- The project increases traffic demand at the study intersection by 2% of capacity (ICU increase ≥ 0.020), causing or worsening LOS E or F (ICU > 0.901). At unsignalized intersections, a "significant" adverse traffic impact is defined as a project that: adds 2% of more traffic delay (seconds per vehicle) at an intersection operating LOS E or F.

7.2 Traffic Impact Analysis Scenarios

The following scenarios are those for which volume/capacity calculations have been performed using the ICU/HCM methodologies:

- A. Year 2008 Existing Traffic Conditions;
- B. Year 2020: Cumulative (existing plus ambient growth plus related projects traffic),
- C. Year 2020: Cumulative with Project traffic,
- D. Scenario (C) with Improvements/Mitigation, if necessary,

8.0 PEAK HOUR INTERSECTION CAPACITY ANALYSIS

8.1 Year 2020 Traffic Conditions

Table 8-1 summarizes the peak hour Level of Service results at the 30 key study intersections for the Year 2020 horizon year. The first column (1) of ICU/LOS and HCM/LOS values in *Table 8-1* presents a summary of existing AM and PM peak hour traffic conditions (which were also presented in *Table 3-4*). The second column (2) lists future Year 2020 Cumulative traffic conditions (existing plus ambient growth traffic plus related projects traffic) based on existing intersection geometry, but without any traffic generated by the proposed Project. The third column (3) presents future forecast traffic conditions with the addition of traffic generated by the proposed Project. The fourth column (4) shows the increase in ICU or HCM value due to the added peak hour project trips and indicates whether the traffic associated with the project will have a significant impact based on the LOS standards and the significance impact criteria defined in this report. The fifth column (5) presents the intersection operating conditions based on the total anticipated Year 2020 horizon year traffic volumes and planned and/or recommended intersection improvements.

8.1.1 Year 2020 Cumulative Traffic Conditions

An analysis of Year 2020 Cumulative traffic conditions (without Project traffic) indicates that four (4) intersections operate at adverse levels of service for Year 2020 based on the ICU/HCM methodologies and the City's LOS standards. These intersections, reported below, are forecast to operate at LOS E or LOS F during the peak hour indicated:

	AM Peak	Hour	PM Peak	<u>Hour</u>
Key Intersection	ICU/HCM	LOS	ICU/HCM	LOS
7. Alamitos Avenue at 7 th Street	0.972	Е		
10. Alamitos Avenue at 4 th Street			0.998	Е
17. Magnolia Avenue at Ocean Boulevard	0.920	Е		
23. Alamitos Ave./Shoreline Dr. at Ocean Blvd.	1.262	F	1.193	F

The remaining key study intersections are expected to operate at acceptable service levels (LOS D or better) during the weekday AM and PM peak commute hours.

	(1) Existing Traffic Conditions		(2) Year 202 Cumulati Traffic Cond	(2) Year 2020 Cumulative Traffic Conditions		(3) Year 2020 Plus Project Traffic Conditions		(4) Project Significant Impact ¹¹		(5) Year 2020 With Recommended Improvements		
Ke	y Intersections	Time Period	ICU / Delay (s/v)	LOS	ICU / Delay (s/v)	LOS	ICU / Delay (s/v)	LOS	Change in ICU / Delay	Yes/No	ICU / Delay (s/v)	LOS
1	Magnolia Avenue at	AM	0.679	В	0.783	С	0.800	С	0.017	No		
1.	7 th Street	PM	0.576	А	0.686	В	0.708	С	0.022	No		
2	Pacific Avenue at	AM	0.651	В	0.733	С	0.744	С	0.011	No		
2.	7 th Street	PM	0.513	А	0.590	А	0.606	В	0.016	No		
	Pine Avenue at	AM	0.551	А	0.633	В	0.640	В	0.007	No		
3.	7 th Street	PM	0.452	А	0.542	А	0.551	А	0.009	No		
	Long Beach Boulevard at	AM	0.714	С	0.806	D	0.818	D	0.012	No		
4.	7 th Street	PM	0.531	А	0.617	В	0.633	В	0.016	No		
~	Atlantic Avenue at	AM	0.675	В	0.760	С	0.773	С	0.013	No		
э.	7 th Street	PM	0.476	А	0.546	А	0.562	А	0.016	No		
	Martin Luther King Jr. Avenue at	AM	0.298	А	0.321	А	0.321	А	0.000	No		
6.	7 th Street	PM	0.474	А	0.519	А	0.519	А	0.000	No		
7	Alamitos Avenue at	AM	0.872	D	0.972	Е	0.993	Ε	0.021	Yes	0.799 ¹²	С
/.	7 th Street	PM	0.735	С	0.816	D	0.881	D	0.065	No	0.881 ¹²	D
	Magnolia Avenue at	AM	0.477	А	0.557	Α	0.587	А	0.030	No		
8.	6 th Street	PM	0.705	С	0.827	D	0.863	D	0.036	No		

 TABLE 8-1

 YEAR 2020 PEAK HOUR INTERSECTION CAPACITY ANALYSIS

Notes:

Bold ICU/Delay values indicate adverse service levels based on City LOS standards.

¹¹ Significant project impact is defined as a 0.020 or greater increase in ICU value of a signalized intersection or a 2% or more increase in delay at an unsignalized location where the final LOS is E or F.

¹² Represents anticipated LOS with the provision of a 3rd westbound through lane on 7th Street, through the intersection of MLK Jr. Avenue and 7th Street. Implementation of this improvement will require the removal of on-street parking on the both the north and south sides of 7th Street, east and west of Alamitos Boulevard. No further intersection improvements (i.e. intersection widening) at this key intersection are feasible due to physical and right-of-way constraints.

	(1) Existing Traffic Conditions		(2) Year 202 Cumulati Traffic Cond	(2) Year 2020 Cumulative Traffic Conditions		(3) Year 2020 Plus Project Traffic Conditions		(4) Project Significant Impact ¹³		(5) Year 2020 With Recommended Improvements		
Key	Intersections	Time Period	ICU / Delay (s/v)	LOS	ICU / Delay (s/v)	LOS	ICU / Delay (s/v)	LOS	Change in ICU/ Delay	Yes/No	ICU / Delay (s/v)	LOS
0	Magnolia Avenue at	AM	12.7 s/v	В	15.3 s/v	С	17.2 s/v	С	1.9 s/v	No		
9.	5 th Street	PM	17.2 s/v	С	24.4 s/v	С	29.6 s/v	D	5.2 s/v	No		
10	Alamitos Avenue at	AM	0.707	С	0.802	D	0.821	D	0.019	No	NF^{14}	
10.	4 th Street	PM	0.888	D	0.998	Ε	1.021	F	0.023	Yes	NF^{14}	
11	Magnolia Avenue at	AM	0.602	В	0.729	С	0.745	С	0.016	No		
11.	3 rd Street	PM	0.545	А	0.658	В	0.695	В	0.037	No		
10	Magnolia Avenue at	AM	0.471	А	0.563	А	0.579	А	0.016	No		
12.	Broadway	PM	0.462	А	0.593	А	0.612	В	0.019	No		
12	Pacific Avenue at	AM	0.485	А	0.566	А	0.571	А	0.005	No		
15.	Broadway	PM	0.654	В	0.786	С	0.786	С	0.000	No		
14	Pine Avenue at	AM	0.395	А	0.472	А	0.472	А	0.000	No		
14.	Broadway	PM	0.672	В	0.816	D	0.816	D	0.000	No		
15	Alamitos Avenue at	AM	0.774	С	0.872	D	0.910	Е	0.038	Yes	0.741 ¹⁵	С
15.	Broadway	PM	0.747	С	0.809	D	0.832	D	0.023	No	0.832^{15}	D
16	Golden Ave./Golden Shore at	AM	0.616	В	0.701	С	0.758	С	0.057	No		
16.	Ocean Boulevard	PM	0.759	С	0.832	D	0.898	D	0.066	No		

TABLE 8-1 (CONTINUED) YEAR 2020 PEAK HOUR INTERSECTION CAPACITY ANALYSIS

Notes:

Bold ICU/Delay values indicate adverse service levels based on City LOS standards.

¹³ Significant project impact is defined as a 0.020 or greater increase in ICU value of a signalized intersection or a 2% or more increase in delay at an unsignalized location where the final LOS is E or F.

¹⁴ NF = none feasible. Intersection Improvements at this key intersection are not feasible due to physical and right-of-way constraints.

¹⁵ Represents anticipated LOS with the provision of a 2nd southbound through lane on Alamitos Boulevard. Implementation of this improvement will require the removal of onstreet parking on the both the east and west sides of Alamitos Boulevard, north and south of Broadway.

			(1) Existing 7 Condit	Fraffic ions	(2) Year 202 Cumulati Traffic Cond	20 ive litions	(3) Year 2 Plus Pro Traffic Cor	020 Dject nditions	(4) Projec Signific Impact	ct ant t ¹⁶	(5) Year 20 With Recom Improven)20 mended nents
Key	Intersections	Time Period	ICU / Delay (s/v)	LOS	ICU / Delay (s/v)	LOS	ICU / Delay (s/v)	LOS	Change in ICU/ Delay	Yes/No	ICU / Delay (s/v)	LOS
17	Magnolia Avenue at	AM	0.783	С	0.920	Е	1.001	F	0.081	Yes	0.900^{17}	D
17.	Ocean Boulevard	PM	0.722	С	0.835	D	0.880	D	0.045	No	0.839^{17}	D
10	Chestnut Place at	AM	0.556	А	0.662	В	0.709	С	0.047	No		
18.	Ocean Boulevard	PM	0.634	В	0.751	С	0.804	D	0.053	No		
10	Pacific Avenue at	AM	0.689	В	0.794	С	0.809	D	0.015	No		
19.	Ocean Boulevard	PM	0.632	В	0.720	С	0.732	С	0.012	No		
20	Pine Avenue at	AM	0.634	В	0.740	С	0.747	С	0.007	No	0.777^{18}	С
20.	Ocean Boulevard	PM	0.774	С	0.897	D	0.922	Е	0.025	Yes	0.864^{18}	D
21	Long Beach Boulevard at	AM	0.718	С	0.851	D	0.877	D	0.026	No		
21.	Ocean Boulevard	PM	0.584	А	0.668	В	0.680	В	0.012	No		
22	Atlantic Avenue at	AM	0.651	В	0.768	С	0.797	С	0.029	No		
22.	Ocean Boulevard	PM	0.598	А	0.688	В	0.705	С	0.017	No		
	Alamitos Ave/Shoreline Dr at	AM	1.120	F	1.262	F	1.267	F	0.005	No		
23.	Ocean Boulevard	PM	1.062	F	1.193	F	1.199	F	0.006	No		

TABLE 8-1 (CONTINUED) YEAR 2020 PEAK HOUR INTERSECTION CAPACITY ANALYSIS

Notes:

Bold ICU/Delay values indicate adverse service levels based on City LOS standards.

¹⁶ Significant project impact is defined as a 0.020 or greater increase in ICU value of a signalized intersection or a 2% or more increase in delay at an unsignalized location where the final LOS is E or F.

¹⁷ Represents anticipated LOS with the installation of protected left-turn phasing on Ocean Blvd and installation of a southbound right-turn overlap phase on Magnolia Ave.

¹⁸ Represents anticipated LOS with the restriping of southbound Pine Ave to provide a separate left-turn lane and a shared through/right-turn lane. Implementation of this improvement requires the removal of the "passenger loading/unloading zone" on the east side of Pine Ave, north of Ocean Blvd, and it may potentially impact flow of traffic given existing bus stops are located along this section of Pine Avenue.

			(1) Existing Traffic Conditions		(2) Year 2020 Cumulative Traffic Conditions		(3) Year 2020 Plus Project Traffic Conditions		(4) Project Significant Impact ¹⁹		(5) Year 2020 With Recommended Improvements	
Key	Intersections	Time Period	ICU / Delay (s/v)	LOS	ICU / Delay (s/v)	LOS	ICU / Delay (s/v)	LOS	Change in ICU/ Delay	Yes/No	ICU / Delay (s/v)	LOS
24.	Golden Shore at Seaside Way	AM PM	13.3 s/v 16.2 s/v	B C	16.9 s/v 26.2 s/v	C D	15.8 s/v 17.3 s/v	C C	0.0^{20} s/v 0.0^{20} s/v	No No		
25.	Chestnut Place at Seaside Way	AM PM	8.5 s/v 8.6 s/v	A A	8.7 s/v 8.8 s/v	A A	9.7 s/v 10.1 s/v	A B	1.0 s/v 1.3 s/v	No No		
26.	Pine Avenue at Seaside Way	AM PM	0.263 0.308	A A	0.290 0.345	A A	0.290 0.345	A A	0.000 0.000	No No		
27.	Golden Shore at I-710 SB Off-Ramp	AM PM	11.9 s/v 9.5 s/v	B A	12.9 s/v 9.7 s/v	B A	16.1 s/v 12.3 s/v	C B	3.2 s/v 2.6 s/v	No No		
28.	Golden Shore at EB Shoreline Drive On-Ramp	AM PM	11.8 s/v 12.2 s/v	B B	12.3 s/v 12.8 s/v	B B	13.8 s/v 14.9 s/v	B B	1.5 s/v 2.1 s/v	No No		
29.	Chestnut Place at Shoreline Drive	AM PM	0.345 0.573	A A	0.367 0.629	A B	0.401 0.646	A B	0.034 0.017	No No		
30.	Pine Avenue at Shoreline Drive	AM PM	0.355 0.486	A A	0.402 0.525	A A	0.415 0.541	A A	0.013 0.016	No No		

TABLE 8-1 (CONTINUED) YEAR 2020 PEAK HOUR INTERSECTION CAPACITY ANALYSIS

Notes:

Bold ICU/Delay values indicate adverse service levels based on City LOS standards.

¹⁹ Significant project impact is defined as a 0.020 or greater increase in ICU value of a signalized intersection or a 2% or more increase in delay at an unsignalized location where the final LOS is E or F.

²⁰ Theoretical negative project "increase" (that can result with HCM method) reported as 0.0.

8.1.2 Year 2020 Cumulative Plus Project Conditions

Review of Columns 3 and 4 of *Table 8-1* indicate that traffic associated with the proposed Golden Shore Master Plan project will have a significant impact at five (5) of the thirty (30) study intersections when compared to the LOS standards and the significant traffic impact criteria defined in this report. The intersections impacted by the proposed Project include:

Key Intersection

- 7. Alamitos Avenue at 7th Street
- 10. Alamitos Avenue at 4th Street
- 15. Alamitos Avenue at Broadway
- 17. Magnolia Avenue at Ocean Boulevard
- 20. Pine Avenue at Ocean Boulevard

These intersections are forecast to operate at an adverse service level (i.e., LOS E/F) during the AM and/or PM peak hours in the Year 2020, with the Project. As shown in Column 5 of *Table 8-1*, the implementation of recommended improvements will offset the impact of Project traffic as well as future Cumulative traffic, and return service levels to acceptable operations. The lone exception is the intersections of Alamitos Avenue at 4th Street. Due to physical and right-of-way restrictions that prohibit any widening and/or restriping, intersection capacity enhancing improvements at these key intersections do not appear feasible.

Although the intersection of Alamitos Avenue/Shoreline Drive at Ocean Boulevard is forecast to operate at LOS F during the AM peak hour and PM peak hour, the proposed Project is expected to add less than 0.020 to the ICU value and hence will not have a significant impact. As discussed earlier, a significant Project impact occurs when the Project increases traffic demand at a signalized study intersection by 2% of capacity (ICU \geq 0.020), or a 2% change in delay at unsignalized intersections where the final LOS is E or F.

The remaining key study intersections are forecast to continue to operate at an acceptable LOS with the addition of project generated traffic in the Year 2020.

Appendix C contains the Year 2020 traffic conditions level of service calculation worksheets.

8.2 Traffic Signal Warrant Analysis

8.2.1 California MUTCD Policy/Criteria

The level of service analysis at the impacted key unsignalized study intersection is supplemented with an assessment of the need for signalization of the intersection. This assessment is made on the basis of signal warrant criteria adopted by Caltrans. For this study, the need for signalization is assessed on the basis of the peak-hour traffic signal warrant, Warrant #3 described in the current *California Manual on Uniform Traffic Control Devices (MUTCD)*. Warrant #3 has two parts: 1) Part A evaluates peak hour vehicle delay for traffic on the minor street approach with the highest delay and 2) Part B evaluates peak-hour traffic volumes on the major and minor streets. This method provides an indication of whether peak-hour traffic conditions or peak-hour traffic volume levels are, or would be, sufficient to justify installation of a traffic signal. Other traffic signal warrants are available; however, they cannot be checked under future conditions (cumulative without and with Project) because they rely on data for which forecasts are not available (such as accidents, pedestrian volume, and four-hour or eight-hour vehicle volumes).

The decision to install a traffic signal should not be based purely on the warrants alone. Instead, the installation of a signal should be considered and further analysis performed when one or more of the warrants is met. Additionally, engineering judgment is exercised on a case-by-case basis to evaluate the effect a traffic signal will have on certain types of accidents and traffic conditions at the subject intersection as well as at adjacent intersections.

8.2.2 Traffic Signal Warrant Results

The results of the peak-hour traffic signal warrant analysis for Year 2020 Cumulative Plus Project Traffic Conditions are summarized on *Table 8-2*. As shown, none of the key unsignalized study intersections exceed the volume thresholds of Warrant #3, Part A and/or Part B. *Appendix D* contains the traffic signal warrant worksheets.

			Year 2020 Cumulativ	e Traffic Plus Project
Key	Intersection	Time Period	Part A of Warrant 3 Satisfied?	Part B of Warrant 3 Satisfied?
0	Magnolia Avenue at	AM	No	No
9. 5 th Street	5 th Street	PM	No	No
24	Golden Shore at	AM	No	No
24.	Seaside Way	PM	No	No
25	Chestnut Place at	AM	No	No
25.	Seaside Way	PM	No	No
27	Golden Shore at	AM	No	No
27.	I-710 SB Off-Ramp	PM	No	No
20	Golden Shore at	AM	No	No
28.	EB Shoreline Drive On-Ramp	PM	No	No

 TABLE 8-2

 TRAFFIC SIGNAL WARRANT ANALYSIS SUMMARY²¹

²¹ Signal warrant checks based on Warrant 3, Part A - Peak-Hour Delay Warrant and Part B - Peak-Hour Volume Warrant are contained in the California MUTCD.

9.0 SITE ACCESS EVALUATION

9.1 Site Access

Vehicular access to the proposed Golden Shore Master Plan project will be provided via three driveways. Driveway A at Golden Shore is a proposed full access driveway located between Ocean Boulevard and Seaside Way that will serve as the primary access to the West Site and East Site. Driveway B at Seaside Way will provide secondary access to the East Site, while Driveway C at Seaside Way will serve as secondary access to the West site.

9.2 Year 2020 Project Access Service Level Characteristics

Table 9-1 summarizes the Year 2020 peak hour level of service results at the three project driveways. Review of *Table 9-1*, shows that one (1) of the three (3) project driveways, Driveway A at Golden Shore, is forecast to operate at LOS E or F during the AM or PM peak hours. However, with the installation of a traffic signal, which is warranted on the basis of the peak-hour traffic signal warrant, Driveway A at Golden Shore is forecast to operate at LOS A or B during the AM and PM peak hours. As such, Project access will be adequate. Motorists entering and exiting the Project site will be able to do so comfortably, safely, and without undue congestion.

9.3 Internal Circulation

Since detailed site plans are not available for review at this time, it is recommended that prior to finalization of the project site plan, the appropriate turning templates (ASSHTO SU-30, WB-50 and fire trucks) be utilized to confirm that all vehicles can properly access and circulate through the site and that all internal drive aisle widths, project driveway widths, and parking stall widths satisfy the City's minimum requirements.

		Time	Intersection	Year 2020 P	Cumulative Plus roject
Driveway		Period	Control	Delay (s/v)	LOS
	Golden Shore at	AM	Two-Way	149.9	F
А.	Project Driveway A	PM	Stop	396.5	F
	With Traffic Signal	AM	Two-Phase	0.542	А
		PM	Signal	0.679	В
р	Project Driveway B	AM	Two-Way	11.2 s/v	В
В.	Seaside Way	PM	Stop	11.0 s/v	В
C	Project Driveway C	AM	Two-Way	11.0 s/v	В
Ċ.	Seaside Way	PM	Stop	8.8 s/v	А

 TABLE 9-1

 Year 2020 Cumulative Plus Project Driveway Peak Hour Levels of Service Summary

Notes:

Bold ICU/Delay values indicate adverse service levels based on City LOS standards.

10.0 Area Traffic Improvements

For the study intersections where projected traffic volumes are expected to result in unacceptable operating conditions, this report recommends (identifies) traffic improvement measures that change the intersection geometry to increase capacity. These capacity improvements involve roadway widening, re-striping to reconfigure (add lanes) to specific approaches of a key intersection and/or implementing peak hour turn restrictions. The identified improvements are expected to:

- mitigate the impact of existing traffic, future non-Project (ambient traffic growth and cumulative project) traffic and Project traffic, and
- improve Levels of Service to an acceptable range and/or to pre-Project conditions.

10.1 Recommended Improvements

The results of the level of service analysis, as summarized in *Table 8-1*, indicates that the proposed Project will cumulatively impact five (5) key study intersections. The following are potential improvements recommended to mitigate the cumulative traffic impacts at the five (5) intersections significantly impacted by Project traffic under future conditions. Subject to the City's requirements, the Project can be expected to pay a fair-share of the construction costs to implement these improvements.

• No. 7 - Alamitos Avenue at 7th Street: Restripe 7th Street to provide a third westbound through lane on 7th Street, through the intersection of Martin Luther King, Jr. and 7th Street. The implementation of this improvement would require the removal of curbside parking on both sides of 7th Street, east and west of Alamitos Avenue. Given the demand for curbside parking in the area, the loss of parking may not be considered acceptable. Further, the intersection of Alamitos Avenue and 7th Street is physically constrained with existing development located along the street making the expansion of the roadway to add additional lanes difficult.

As an alternative, the Project's impact at this key intersection could be mitigated by reducing the Project's trip generation potential by approximately ten percent (10%).

If recommended roadway improvements are not implement or the project's trip generation is not reduced, then the Project's impact at this key intersection would be considered and unavoidable.

No. 10 - Alamitos Avenue at 4th Street: No physical mitigation measure feasible; any additional turn lanes will require widening and additional right-of-way. The intersection of Alamitos Avenue and 4th Street is physically constrained with existing development located along the street making the expansion of the roadway to add additional lanes difficult.

As an alternative, the Project's impact at this key intersection could be mitigated by reducing the Project's trip generation potential by approximately ten percent (10%).

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If the project's trip generation is not reduced, then the Project's impact at this key intersection would be considered and unavoidable.

No. 15 - Alamitos Avenue at Broadway: Restripe Alamitos Avenue to provide a second southbound through lane²². The implementation of this improvement may require the removal of curbside parking on both of Alamitos Avenue, north and south of Broadway. Given the demand for curbside parking in the area, the loss of parking may not be considered acceptable. Further, the intersection of Alamitos Avenue and Broadway is physically constrained with existing development located along the street making the expansion of the roadway to add additional lanes difficult.

As an alternative, the Project's impact at this key intersection could be mitigated by reducing the Project's trip generation potential by approximately fifteen percent (15%).

If recommended roadway improvements are not implement or the project's trip generation is not reduced, then the Project's impact at this key intersection would be considered and unavoidable.

- No. 17 Magnolia Avenue at Ocean Boulevard: Modify existing signal to provide protect left-turn phasing for the eastbound and westbound directions on Ocean Boulevard and install a southbound right-turn overlap phase.
- No. 20 Pine Avenue at Ocean Boulevard: Restripe Pine Avenue to provide a separate southbound left-turn lane and a shared through-right lane on Pine Avenue. Implementation of this improvement may require the removal of the passenger loading/unloading zone on the east side of Pine, north of Ocean, and potentially impact the flow of traffic given existing bus stops are located along this section of Pine Avenue, both of which may not be considered acceptable.

As an alternative, the Project's impact at this key intersection could be mitigated by reducing the Project's trip generation potential by approximately fifteen percent (15%).

If recommended roadway improvements are not implement or the project's trip generation is not reduced, then the Project's impact at this key intersection would be considered and unavoidable.

As there are no significant impacts at the remaining twenty four (25) key study intersections, no traffic mitigation measures are required or recommended.

²² Recommended improvement is generally consistent with City's anticipated (future) improvements for Alamitos Avenue between 7th Street and Ocean Boulevard, which includes the provision of two northbound and southbound through lanes, dedicated leftturn lanes at key intersections, provision of on-street bike lanes, and removal of on-street parking (Source: City of Long Beach Traffic Engineer).

10.2 Recommended Project-Specific Improvements

The implementation of the following improvements will mitigate the impact of project traffic and ensure adequate access is provided for the Project:

• **Project Driveway A at Golden Shore:** Install traffic signal, and associated signing and striping modifications, inclusive of crosswalks. The installation of a traffic signal at Rose Avenue and Pacific Coast Highway, and associated signing and striping modifications, is subject to the approval of the City of Long Beach.

10.3 Project Fair-Share Contribution

Table 10-1 presents the peak hour percentage of net traffic impact at the study intersections cumulatively impacted by the proposed Project for Year 2020 traffic conditions. These fair share calculations are based on the percent project trips of near-term (Year 2020) traffic. As indicated above, the proposed Project can be expected to contribute a fair-share of the construction costs mitigate the proposed Project's significant cumulative traffic impacts.

Review of *Table 10-1* shows that the proposed Project's percentage of net traffic impact ranges approximately 13% and 30%. These percentages represent the project's "fair-share" cost responsibility associated with implementation of the recommended mitigation measures identified in *Section 10.1*, above.

10.4 Transportation Improvement Fee

Pursuant to the requirements of the City of Long Beach Municipal Code, Transportation Improvement Fees will be required of the Project. The Transportation Improvement Fee, based on the size of all new residential and commercial development in the City of Long Beach, is assessed as shown below:

- Residential: \$1,125.00 per unit
- Office (downtown CBD area): \$3.00 per square-foot
- Hotel (downtown CBD area): \$1,125 per quest room

Based on a total Project development of 1,110 high-rise residential dwelling units, a 400-room hotel, 367,000 SF of office space and using the above-referenced unit costs, the proposed Golden Shore Master Plan can be expected to pay up to \$2,799,750.00 in Transportation Improvement Fees. The precise fee, plus any credit for existing development, will be determined by the City upon issuance of project building permits.

Key Intersections	Impacted Peak Hour	(1) Existing Traffic	(2) Year 2020 Cumulative Traffic	(3) Year 2020 w/Project Traffic	(4) Project Percent Increase
 Alamitos Avenue at 7th Street 	AM	3,524	4,030	4,259	31.2%
10. Alamitos Avenue at 4 th Street	РМ	2,765	3,221	3,378	25.6%
15. Alamitos Avenue at Broadway	AM	2,172	2,545	2,693	28.4%
17. Magnolia Avenue at Ocean Boulevard	AM	3,621	4,387	4,557	18.2%
20. Pine Avenue at Ocean Boulevard	РМ	3,896	4,686	4,808	13.4%

 TABLE 10-1

 YEAR 2020 PROJECT FAIR SHARE CONTRIBUTION

Notes:

• Net Project Percent Increase (4) = [Column (3) – Column (2)] / [Column (3) – Column (1)].

11.0 PARKING ANALYSIS

11.1 City Code Parking Analysis

To determine the number of parking spaces required for the proposed Golden Shore Master Plan project, the City of Long Beach Municipal Code, Chapter 21.41 - *Off-Street Parking and Loading Requirements* was utilized in conjunction with *Downtown Shoreline Planned Development District* (*PD-6*) and compared to the proposed Project parking supply. The City's Municipal Code specifies the following parking requirements for residential, hotel and office uses:

- Residential Parking shall be required at:
 - 2.0 spaces per unit for 1 or more bedroom units,
 - Guest parking shall be counted as 1 space for every 6 units.
- Hotel/Motel Uses- Parking shall be required at:
 - 0.75 spaces/room, plus
 - 20 spaces per 1000 SF of banquet area.
- Office: 3 spaces per 1000 SF of usable floor area.

Table 11-1 summarizes the parking requirements for the proposed Golden Shore Master Plan project. As shown, direct application of the City's code to the proposed development in the West Site results in a code-parking requirement totaling 2,921 spaces, consisting of 1,244 spaces for the residential component, 840 spaces for the hotel component and 837 spaces for the office component. With a proposed parking supply of 2,265 parking spaces, the West Site of the proposed Project will be deficient by 656 parking spaces when compared to the City of Long Beach parking code requirement.

The proposed uses in the East Site of the project requires a total of 1,426 spaces based on application of the City's parking code, consisting of 1,162 spaces for the residential component and 264 spaces for the office component. With a proposed parking supply of 1,165 spaces, the East Site of the proposed Project will be 261 spaces short of satisfying the City's code requirements.

However, given the mixed use nature of the Project, especially the West Site, there is an opportunity to share parking spaces based on the utilization profile of each land use component of the Project, as well as the utilization of the banquet facilities of the hotel component. According to the Urban Land Institute's (ULI's) *Shared Parking* 2nd Edition publication, shared parking is defined as parking space that can be used to serve two or more individual land uses without conflict or encroachment. The ULI *Shared Parking* publication provides hourly parking accumulation rates for residential, hotel and office uses, as well as other uses to include retail, theatre, restaurant, hotel, etc. expressed as a percentage of the peak demand for the day. Therefore, it is recommended that prior to finalization of the project site plan, the project applicant prepare a shared parking supply to meet the City's parking code requirements.

Project Description	Square Develo	e-feet of opment	City of Long Beach Code Parking Ratio	Spaces Required
<u>West Site</u>				
 High-Rise Condominiums 				
- 1 bedroom or more	574	DU	2 space per 1 units	1,148
- Guest	574	DU	1 space per 6 units	96
 Hotel – Rooms 	400	Rooms	0.75 space per room	300
- Banquet Area	27,000	SF	20 spaces per 1,000 SF	540
 General Office 	279,000	SF	3 spaces per 1,000 GFA	837
			Required Parking Supply for West Site:	2,921
			Proposed Parking Supply for West Site:	2,265
			Parking Surplus/Deficiency (+/-) for West Site:	-656
<u>East Site</u>				
 High-Rise Condominiums 				
- 1 bedroom or more	536	DU	2 space per 1 units	1,072
- Guest	536	DU	1 space per 6 units	90
 General Office 	88,000	SF	3 spaces per 1,000 GFA	264
			Required Parking Supply for East Site:	1,426
			Proposed Parking Supply for East Site:	1,165
			Parking Surplus/Deficiency (+/-) for East Site:	-261

 TABLE 11-1

 CITY CODE PARKING REQUIREMENTS²³

²³ Source: City of Long Beach Municipal Code, Chapter 21.41 - *Off-Street Parking and Loading Requirements*.

12.0 CONGESTION MANAGEMENT PROGRAM COMPLIANCE ASSESSMENT

The Congestion Management Program (CMP) was created statewide as a result of Proposition 111 and has been implemented locally by the Los Angeles County Metropolitan Transportation Authority (LACMTA). The CMP for Los Angeles County requires that the traffic impact of individual development projects of potential regional significance be analyzed. A specific system of arterial roadways plus all freeways comprise the CMP system.

12.1 Traffic Impact Review

As required by the 2004 Congestion Management Program for Los Angeles County, a review has been made of designated monitoring locations on the CMP highway system for potential impact analysis.

Per CMP TIA criteria, the geographic area examined in the TIA must include the following, at a minimum:

- All CMP arterial monitoring intersections, including freeway on and off-ramp intersections, where the project will add 50 or more trips during either the AM or PM weekday peak hours.
- Mainline freeway-monitoring stations where the project will add 150 or more trips, in either direction, during the AM or PM weekday peak hours.

Further, for CMP purposes, a project's impact is considered "significant" when the increases traffic demand on a CMP facility by 2.0% of the capacity (V/C ratio increase ≥ 0.020), causing or worsened LOS F (ICU > 1.00) conditions. Please note that the study intersections of Alamitos Avenue at 7th Street and Alamitos Avenue/Shoreline Drive at Ocean Boulevard are a part of the CMPHS of Los Angeles County where LOS E is the minimum acceptable operating condition.

12.1.1 Freeways

The closest CMP freeway monitoring location in the project vicinity is the I-710 Freeway n/o Rte 1 (PCH), Willow Street (CMP Station 1078). Based on the project's trip generation potential and distribution pattern, the proposed Project will not add more than 150 trips during the AM/PM peak hour at this CMP mainline freeway-monitoring location. Therefore, a CMP freeway traffic impact analysis is not required.

12.1.2 Intersections

The following CMP intersection monitoring location in the project vicinity has been identified:

CMP Station	<u>Int. No.</u>	Location
33	23	Alamitos Avenue at Ocean Boulevard
41	7	Alamitos Avenue at 7 th Street

As stated earlier, the CMP guidelines require that arterial monitoring intersection locations must be examined if the proposed Project will add 50 or more trips during either the AM or PM weekday peak hours (of adjacent street traffic) at CMP monitoring intersections. The proposed Golden Shore Master Plan project will add over 50 trips at the identified CMP intersections during both the AM peak hour and PM peak hour.

- Alamitos Avenue at 7th Street– Based on the results of a detailed analysis of project added trips to the CMP system, approximately 229 trips during the AM peak hour and 241 trips during the PM peak hour will be added by the project at this location. Per CMP TIA guidelines, intersection level of service analysis is therefore required. The impact analysis is discussed in detail in this traffic study report and the results are summarized in *Table 8-1*. As presented previously, the analysis indicates that the Project will increase demand at this key intersection by two percent (0.02) or more during the AM peak hour. However, Alamitos Avenue at 7th Street is forecast to operate at LOS E, which meets the minimum acceptable service level that should be maintained at intersections that are part of the CMP network. Hence, based on the CMP significant impact criteria, the proposed Project does not significantly impact this intersection. Nevertheless, with the implementation of recommended improvements at this location, Alamitos Avenue at 7th Street is expected to operate at acceptable LOS D or better during the AM and PM peak hours and project's impact mitigated.
- Alamitos Avenue/Shoreline Drive at Ocean Boulevard Based on the results of a detailed analysis of project added trips to the CMP system, approximately 184 trips during the AM peak hour and 195 trips during the PM peak hour will be added by the project at this location. Per CMP TIA guidelines, intersection level of service analysis is therefore required. The impact analysis is discussed in detail in this traffic study report and the results are summarized in *Table 8-1*. The CMP intersection of Alamitos Avenue at Ocean Boulevard is forecast to operate LOS F during the AM and PM peak hours, without or with Project traffic. However, based on the CMP significant impact criteria, the proposed Project does not significantly impact this intersection.
12.2 Transit Impact Review

As required by the 2004 Congestion Management Program for Los Angeles County, a review has been made of the CMP transit service. As previously discussed, a number of transit services exist in the project area, necessitating the following transit impact review.

The project trip generation, as shown in *Table 5-2*, was adjusted by values set forth in the CMP (i.e., person trips equal 1.4 times vehicle trips, and transit trips equal 3.5 percent of the total person trips) to estimate project-related transit trip generation. Pursuant to the CMP guidelines, the proposed Project is forecasted to generate 36 transit trips (15 inbound and 21 outbound) during the AM peak hour and 38 transit trips (20 inbound and 18 outbound) during the PM peak hour. Over a 24-hour period the proposed Project is forecasted to generate 429 daily weekday transits.

It is anticipated that the existing transit service in the project area would be able to accommodate the project generated transit trips. Metro Blue Line, Metro Local Line 232, Metro Express Line 577X, OCTA Route 60, LADOT Commuter Express 142, Long Beach Transit (LBT) Routes Nos. 1, 7, 21, 22, 23, 46, 51, 52, 61, 62, 63, 66, 81, 91, 92, 93, 94, 96, 111, 112, 172, 173, 174, 181, 182, 191, 192 and 193 currently serves the surrounding vicinity. Therefore, given the number of transit trips generated by the project and the existing transit routes in the project vicinity, it is concluded that the existing public transit system would not be significantly impacted by the proposed Project.

13.0 SUMMARY OF FINDINGS AND CONCLUSIONS

 Project Description – The proposed Project site consists of two parcel of land that is located on both the east side and west side of Golden Shore, south of Ocean Boulevard and north of Shoreline Drive in downtown Long Beach. The site is currently developed with multi-level office buildings totaling 294,003 SF of general office uses and 920 parking spaces.

The proposed Golden Shore Master Plan involves the development of 1,110 dwelling units (DU) of high-rise residential condominiums, a 400 room hotel with 27,000 SF of banquet space, and 367,000 square-feet (SF) of office space on two separate parcels (West Site and East Site) with a parking supply of 3,430 spaces. The proposed Project is anticipated to be completed by Year 2020.

- Study Scope The following thirty intersections were selected for detailed peak hour level of service analyses under Existing (Year 2009) Traffic Conditions, Year 2020 Cumulative Traffic Conditions and Year 2020 Cumulative plus Project Traffic Conditions:
 - 1. Magnolia Avenue at 7th Street
 - 2. Pacific Avenue at 7th Street
 - 3. Pine Avenue at 7th Street
 - 4. Long Beach Boulevard at 7th Street
 - 5. Atlantic Avenue at 7th Street
 - 6. Martin Luther King Jr. Ave at 7th St
 - 7. Alamitos Avenue at 7th Street
 - 8. Magnolia Avenue at 6th Street
 - 9. Magnolia Avenue at 5th Street
 - 10. Alamitos Avenue at 4th Street
 - 11. Magnolia Avenue at 3rd Street
 - 12. Magnolia Avenue at Broadway
 - 13. Pacific Avenue at Broadway
 - 14. Pine Avenue at Broadway
 - 15. Alamitos Avenue at Broadway

- 16. Golden Ave\Golden Shore at Ocean Blvd
- 17. Magnolia Avenue at Ocean Boulevard
- 18. Chestnut Place at Ocean Boulevard
- 19. Pacific Avenue at Ocean Boulevard
- 20. Pine Avenue at Ocean Boulevard
- 21. Long Beach Boulevard at Ocean Boulevard
- 22. Atlantic Avenue at Ocean Boulevard
- 23. Alamitos Ave/Shoreline Dr at Ocean Blvd
- 24. Golden Shore at Seaside Way
- 25. Chestnut Place at Seaside Way
- 26. Pine Avenue at Seaside Way
- 27. Golden Shore at I-710 SB Off-Ramp
- 28. Golden Shore at EB Shoreline Dr On-Ramp
- 29. Chestnut Place at Shoreline Drive
- 30. Pine Avenue at Shoreline Drive

The analysis is focused on assessing potential traffic impacts during the morning and evening commute peak hours (between 7:00-9:00 AM, and 4:00-6:00 PM) on a typical weekday.

- Level of Service (LOS) Standards and Significant Impact Criteria Impacts to local and regional transportation systems are considered significant if:
 - □ An unacceptable peak hour Level of Service (LOS) (i.e. LOS E or F) at any of the key intersections is projected. The City of Long Beach considers LOS D (ICU = 0.801 0.900) to be the minimum acceptable LOS for all intersections. For the City of Long Beach, the current LOS, if worse than LOS D (i.e. LOS E or F), should also be maintained; and

- □ The project increases traffic demand at the study intersection by 2% of capacity (ICU increase ≥ 0.020), causing or worsening LOS E or F (ICU > 0.901). At unsignalized intersections, a "significant" adverse traffic impact is defined as a project that adds 2% or more to traffic delay (seconds per vehicle) at an intersection operating LOS E or F.
- Existing Traffic Conditions One of the thirty key study intersections currently operate at an unacceptable LOS E or F during the AM and/or PM peak hours. The remaining key study intersections currently operate at acceptable LOS D or better during the AM and PM peak hours. The intersection operating at an adverse level of service is:

	AM Peak	Hour	PM Peak	Hour
Key Intersection	ICU/HCM	LOS	ICU/HCM	LOS
23. Alamitos Ave/Shoreline Dr at Ocean Blvd	1.120	F	1.062	F

- **Project Trip Generation** With the application of trip generation credits applied for the existing mixed-use development on the site, the proposed Project is forecast to generate 8,761 net daily trips, with 731 net trips (302 inbound, 429 outbound) produced in the AM peak hour and 772 net trips (405 inbound, 367 outbound) produced in the PM peak hour on a "typical" weekday.
- Related Projects Trip Generation Nineteen (19) related projects were considered as part of the cumulative traffic analysis. On a typical weekday, the related projects are expected to generate a combined total of 29,432 daily trips on a "typical" weekday, with 2,036 trips (862 inbound and 1,174 outbound) forecast during the AM peak hour, and 2,591 trips (1,408 inbound and 1,183 outbound) during the PM peak hour.
- Year 2020 Cumulative Traffic Conditions An analysis of future (Year 2020) Cumulative traffic conditions indicates that four (4) intersections operate at adverse levels of service for Year 2020 based on the ICU/HCM methodologies and the City's LOS standards. These intersections, reported below, are forecast to operate at LOS E or LOS F during the peak hour indicated:

	AM Peak	<u>Hour</u>	PM Peak	<u>Hour</u>
Key Intersection	ICU/HCM	LOS	ICU/HCM	LOS
7. Alamitos Avenue at 7 th Street	0.972	Е		
10. Alamitos Avenue at 4 th Street			0.998	Е
17. Magnolia Avenue at Ocean Boulevard	0.920	Е		
23. Alamitos Ave./Shoreline Dr. at Ocean Blvd.	1.262	F	1.193	F

• Year 2020 Cumulative Traffic Conditions Plus Project – The results of traffic analysis indicates the proposed Project will significantly impact five (5) of the thirty (30) study intersections when compared to the LOS standards and the significant traffic impact criteria defined in this report. The intersections impacted by the proposed Project include:

Key Intersection

7. Alamitos Avenue at 7th Street

10. Alamitos Avenue at 4th Street

15. Alamitos Avenue at Broadway

- 17. Magnolia Avenue at Ocean Boulevard
- 20. Pine Avenue at Ocean Boulevard
- *Site Access* As currently proposed, primary access to the West Site and East Site of the Project will be provided via one full-access driveway on Golden Shore, between Ocean Boulevard and Seaside Way, with secondary access provided by two proposed access driveways from Seaside Way. Analysis of the project driveways on Seaside Way indicate acceptable service levels are projected. For the primary access on Golden Shore, the installation of a traffic signal is recommended to ensure acceptable service levels are achieved.
- Internal Circulation Since detail site plans are not available for review at this time, it is
 recommended that prior to finalization of the project site plan, the appropriate turning
 templates (ASSHTO SU-30, WB-50 and fire trucks) be utilized to confirm that all vehicles
 can properly access and circulate through the site and that all internal drive aisle widths,
 project driveway widths, and parking stall widths satisfy the City's minimum requirements.
- Area Traffic Improvements To mitigate the Project's traffic impacts, the following mitigation measures are recommended. The Project can be expected to pay a fair-share of the construction costs to mitigate the proposed Project's significant cumulative traffic impacts at the City's discretion.
 - No. 7 Alamitos Avenue at 7th Street: Restripe 7th Street to provide a third westbound through lane on 7th Street, through the intersection of Martin Luther King, Jr. and 7th Street. The implementation of this improvement would require the removal of curbside parking on both sides of 7th Street, east and west of Alamitos Avenue. Given the demand for curbside parking in the area, the loss of parking may not be considered acceptable. Further, the intersection of Alamitos Avenue and 7th Street is physically constrained with existing development located along the street making the expansion of the roadway to add additional lanes difficult. As an alternative, the Project's impact at this key intersection could be mitigated by reducing the Project's trip generation potential by approximately ten percent (10%).

If recommended roadway improvements are not implement or the project's trip generation is not reduced, then the Project's impact at this key intersection would be considered and unavoidable.

No. 10 - Alamitos Avenue at 4th Street: No physical mitigation measure feasible; any additional turn lanes will require widening and additional right-of-way. The intersection

of Alamitos Avenue and 4^{th} Street is physically constrained with existing development located along the street making the expansion of the roadway to add additional lanes difficult. As an alternative, the Project's impact at this key intersection could be mitigated by reducing the Project's trip generation potential by approximately ten percent (10%).

If the project's trip generation is not reduced, then the Project's impact at this key intersection would be considered and unavoidable.

□ No. 15 - Alamitos Avenue at Broadway: Restripe Alamitos Avenue to provide a second southbound through lane. The implementation of this improvement may require the removal of curbside parking on both of Alamitos Avenue, north and south of Broadway. Given the demand for curbside parking in the area, the loss of parking may not be considered acceptable. Further, the intersection of Alamitos Avenue and Broadway is physically constrained with existing development located along the street making the expansion of the roadway to add additional lanes difficult. Please note that the provision of two southbound lanes on Alamitos Avenue is generally consisted with the City's future improvement plans for this key roadway segment. As an alternative, the Project's impact at this key intersection could be mitigated by reducing the Project's trip generation potential by approximately fifteen percent (15%).

If recommended roadway improvements are not implement or the project's trip generation is not reduced, then the Project's impact at this key intersection would be considered and unavoidable.

- No. 17 Magnolia Avenue at Ocean Boulevard: Modify existing signal to provide protect left-turn phasing for the eastbound and westbound directions on Ocean Boulevard and install a southbound right-turn overlap phase.
- □ No. 20 Pine Avenue at Ocean Boulevard: Restripe Pine Avenue to provide a separate southbound left-turn lane and a shared through-right lane on Pine Avenue. Implementation of this improvement may require the removal of the passenger loading/unloading zone on the east side of Pine, north of Ocean, and potentially impact the flow of traffic given existing bus stops are located along this section of Pine Avenue, both of which may not be considered acceptable. As an alternative, the Project's impact at this key intersection could be mitigated by reducing the Project's trip generation potential by approximately fifteen percent (15%).

If recommended roadway improvements are not implement or the project's trip generation is not reduced, then the Project's impact at this key intersection would be considered and unavoidable.

LINSCOTT, LAW & GREENSPAN, *engineers*

- Project Specific- Improvements The following improvement is recommended to ensure adequate access is provided for the Project:
 - Project Driveway A at Golden Shore: Install traffic signal, and associated signing and striping modifications, inclusive of crosswalks. The installation of a traffic signal at Rose Avenue and Pacific Coast Highway, and associated signing and striping modifications, is subject to the approval of the City of Long Beach.
- Development Impact Fee Based on a total Project development of 1,110 high-rise residential dwelling units, a 400-room hotel, 367,000 SF of office space and application of the appropriate fees, the proposed Golden Shore Master Plan can be expected to pay up to \$2,799,750.00 in Transportation Improvement Fees. The precise fee, plus any credit for existing development, will be determined by the City upon issuance of project building permits.
- Parking Analysis Direct application of the City's code to the proposed development in the West Site results in a code-parking requirement totaling 2,921 spaces, consisting of 1,244 spaces for the residential component, 840 spaces for the hotel component and 837 spaces for the office component. With a proposed parking supply of 2,265 parking spaces, the West Site of the proposed Project will be deficient by 656 parking spaces when compared to the City of Long Beach parking code requirement.

The proposed uses in the East Site of the project requires a total of 1,426 spaces based on application of the City's parking code, consisting of 1,162 spaces for the residential component and 264 spaces for the office component. With a proposed parking supply of 1,165 spaces, the East Site of the proposed Project will be 261 spaces short of satisfying the City's code requirements.

However, given the mixed use nature of the Project, especially the West Site, there is an opportunity to share parking spaces based on the utilization profile of each land use component of the Project, as well as the utilization of the banquet facilities of the hotel component. According to the Urban Land Institute's (ULI's) *Shared Parking* 2nd Edition publication, shared parking is defined as parking space that can be used to serve two or more individual land uses without conflict or encroachment. The ULI *Shared Parking* publication provides hourly parking accumulation rates for residential, hotel and office uses, as well as other uses to include retail, theatre, restaurant, hotel, etc. expressed as a percentage of the project site plan, the project applicant prepare a shared parking analysis to verify the adequacy of the proposed Project parking supply or increase the parking supply to meet the City's parking code requirements.

APPENDIX A

EXISTING TRAFFIC COUNT DATA

LINSCOTT. LAW & GREENSPAN, engineers

LLG Ref. 2-08-2995 Golden Shore Master Plan, Long Beach 2900 2082995 Report Appendix dividers doc

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Prepared by:

National Data & Surveying Services

TMC Summary of Magnolia Ave/7th St



Project #: 08-2274-001

am peak hour	715 AM
NOON PEAK HOUR	0 AM
PM PEAK HOUR	430 PM

N-S STREET:	Magnol	ia Ave	DATE: 6/4/2008					LOCATION: City of Long Beach						
E-W STREET:	7th St				DAY:	WEDNE	SDAY		PRO	Ject#	08-22	74-001		
	NC	ORTHBO	JND SOUTHBOUND				E	ASTBOU	ND	W	WESTBOUND			
LANES:	NL 1	NT 1	NR 0	SL 0	ST 1	SR 0	EL 0	ET 0	ER 0	WL 1	WT 3	WR 0	TOTAL	
6:00 AM 6:15 AM 6:30 AM 7:00 AM 7:15 AM 7:30 AM 7:45 AM 8:00 AM 8:15 AM 8:30 AM 8:45 AM 9:00 AM 9:15 AM 9:30 AM 9:30 AM 10:00 AM 10:15 AM 10:30 AM 10:45 AM 11:45 AM	21 17 14 15 18 12 9 7	38 40 37 44 41 47 43 49			58 46 78 61 88 70 66 69	14 17 22 19 20 14 10 11				41 50 47 53 48 50 43 35	302 340 307 324 286 271 240 216	13 18 21 17 24 19 21 14	487 528 526 533 525 483 432 401	
TOTAL VOLUMES =	NL 113	NT 339	NR 0	SL 0	ST 536	SR 127	EL 0	ET 0	ER 0	WL 367	WT 2286	WR 147	TOTAL 3915	
AM Pe	eak Hr Be	egins at:	715	AM										
Peak Volumes =	64	162	0	0	273	78	0	0	0	198	1257	80	2112	
Peak Hr. Factor:		0.958			0.813			0.000			0.941		0.991	
CONTROL:	Signalia	zed												

N-S STREET:	Magnol	ia Ave	DATE: 6/4/200				08 LOCATION: City of Long Beach						
E-W STREET:	7th St				DAY:	WEDNE	SDAY		PRO:)ECT#	08-22	74-001	
	NC	ORTHBOL	JND	S	OUTHBOU	JND	É	ASTBOU	ND	W	ESTBOL	IND	
LANES:	NL 1	NT 1	NR 0	SL 0	ST 1	SR 0	EL O	ET 0	ER 0	WL 1	WT 3	WR 0	TOTAL
1:00 PM 1:15 PM 1:30 PM 1:45 PM 2:00 PM 2:15 PM 2:30 PM 2:45 PM 3:00 PM 3:15 PM 3:30 PM 3:45 PM 4:00 PM 4:15 PM 4:30 PM 4:45 PM 5:15 PM 5:30 PM 5:15 PM 6:30 PM 6:45 PM	21 27 31 22 30 19 24 17	50 89 69 94 105 82 67 58			65 53 80 71 84 75 46 42	14 17 21 16 11 13 16 10				19 23 27 31 22 19 22 17	147 160 167 152 173 162 174 160	20 29 35 28 22 29 24 19	336 398 430 414 447 399 373 323
TOTAL VOLUMES =	NL 191	NT 614	NR 0	SL 0	ST 516	SR 118	EL 0	ET 0	ER 0	WL 180	WT 1295	WR 206	TOTAL 3120
PM Pe	eak Hr Be	egins at:	430	PM									
Peak Volumes =	102	350	0	0	310	61	0	0	0	99	654	114	1690
PEAK HR. FACTOR:		0.837			0.918			0.000			0.947		0.945
CONTROL:	Signali	zed											



Prepared by:

National Data & Surveying Services

TMC Summary of Pacific Ave/7th St

Project #: 08-2274-002



am peak hour	730 AM
Noon Peak Hour	0 AM
PM PEAK HOUR	415 PM

N-S STREET:	Pacific	Ave			DATE:	6/4/200	8	LOCATION: City of Long Beach						
E-W STREET:	7th St				DAY:	WEDNE	SDAY		PRO.	Ject#	08-22	74-002		
	Ň	ORTHBOI	JND	SC	OUTHBOU	JND	E	ASTBOU	ND	W	ESTBOU	ND		
LANES:	NL 1	NT 2	NR 0	SL 0	ST 2	SR 0	EL 0	ET 0	ER 0	WL 1	WT 3	WR 0	TOTAL	
6:00 AM 6:15 AM 6:30 AM 6:45 AM 7:00 AM 7:15 AM 7:30 AM 7:45 AM 8:00 AM 8:15 AM 8:30 AM 9:15 AM 9:00 AM 9:15 AM 9:30 AM 9:45 AM 10:00 AM 10:15 AM 10:30 AM 10:45 AM 11:45 AM	7 10 15 11 17 16 14 9	41 47 53 47 42 50 36 28			57 75 89 117 129 104 89 73	10 15 19 21 17 11 14 6				37 41 52 48 60 67 57 40	315 370 345 367 324 316 274 252	19 23 31 36 28 22 25 18	486 581 604 647 617 586 509 426	
TOTAL VOLUMES =	NL 99	NT 344	NR 0	SL 0	ST 733	SR 113	EL 0	ET 0	ER 0	WL 402	WT 2563	WR 202	TOTAL 4456	
AM P	eak Hr B	egins at:	730	AM										
Peak Volumes =	59	192	0	0	439	68	0	0	0	227	1352	117	2454	
PEAK HR. FACTOR:		0.923			0.868			0.000			0.940		0.948	
CONTROL:	Signali	zed												

N-S STREET:	Pacific /	Ave			DATE:	6/4/200	B LOCATION: City of Long Beach						
E-W STREET:	7th St				DAY:	WEDNE	SDAY		PRO	IECT#	08-22	74-002	
	NC	RTHBOL	JND	S	OUTHBOU	JND	Ē	ASTBOU	ND	W	ESTBOU	ND	
LANES:	NL 1	NT 2	NR 0	SL 0	ST 2	SR 0	EL 0	ET 0	ER 0	WL 1	WT 3	WR 0	TOTAL
1:00 PM 1:15 PM 1:30 PM 2:00 PM 2:15 PM 2:30 PM 2:45 PM 3:00 PM 3:15 PM 3:30 PM 3:45 PM 4:00 PM 4:15 PM 4:30 PM 4:45 PM 5:00 PM 5:15 PM 5:30 PM 5:45 PM 6:30 PM 6:45 PM	10 12 14 21 17 22 19 14	97 121 134 124 143 108 91 79			81 102 97 89 86 79 72 60	12 14 10 17 19 20 14 16				19 22 32 29 37 29 34 24	180 195 208 193 181 164 152 146	18 24 31 29 37 42 38 29	417 490 526 502 520 464 420 368
TOTAL VOLUMES =	NL 129	NT 897	NR 0 415	SL 0 PM	ST 666	SR 122	EL 0	ET 0	ER 0	WL 226	WT 1419	WR 248	TOTAL 3707
		.gino aci	-113										
PEAK VOLUMES =	64	522	0	0	374	60	0	0	0	120	777	121	2038
PEAK HR. FACTOR:		0.916			0.935			0.000			0.939		0.969
CONTROL:	Signali	zed											

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Prepared by:

National Data & Surveying Services

TMC Summary of Pine Ave/7th St

Project #: 08-2274-003



AM PLAK HOOK	/13 API
Noon Peak Hour	0 AM
PM PEAK HOUR	430 PM

N-S STREET:	Pine Av	<i>i</i> e			DATE:	6/4/200)8		LOCA	TION:	City of L	.ogn Bea	ach
E-W STREET:	7th St				DAY:	WEDNE	SDAY		PROJ	iect#	08-22	74-003	
	Ň	ORTHBO	UND	SC	OUTHBOI	UND	E	ASTBOU	ND	Ŵ	ESTBOU	ND	
LANES:	NL 1	NT 1	NR 0	SL 0	ST 1	SR 0	EL 0	ET 0	ER 0	WL 0	WT 3	WR 0	TOTAL
6:00 AM 6:15 AM 6:30 AM 7:00 AM 7:15 AM 7:30 AM 7:45 AM 8:00 AM 8:15 AM 8:30 AM 8:45 AM 9:00 AM 9:15 AM 9:30 AM 9:45 AM 10:00 AM 10:15 AM 10:30 AM 10:45 AM 11:30 AM 11:45 AM	6 7 11 12 9 14 17 11	11 17 16 21 23 19 28 30			11 15 21 19 27 31 20 17	5 8 10 11 9 14 11 8				11 14 17 22 19 25 22 18	364 421 407 428 394 323 339 294	13 17 15 22 24 22 18 15	421 499 497 535 505 448 455 393
TOTAL VOLUMES =	NL 87	NT 165	NR 0	SL 0	ST 161	SR 76	EL 0	ET 0	ER 0	WL 148	WT 2970	WR 146	TOTAL 3753
AM Pe	eak Hr Be	egins at:	715	AM									
PEAK VOLUMES =	39	77	0	0	82	38	0	0	0	72	1650	78	2036
FACTOR:		0.879			0.833			0.000			0.953		0.951
CONTROL:	Signali	zed											

N-S STREET:	Pine Av	e			DATE:	6/4/200	8		LOC/	ATION:	City of L	.ogn Bea	ach
E-W STREET:	7th St				DAY:	WEDNE	SDAY		PROJ	IECT#	08-22	74-003	
	NC	RTHBO	JND	SC	DUTHBO	UND	E	ASTBOU	ND	W	ESTBOU	ND	
LANES:	NL 1	NT 1	NR 0	SL 0	ST 1	SR 0	EL 0	ET 0	ER 0	WL 0	WT 3	WR 0	TOTAL
1:00 PM 1:15 PM 1:30 PM 2:00 PM 2:15 PM 2:30 PM 2:45 PM 3:00 PM 3:15 PM 3:30 PM 3:45 PM 4:00 PM 4:15 PM 4:30 PM 4:45 PM 5:00 PM 5:15 PM 5:30 PM 6:00 PM 6:15 PM 6:30 PM 6:45 PM	13 17 21 22 17 19 14 11	30 38 56 41 50 47 39 31			19 28 35 38 31 29 25 16	7 10 14 17 18 10 7 5				12 14 19 21 25 17 26 18	197 211 229 214 226 197 183 175	19 17 25 31 29 22 17 13	297 335 399 384 396 341 311 269
TOTAL VOLUMES =	NL 134	NT 332	NR 0	SL 0	ST 221	SR 88	EL 0	ET 0	ER 0	WL 152	WT 1632	WR 173	TOTAL 2732
PM Pe	eak Hr Be	egins at:	430	РМ									
PEAK VOLUMES =	79	194	0	0	133	59	0	0	0	82	866	107	1520
PEAK HR. FACTOR:		0.886			0.873			0.000			0.942		0.952
CONTROL:	Signali	zed											

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Prepared by:

National Data & Surveying Services

TMC Summary of Long Beach Blvd/7th St



AM PEAK HOUR	730 AM
NOON PEAK HOUR	0 AM
PM PEAK HOUR	445 PM

N-S STREET:	Long Beach Blvd DATE: 6/4/2008								LOCATION: City of Long Beach					
E-W STREET:	7th St			DAY: WEDNESDAY					PROJECT# 08-2274-0			74-004		
	NC	RTHBO	JND	SC	OUTHBOU	JND	E	ASTBOUN	ND	W	ESTBOU	ND		
LANES:	NL 1	NT 2	NR 0	SL 0	ST 2	SR 1	EL 0	ET 0	ER 0	WL 1	WT 3	WR 1	TOTAL	
6:00 AM 6:15 AM 6:30 AM 6:45 AM 7:00 AM 7:15 AM 7:30 AM 7:45 AM 8:00 AM 8:15 AM 8:30 AM 9:15 AM 9:30 AM 9:15 AM 9:30 AM 9:45 AM 10:00 AM 10:15 AM 10:30 AM 10:45 AM 11:45 AM	40 52 56 46 52 43 36 34	57 91 100 101 93 103 68 82			40 77 74 132 122 119 96 102	23 24 20 35 23 23 16 19				44 31 26 32 55 48 26 42	282 322 335 434 351 324 255 220	23 28 30 35 24 29 23 23	509 625 641 815 720 689 520 522	
TOTAL VOLUMES =	NL 359	NT 695	NR 0	SL 0	ST 762	SR 183	EL 0	ET 0	ER 0	WL 304	WT 2523	WR 215	TOTAL 5041	
AM P	eak Hr Be	egins at:	730	AM										
Peak Volumes =	197	397	0	0	447	101	0	0	0	161	1444	118	2865	
PEAK HR. FACTOR:		0.952			0.820			0.000			0.860		0.879	
CONTROL:	Signali	zed												

N-S STREET:	Long Beach Blvd DATE: 6/4/200							/2008 LOCATION: City of Long Beach						
E-W STREET:	7th St				DAY:	WEDNE	SDAY		PROJECT# 0			08-2274-004		
	NC	RTHBOL	JND	SOUTHBOUND			Ē	ASTBOU	ND	W	ESTBOU	ND		
LANES:	NL 1	NT 2	NR 0	SL 0	ST 2	SR 1	EL 0	ЕТ 0	ER 0	WL 1	WT 3	WR 1	TOTAL	
1:00 PM 1:15 PM 1:30 PM 2:00 PM 2:15 PM 2:30 PM 2:45 PM 3:00 PM 3:15 PM 3:30 PM 3:45 PM 4:00 PM 4:15 PM 4:30 PM 4:45 PM 5:00 PM 5:15 PM 5:30 PM 5:45 PM 6:00 PM 6:15 PM	21 37 45 27 36 47 50 39	51 88 97 137 151 112 117 102			60 97 110 122 89 97 74 80	7 11 15 22 25 17 21 14				27 21 29 33 41 39 32 31	179 157 183 199 188 195 196 168	19 21 27 18 23 21 17 19	364 432 506 558 553 528 507 453	
TOTAL VOLUMES =	NL 302	NT 855	NR 0	SL 0	ST 729	SR 132	EL 0	ET 0	ER 0	WL 253	WT 1465	WR 165	TOTAL 3901	
רויו דל		gins at.	Стт	r PI										
Peak Volumes =	160	517	0	0	382	85	0	0	0	145	778	79	2146	
PEAK HR. FACTOR:		0.905			0.811			0.000			0.982		0.961	
CONTROL:	Signali	zed												



Prepared by:

National Data & Surveying Services

TMC Summary of Atlantic Ave/7th St

Project #: 08-2274-005



am peak hour	715 AM
NOON PEAK HOUR	0 AM
PM PEAK HOUR	430 PM

N-S STREET:	Atlantic	: Ave			DATE:	6/3/200	/3/2008 LOCATION: City of Long Beach							
E-W STREET:	7th St				DAY:	TUESDA	Υ		PRO:	JECT#	08-2274-005			
	N	ORTHBOU	JND	S	OUTHBOU	JND	E	ASTBOU	ND	W	ESTBOU	ND		
LANES:	NL 0	NT 2	NR 0	SL 0	ST 2	SR 0	EL 0	ET 0	ER 0	WL 0	WT 3	WR 0	TOTAL	
6:00 AM 6:15 AM 6:30 AM 7:00 AM 7:15 AM 7:30 AM 7:45 AM 8:00 AM 8:15 AM 8:30 AM 8:45 AM 9:00 AM 9:15 AM 9:30 AM 9:30 AM 10:15 AM 10:00 AM 10:15 AM 10:30 AM 11:45 AM	14 8 15 21 22 1 1 9	51 71 94 76 94 84 86 81			61 67 90 103 100 72 89 69	24 15 30 21 15 18 13 22				20 36 30 28 32 34 26 18	333 397 391 428 436 354 270 234	13 25 37 31 28 36 29 38	516 619 687 708 727 599 514 471	
TOTAL VOLUMES =	NL 91	NT 637	NR 0	SL 0	ST 651	SR 158	EL 0	ET 0	ER 0	ŴL 224	WT 2843	WR 237	TOTAL 4841	
AM P	eak Hr B	egins at:	715	АМ										
Peak Volumes =	66	335	0	0	360	81	0	0	0	126	1652	121	2741	
PEAK HR. FACTOR:		0.864			0.889			0.000			0.957		0.943	
CONTROL:	Signali	zed												

Prepared by: National Data & Surveying Services

N-S STREET:	Atlanti	c Ave			DATE:	LOCATION: City of Long Beach							
E-W STREET:	7th St				DAY:	TUESD/	AY		PRO.	74-005			
	N	ORTHBO	UND	S	SOUTHBOUND			EASTBOUND			ESTBOL	IND	
LANES:	NL 0	NT 2	NR 0	SL 0	ST 2	SR 0	EL 0	ET 0	ER 0	WL 0	WT 3	WR 0	TOTAL
1:00 PM 1:15 PM 1:30 PM 1:45 PM 2:00 PM 2:15 PM 2:30 PM 2:45 PM 3:00 PM 3:15 PM 3:30 PM 3:45 PM 4:00 PM 4:15 PM 4:30 PM 4:45 PM 5:00 PM 5:15 PM 5:30 PM 5:45 PM 6:00 PM 6:15 PM	7 8 10 14 8 7 11 6	60 71 102 115 130 89 77 80			60 80 97 110 91 67 84 75	12 15 19 17 21 15 11 10				17 21 19 25 17 23 14 16	201 189 202 185 227 205 231 189	14 21 27 26 39 35 27 22	371 405 476 492 533 441 455 398
TOTAL VOLUMES =	NL 71	NT 724	NR 0	SL 0	ST 664	SR 120	EL 0	ET 0	ER 0	WL 152	WT 1629	WR 211	TOTAL 3571
PM Pe	ak Hr Be	egins at:	430	PM									
PEAK VOLUMES =	39	436	0	0	365	72	0	0	0	84	819	127	1942
FACTOR:		0.861			0.860			0.000			0.910		0.911
CONTROL:	Signali	zed											

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Prepared by:

National Data & Surveying Services

TMC Summary of Martin Luther King Jr/7th St



am peak hour	730 AM
NOON PEAK HOUR	0 AM
PM PEAK HOUR	445 PM

N-S STREET:	Martin I	Martin Luther King Jr DATE: 6/4/2008								LOCATION: City of Long Beach						
E-W STREET:	7th St			DAY: WEDNESDAY					PROJECT# 08-22			74-006				
	NC	ORTHBOU	JND	SO	UTHBO	UND	E	ASTBOU	ND	W	ESTBOU	ND				
LANES:	NL 1	NT 1	NR 2	SL 1	S⊤ 1	SR 0	EL 0	ET 0	ER 0	WL 0	WT 2	WR 0	TOTAL			
6:00 AM 6:15 AM 6:30 AM 7:00 AM 7:15 AM 7:30 AM 7:45 AM 8:00 AM 8:15 AM 8:30 AM 8:45 AM 9:00 AM 9:15 AM 9:30 AM 9:45 AM 10:00 AM 10:15 AM 10:30 AM 10:45 AM 11:00 AM 11:15 AM	11 19 18 26 17 14 11 12	19 23 31 51 30 29 27 20	62 74 81 95 110 76 74 96	16 24 30 49 32 24 17 16	10 7 17 21 14 9 13 11	10 14 21 28 31 38 25 14					393 365 438 444 425 380 310 258	3 6 4 15 8 9 7 4	524 532 640 729 667 579 484 431			
TOTAL VOLUMES =	NL 128	NT 230	NR 668	SL 208	ST 102	SR 181	EL 0	ET 0	ER 0	WL O	WT 3013	WR 56	TOTAL 4586			
AM P	eak Hr Be	egins at:	730	AM												
Peak Volumes =	75	141	362	135	61	118	0	0	0	0	1687	36	2615			
PEAK HR. FACTOR:		0.840			0.801			0.000			0.938		0.897			
CONTROL:	Signali	zed														

N-S STREET:	Martin	Luther King Jr DATE: 6/4/2008						LOCATION: City of Long Beach					
E-W STREET:	7th St				DAY:	WEDNE	SDAY		PROJECT# 08-2274-0				
	NC	RTHBO	UND	SC	UTHBOL	JND	E.	ASTBOU	ND	Ŵ	ESTBOU	ND	
LANES:	NL 1	NT 1	NR 2	SL 1	ST 1	SR 0	EL 0	ET 0	ER 0	WL 0	WT 2	WR 0	TOTAL
1:00 PM 1:15 PM 1:30 PM 2:00 PM 2:15 PM 2:30 PM 2:45 PM 3:00 PM 3:15 PM 3:30 PM 3:45 PM 4:00 PM 4:15 PM 4:30 PM 4:45 PM 5:00 PM 5:15 PM 5:30 PM 6:45 PM 6:30 PM 6:45 PM	10 15 8 4 10 14 9 12	17 19 22 23 31 28 30 36	167 183 177 295 242 237 204 185	37 36 29 25 38 23 24 27	16 18 21 19 20 7 19 25	8 12 15 19 14 15 17 16					225 199 218 197 246 218 243 176	10 16 15 10 17 22 13 7	490 498 505 592 618 564 559 484
TOTAL VOLUMES =	NL 82	NT 206	NR 1690	SL 239	ST 145	SR 116	EL O	ЕТ 0	ER 0	WL 0	WT 1722	WR 110	TOTAL 4310
PM P	ак пг Ве	syms at:	445	r'!'I									
PEAK Volumes =	37	112	978	110	65	65	0	0	0	0	904	62	2333
PEAK HR. FACTOR:		0.875			0.833			0.000			0.918		0.944
CONTROL:	Signali	zed											



Prepared by:

National Data & Surveying Services

TMC Summary of Alamitos Ave/7th St

Project #: 08-2274-007



AM PEAK HOUR	730 AM
NOON PEAK HOUR	0 AM
PM PEAK HOUR	445 PM

N-S STREET:	Alamitos Ave DATE: 6/5/2008								LOCATION: City of Long Beach					
E-W STREET:	7th St				DAY:	THURSE	DAY		PRO	iect#	# 08-2274-007			
	NC	ORTHBO	UND	SC	UTHBO	UND	E	ASTBOUN	ND	W	ESTBOU	ND	· · · · · · · · · · · · · · · · · · ·	
LANES:	NL 1	NT 2	NR 1	SL 1	ST 2	SR 0	EL 1	ET 2	ER 0	WL 1	WT 2	WR 0	TOTAL	
6:00 AM 6:15 AM 6:30 AM 7:00 AM 7:15 AM 7:30 AM 7:45 AM 8:00 AM 8:15 AM 8:30 AM 9:15 AM 9:00 AM 9:15 AM 9:30 AM 9:45 AM 10:00 AM 10:15 AM 10:30 AM 10:45 AM 11:00 AM 11:45 AM	12 14 12 17 21 18 16 12	52 78 87 99 86 78 73 81	34 28 21 27 31 25 23 30	14 11 13 12 15 18 17 10	67 97 88 122 109 118 94 101	30 32 28 36 33 29 19 22	5 7 8 14 18 11 4 6	109 98 114 127 111 125 101 94	1 3 2 1 2 4 2 1	33 42 54 65 55 60 58 43	355 307 402 407 388 357 283 234	5 8 14 11 19 12 9 10	717 725 843 938 888 855 699 644	
TOTAL VOLUMES =	NL 122	NT 634	NR 219	SL 110	ST 796	SR 229	EL 73	ET 879	ER 16	WL 410	WT 2733	WR 88	TOTAL 6309	
AM P	eak Hr Be	egins at:	730	AM										
Peak Volumes =	68	350	104	58	437	126	51	477	9	234	1554	56	3524	
PEAK HR. FACTOR:		0.913			0.913			0.945			0.954		0.939	
CONTROL:	Signali	zed												

N-S STREET:	Alamitos Ave DATE: 6/5/2008								LOCATION: City of Long Beach					
E-W STREET:	7th St			DAY: THURSDAY					PROJECT# 08-2274-007					
<u></u>	NC	RTHBO	UND	SO	UTHBOU	JND	E/	ASTBOU	ND	W	ESTBOU	ND		
LANES:	NL 1	NT 2	NR 1	SL 1	ST 2	SR 0	EL 1	ET 2	ER 0	WL 1	WT 2	WR 0	TOTAL	
1:00 PM 1:15 PM 1:30 PM 2:00 PM 2:15 PM 2:30 PM 2:45 PM 3:00 PM 3:15 PM 3:30 PM 3:45 PM 4:00 PM 4:15 PM 4:30 PM 4:45 PM 5:00 PM 5:15 PM 5:30 PM 6:45 PM 6:45 PM	14 17 20 18 16 19 18 13	97 104 99 129 132 118 126 103	28 37 33 46 59 60 67 52	14 17 14 19 13 20 17 14	65 70 54 69 80 91 100 87	19 22 19 24 29 23 23 18	11 14 11 15 18 17 18 14	192 201 195 232 261 240 222 197	2 4 2 0 1 6 3	35 29 34 28 32 34 39 26	203 175 183 177 231 168 215 154	21 19 17 18 14 11 14 12	701 709 681 777 885 802 865 693	
TOTAL VOLUMES =	NL 135	NT 908	NR 382	SL 128	ST 616	SR 177	EL 118	ET 1740	ER 20	WL 257	WT 1506	WR 126	TOTAL 6113	
רויו די		.gii is at.	CFT C	1.1.1										
Peak Volumes =	71	505	232	69	340	99	68	955	9	133	791	57	3329	
PEAK HR. FACTOR:		0.957			0.907			0.925			0.885		0.940	
CONTROL:	Signali	zed												


Prepared by:

National Data & Surveying Services

TMC Summary of Magnolia Ave/6th St



AM PEAK HOUR	730 AM
NOON PEAK HOUR	0 AM
PM PEAK HOUR	430 PM

N-S STREET:	Magnol	gnolia Ave DATE: 6/5/2008								LOCATION: City of Long Beach					
E-W STREET:	6th St				DAY: THURSDAY				PROJ	PROJECT# 08-22					
	NC	ORTHBOU	JND	SO	UTHBOU	JND	E/	ASTBOU	ND	W	ESTBOU	ND			
LANES:	NL 0	NT 1	NR 0	SL 1	ST 1	SR 0	EL 0	ET 3	ER 0	WL 0	WT 0	WR 0	TOTAL		
6:00 AM 6:15 AM 6:30 AM 7:00 AM 7:15 AM 7:30 AM 7:45 AM 8:00 AM 8:15 AM 8:30 AM 9:15 AM 9:00 AM 9:15 AM 9:30 AM 9:45 AM 10:00 AM 10:15 AM 10:30 AM 10:45 AM 11:45 AM		40 38 31 36 40 44 36 42	6 8 14 17 14 18 11 8	10 17 21 19 22 16 18 12	90 77 112 94 115 102 93 86		19 17 21 24 19 14 20 14	110 131 114 97 112 98 102 115	9 12 10 8 11 13 8 6				284 300 323 295 333 305 288 283		
TOTAL VOLUMES =	NL O	NT 307	NR 96	SL 135	ST 769	SR 0	EL 148	ET 879	ER 77	WL 0	WT 0	WR 0	TÖTAL 2411		
AM P	eak Hr B	egins at:	730	AM											
Peak Volumes =	0	151	63	78	423	0	78	421	42	0	0	0	1256		
PEAK HR. FACTOR:		0.863			0.914			0.933			0.000		0.943		
CONTROL:	Signali	ized													

Prepared by: National Data & Surveying Services

N-S STREET:	Magnol	ia Ave	DATE: 6/5/2008						LOCATION: City of Long Beach					
E-W STREET:	6th St				DAY:	THURS	DAY		PRO.	IECT#	08-22	08-2274-008		
	NC	ORTHBOU	UND	SC	UTHBOU	JND	E	ASTBOU	ND	W	ESTBOL	IND		
LANES:	NL 0	NT 1	NR 0	SL 1	ST 1	SR 0	EL 0	ET 3	ER 0	WL 0	WT 0	WR 0	TOTAL	
1:00 PM 1:15 PM 1:30 PM 2:00 PM 2:15 PM 2:30 PM 2:45 PM 3:00 PM 3:15 PM 3:30 PM 3:45 PM 4:00 PM 4:15 PM 4:30 PM 4:45 PM 5:00 PM 5:15 PM 5:30 PM 5:45 PM 6:00 PM 6:15 PM		53 94 80 95 109 76 75 55	11 14 12 17 18 21 18 14	22 19 23 29 26 21 18 16	60 59 87 68 83 69 54 50		18 22 20 24 27 22 19 16	201 244 293 287 310 279 244 220	10 11 14 17 14 15 10 9				375 463 529 537 587 503 438 380	
TOTAL VOLUMES =	NL 0	NT 637	NR 125	SL 174	ST 530	SR 0	EL 168	ET 2078	ER 100	WL 0	WT 0	WR 0	TOTAL 3812	
PM PE	ak Hr Be	egins at:	430	ЧM										
PEAK Volumes =	0	360	68	99	307	0	93	1169	60	0	0	0	2156	
PEAK HR. FACTOR:		0.843			0.923			0.942			0.000		0.918	
CONTROL:	Signali	zed												



Prepared by:

National Data & Surveying Services

TMC Summary of Magnolia Ave/5th St



AM PEAK HOUR	730 AM
Noon Peak Hour	0 AM
PM PEAK HOUR	415 PM

N-S STREET:	Magnol	lagnolia Ave DATE: 6/4/2008								LOCATION: City of Long Beach					
E-W STREET:	5th St				DAY:	WEDNE	SDAY	DAY PROJECT#			08-22				
<u> </u>	NC	ORTHBO	UND	SC	UTHBOU	JND	EASTBOUND			W	ESTBOU	ND			
LANES:	NL 1	NT 1	NR 0	SL 1	ST 1	SR 0	EL 0	ET 1	ER 0	WL 0	WT 1	WR 0	TOTAL		
6:00 AM 6:15 AM 6:30 AM 7:00 AM 7:15 AM 7:30 AM 7:45 AM 8:00 AM 8:15 AM 8:30 AM 9:15 AM 9:00 AM 9:15 AM 9:30 AM 9:45 AM 10:00 AM 10:15 AM 10:30 AM 10:45 AM 11:45 AM	0 2 1 3 1 0 2 1	32 41 38 45 53 57 55 50	0 0 1 2 0 1 0 1	0 4 2 3 4 1 3 2	94 80 112 91 117 110 93 85	5 6 9 7 5 8 6 4	0 0 3 2 1 0 0	1 2 0 1 2 0 1 0	4 6 7 5 6 4 2 4	1 2 0 4 3 1 2 1	2 0 1 0 2 0 1 0	1 2 4 3 1 0 2	140 145 173 168 198 184 165 150		
TOTAL VOLUMES =	NL 10	NT 371	NR 5	SL 19	ST 782	SR 50	EL 6	ET 7	ER 38	WL 14	WT 6	WR 15	TOTAL 1323		
AM P	eak Hr B	egins at:	730	AM											
PEAK VOLUMES =	5	193	4	10	430	29	6	3	22	8	3	10	723		
PEAK HR. FACTOR:		0.871			0.931		1	0.775			0.656		0.913		
CONTROL:	2-Way	Stop (E	W)												

N-S STREET:	Magnol	ia Ave			DATE:	6/4/200	008 LOCATION: City of Long Beach						
E-W STREET:	5th St				DAY:	WEDNE	SDAY		Proj	ECT#	# 08-2274-009		
	NC	RTHBOU	JND	SC	UTHBO	JND	Ē	ASTBOU	ND	W	ESTBOL	IND	
LANES:	NL 1	NT 1	NR 0	SL 1	ST 1	SR 0	EL 0	ET 1	ER 0	WL 0	WT 1	WR 0	TOTAL
1:00 PM 1:15 PM 1:30 PM 1:45 PM 2:00 PM 2:15 PM 2:30 PM 2:45 PM 3:00 PM 3:15 PM 3:30 PM 3:45 PM 4:00 PM 4:15 PM 4:30 PM 4:45 PM 5:30 PM 5:15 PM 6:00 PM 6:15 PM 6:30 PM 6:45 PM	2 3 4 2 3 3 5	56 94 75 111 110 80 83 56	3 1 3 4 6 5 2 3	9 6 7 5 6 8 5 3	68 63 91 74 82 66 54 51	4 7 11 18 15 16 11 9	2 3 4 2 5 4 6 5	57647354	3 2 5 4 5 3 1 2	1 2 4 3 2 1 2 4	3 4 3 1 3 4 3 5	7 11 13 9 12 9 10 7	163 203 226 237 255 202 185 154
TOTAL VOLUMES =	NL 24	NT 665	NR 27	SL 49	ST 549	SR 91	EL 31	ET 41	ER 25	WL 19	WT 26	WR 78	TOTAL 1625
PM P	Car ni Dt	syms at:	C14	r PI									
Peak Volumes =	11	390	14	24	310	51	14	24	16	11	11	45	921
PEAK HR. FACTOR:		0.879			0.883			0.794			0.838		0.903
CONTROL:	2-Way	Stop (E	W)										

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TMC Summary of Alamitos Ave/4th St

SOUTHBOUND APPROACH LANES 0 1 1 **Alamitos Ave** 1166 315 TOTAL 83 465 174 ۲ Md 43 NOON 0 0 0 141 Ā 701 \$ 4th St 4th St WESTBOUND APPROACH LANES EASTBOUND APPROACH LANES NOON PM TOTAL АМ NOON TOTAL AM PM 87 0 45 132 0 56 1 98 42 0 421 0 272 693 1 423 206 0 1 629 1 200 22 138 0 62 0 26 0 48 183 43 977 Æ NOON 0 0 0 TURNING MOVEMENT COUNT 407 AM 55 5 Alamitos Ave / 4th St (Intersection Name) **Alamitos Ave** TOTAL 1384 238 2 2 0 1 Wednesday 6/4/08 Date Day NORTHBOUND APPROACH LANES COUNT PERIODS 9:00 AM am 7:00 AM noon 6:00 PM 4:00 PM pm

AM PEAK HOUR	730 AM
NOON PEAK HOUR	0 AM
PM PEAK HOUR	500 PM

Project #: 08-2274-010

N-S STREET:	Alamito	lamitos Ave DATE: 6/4/2008							LOCATION: City of Long Beach					
E-W STREET:	4th St				DAY: \	NEDNE	SDAY		PROJECT# 08-2274-010			74-010		
<u> </u>	NC	RTHBOL	JND	SO	UTHBOU	IND	E/	ASTBOUN	ND	W	ESTBOU	ND	<u>.</u>	
LANES:	NL 1	NT 2	NR 0	SL 1	ST 1	SR 0	EL 1	ET 1	ER 0	WL 1	WT 1	WR 0	TOTAL	
6:00 AM 6:15 AM 6:30 AM 7:00 AM 7:15 AM 7:30 AM 7:45 AM 8:00 AM 8:15 AM 8:30 AM 9:15 AM 9:30 AM 9:15 AM 9:30 AM 9:45 AM 10:00 AM 10:15 AM 10:30 AM 10:45 AM 11:45 AM	17 11 13 10 13 15 17 11	80 79 94 108 109 96 85 88	2 10 15 9 18 13 7 9	18 20 35 32 43 31 29 22	89 124 141 196 189 175 120 152	7 2 3 15 9 13 8 8	9 12 4 15 14 9 8 7	25 42 41 69 43 53 56 46	1 4 3 8 8 7 7 8	26 32 33 48 27 30 28 21	73 83 112 150 76 83 79 62	19 18 19 28 19 21 24 21	366 437 513 688 568 546 468 455	
TOTAL VOLUMES =	NL 107	NT 739	NR 83	SL 230	ST 1186	SR 65	EL 78	ET 375	ER 46	WL 245	WT 718	WR 169	TOTAL 4041	
AM P	eak Hr Be	egins at:	730	AM										
Peak Volumes =	51	407	55	141	701	40	42	206	26	138	421	87	2315	
PEAK HR. FACTOR:		0.916			0.907			0.745			0.715		0.841	
CONTROL:	Signali	zed												

Prepared by: National Data & Surveying Services

N-S STREET:	Alamito	s Ave			DATE:	6/4/200	8	LOCATION: City of Long Beach					
E-W STREET:	4th St				DAY:	WEDNE	SDAY PROJECT#				08-22		
	NC	RTHBOU	JND	SO	UTHBOL	JND	E/	ASTBOU	ND	W	ESTBOU	ND	<u></u>
LANES:	NL 1	NT 2	NR 0	SL 1	ST 1	SR 0	EL 1	ET 1	ER 0	WL 1	WT 1	WR 0	TOTAL
1:00 PM 1:15 PM 1:30 PM 1:45 PM 2:00 PM 2:15 PM 2:30 PM 2:45 PM 3:00 PM 3:15 PM 3:30 PM 3:45 PM 4:00 PM 4:15 PM 4:30 PM 4:45 PM 5:00 PM 5:15 PM 5:30 PM 6:45 PM 6:45 PM	9 13 13 10 8 11 13 11	194 188 197 226 266 262 196 253	36 21 27 37 62 29 54 38	27 32 34 35 40 51 48 35	115 108 106 126 114 118 116 117	12 7 7 10 11 9 13 10	14 17 15 13 9 17 15 15	86 101 108 130 118 101 95 109	4 10 4 11 6 4 7 5	19 27 12 11 16 14 12 20	71 69 55 77 76 58 68 70	24 12 8 7 13 11 7 14	611 605 586 693 739 685 644 697
TOTAL VOLUMES =	NL 88	NT 1782	NR 304	SL 302	ST 920	SR 79	EL 115	ET 848	ER 51	WL 131	WT 544	WR 96	TOTAL 5260
PM P	сак пі В	cynis al:	500	רייז									
Peak Volumes =	43	977	183	174	465	43	56	423	22	62	272	45	2765
PEAK HR. FACTOR:		0.895			0.958		ļ	0.942			0.902		0.935
CONTROL:	Signal	ized											

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Prepared by:

National Data & Surveying Services

TMC Summary of Magnolia Ave/3rd St

SOUTHBOUND APPROACH LANES N 2 0 0 Magnolia Ave TOTAL 165 612 0 254 δ 58 0 NOON 0 0 0 358 107 AM 0 3rd St 3rd St WESTBOUND APPROACH LANES EASTBOUND APPROACH LANES NOON TOTAL AM PM NOON TOTAL AM PΜ 88 0 68 156 0 0 0 0 0 0 0 1095 0 694 1789 3 0 0 0 0 0 0 155 0 98 253 0 0 0 0 346 79 δ 0 NOON o 0 0 TURNING MOVEMENT COUNT 104 Ā 45 0 Magnolia Ave / 3rd St Magnolia Ave (Intersection Name) TOTAL 124 450 0 2 0 0 Wednesday 6/4/08 Date Day NORTHBOUND APPROACH LANES COUNT PERIODS am 7:00 AM 9:00 AM noon 4:00 PM -6:00 PM pm

AM PEAK HOUR	730 AM
NOON PEAK HOUR	0 AM
PM PEAK HOUR	415 PM

Project #: 08-2274-011

N-S STREET:	Magnol	ia Ave	DATE: 6/4/2008						LOCATION: City of Long Beach					
E-W STREET:	3rd St				DAY:	WEDNE	SDAY		PRO:	iect#	08-22	74-011		
<u></u>	NC	RTHBOU	JND	SC	OUTHBO	UND	Ē	ASTBOUM	ND	w	ESTBOU	ND		
LANES:	NL 1	NT 1	NR 0	SL 0	ST 2	SR 0	EL 0	ET 0	ER 0	WL 0	WT 3	WR 0	TOTAL	
6:00 AM 6:15 AM 6:30 AM 6:45 AM 7:00 AM 7:15 AM 7:30 AM 7:45 AM 8:00 AM 8:15 AM 8:30 AM 9:15 AM 9:00 AM 9:15 AM 9:30 AM 9:45 AM 10:00 AM 10:15 AM 10:30 AM 10:45 AM 11:45 AM	4 6 5 13 12 15 17 21	20 9 19 24 23 38 33 38			81 67 90 80 97 91 71 60	19 26 28 23 31 25 28 31				21 29 36 50 39 30 25 17	261 274 281 290 275 249 212 161	20 24 23 24 19 22 27 20	426 435 482 504 496 470 413 348	
TOTAL VOLUMES =	NL 93	NT 204	NR 0	SL 0	ST 637	SR 211	EL 0	ET 0	ER 0	WL 247	WT 2003	WR 179	TOTAL 3574	
AM P	eak Hr Be	egins at:	730	AM										
Peak Volumes =	45	104	0	0	358	107	0	0	0	155	1095	88	1952	
PEAK HR. FACTOR:		0.703			0.908			0.000			0.919		0.968	
CONTROL:	Signali	zed												

Prepared by: National Data & Surveying Services

N-S STREET:	Magnoli	a Ave	DATE: 6/4/2008						LOCATION: City of Long Beach					
E-W STREET:	3rd St				DAY:	WEDNE	IESDAY PROJEC			ECT#	08-227	74-011		
	NC	RTHBOL	JND	SC	UTHBOU	JND	Ē	EASTBOUND			ESTBOU	ND		
LANES:	NL 1	NT 1	NR 0	SL 0	ST 2	SR 0	EL 0	ET 0	ER 0	WL 0	WT 3	WR 0	TOTAL	
1:00 PM 1:15 PM 1:30 PM 1:45 PM 2:00 PM 2:15 PM 2:30 PM 2:45 PM 3:00 PM 3:15 PM 3:30 PM 3:45 PM 4:00 PM 4:15 PM 4:30 PM 4:45 PM 5:30 PM 5:15 PM 5:30 PM 5:30 PM 5:45 PM 6:30 PM 6:45 PM	21 27 13 22 17 14 11 10	71 84 78 96 88 74 67 58			48 59 70 66 59 51 47 37	14 17 11 12 18 21 17 12				20 21 27 23 27 19 14 11	160 170 167 184 173 161 152 136	14 17 16 18 15 11 14	348 395 383 419 400 355 319 278	
TOTAL VOLUMES =	NL 135	NT 616	NR 0	SL 0	ST 437	SR 122	EL O	ET O	ËR 0	WL 162	WT 1303	WR 122	TOTAL 2897	
PM P	eak Hr Be	egins at:	415	r m										
Peak Volumes =	79	346	0	0	254	58	0	0	0	98	694	68	1597	
PEAK HR. FACTOR:		0.900			0.963			0.000			0.964		0.953	
CONTROL:	Signali	zed												

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TMC Summary of Magnolia Ave/Broadway



AM PEAK HOUR	745 AM
NOON PEAK HOUR	0 AM
PM PEAK HOUR	415 PM

National Data & Surveying Services

N-S STREET:	Magnol	Magnolia Ave DATE: 6/5/2008								LOCATION: City of Long Beach					
E-W STREET:	Broadw	ay			DAY: 1	Y: THURSDAY PF				ECT#	08-227	74-012			
	NC	DRTHBOU	JND	SO	UTHBOU	ND	D EASTBOUN			ND WESTBO					
LANES:	NL 0	N⊤ 2	NR 1	SL 0	ST 2	SR 0	EL 0	ET 3	ER 1	WL 0	WT 0	WR 0	TOTAL		
6:00 AM 6:15 AM 6:30 AM 6:45 AM 7:00 AM 7:15 AM 7:30 AM 7:45 AM 8:00 AM 8:15 AM 8:30 AM 9:00 AM 9:15 AM 9:30 AM 9:15 AM 10:00 AM 10:15 AM 10:30 AM 10:45 AM 11:30 AM 11:30 AM		30 24 25 36 22 28 21 34	13 25 32 35 41 38 26 36	11 8 21 29 38 25 14 17	88 78 87 91 109 102 85 72		9 13 4 8 7 5 13 6	165 154 179 192 204 234 210 186	51 58 70 84 102 81 80 76				367 360 418 475 523 513 449 427		
TOTAL VOLUMES =	NL O	NT 220	NR 246	SL 163	ST 712	SR 0	EL 65	ET 1524	ER 602	WL 0	WT 0	WR 0	TOTAL 3532		
AM P	eak Hr B	egins at:	745	AM											
Peak Volumes =	0	107	140	106	387	0	33	840	347	0	0	0	1960		
PEAK HR. FACTOR:		0.870			0.838			0.953			0.000		0.937		

CONTROL: Signalized

N-S STREET:	Magnol	ia Ave	DATE: 6/5/2008						LOCATION: City of Long Beach					
E-W STREET:	Broadw	ay		DAY: THURSDAY					PROJECT# 08-2274-012					
	NC	ORTHBOU	JND	SC	UTHBOL	JND	E/	ASTBOU	ND	W	ESTBOU	ND		
LANES:	NL 0	NT 2	NR 1	SL 0	ST 2	SR 0	EL 0	ЕТ 3	ER 1	WL 0	WT 0	WR 0	TOTAL	
1:00 PM 1:15 PM 1:30 PM 1:45 PM 2:00 PM 2:15 PM 2:30 PM 2:45 PM 3:00 PM 3:15 PM 3:30 PM 4:00 PM 4:15 PM 4:30 PM 4:45 PM 5:00 PM 5:15 PM 5:30 PM 5:45 PM 6:00 PM 6:15 PM 6:30 PM		76 90 66 90 77 69 55 49	22 19 19 13 18 14 17 12	15 11 17 18 12 19 21 19	55 67 78 69 65 56 44 35		16 17 22 25 26 19 21 17	247 254 237 246 251 217 209 184	37 50 53 40 33 39 36 32	• • • • • •			468 508 492 501 482 433 403 348	
TOTAL VOLUMES =	NL 0	NT 572	NR 134	SL 132	ST 469	SR 0	EL 163	ET 1845	ER 320	WL 0	WT 0	WR 0	TOTAL 3635	
PM P	ак пг Ве	syms at:	415	r'!'I										
Peak Volumes =	0	323	69	58	279	0	90	988	176	0	0	0	1983	
PEAK HR. FACTOR:		0.899			0.887			0.977			0.000		0.976	
CONTROL:	Signali	zed												

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National Data & Surveying Services

TMC Summary of Pacific Ave/Broadway



AM PEAK HOUR	800 AM
NOON PEAK HOUR	0 AM
PM PEAK HOUR	445 PM

National Data & Surveying Services

N-S STREET:	Pacific /	Pacific Ave DATE: 6/3/2008								LOCATION: City of Long Beach					
E-W STREET:	Broadw	ay	DAY: TUESDAY						PROJ	ECT#	08-227				
<u> </u>	NC	ORTHBOU	JND	SO	UTHBOU	ND	E	ASTBOUN	ND	Ŵ	ESTBOU	ND			
LANES:	NL O	NT 2	NR 1	SL 1	ST 2	SR 0	EL 1	ET 3	ER 0	WL 0	WT 0	WR 0	TOTAL		
6:00 AM 6:15 AM 6:30 AM 6:45 AM 7:00 AM 7:15 AM 7:30 AM 7:45 AM 8:00 AM 8:15 AM 8:30 AM 9:15 AM 9:00 AM 9:15 AM 9:30 AM 9:45 AM 10:00 AM 10:15 AM 10:30 AM 10:45 AM 11:45 AM		30 35 31 48 49 46 50 44	11 4 5 9 10 11 21 16	9 17 13 12 18 14 19 19	61 79 99 112 130 124 102 86		3 4 7 3 9 8 13 13	89 116 153 178 141 164 130 192	30 27 28 41 62 61 81 70				233 282 336 403 419 428 416 440		
TOTAL VOLUMES =	NL 0	NT 333	NR 87	SL 121	ST 793	SR 0	EL 60	ET 1163	ER 400	WL O	WT 0	WR 0	TOTAL 2957		
AM P	eak Hr Be	egins at:	800	AM											
Peak Volumes =	0	189	58	70	442	0	43	627	274	0	0	0	1703		
PEAK HR. FACTOR:		0.870			0.865			0.858			0.000		0.968		

Signalized CONTROL:

Prepared by: National Data & Surveying Services

N-S STREET:	Pacific	Ave	ve DATE: 6/3/2008						LOCATION: City of Long Beach					
E-W STREET:	Broadv	vay			DAY:	TUESD	AY		PRO.	JECT#	IECT# 08-2274-013			
	N	ORTHBO	UND	SC	DUTHBO	UND	E	ASTBOU	ND	N.	VESTBOU	IND	=	
LANES:	NL 0	NT 2	NR 1	SL 1	ST 2	SR 0	EL 1	ET 3	ER 0	WL 0	WT 0	WR 0	TOTAL	
1:00 PM 1:15 PM 1:30 PM 2:00 PM 2:15 PM 2:30 PM 2:45 PM 3:00 PM 3:15 PM 3:30 PM 3:45 PM 4:00 PM 4:15 PM 4:30 PM 4:45 PM 5:00 PM 5:15 PM 5:30 PM 5:45 PM 6:00 PM 6:15 PM		75 71 89 84 137 118 106 74	31 37 60 36 71 82 52 50	25 22 24 27 21 16 28 14	47 51 47 50 42 59 45 31		14 11 25 19 25 17 25 10	272 241 313 298 347 265 328 299	21 27 31 23 28 17 29 17				485 460 589 537 671 574 613 495	
Total Volumes =	NL 0	NT 754	NR 419	SL 177	ST 372	SR 0	EL 146	ET 2363	ER 193	WL 0	WT 0	WR 0	TOTAL 4424	
PM Pe	ak Hr Be	egins at:	445	PM										
PEAK VOLUMES =	0	445	241	92	196	0	86	1238	97	0	0	0	2395	
PEAK HR. FACTOR:		0.825			0.935			0.888			0.000		0.892	
CONTROL:	Signali	zed												

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Prepared by:

National Data & Surveying Services

TMC Summary of Pine Ave/Broadway



AM PEAK HOUR	800 AM
Noon Peak Hour	0 AM
PM PEAK HOUR	430 PM

N-S STREET:	Pine Av	Pine Ave DATE: 6/4/2008								LOCATION: City of Long Beach					
E-W STREET:	Broadw	ay			DAY:	WEDNE	SDAY		PROJ	ECT#	08-22	74-014			
	NC	ORTHBO	UND	SC	UTHBOI	JND	E	ASTBOU	ND	W	ESTBOU	ND			
LANES:	NL 0	NT 1	NR 0	SL 1	ST 1	SR 0	EL 1	ET 3	ER 0	WL 0	WT 0	WR 0	TOTAL		
6:00 AM 6:15 AM 6:30 AM 6:45 AM 7:00 AM 7:15 AM 7:30 AM 7:45 AM 8:00 AM 8:15 AM 8:30 AM 9:15 AM 9:30 AM 9:15 AM 9:30 AM 9:45 AM 10:00 AM 10:15 AM 10:30 AM 10:45 AM 11:45 AM		6 12 14 8 15 15 17 12	3 9 10 7 10 9 15 8	6 9 12 13 16 13 9 11	36 35 40 48 80 71 44 41		8 5 6 12 6 8 14 11	84 117 133 153 131 139 131 170	23 23 16 32 29 28 43 38				166 210 231 273 287 283 273 291		
TOTAL VOLUMES =	NL O	NT 99	NR 71	SL 89	ST 395	SR 0	EL 70	ET 1058	ER 232	WL 0	WT 0	WR 0	TOTAL 2014		
AM P	eak Hr B	egins at:	800	AM											
PEAK Volumes = Peak Hr.	0	59	42	49	236	0	39	571	138	0	0	0	1134		
FACTOR:	I	0.789		1	0.742		I	0.854		I	0.000		U.974		
CONTROL:	Signali	zed													

N-S STREET:	Pine Av	ne Ave DATE: 6/4/2008							LOCATION: City of Long Beach					
E-W STREET:	Broadw	ay		DAY:	DAY: WEDNESDAY PRC				ECT# 08-2274-014					
	NC	ORTHBOU	JND	SC	UTHBOU	JND	E	ASTBOU	ND	W	ESTBOU	ND		
LANES:	NL 0	NT 1	NR 0	SL 1	ST 1	SR 0	EL 1	ET 3	ER 0	WL 0	WT 0	WR 0	TOTAL	
1:00 PM 1:15 PM 1:30 PM 1:45 PM 2:00 PM 2:15 PM 2:30 PM 2:45 PM 3:00 PM 3:15 PM 3:30 PM 4:00 PM 4:15 PM 4:30 PM 4:45 PM 5:00 PM 5:15 PM 5:30 PM 6:45 PM 6:30 PM 6:45 PM		28 48 51 45 66 54 51 41	25 21 26 17 31 22 37 17	25 9 22 14 21 26 17 23	31 40 43 36 26 44 40 57		8 15 13 12 12 9 8 7	244 299 348 341 419 368 333 303	25 24 27 21 19 20 25				386 456 530 486 594 542 506 473	
TOTAL VOLUMES =	NL 0	NT 384	NR 196	SL 157	ST 317	SR 0	EL 84	ET 2655	ER 180	WL O	WT 0	WR 0	TOTAL 3973	
PM Pe	eak Hr Be	egins at:	430	PM										
Peak Volumes =	0	216	96	83	149	0	46	1476	86	0	0	0	2152	
PEAK HR. FACTOR:		0.804			0.829			0.893			0.000		0.906	
CONTROL:	Signali	zed												



Prepared by:

National Data & Surveying Services

TMC Summary of Alamitos Ave/Broadway



AM PEAK HOUR	730 AM
NOON PEAK HOUR	0 AM
PM PEAK HOUR	430 PM

N-S STREET:	Alamito	Alamitos Ave DATE: 6/4/2008						LOCATION: City of Long Beach					
E-W STREET:	Broadw	ay	DAY: WEDNE				SDAY		PRO	IECT#	08-22	74-015	
	NC	ORTHBOI	JND	SC	UTHBOU	JND	Ē/	ASTBOU	ND	W	ESTBOU	ND	
LANES:	NL 0	NT 2	NR 0	SL 1	ST 1	SR 0	EL 2	ET 2	ER 1	WL 1	WT 0	WR 1	TOTAL
6:00 AM 6:15 AM 6:30 AM 7:00 AM 7:15 AM 7:30 AM 7:45 AM 8:00 AM 8:15 AM 8:30 AM 9:15 AM 9:00 AM 9:15 AM 9:30 AM 9:45 AM 10:00 AM 10:15 AM 10:30 AM 10:45 AM 11:00 AM 11:15 AM		80 91 102 94 112 97 110 94	12 15 11 12 9 7 8 6	5 7 8 4 10 7 8 6	81 74 111 131 123 114 120 98		22 25 31 35 27 30 26 22	40 47 57 63 57 61 68 84	9 8 11 7 10 6 9 8	51 71 94 113 102 97 81 69		70 97 112 101 115 97 102 90	370 435 537 560 565 516 532 477
TOTAL VOLUMES =	NL 0	NT 780	NR 80	SL 55	ST 852	SR 0	EL 218	ET 477	ER 68	WL 678	WT 0	WR 784	TOTAL 3992
AM P	eak Hr B	egins at:	730	AM									
Peak Volumes =	0	405	39	29	479	0	123	238	34	406	0	425	2178
PEAK HR. FACTOR:		0.917			0.941			0.940			0.957		0.964
CONTROL:	Signali	zed											

N-S STREET:	Alamito	tos Ave DATE: 6/4/2008						8 LOCATION: City of Long Beach						
E-W STREET:	Broadw	ay	DAY: WEDNE				SDAY		PROJ	ECT#	08-22	74-015		
	NC	ORTHBOL	JND	SO	UTHBOL	JND	E/	STBOU	ND	w	ESTBOU	ND	<u> </u>	
LANES:	NL 0	NT 2	NR 0	SL 1	ST 1	SR 0	EL 2	ET 2	ER 1	WL 1	WT 0	WR 1	TOTAL	
1:00 PM 1:15 PM 1:30 PM 1:45 PM 2:00 PM 2:15 PM 2:30 PM 2:45 PM 3:00 PM 3:15 PM 3:30 PM 3:45 PM 4:00 PM 4:15 PM 4:30 PM 4:45 PM 5:00 PM 5:15 PM 5:30 PM 6:45 PM 6:45 PM		180 191 212 227 194 206 189 170	7 10 12 8 10 7 12 8	12 19 19 16 11 12 8 7	89 109 112 97 104 91 83 74		97 112 138 147 129 136 141 122	115 127 141 128 137 144 127 109	19 26 31 35 27 24 26 20	19 22 31 32 26 29 34 25		26 34 41 36 44 32 32 40	564 650 737 726 682 681 652 575	
TOTAL VOLUMES =	NL 0	NT 1569	NR 74	SL 104	ST 759	SR 0	EL 1022	ET 1028	ER 208	WL 218	WT 0	WR 285	TOTAL 5267	
PM P	еак Hr B	egins at:	430	PN										
Peak Volumes =	0	839	37	58	404	0	550	550	117	118	0	153	2826	
PEAK HR. FACTOR:		0.932			0.882			0.981			0.941		0.959	
CONTROL:	Signal	ized												

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Prepared by:

National Data & Surveying Services

TMC Summary of Golden Shore St/Golden Ave/Ocean Blvd

Project #: 08-2274-016



AM PEAK HOUR	700 AM
NOON PEAK HOUR	0 AM
PM PEAK HOUR	430 PM

N-S STREET:	Golden	Shore S	t/Golden	ı Ave	DATE: 6/5/2008 LO					LOCATION: City of Long Beach				
E-W STREET:	Ocean I	Blvd			DAY:	PROJ	PROJECT# 08-227							
	NORTHBOUND			S	SOUTHBOUND			EASTBOUND			WESTBOUND			
LANES:	NL 1	NT 1.5	NR 0.5	SL 1	ST 1	SR 1	EL 1	ET 3	ER 0	WL 1	WT 2.5	WR 1.5	TOTAL	
6:00 AM 6:15 AM 6:30 AM 6:45 AM 7:00 AM 7:15 AM 7:30 AM 7:45 AM 8:00 AM 8:15 AM 8:30 AM 9:15 AM 9:00 AM 9:15 AM 9:30 AM 9:45 AM 10:00 AM 10:15 AM 10:30 AM 10:45 AM 11:45 AM	2 7 2 8 7 2 1 4	15 14 14 9 2 11 8 6	22 36 35 31 10 16 5 13	0 0 2 1 0 2 4 4	2 2 1 1 2 0 0 0	0 0 0 0 0 1 1	12 14 16 18 18 20 19	145 159 160 179 157 154 148 143	35 38 28 16 11 5 7	14 19 27 46 32 33 38 31	406 392 392 400 282 250 231 202	161 189 164 149 151 152 168 172	814 870 839 868 677 649 629 602	
Total Volumes =	NL 33	NT 79	NR 168	SL 13	ST 8	SR 2	EL 131	ET 1245	ER 168	WL 240	WT 2555	WR 1306	TOTAL 5948	
AM Peak Hr Begins at: 700 AM														
peak Volumes =	19	52	124	3	6	0	56	643	129	106	1590	663	3391	
PEAK HR. FACTOR:		0.855			0.750			0.928			0.983		0.974	
CONTROL:	Signalized													

N-S STREET:	Golden	Shore S	t/Golder	n Ave	DATE: (8		CATION: City of Long Beach					
E-W STREET:	Ocean I	Blvd			DAY:	Thursi	YAC		PROJ	PROJECT# 08-2274-016			
	NORTHBOUND			S	OUTHBOL	EASTBOUND			W				
LANES:	NL 1	NT 1.5	NR 0.5	SL 1	ST 1	SR 1	EL 1	ET 3	ER 0	WL 1	WT 2.5	WR 1.5	TOTAL
1:00 PM 1:15 PM 1:30 PM 1:45 PM 2:00 PM 2:15 PM 2:30 PM 2:45 PM 3:00 PM 3:15 PM 3:30 PM 3:45 PM 4:00 PM 4:15 PM 4:30 PM 4:45 PM 5:00 PM 5:15 PM 5:30 PM 6:45 PM 6:45 PM	17 13 35 18 32 42 29 15	58 53 100 71 169 142 106 60	21 32 28 21 40 47 35 22	3 5 3 1 2 3 2 1	1 3 1 0 2 0 0 1	1 0 0 1 0 0 0 0	33 12 24 16 19 21 22 6	414 381 456 517 481 464 489 425	12 8 7 9 17 17 9 2	6 12 13 15 11 10 7 9	173 170 218 201 219 203 174 143	133 130 124 96 129 116 110 104	872 819 1009 966 1121 1065 983 788
TOTAL VOLUMES =	NL 201	NT 759	NR 246	SL 20	ST 8	SR 2	EL 153	ET 3627	ER 81	WL 83	WT 1501	WR 942	TOTAL 7623
PM Peak Hr Begins at: 430 PM													
PEAK Volumes =	127	482	136	9	3	1	80	1918	50	49	841	465	4161
PEAK HR. FACTOR:		0.773			0.813			0.945			0.944		0.928
CONTROL:	Signalized												

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Prepared by:

National Data & Surveying Services

TMC Summary of Magnolia Ave/Ocean Blvd



AM PEAK HOUR	745 AM
NOON PEAK HOUR	0 AM
PM PEAK HOUR	430 PM

N-S STREET:	Magnolia Ave DATE: 6/4/2008								LOCATION: City of Long Beach					
E-W STREET:	Ocean	ean Blvd DAY: WEDN				WEDNE	SDAY PROJECT#				08-2274-017			
<u></u>	NC	ORTHBOL	JND	SO	UTHBOI	JND	E/	ASTBOU	ND	W	ESTBOU	ND	··	
LANES:	NL 1	NT 2	NR 1	SL 1	ST 2	SR 1	EL 1	ET 3	ER 0	WL 1	WT 3	WR 0	TOTAL	
6:00 AM 6:15 AM 6:30 AM 6:45 AM 7:00 AM 7:15 AM 7:30 AM 7:45 AM 8:00 AM 8:15 AM 8:30 AM 9:00 AM 9:15 AM 9:30 AM 9:30 AM 9:45 AM 10:00 AM 10:15 AM 10:30 AM 10:45 AM 11:30 AM 11:45 AM	4 10 9 7 10 5 5 4	16 18 20 12 22 23 18 16	5 4 2 3 1 4 7 4	33 41 40 55 49 35 39 34	32 31 37 41 34 35 25 26	64 88 99 106 85 84 94 63	12 23 13 22 20 22 17	113 94 137 135 155 182 205 180	3 4 2 5 6 4 9 3	15 19 26 31 27 20 16 14	372 437 423 436 463 540 418 357	32 24 20 26 20 25 22 17	701 782 838 870 894 977 880 735	
TOTAL VOLUMES =	NL 54	NT 145	NR 30	SL 326	ST 261	SR 683	EL 141	ET 1201	ER 36	WL 168	WT 3446	WR 186	TOTAL 6677	
AM P	eak Hr B	egins at:	745	AM										
peak Volumes =	27	75	15	178	135	369	77	677	24	94	1857	93	3621	
PEAK HR. FACTOR:		0.886			0.844			0.824			0.874		0.927	
CONTROL:	Signali	zed												

N-S STREET:	Magnolia Ave DATE: 6/4/2008							B LOCATION: City of Long Beach						
E-W STREET:	Ocean I	Blvd			DAY: WEDNESDAY				PROJECT# 08-22			74-017		
<u></u>	NC	RTHBOL	JND	SO	UTHBOU	JND	Ē	ASTBOU	ND	W	ESTBOU	ND		
LANES:	NL 1	NT 2	NR 1	SL 1	ST 2	SR 1	EL 1	ET 3	ER 0	WL 1	WT 3	WR 0	TOTAL	
1:00 PM 1:15 PM 1:30 PM 1:45 PM 2:00 PM 2:15 PM 2:30 PM 2:45 PM 3:00 PM 3:15 PM 3:30 PM 3:45 PM 4:00 PM 4:15 PM 4:30 PM 4:45 PM 5:00 PM 5:15 PM 5:30 PM 5:45 PM 6:00 PM 6:45 PM	11 8 17 21 19 22 10 7	16 22 26 27 25 25 14 10	3 11 4 7 10 19 17 8	31 25 39 31 40 36 29 32	14 20 22 17 14 22 19 14	39 42 50 59 47 51 43 34	29 35 32 38 41 35 34 26	389 437 490 506 512 487 471 453	5 4 6 2 5 7 3 4	7 11 12 8 10 8 6 7	200 238 286 244 294 289 273 236	27 39 40 26 37 29 30 28	771 892 1024 986 1054 1030 949 859	
TOTAL VOLUMES =	NL 115	NT 165	NR 79	SL 263	ST 142	SR 365	EL 270	ET 3745	ER 36	WL 69	WT 2060	WR 256	TOTAL 7565	
PM P	eak Hr Be	egins at:	430	PM										
PEAK Volumes =	79	103	40	146	75	207	146	1995	20	38	1113	132	4094	
PEAK HR. FACTOR:		0.841			0.964			0.968			0.941		0.971	
CONTROL:	Signali	zed												

Prepared by:

National Data & Surveying Services

TMC Summary of Chestnut Place/Ocean Blvd



am peak hour	730 AM
NOON PEAK HOUR	0 AM
PM PEAK HOUR	430 PM

N-S STREET:	Chestnut Place DATE: 6/4/2008								LOCATION: City of Long Beach					
E-W STREET:	Ocean I	Blvd			DAY:	WEDNE	SDAY		PROJ	IECT#	08-22	74-018		
	NC	ORTHBOU	JND	SC	UTHBO	UND	E	ASTBOU	ND	w	ESTBOU	ND		
LANES:	NL 1	NT 0	NR 1	SL 0	ST 0	SR 0	EL O	ET 3	ER 0	WL 1	WT 3	WR 0	TOTAL	
6:00 AM 6:15 AM 6:30 AM 7:00 AM 7:15 AM 7:30 AM 7:45 AM 8:00 AM 8:15 AM 8:30 AM 9:15 AM 9:00 AM 9:15 AM 9:30 AM 9:45 AM 10:00 AM 10:15 AM 10:30 AM 10:45 AM 11:00 AM 11:45 AM	10 12 11 11 7 13 12 9		9 11 12 15 21 12 10 8					135 125 193 167 193 220 230 195	3 4 6 7 12 4 3 2	8 9 11 15 22 11 8	421 472 511 480 501 519 439 372		586 633 752 691 749 790 705 594	
TOTAL VOLUMES =	NL 85	NT O	NR 98	SL 0	ST 0	SR 0	EL 0	ET 1458	ER 41	WL 103	WT 3715	WR 0	TOTAL 5500	
AM P	eak Hr Be	egins at:	730	AM										
Peak Volumes =	42	0	60	0	0	0	0	773	29	67	2011	0	2982	
PEAK HR. FACTOR:		0.911			0.000			0.895			0.960		0.944	
CONTROL:	Signali	zed												

N-S STREET:	Chestnu	Chestnut Place DATE: 6/4/2008							LOCATION: City of Long Beach						
E-W STREET:	Ocean I	Blvd			DAY:	WEDNE	SDAY		PROJ	IECT#	CT# 08-2274-018				
<u></u>	NO	RTHBOU	JND	SC	UTHBO	UND	Ē	ASTBOU	ND	W	ESTBOU	ND			
LANES:	NL 1	NT 0	NR 1	SL 0	ST 0	SR 0	EL 0	ET 3	ER 0	WL 1	WT 3	WR 0	TOTAL		
1:00 PM 1:15 PM 1:30 PM 1:45 PM 2:00 PM 2:15 PM 2:30 PM 2:45 PM 3:00 PM 3:15 PM 3:30 PM 4:45 PM 4:00 PM 4:15 PM 4:30 PM 5:15 PM 5:30 PM 5:45 PM 6:00 PM 6:15 PM 6:30 PM	9 11 14 9 10 7 10 7		10 16 21 17 24 17 11 9					415 464 510 541 553 525 501 479	3 7 10 4 8 7 5 4	7 11 14 9 15 18 12 10	215 276 303 280 334 321 299 275		659 785 872 860 944 895 838 784		
Total Volumes =	NL 77	NT 0	NR 125	SL 0	ST 0	SR 0	EL 0	ET 3988	ER 48	WL 96	WT 2303	WR 0	TOTAL 6637		
PM P	eak Hr Be	egins at:	430	PM											
PEAK Volumes =	40	0	79	0	0	0	0	2129	29	56	1238	0	3571		
PEAK HR. FACTOR:		0.850			0.000			0.962			0.927		0.946		
CONTROL:	Signali	zed													

Prepared by:

National Data & Surveying Services

TMC Summary of Pacific Ave/Ocean Blvd



AM PEAK HOUR	730 AM
NOON PEAK HOUR	0 AM
PM PEAK HOUR	430 PM

N-S STREET:	Pacific /	Pacific Ave DATE: 6/5/2008							LOCATION: City of Long Beach					
E-W STREET:	Ocean	ean Blvd DAY: THURSE					DAY PROJECT# 08-2274-019							
	NC	ORTHBO	JND	SO	UTHBOL	JND	Ē	ASTBOU	ND	W	ESTBOU	ND		
LANES:	NL 0	NT 1	NR 0	SL 1	ST 0	SR 1	EL 1	ET 3	ER 0	WL 1	WT 3	WR 1	TOTAL	
6:00 AM 6:15 AM 6:30 AM 7:00 AM 7:15 AM 7:30 AM 7:45 AM 8:00 AM 8:15 AM 8:30 AM 9:15 AM 9:00 AM 9:15 AM 9:30 AM 9:45 AM 10:00 AM 10:15 AM 10:30 AM 10:45 AM 11:45 AM	0 1 0 2 1 0 2 3	0 0 1 0 0 1 0 0	0 1 0 2 1 0 0 2	12 15 21 17 23 25 21 22		57 71 75 68 79 67 59 63	19 29 40 47 39 40 30 47	125 106 163 135 167 190 197 158	1 0 2 1 3 1 2 4	4 3 5 7 8 5 6 11	370 411 455 423 455 520 392 357	23 31 39 47 40 31 34 41	611 668 801 749 816 880 743 708	
TOTAL VOLUMES =	NL 9	NT 2	NR 6	SL 156	ST 0	SR 539	EL 291	ET 1241	ER 14	WL 49	WT 3383	WR 286	TOTAL 5976	
AM P	eak Hr Be	egins at:	730	AM										
Peak Volumes =	3	2	3	86	0	289	166	655	7	25	1853	157	3246	
PEAK HR. FACTOR:		0.500			0.919			0.896			0.915		0.922	
CONTROL:	Signali	zed												

N-S STREET:	Pacific Ave DATE: 6/5/2008							08 LOCATION: City of Long Beach						
E-W STREET:	Ocean	Blvd		DAY: THURSDAY					PROJECT# 08-2274-019					
	- NC	ORTHBOU	JND	SO	UTHBOL	JND	Ē	ASTBOUI	ND	W	ESTBOU	ND		
LANES:	NL 0	NT 1	NR 0	SL 1	ST 0	SR 1	EL 1	ET 3	ER 0	WL 1	WT 3	WR 1	TOTAL	
1:00 PM 1:15 PM 1:30 PM 1:45 PM 2:00 PM 2:15 PM 2:30 PM 2:45 PM 3:00 PM 3:15 PM 3:30 PM 4:00 PM 4:15 PM 4:30 PM 4:45 PM 5:00 PM 5:15 PM 5:30 PM 6:30 PM 6:45 PM	1 0 4 2 5 2 1 0	1 0 2 1 0 2 1 1	0 2 4 7 4 3 2 1	18 23 32 33 31 37 40 31		31 40 32 39 44 37 41 32	27 38 46 51 47 54 44 37	393 441 489 505 534 502 480 454	1 2 4 1 3 2 1 0	3 5 10 7 5 8 4 3	197 248 276 239 299 296 265 251	29 38 44 51 46 39 31 24	701 837 943 936 1018 982 910 834	
TOTAL VOLUMES =	NL 15	NT 8	NR 23	SL 245	ST 0	SR 296	EL 344	ET 3798	ER 14	WL 45	WT 2071	WR 302	TOTAL 7161	
PM P	eak Hr B	egins at:	430	PM										
PEAK VOLUMES =	13	5	18	133	0	152	198	2030	10	30	1110	180	3879	
PEAK HR. FACTOR:		0.900			0.950			0.958			0.943		0.953	
CONTROL:	Signal	ized												

Prepared by:

National Data & Surveying Services

TMC Summary of Pine Ave/Ocean Blvd



AM PEAK HOUK	745 AM
Noon Peak Hour	0 AM
PM PEAK HOUR	500 PM

National Data & Surveying Services

N-S STREET:	Pine Av	Pine Ave DATE: 6/5/2008								LOCATION: City of Long Beach					
E-W STREET:	Ocean I	Bivd			DAY: 1	THURSE	DAY		PROJECT# 08			2274-020			
	NC	RTHBOL	JND	SC	UTHBOU	ND	E	ASTBOUN	ND	W	ESTBOUN	ND			
LANES:	NL 1	NT 1	NR 1	SL 0	ST 2	SR 0	EL 1	ET 3	ER 0	WL 1	WT 3	WR 0	TOTAL		
6:00 AM 6:15 AM 6:30 AM 7:00 AM 7:15 AM 7:30 AM 7:45 AM 8:00 AM 8:15 AM 8:30 AM 9:15 AM 9:00 AM 9:15 AM 9:30 AM 9:30 AM 10:00 AM 10:15 AM 10:30 AM 10:45 AM 11:45 AM	4 7 4 10 7 11 8 9	4 6 3 2 13 6 3 8	0 4 7 6 4 2 7 6	3 4 6 4 9 4 10 11	7 16 15 12 12 18 23 10	12 1 7 10 18 23 14 20	4 3 6 8 7 12 7 12	106 138 139 167 164 157 184 160	8 13 16 15 17 25 17 19	12 20 29 22 28 19 26 16	345 434 481 515 516 548 496 411	11 17 16 21 18 25 32 18	516 663 729 792 813 850 827 700		
TOTAL VOLUMES =	NL 60	NT 45	NR 36	SL 51	ST 113	SR 105	EL 59	ET 1215	ER 130	WL 172	WT 3746	WR 158	TOTAL 5890		
AM P	eak Hr B	egins at:	745	AM											
Peak Volumes =	36	24	19	27	65	65	34	672	74	95	2075	96	3282		
Peak Hr. Factor:		0.823		1	0.835			0.938			0.957		0.965		

CONTROL: Signalized

N-S STREET:	Pine Ave DATE: 6/5/200						008 LOCATION: City of Long Beach						
E-W STREET:	Ocean E	ean Bivd DA				Y: THURSDAY PROJ					IECT# 08-2274-020		
	NO	RTHBOL	JND	SO	UTHBOL	JND	E	ASTBOU	ND	W	ESTBOU	ND	
LANES:	NL 1	NT 1	NR 1	SL 0	ST 2	SR 0	EL 1	ET 3	ER 0	WL 1	WT 3	WR 0	TOTAL
1:00 PM 1:15 PM 1:30 PM 1:45 PM 2:00 PM 2:15 PM 2:30 PM 2:45 PM 3:00 PM 3:15 PM 3:30 PM 3:45 PM 4:00 PM 4:15 PM 4:30 PM 4:45 PM 5:30 PM 5:15 PM 5:30 PM 6:45 PM 6:45 PM	9 11 16 21 12 17 18 14	15 16 21 23 27 19 22 11	15 19 22 17 21 19 13 13	24 35 33 39 40 45 23 46	9 14 12 11 27 32 23 38	10 5 9 10 19 16 20 9	13 11 14 12 16 24 6 16	386 421 467 451 484 501 478 453	16 23 19 21 26 20 17 21	17 23 15 21 10 20 28 18	201 223 260 228 274 310 325 263	11 7 5 12 10 9 9 14	726 808 893 866 966 1032 982 916
TOTAL VOLUMES =	NL 118	NT 154	NR 139	SL 285	ST 166	SR 98	EL 112	ET 3641	ER 163	WL 152	WT 2084	WR 77	TOTAL 7189
PM P	eak Hr Be	egins at:	500	РМ									
Peak Volumes =	61	79	66	154	120	64	62	1916	84	76	1172	42	3896
PEAK HR. FACTOR:		0.858			0.909			0.946			0.891		0.944
CONTROL:	Signali	zed											

Prepared by:

National Data & Surveying Services

TMC Summary of Long Beach Blvd/Ocean Blvd



am peak hour	745 AM
NOON PEAK HOUR	0 AM
PM PEAK HOUR	445 PM

Prepared by: National Data & Surveying Services

N-S STREET:	Long Beach Blvd DATE: 6/3/2008							D8 LOCATION: City of Long Beach					
E-W STREET:	Ocean	Ocean Blvd DAY: TUESDA				 Υ		PROJ	IECT#	08-22	74-021		
	NC	ORTHBOU	JND	SC	DUTHBO	UND	EASTBOUND			WESTBOUND			
LANES:	NL 0	NT 0	NR 0	SL 1.5	ST 0	SR 1.5	EL 1	ET 3	ER 0	WL 0	WT 3	WR 1	TOTAL
6:00 AM 6:15 AM 6:30 AM 7:00 AM 7:15 AM 7:30 AM 7:45 AM 8:00 AM 8:15 AM 8:30 AM 8:45 AM 9:00 AM 9:15 AM 9:30 AM 9:45 AM 10:00 AM 10:15 AM 10:30 AM 10:45 AM 11:45 AM				13 18 23 25 28 26 19 25		36 57 65 61 69 66 58 61	21 36 33 34 37 32 24 28	111 128 135 147 152 148 139 132			356 478 485 521 526 548 513 385	11 17 19 21 23 17 19 16	548 734 760 809 835 837 772 647
TOTAL VOLUMES =	NL O	NT 0	NR 0	SL 177	ST 0	SR 473	EL 245	ET 1092	ER 0	WL O	WT 3812	WR 143	TOTAL 5942
AM Pe	eak Hr Be	gins at:	745	AM									
PEAK VOLUMES =	0	0	0	98	0	254	127	586	0	0	2108	80	3253
PEAK HR. FACTOR:		0.000			0.907			0.943			0.968		0.972
CONTROL:	Signali	zed											

National Data & S	Surveying Services
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N-S STREET:	Long B	each Blv	d		DATE:	6/3/200	08		LOCATION: City of Long Beach					
E-W STREET:	Ocean	Blvd			DAY:	TUESD	AY		PRO	JECT#	08-22	08-2274-021		
	NC	ORTHBO	UND	SOUTHBOUND			Ē	EASTBOUND			/ESTBOL	IND		
LANES:	NL 0	NT 0	NR 0	SL 1.5	ST 0	SR 1.5	EL 1	ЕТ 3	ER 0	WL 0	WT 3	WR 1	TOTAL	
1:00 PM 1:15 PM 1:30 PM 1:45 PM 2:00 PM 2:15 PM 2:30 PM 2:45 PM 3:00 PM 3:15 PM 3:30 PM 3:45 PM 4:00 PM 4:15 PM 4:30 PM 4:45 PM 5:00 PM 5:15 PM 5:30 PM 5:45 PM 6:30 PM 6:45 PM				13 19 25 22 33 29 34 20		28 36 45 58 38 39 39 39	17 29 37 32 46 40 37 34	361 421 464 458 483 501 492 469			162 198 229 292 284 263 234 174	15 27 43 52 43 49 31 23	596 730 843 914 927 921 867 759	
TOTAL VOLUMES =	NL 0	NT 0	NR 0	SL 195	ST 0	SR 322	EL 272	ET 3649	ER 0	WL 0	WT 1836	WR 283	TOTAL 6557	
PM Pe	eak Hr Be	egins at:	445	PM										
Peak Volumes =	0	0	0	118	0	174	155	1934	0	0	1073	175	3629	
Peak Hr. Factor:		0.000			0.913			0.965			0.907		0.979	
CONTROL:	Signali	zed												

Prepared by:

National Data & Surveying Services

TMC Summary of Atlantic Ave/Ocean Blvd



am peak hour	730 AM
NOON PEAK HOUR	0 AM
PM PEAK HOUR	445 PM

Project #: 08-2274-022

National Data & Surveying Services

N-S STREET:	Atlantic Ave DATE: 6/4/2008								LOCATION: City of Long Beach					
E-W STREET:	Ocean	Blvd	DAY: WEDNESDAY					PROJ	ECT#	08-227	74-022			
,	NC	ORTHBOL	JND	SOUTHBOUND			E/	EASTBOUND			WESTBOUND			
LANES:	NL O	NT 1	NR 0	SL 0	ST 1	SR 1	EL 1	ET 3	ER 0	WL 1	WT 3	WR 0	TOTAL	
6:00 AM 6:15 AM 6:30 AM 6:45 AM 7:00 AM 7:15 AM 7:30 AM 7:45 AM 8:00 AM 8:15 AM 9:00 AM 9:15 AM 9:30 AM 9:45 AM 10:00 AM 10:15 AM 10:30 AM 10:45 AM 11:30 AM 11:45 AM	0 0 1 0 0 2 0 0	0 0 0 1 0 0 0		7 11 14 10 12 7 9 8	0 0 1 0 0 0	19 20 21 29 28 31 35 22	9 10 15 19 20 17 14 10	118 171 158 185 175 147 142 122	0 0 1 0 0 0 0	0 0 0 0 0 1 0	471 473 516 494 531 483 441 395	10 17 14 21 20 17 14 10	634 702 739 760 787 704 656 567	
Total Volumes =	NL 3	NT 1	NR 0	SL 78	ST 1	SR 205	EL 114	ET 1218	ER 1	WL 1	WT 3804	WR 123	TOTAL 5549	
AM P	eak Hr B	egins at:	730	AM										
Peak Volumes =	3	1	0	43	1	109	71	665	1	0	2024	72	2990	
PEAK HR. FACTOR:		0.500			0.956			0.899			0.951		0.950	

Signalized CONTROL:

Prepared by: National Data & Surveying Services

N-S STREET:	Atlantic	Ave			DATE:	6/4/200	8		LOCA	TION:	City of Long Beach			
E-W STREET:	Ocean	Bl∨d			DAY: WEDNESDAY					IECT#	74-022			
	NC	RTHBO	JND	SOUTHBOUND				EASTBOUND			WESTBOUND			
LANES:	NL 0	NT 1	NR 0	SL 0	ST 1	SR 1	EL 1	ET 3	ER 0	WL 1	WT 3	WR 0	TOTAL	
1:00 PM 1:15 PM 1:30 PM 2:00 PM 2:15 PM 2:30 PM 2:45 PM 3:00 PM 3:15 PM 3:30 PM 3:45 PM 4:00 PM 4:15 PM 4:30 PM 4:45 PM 5:00 PM 5:15 PM 5:30 PM 6:45 PM 6:30 PM 6:45 PM	0 0 0 1 1 1 1 1	0 1 0 1 0 1 0 0	1 1 0 0 0 0 0 0	14 23 27 31 34 24 19 23	1 2 0 1 1 1 1 0	26 31 28 27 38 43 37 19	24 26 32 44 33 42 32 36	382 430 388 452 548 457 424 400	0 1 0 2 1 1 0 1	0 1 3 4 6 5 4 5	227 226 227 307 266 263 239 180	17 22 13 13 15 13 23 7	692 764 718 883 943 851 780 672	
TOTAL VOLUMES =	NL 5	NT 3	NR 2	SL 195	ST 7	SR 249	EL 269	ET 3481	ER 6	WL 28	WT 1935	WR 123	TOTAL 6303	
PM Pe	eak Hr Be	egins at:	445	РМ										
Peak Volumes =	4	2	0	108	4	145	151	1881	4	19	1075	64	3457	
PEAK HR. FACTOR:		0.750			0.880			0.875			0.894		0.916	
CONTROL:	Signali	zed												

Prepared by:

National Data & Surveying Services

TMC Summary of Shoreline Dr/Alamitos Ave/Ocean Blvd

SOUTHBOUND APPROACH LANES Shoreline Dr/Alamitos Ave 0 3 1 TOTAL 636 132 471 129 177 Σ 1 NOON 0 0 0 459 342 Μ S Ocean Blvd **Ocean Blvd** WESTBOUND APPROACH LANES EASTBOUND APPROACH LANES AM NOON PM TOTAL NOON PM TOTAL AM 25 0 30 55 0 284 1 159 0 443 2 2569 1677 0 892 1747 548 0 3 2295 2 583 367 0 216 0 29 1 51 22 589 601 δ 59 NOON 0 0 0 TURNING MOVEMENT COUNT Shoreline Dr/Alamitos Ave 134 Shoreline Dr/Alamitos Ave / Ocean AM Я 88 Blvd (Intersection Name) TOTAL 689 723 2 3 1 1 6/4/08 Wednesday Date Day NORTHBOUND APPROACH LANES COUNT PERIODS 7:00 AM 9:00 AM am noon 4:00 PM 6:00 PM _ pm

AM PEAK HOUR	715 AM
NOON PEAK HOUR	0 AM
PM PEAK HOUR	445 PM

Project #: 08-2274-023

National Data & Surveying Services

N-S STREET:	Shorelin	ne Dr/Ala	mitos A	ve	DATE: 6/4/2008					LOCATION: City of Long Beach				
E-W STREET:	Ocean	Blvd			DAY: WEDNESDAY				PROJECT# 08-227			74-023		
<u></u>	NC	ORTHBOL	JND	SC	OUTHBOUND EAS			ASTBOUN	STBOUND W			STBOUND		
LANES:	NL 1	NT 3	NR 1	SL 1	ST 3	SR 0	EL 1	ET 3	ER 1	WL 2	WT 2	WR 0	TOTAL	
6:00 AM 6:15 AM 6:30 AM 6:45 AM 7:00 AM 7:15 AM 7:30 AM 7:45 AM 8:00 AM 8:15 AM 9:00 AM 9:15 AM 9:30 AM 9:45 AM 10:00 AM 10:15 AM 10:30 AM 10:45 AM 11:00 AM 11:45 AM	7 10 9 11 5 8 9 7	14 21 25 19 23 19 16 12	19 24 32 37 41 29 36 27	8 11 17 12 15 16 12 10	60 70 91 102 81 64 57	77 91 115 123 130 117 109 94	25 31 42 55 40 32 28	149 141 133 149 125 115 117 104	2 4 3 4 11 2 4 1	61 79 94 101 93 79 67 53	414 452 410 389 426 381 345 311	9 7 4 6 8 7 4 5	845 941 952 984 1034 894 815 709	
Total Volumes =	NL 66	NT 149	NR 245	SL 101	ST 604	SR 856	EL 284	ET 1033	ER 31	WL 627	WT 3128	WR 50	TOTAL 7174	
AM P	eak Hr Bo	egins at:	715	AM										
Peak Volumes =	35	88	134	55	342	459	159	548	22	367	1677	25	3911	
PEAK HR. FACTOR:		0.931			0.866			0.935			0.961		0.946	

CONTROL: Signalized

N-S STREET:	Shorelii	ne Dr/Ala	amitos A	ve	DATE: 6/4/2008 LOC					LOCATION: City of Long Beach				
E-W STREET:	Ocean	Blvd			DAY:	WEDNE	SDAY		PROJECT# 08-2274-023					
	NC	ORTHBOL	JND SOUTHBOUND			E/	EASTBOUND			ESTBOU	ND			
LANES:	NL 1	NT 3	NR 1	SL 1	ST 3	SR 0	EL 1	ET 3	ER 1	WL 2	WT 2	WR 0	TOTAL	
1:00 PM 1:15 PM 1:30 PM 2:00 PM 2:15 PM 2:30 PM 2:45 PM 3:00 PM 3:15 PM 3:30 PM 3:45 PM 4:00 PM 4:15 PM 4:30 PM 4:45 PM 5:00 PM 5:15 PM 5:30 PM 6:30 PM 6:45 PM	5 12 15 21 17 11 10 6	84 97 127 146 157 167 131 83	114 101 142 171 153 137 128 93	21 27 25 19 22 17 19 14	22 31 41 35 29 36 29 28	55 48 51 39 47 51 40 31	53 61 59 71 84 66 63 54	343 392 360 427 504 429 387 353	9 4 2 5 9 7 8 15	28 31 34 52 47 65 52 43	148 195 172 211 203 292 186 140	6 7 10 9 7 8 6 14	888 1006 1038 1206 1279 1286 1059 874	
TOTAL VOLUMES =	NL 97	NT 992	NR 1039	SL 164	ST 251	SR 362	EL 511	ET 3195	ER 59	WL 352	WT 1547	WR 67	TOTAL 8636	
PM P	eak Hr B	egins at:	445	PM										
Peak Volumes =	59	601	589	77	129	177	284	1747	29	216	892	30	4830	
PEAK HR. FACTOR:		0.924			0.921			0.863			0.779		0.939	
CONTROL:	Signal	ized												

Prepared by:

National Data & Surveying Services

TMC Summary of Golden Shore St/Seaside Way



am peak hour	745 AM
Noon Peak Hour	0 AM
PM PEAK HOUR	445 PM

N-S STREET:	Golden Shore St DATE: 6/4/200						08 LOCATION: City of Long Beach						
E-W STREET:	Seaside	e Way			DAY: WEDNESDAY				PROJ	PROJECT# 08-2274-024			
	NC	ORTHBO	UND	SC	UTHBOU	JND	E	ASTBOU	ND	W	ESTBOU	ND	
LANES:	NL 1	NT 2	NR 0	SL 1	ST 2	SR 0	EL 0	ET 1	ER 0	WL 1.5	WT 0	WR 1.5	TOTAL
6:00 AM 6:15 AM 6:30 AM 6:45 AM 7:00 AM 7:15 AM 7:30 AM 7:45 AM 8:00 AM 8:15 AM 8:30 AM 9:15 AM 9:30 AM 9:15 AM 9:30 AM 9:45 AM 10:00 AM 10:15 AM 10:30 AM 10:45 AM 11:45 AM	2 2 5 5 7 7 7	12 17 17 34 31 31 48 27	24 23 41 41 44 65 48 36	5 14 20 26 20 43 33 12	9 7 26 25 36 37 38 35	4 3 6 5 5 5 4 5	1 0 1 0 2 2 1		0 0 1 1 0 0 0 1	5 3 10 15 11 8 8	0 1 2 1 0 0 1 1	7 9 8 7 8 15 16 16	69 79 127 155 164 216 205 149
TOTAL VOLUMES =	NL 37	NT 217	NR 322	SL 173	ST 213	5R 37	EL 7	ET 0	ER 3	WL 63	WT 6	WR 86	TOTAL 1164
AM P	eak Hr B	egins at:	745	AM									
Peak Volumes =	24	144	198	122	136	19	4	0	1	44	2	46	740
PEAK HR. FACTOR:		0.888			0.815			0.625			0.885		0.856
CONTROL:	2-Way	stop e/\	N										

N-S STREET:	Golden	Shore St	t	DATE: 6/4/2008 LOC						CATION: City of Long Beach				
E-W STREET:	Seaside	e Way		DAY: WEDNESDAY				PROJECT#			08-2274-024			
<u></u> .	NC	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
LANES:	NL 1	NT 2	NR 0	SL 1	ST 2	SR 0	EL 0	ET 1	ER 0	WL 1.5	WT 0	WR 1.5	TOTAL	
1:00 PM 1:15 PM 1:30 PM 1:45 PM 2:00 PM 2:15 PM 2:30 PM 2:45 PM 3:00 PM 3:15 PM 3:30 PM 3:45 PM 4:00 PM 4:15 PM 4:30 PM 5:15 PM 5:30 PM 5:15 PM 6:30 PM 6:45 PM	0 1 0 2 2 0 0	45 54 76 66 130 133 59 44	2 5 6 4 10 1 8 5	7 5 8 8 6 8 1	10 11 14 16 25 17 8 8 8	1 3 3 1 1 4 1 1	12 3 12 7 12 7 10 2	4 0 3 0 1 1 0	3 4 3 0 3 0 1	3 0 4 1 2 1 0	1 1 0 0 1 0 0	39 46 76 54 90 85 112 55	127 133 202 157 282 259 208 117	
TOTAL VOLUMES =	NL 5	NT 607	NR 41	SL 48	ST 109	SR 15	EL 65	ET 9	ER 14	WL 12	WT 3	WR 557	TOTAL 1485	
PM Peak Hr Begins at: 445 PM														
PEAK Volumes =	4	388	23	30	66	7	36	2	3	5	1	341	906	
PEAK HR. FACTOR:		0.731			0.757			0.683			0.768		0.803	
CONTROL:	2-Way	stop e/v	N											

Prepared by:

National Data & Surveying Services

TMC Summary of Chestnut Place/Seaside Way



am peak hour	745 AM
NOON PEAK HOUR	0 AM
PM PEAK HOUR	500 PM

N-S STREET:	Chestnu	it Place		DATE: 6/4/2008 LOC						CATION: City of Long Beach				
E-W STREET:	Seaside	Way		DAY: WEDNESDAY					PROJECT# 08-22			74-025		
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND				
LANES:	NL 1	N⊤ 1	NR 0	SL 1	ST 1	SR 0	EL 0	ET 1	ER 0	WL 0	WT 1	WR 1	TOTAL	
6:00 AM 6:15 AM 6:30 AM 6:45 AM 7:00 AM 7:15 AM 7:30 AM 7:45 AM 8:00 AM 8:15 AM 8:30 AM 9:00 AM 9:15 AM 9:00 AM 9:15 AM 10:00 AM 10:15 AM 10:30 AM 10:45 AM 11:10 AM 11:15 AM	37 30 25 13 22 28 32 19	9 10 9 18 20 14 8	3 2 3 4 3 3 3 3	1 0 1 2 3 0 3 4	6 5 6 18 17 11 4 8	6 4 8 10 10 8 10 4	0 1 4 4 5 3 2 1	3 3 4 5 12 12 6 5	1 2 1 0 0 0 1 0	9 3 17 11 15 14 5 5	9 6 10 18 13 17 16	3 7 10 6 2 9 5	87 69 95 96 129 114 106 78	
TOTAL VOLUMES =	NL 206	NT 97	NR 24	SL 14	ST 75	SR 60	EL 20	ET 50	ER 5	WL 79	WT 99	WR 45	TOTAL 774	
AM Peak Hr Begins at: 745 AM														
PEAK VOLUMES =	95	61	13	8	50	38	14	35	1	45	58	27	445	
PEAK HR. FACTOR:		0.828			0.800		l	0.735		Į	0.833		0.862	
CONTROL:	4-Way	Stop												

N-S STREET:	Chestn	ut Place		DATE: 6/4/2008 LOC						OCATION: City of Long Beach				
E-W STREET:	Seaside	e Way		DAY: WEDNESDAY					PROJECT# 08-2274-0			74-025	025	
	NORTHBOUND			SC	UTHBOU	JND	EASTBOUND			WESTBOUND				
LANES:	NL 1	NT 1	NR 0	SL 1	ST 1	SR 0	EL 0	ET 1	ER 0	WL 0	WT 1	WR 1	TOTAL	
1:00 PM 1:15 PM 1:30 PM 1:45 PM 2:00 PM 2:15 PM 2:30 PM 2:45 PM 3:00 PM 3:15 PM 3:30 PM 3:45 PM 4:00 PM 4:15 PM 4:30 PM 5:15 PM 5:30 PM 5:15 PM 6:30 PM 6:45 PM	1 1 3 1 5 3 4 0	9 9 8 13 6 17 6 11	3 4 6 3 2 7 3 9	9 7 5 7 4 6 7	2 4 5 9 10 9 8 10	2 5 5 6 9 2 5 7	6 12 20 8 17 11 19 16	10 19 23 24 29 32 31 17	9 8 10 10 30 27 23 11	8 7 11 4 13 4 4 7	7 11 10 7 5 7 15 5	2 1 4 3 7 4 1 5	68 88 110 95 137 127 125 105	
Total Volumes =	NL 18	NT 79	NR 37	SL 49	ST 57	SR 41	EL 109	ET 185	ER 128	WL 58	WT 67	WR 27	TOTAL 855	
PM P	eak Hr Be	egins at:	500	PM										
Peak Volumes =	12	40	21	21	37	23	63	109	91	28	32	17	494	
PEAK HR. FACTOR:		0.676			0.844			0.865			0.770		0.901	
CONTROL:	4-Way	Stop												
Intersection Turning Movement

Prepared by:

National Data & Surveying Services

TMC Summary of Pine Ave/Seaside Way



AM PEAK HOUK	
Noon Peak Hour	0 AM
PM PEAK HOUR	445 PM

Prepared by: National Data & Surveying Services

N-S STREET:	Pine Av	ne Ave DATE: 6/3/2008								LOCATION: City of Long Beach					
E-W STREET:	Seaside	e Way	DAY: TUESDAY					PROJ	ECT#	08-227					
	NC	ORTHBOL	JND	SO	UTHBOU	ND	E/	ASTBOUN	ID	W	ESTBOUI	ND			
LANES:	NL 1	NT 2	NR 1	SL 1	ST 2	SR 0	EL 1	ET 1	ER 0	WL 1	WT 1	WR 1	TOTAL		
6:00 AM 6:15 AM 6:30 AM 6:45 AM 7:00 AM 7:15 AM 7:30 AM 7:45 AM 8:00 AM 8:15 AM 8:30 AM 9:15 AM 9:00 AM 9:15 AM 9:30 AM 9:45 AM 10:00 AM 10:15 AM 10:30 AM 10:45 AM 11:45 AM	1 0 5 1 2 0 1 1	10 12 10 11 12 10 5 7	8 5 10 12 9 11 2 8	4 13 10 12 18 17 18 13	15 17 32 27 35 33 39 27	2 9 6 12 7 9 7 6	0 5 3 1 7 6 5	3 5 9 9 13 8 6	4 1 0 1 1 6 4	8 5 4 8 7 5 10 1	9 7 12 10 4 14 10 7	2 4 3 8 5 5 3 4	66 83 100 113 110 125 115 89		
TOTAL VOLUMES =	NL 11	NT 77	NR 65	SL 105	ST 225	SR 58	EL 30	ET 58	ER 17	WL 48	WT 73	WR 34	TOTAL 801		
AM P	eak Hr B	egins at:	745	AM											
Peak Volumes =	4	38	34	65	134	35	17	39	8	30	38	21	463		
PEAK HR. FACTOR:		0.792			0.914			0.762			0.856		0.926		

CONTROL: Signalized

National Data & Surveying Services

N-S STREET:	Pine Av	/e			DATE:	6/3/200	8		LOCATION: City of Long Beach					
E-W STREET:	Seaside	aside Way DAY: TUES				TUESDA	NΥ		PROJ	ECT#				
<u> </u>	NC	ORTHBOI	JND	SO	UTHBOL	JND	E/	ASTBOU	ND	W	ESTBOU	ND		
LANES:	NL 1	NT 2	NR 1	SL 1	ST 2	SR 0	EL 1	ET 1	ER 0	WL 1	WT 1	WR 1	TOTAL	
1:00 PM 1:15 PM 1:30 PM 1:45 PM 2:00 PM 2:15 PM 2:30 PM 2:45 PM 3:00 PM 3:15 PM 3:30 PM 3:45 PM 4:00 PM 4:15 PM 4:30 PM 4:45 PM 5:30 PM 5:15 PM 6:00 PM 6:15 PM 6:30 PM 6:45 PM	0 1 0 1 1 0 0 2	22 31 35 38 50 36 29 21	3 5 4 3 1 5 2	3 7 3 6 8 4 5 2	35 42 39 43 54 61 57 62	1 11 9 10 5 13 9 1	5 8 7 12 14 2 8 9	3 7 9 7 15 9 19 7	2 2 0 2 0 2 3 4	96575822	9 13 10 8 12 5 16 1	5 7 3 9 6 10 3 5	97 140 124 147 173 151 156 118	
TOTAL VOLUMES =	NL 5	NT 262	NR 27	SL 38	ST 393	SR 59	EL 65	ET 76	ER 15	WL 44	WT 74	WR 48	TOTAL 1106	
PM P	еак Hr B	egins at:	445	ЧМ										
Peak Volumes =	2	153	13	23	215	37	36	50	7	22	41	28	627	
PEAK HR. FACTOR:		0.778			0.881		1	0.775			0.948		0.906	
CONTROL:	Signal	ized												

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Intersection Turning Movement

Prepared by:

National Data & Surveying Services

TMC Summary of Golden Shore St/710 SB Off-ramp

SOUTHBOUND APPROACH LANES **Golden Shore St** 0 0 1 TOTAL 266 0 0 85 Σ 0 0 NOON 0 0 0 181 AM 0 0 710 SB Off-ramp 710 SB Off-ramp WESTBOUND APPROACH LANES EASTBOUND APPROACH LANES AM NOON PM TOTAL TOTAL AM NOON ΡM 0 0 0 0 0 0 34 1 348 314 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 244 36 280 0 1 385 ₹ 0 0 NOON 0 0 0 TURNING MOVEMENT COUNT AM 0 8 Q Golden Shore St / 710 SB Off-ramp **Golden Shore St** (Intersection Name) TOTAL 469 0 0 2 0 0 6/3/08 Tuesday Date Day NORTHBOUND APPROACH LANES COUNT PERIODS 7:00 AM 9:00 AM am noon 4:00 PM -6:00 PM pm

am peak hour	800 AM
NOON PEAK HOUR	0 AM
PM PEAK HOUR	430 PM

Project #: 08-2274-027

National Data & Surveying Services

N-S STREET:	Golden	Shore St	ore St DATE: 6/3/2008						LOCATION: City of Long Beach					
E-W STREET:	710 SB	Off-ram	р		DAY:	TUESDA	ΑY		PROJ	ECT#	08-22	74-027		
	NC	ORTHBOL	JND	SC	OUTHBOU	JND	E/	ASTBOU	ND	W	ESTBOU	ND		
LANES:	NL 0	NT 2	NR 0	SL 0	ST 1	SR 0	EL 1	ET 0	ER 1	WL 0	WT 0	WR 0	TOTAL	
6:00 AM 6:15 AM 6:30 AM 7:00 AM 7:15 AM 7:30 AM 7:45 AM 8:00 AM 8:15 AM 8:30 AM 8:45 AM 9:00 AM 9:15 AM 9:30 AM 9:30 AM 10:15 AM 10:00 AM 10:15 AM 10:30 AM 11:15 AM 11:30 AM		4 8 6 13 27 17 27			14 20 25 34 47 56 38 40		27 39 47 53 78 79 97 60		12 23 30 43 69 57 63 55				57 90 108 136 207 219 215 182	
TOTAL VOLUMES =	NL 0	NT 108	NR 0	SL 0	ST 274	SR 0	EL 480	ËT O	ER 352	WL O	WT 0	WR 0	TOTAL 1214	
AM P	eak Hr B	egins at:	800	AM										
peak Volumes =	0	84	0	0	181	0	314	0	244	0	0	0	823	
PEAK HR. FACTOR:		0.778			0.808			0.872		l	0.000		0.939	
CONTROL:	1-Way	Stop (E	:B)			,								

National Data & Surveying Services

N-S STREET:	Golden	Golden Shore St DATE: 6/3/2008					8	LOCATION: City of Long Beach					
E-W STREET:	710 SB	Off-ram	р		DAY:	TUESDA	λY		PROJ	ECT#	08-22	74-027	
	NC	ORTHBO	JND	SC	UTHBO	UND	E	ASTBOU	ND	W	ESTBOL	IND	
LANES:	NL 0	NT 2	NR 0	SL 0	ST 1	SR 0	EL 1	ET 0	ER 1	WL 0	WT 0	WR 0	TOTAL
1:00 PM 1:15 PM 1:30 PM 1:45 PM 2:00 PM 2:15 PM 2:30 PM 2:45 PM 3:00 PM 3:15 PM 3:30 PM 3:45 PM 4:00 PM 4:15 PM 4:30 PM 5:15 PM 5:30 PM 5:15 PM 6:30 PM 6:45 PM		51 46 81 60 129 115 64 31			17 16 17 20 34 14 10 8		13 12 11 8 7 8 5		9 4 9 8 4 5 5 5				90 78 118 96 185 141 87 49
TOTAL VOLUMES =	NL O	NT 577	NR 0	SL 0	ST 136	SR 0	EL 72	ET 0	ER 59	WL 0	WT 0	WR 0	TOTAL 844
PM P	eak Hr B	egins at:	430	РМ									
Peak Volumes =	0	385	0	0	85	0	34	0	36	0	0	0	540
PEAK HR. FACTOR:		0.746		į	0.625			0.795			0.000		0.730
CONTROL:	1-Way	Stop (E	EB)										

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Intersection Turning Movement

Prepared by:

National Data & Surveying Services

TMC Summary of Golden Shore St/Shoreline Dr On-ramp

Project #: 08-2274-028



am peak hour	800 AM
Noon Peak Hour	0 AM
PM PEAK HOUR	430 PM

National Data & Surveying Services

N-S STREET:	Golden	Shore S	re St DATE: 6/3/2008						LOCATION: City of Long Beach					
E-W STREET:	Shorelir	ne Dr Or	n-ramp		DAY: TUESDAY				PROJECT#			08-2274-028		
	NC	ORTHBO	ÜND	SC	UTHBOL	JND	E/	ASTBOU	ND	W	ESTBOU	ND		
LANES:	NL 0	NT 1	NR 0	SL 1	ST 1	SR 1	EL 0	ET 1	ER 0	WL 0	WT 0	WR 0	TOTAL	
6:00 AM 6:15 AM 6:30 AM 6:45 AM 7:00 AM 7:15 AM 7:30 AM 7:45 AM 8:00 AM 8:15 AM 8:30 AM 9:15 AM 9:00 AM 9:15 AM 9:30 AM 9:45 AM 10:00 AM 10:15 AM 10:30 AM 10:45 AM 11:45 AM	1 1 0 0 1 1 1	4 9 6 12 24 15 23	1 0 1 1 0 0 1 1	2 3 1 1 0 5 0	22 36 52 76 117 109 94 93	0 4 2 1 0 4 1 4	1 3 0 1 3 1 2		0 0 0 0 0 1 0				31 56 62 85 130 141 119 124	
TOTAL VOLUMES =	NL 5	NT 99	NR 5	SL 12	ST 599	SR 16	EL 11	ET 0	ER 1	WL 0	WT 0	WR 0	TOTAL 748	
AM P	eak Hr Be	egins at:	800	AM										
Peak Volumes =	3	74	2	5	413	9	7	0	1	0	0	0	514	
PEAK HR. FACTOR:		0.790			0.912		ļ	0.667			0.000		0.911	
CONTROL:	1-Way	Stop (E	В)											

National Data & Surveying Services

N-S STREET:	Golden	Shore S	t		DATE: 6/3/2008				LOCATION: City of Long Beach					
E-W STREET:	Shoreli	ne Dr Or	n-ramp	DAY: TUESDAY					PROJ	IECT#	08-22			
	NC	ORTHBO	UND	SC	OUTHBO	UND	E	ASTBOU	ND	W	ESTBOU	ND		
LANES:	NL 0	NT 1	NR 0	SL 1	ST 1	SR 1	EL 0	ET 1	ER 0	WL 0	WT 0	WR 0	TOTAL	
1:00 PM 1:15 PM 1:30 PM 1:45 PM 2:00 PM 2:15 PM 2:30 PM 2:45 PM 3:00 PM 3:15 PM 3:30 PM 3:45 PM 4:00 PM 4:15 PM 4:30 PM 4:45 PM 5:00 PM 5:15 PM 5:30 PM 5:45 PM 6:30 PM 6:30 PM	3 1 1 0 0 0 1 0	48 41 83 59 130 114 64 31	15 10 21 11 24 36 34 19	6 1 7 19 3 3 1	14 19 20 18 23 16 7 7	7 1 6 4 7 0 5 5	3 3 0 1 1 1 0 0	0 0 1 0 0 0 0 0	0 1 0 1 0 0 0				96 77 133 100 205 170 114 63	
TOTAL VOLUMES =	NL 6	NT 570	NR 170	SL 41	ST 124	SR 35	EL 9	ET 1	ER 2	WL 0	WŤ 0	WR 0	TOTAL 958	
PM Pe	ak Hr Be	egins at:	430	PM										
PEAK VOLUMES =	1	386	92	30	77	17	3	1	1	0	0	0	608	
FACTOR:		0.778			0.633			0.625			0.000		0.741	
CONTROL:	1-Way	Stop (E	3)											

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Intersection Turning Movement

Prepared by:

National Data & Surveying Services

TMC Summary of Chestnut Place/Shoreline Dr

SOUTHBOUND APPROACH LANES Ν Chestnut Place 0.5 0.5 1 TOTAL -143 82 m 59 74 Æ -NOON 0 0 0 AM 8 2 œ Shoreline Dr Shoreline Dr WESTBOUND APPROACH LANES EASTBOUND APPROACH LANES TOTAL AM NOON PM TOTAL NOON AM PM 117 0 26 143 1 90 34 2 56 0 3 178 448 591 270 0 3 779 188 0 0 47 191 2 1 22 0 8 144 14 331 Æ 78 7 NOON 0 0 0 TURNING MOVEMENT COUNT 33 Ā 0 Chestnut Place / Shoreline Dr Chestnut Place (Intersection Name) TOTAL 363 79 ~ 1 0.5 0.5 Thursday Day 6/5/08 Date NORTHBOUND APPROACH LANES COUNT PERIODS 7:00 AM 9:00 AM am noon 4:00 PM 6:00 PM pm

am peak hour	730 AM
Noon Peak Hour	0 AM
PM PEAK HOUR	430 PM

Project #: 08-2274-029

National Data & Surveying Services

N-S STREET:	Chestn	ut Place		DATE: 6/5/2008						LOCATION: City of Long Beach					
E-W STREET:	Shorelii	ne Dr		DAY: THURSDAY					PRO:	Ject#	08-22	08-2274-029			
<u> </u>	NC	DRTHBOU	JND	SC	OUTHBOU	IND	E	ASTBOUN	۱D	W	ESTBOU	ND			
LANES:	NL 1.5	NT 0.5	NR 1	SL 0.5	ST 0.5	SR 1	EL 2	ET 3	ER 1	WL 2	WT 3	WR 1	TOTAL		
6:00 AM 6:15 AM 6:30 AM 7:00 AM 7:15 AM 7:30 AM 7:45 AM 8:00 AM 8:15 AM 8:30 AM 9:15 AM 9:00 AM 9:15 AM 9:30 AM 9:45 AM 10:00 AM 10:15 AM 10:30 AM 10:45 AM 11:30 AM 11:45 AM	1 1 0 0 1 0 6	0 1 0 0 0 0 0	4 4 11 6 9 5 12	2 5 1 0 2 1 0	0 0 1 0 1 0 0 0	12 16 30 17 12 25 15 10	12 8 12 13 16 15 13 9	31 41 44 56 39 49 57 67	2 4 6 1 5 2 2 1	24 44 55 45 29 15 17 15	60 48 79 72 51 68 59 41	8 19 20 30 31 36 30 20	156 188 263 241 190 222 199 181		
TOTAL VOLUMES =	NL 9	NT 1	NR 57	SL 13	ST 2	SR 137	EL 98	ET 384	ER 23	WL 244	WT 478	WR 194	TOTAL 1640		
AM Pe	eak Hr Be	egins at:	730	AM											
PEAK Volumes =	1	0	32	8	2	84	56	188	14	144	270	117	916		
Peak Hr. Factor:		0.750			0.653			0.921			0.862		0.871		

CONTROL: Signalized

A-115

Prepared by: National Data & Surveying Services

N-S STREET:	Chestnu	ut Place			DATE:	6/5/200	B LOCATION: City of Long Beach						ach
E-W STREET:	Shorelir	ne Dr	r DAY: THURS				YAC		PROJ	ECT# 08-2274-029			
	NC	RTHBO	UND	SO	UTHBO	UND	E	ASTBOU	ND	W	ESTBOU	IND	
LANES:	NL 1.5	NT 0.5	NR 1	SL 0.5	ST 0.5	SR 1	EL 2	ET 3	ER 1	WL 2	WT 3	WR 1	TOTAL
1:00 PM 1:15 PM 1:30 PM 1:45 PM 2:00 PM 2:15 PM 2:30 PM 2:45 PM 3:00 PM 3:15 PM 3:30 PM 4:00 PM 4:15 PM 4:30 PM 4:45 PM 5:00 PM 5:15 PM 5:30 PM 6:30 PM 6:45 PM	18 22 27 16 21 14 16 11	0 2 1 2 2 2 0	31 46 88 82 114 47 45 47	6 12 6 13 25 30 29 15	0 1 0 1 0 0 0 0	11 11 17 11 17 14 13 12	9 11 7 11 6 10 10 14	121 129 111 126 182 172 117 149	1 2 1 2 3 9 4	12 13 13 16 6 12 10 10	28 41 47 44 43 38 35	6 7 10 7 6 3 9 4	243 297 329 330 425 350 298 301
TOTAL VOLUMES =	NL 145	NT 11	NR 500	SL 136	ST 2	SR 106	EL 78	ET 1107	ER 24	WL 92	WT 320	WR 52	TOTAL 2573
PM Pe	eak Hr Be	gins at:	430	РМ									
peak Volumes =	78	7	331	74	1	59	34	591	8	47	178	26	1434
PEAK HR. FACTOR:		0.759			0.761			0.833		ļ	0.896		0.844
CONTROL:	Signalia	zed											

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Intersection Turning Movement

Prepared by:

National Data & Surveying Services

TMC Summary of Pine Ave/Shoreline Dr



Prepared by: National Data & Surveying Services

N-S STREET:	Pine Av	e			DATE:	6/3/200)8		LOCA	ATION:	City of L	ong Be	ach
E-W STREET:	Shorelii	ne Dr			DAY:	TUESD	AY		PRO:	JECT#	08-22	74-030	
	NC	ORTHBO	UND	SC	DUTHBO	UND	E	ASTBOU	ND	W	ESTBOU	ND	
LANES:	NL 1	NT 2	NR 0	SL 1	ST 1	SR 1	EL 2	ET 3	ER 1	WL 1	WT 3	WR 1	TOTAL
6:00 AM 6:15 AM 6:30 AM 7:00 AM 7:15 AM 7:30 AM 7:45 AM 8:00 AM 8:15 AM 8:30 AM 9:30 AM 9:15 AM 9:30 AM 9:30 AM 10:15 AM 10:00 AM 10:15 AM 10:30 AM 11:45 AM	1 2 3 2 1 2	1 1 0 1 2 2 1 1	2 1 2 1 6 5 2	11 2 9 4 2 7 5 11	2 0 5 1 2 1	13 10 10 10 9 20 16	12 17 15 24 24 20 10 22	24 32 33 35 28 39 34 40	1 2 2 1 4 3	3 1 4 2 3 3 1	90 113 149 163 120 127 110 81	4 9 12 6 12 6 12 10	164 191 238 257 206 224 206 190
TOTAL VOLUMES =	NL 15	NT 9	NR 21	SL 51	ST 14	SR 98	EL 144	ET 265	ER 16	WL 19	WT 953	WR 71	TOTAL 1676
AM Pe	eak Hr Be	egins at:	730	AM									
Peak Volumes =	9	5	11	22	8	39	83	135	7	11	559	36	925
PEAK HR. FACTOR:		0.625			0.908			0.922			0.886		0.900
CONTROL:	Signalia	zed											

National Data & Surveying Services

N-S STREET:	Pine Av	e			DATE:	6/3/200	8		LOCA	TION:	City of L	ong Bea	ich
E-W STREET:	Shorelir	ne Dr			DAY:	TUESDA	λY		PROJ	IECT#	08-22	74-030	
<u></u>	NC	RTHBO	UND	SO	UTHBOI	UND	Ē	ASTBOU	ND	W	ESTBOU	ND	
LANES:	NL 1	NT 2	NR 0	SL 1	ST 1	SR 1	EL 2	ET 3	ER 1	WL 1	WT 3	WR 1	TOTAL
1:00 PM 1:15 PM 1:30 PM 2:00 PM 2:15 PM 2:30 PM 2:45 PM 3:00 PM 3:15 PM 3:30 PM 3:45 PM 4:00 PM 4:15 PM 4:30 PM 4:45 PM 5:00 PM 5:15 PM 5:30 PM 6:45 PM 6:30 PM 6:45 PM	7 4 8 4 5 5 4	3 7 1 7 6 8 3 9	7 7 10 12 8 13 6 12	16 17 20 30 23 21 23 24	9 6 7 10 9 7 7 8	26 17 16 15 19 21 17 26	15 21 20 17 18 25 18 24	180 165 200 202 332 247 175 170	7 8 7 9 7 9 7 9 7 9	9 7 2 10 7 6 9 7	36 40 53 50 42 49 42 39	7 13 14 19 16 14 14 18	322 312 358 385 491 425 326 350
TOTAL VOLUMES =	NL 41	NT 44	NR 75	SL 174	ST 63	SR 157	EL 158	ET 1671	ER 63	WL 57	WT 351	WR 115	TOTAL 2969
PM Pe	eak Hr Be	egins at:	430	PM									
Peak Volumes =	21	22	43	94	33	71	80	981	32	25	194	63	1659
PEAK HR. FACTOR:		0.827			0.900			0.765			0.892		0.845
CONTROL:	Signali	zed											

APPENDIX B

EXISTING CONDITIONS INTERSECTION LEVEL OF SERVICE CALCULATION WORKSHEETS

≻

ALL DALBLING (2000)	AΜ	Existing	(2008)
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AM Existing	(2008)	 	We	d Aug	5, 20	09 16:2	27:09				Page	6-1
	Gold	den Sh Lir	nore Ma nscott,	AM Ex ster H Law a	xistin Plan, and Gi	ng (2008 Long Be reenspar	3) each (n, Eng	2.08. ineer	2995.1) s)		
ICU 1	(Loss	as Cy	Level O ycle Le	f Serv ngth {	vice (8) Met	Computat chod (Fi	tion F uture	Report Volum	: ne Alte:	rnativ	ve)	
**************************************	#1 Ma	***** agnol: *****	****** ia Aven ******	***** ue at *****	7th \$	******* Street *******	* * * * * *	·*****	******	* * * * * *	*****	******
Cycle (sec): Loss Time (se Optimal Cycle	≥C): ≥: *****	1(; ; *****)0 L0 90 ******	* * * * * *	****	Critica Average Level (al Vol e Dela Of Ser *****	./Cap ny (se tvice: *****	<pre>>.(X): ec/veh)</pre>	* * * * * *	0.0 xxxx	579 xxx B ******
Street Name: Approach: Movement:	Noi L -	Ma rth Bo - T	agnolia ound - R	Avenu Sou L -	ie ith Bo - T	ound - R	Ea L -	nst Bo - T	7th S ⁻ ound - R	treet We L -	est Bo - T	ound - R
Control: Rights: Min. Green: Y+R: Lanes:	4.0 1 (Permit Inclu 0 4.0 0 1	2	1 I 4.0 0 (Permit Inclu 0 4.0	tted ude 4.0 1 0	Sp]	it Ph Inclu 0 4.0	ase ade 0 4.0 0 0	Sp] 0 4.0 0 1	it Pr Inclu 0 4.0	nase ide 4.0 1 0
Volume Module Base Vol: Growth Adj: Initial Bse: Added Vol: PasserByVol: Initial Fut: User Adj: PHF Adj: PHF Volume: Reduct Vol: Reduced Vol: PCE Adj: MLF Adj: FinalVolume: Saturation FI Sat/Lane: Adjustment:	64 1.00 64 1.00 64 1.00 64 1.00 64 1.00 64 1.00 1.00 64 1.00	162 1.00 162 1.00 1.	0 1.00 0 0 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00	0 1.00 0 0 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00	273 1.00 273 0 273 1.00 1.00 273 0 273 1.00 1.00 273 1.00 1.00 1.00 273 1.00 1.00 1.00 2.73 0 2.73 0 1.00 1.00 2.73 0 1.00 1.00 2.73 0 1.00 1.00 2.73 0 1.00 1.00 2.73 0 1.00 2.73 0 2.73 0 1.00 2.73 0 2.73 0 2.73 0 2.73 0 2.73 0 2.73 0 2.73 0 2.73 0 2.73 0 2.73 1.00 1.00 2.73 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000	78 1.00 78 0 78 1.00 1.00 78 0 78 1.00 1.00 78 1.00 1.00 1.00 1.00 1.00 1.00 1.00	0 1.00 0 0 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00	0 1.00 0 0 1.00 1.00 0 1.00 1.00 1.00 1.00 1.00 1.00	0 1.00 0 0 0 1.00 1.00 0 0 1.00 1.00 1.00 1.00 1.00 1.00 0 1.00 1.00 0 0 0 0 0 0 0 0 0 0 0 0	198 1.00 198 1.00 198 1.00 198 1.00 198 1.00 1.00 198 1.00 1.00	1257 1.00 1257 0 1257 1.00 1.257 0 1257 1.00 1.00 1257 1.00 1.00 1.257 1.00	80 1.00 80 0 0 80 1.00 1.00 80 1.00 1.00 80
Lanes: Final Sat.:	1.00 1600	1.00	0.00 0 	0.00	0.78 1244	0.22 356	0.00	0.00	0.00 0	0.39 619	2.46 3931	0.15 250
Capacity Anal Vol/Sat: Crit Moves:	lysis 0.04 ****	Modu 0.10	le: 0.00	0.00	0.22	0.22	0.00	0.00	0.00	0.32	0.32	0.32

AM Existing (2008) Wed Aug 5, 2009 16:27:09

	Gold	den S Li	hore Ma nscott,	AM Ex ster I Law a	kistin Plan, and G:	ng (200 Long B reenspa	8) each n, Eng	(2.08. ginee:	.2995.1 cs)				
ICU 1 ************ Intersection	Level Of Service Computation Report ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative) ************************************													
Cycle (sec): Loss Time (se Optimal Cycle	ec): *****	***** 1 ****	******* 00 15 90 ******	* * * * * * *	*****	Critic Averag Level ******	al Vol e Dela Of Ser	***** L./Cap ay (se cvice: *****	<pre>x****** c.(X): ec/veh) c ********</pre>	**************************************	651 xxxx B *******			
Street Name: Approach: Movement:	Noi L -	rth B - T	Pacific ound - R	Avenu Sou L -	ie ith Bo - T	ound – R	Ea L -	ast Bo - T	7th S ound - R	treet West E L - T	Bound - R			
Control: Rights: Min. Green: Y+R: Lanes:	P1 0 4.0 1 (rotec Incl 0 4.0 2	ted ude 4.0 0 0	0 4.0 0 (Permit Incl 4.0 1	tted ude 4.0 1 0	Sp1 0 4.0 0 (lit Ph Inclu 4.0 0 0	nase ude 4.0 0 0	Split F Incl 0 (4.0 4.0 1 0 2	Phase ude) 0) 4.0 1 0			
Volume Module Base Vol: Growth Adj: Initial Bse: Added Vol: PasserByVol: Initial Fut: User Adj: PHF Adj: PHF Volume: Reduct Vol: Reduced Vol: PCE Adj: FinalVolume: 	59 1.00 59 0 59 1.00 1.00 59 1.00 1.00 59 1.00 1.00 59 1.00 1.00 59 1.00 1.00 59 1.00 59 0 0 59 0 0 59 0 0 59 1.00 1.00 59 0 0 59 1.00 1.00 59 0 0 59 1.00 1.00 59 0 0 59 1.00 1.00 59 0 0 59 0 0 59 1.00 1.00 59 0 0 59 1.00 1.00 59 1.000 1.00 1.	192 1.00 192 0 192 1.00 1.00 192 1.00 1.00 192 0 1.00 192 1.00	0 1.00 0 0 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00	0 1.00 0 0 1.00 1.00 1.00 1.00 1.00 1.00 1.00	439 1.00 439 0 439 1.00 439 0 439 1.00 1.00 439	68 1.00 68 1.00 1.00 68 1.00 68 1.00 1.00 68 1.00 1.00 68 1.00 1.00	0 1.00 0 0 1.00 1.00 1.00 1.00 1.00 1.00 1.00	0 1.00 0 0 1.00 1.00 1.00 1.00 1.00 1.00 0 1.00		227 1352 1.00 1.00 227 1352 0 0 227 1352 1.00 1.00 1.00 1.00 227 1352 0 0 227 1352 1.00 1.00 227 1352 1.00 1.00 1.00 1.00 227 1352 1.00 1.00	2 117 1.00 2 117 0 0 0 0 2 117 1.00 1.00 1.00 2 117 0 1.00 2 117 0 1.00 2 117 1.00 1.00 2 117 0 1.00			
Sat/Lane: Adjustment: Lanes: Final Sat.:	1600 1.00 1.00 1600	1600 1.00 2.00 3200	1600 1.00 0.00 0	1600 1.00 0.00 0	1600 1.00 1.73 2771	1600 1.00 0.27 429	1600 1.00 0.00 0	1600 1.00 0.00 0	1600 1.00 0.00 0	1600 1600 1.00 1.00 1.00 2.76 1600 4418) 1600) 1.00 5 0.24 3 382			
Capacity Anal Vol/Sat: Crit Moves:	ysis 0.04 ****	Modu 0.06	le: 0.00	0.00	0.16	 0.16 ******	0.00	0.00	0.00	0.14 0.31	 - 0.31 ****			

AM Existing (200)	8
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	AM Existing (2008) Golden Shore Master Plan, Long Beach (2.08.2995.1) Linscott, Law and Greenspan, Engineers Level Of Service Computation Report													
ICU 1(************************************	Level Of Service Computation Report ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative) ************************************													
Cycle (sec): Loss Time (se Optimal Cycle	·C):	10 1 2)0 .0)0	* * * * * *	****	Critica Average Level (al Vol e Dela Of Ser	./Cap ay (se tvice:	(X): c/veh)	* * * * * *	0.5 xxxx	551 XXX A ******		
Street Name: Approach: Movement:	Noi L -	th Bo	Pine A ound - R	venue Sou L -	ith Bo - T	ound - R	Ea L -	ast Bo - T	7th S [.] ound - R	treet We L -	st Bo	ound - R		
Control: Rights: Min. Green: Y+R: Lanes:	 0 4.0 1 (Permit Inclu 0 4.0	ted ade 0 4.0 0 0	P	Permit Inclu 0 4.0) 1	ted ide 0 4.0 0 1	Spl 0 4.0 0 (lit Ph Inclu 0 4.0 0 0	ase ide 4.0 0 0	Spl 0 4.0 0 1	it Ph Inclu 4.0	nase nde 4.0 1 0		
Volume Module Base Vol: Growth Adj: Initial Bse: Added Vol: PasserByVol: Initial Fut: User Adj: PHF Adj: PHF Volume: Reduct Vol: Reduced Vol: PCE Adj: FinalVolume:	39 1.00 39 0 0 39 1.00 1.00 39 0 39 1.00 1.00 1.00 39	77 1.00 77 0 0 77 1.00 1.00 77 1.00 1.00 1.00 77		· 0 1.00 0 0 0 1.00 1.00 1.00 1.00 1.00 0 0 1.00 0 0 0 0 0 0 0 0 0 0 0 0	82 1.00 82 0 82 1.00 1.00 82 0 82 1.00 1.00 82	38 1.00 38 0 0 38 1.00 1.00 38 0 38 1.00 1.00 38	0 1.00 0 0 0 1.00 1.00 1.00 1.00 1.00 0 0 0 0 0 0 0 0 0 0 0 0	$\begin{array}{c} 0\\ 1.00\\ 0\\ 0\\ 0\\ 1.00\\ 1.00\\ 0\\ 0\\ 1.00\\ 1.00\\ 0\\ 0\\ 0\\ 0\\ 0\\ 0\\ 0\\ 0\\ 0\\ 0\\ 0\\ 0\\ $		72 1.00 72 0 72 1.00 1.00 72 0 72 1.00 1.00 72 0 72 1.00 72 0 72 0 72 0 72 0 72 0 72 0 72 0 72 0 72 0 72 0 72 0 72 0 72 1.00 72 0 72 0 72 1.00 72 0 72 0 72 1.00 72 0 72 0 72 1.00 72 0 72 0 72 1.00 72 0 72 0 72 1.00 72 0 72 0 72 1.00 72 72 0 72 1.00 72 72 0 72 72 0 72 72 0 72 72 0 72 72 1.00 72 72 72 72 1.00 72 72 72 72 72 72 72 72 72 72	1650 1.00 1650 0 1650 1.00 1.00 1650 1.00 1.00 1.00 1.00 1.00 1.00	78 1.00 78 0 78 1.00 1.00 78 0 78 1.00 1.00 78 1.00 78		
Saturation Fl Sat/Lane: Adjustment: Lanes: Final Sat.:	-0W M 1600 1.00 1.00 1600	dule 1600 1.00 1.00 1600	1600 1.00 0.00 0	1600 1.00 0.00 0	1600 1.00 1.00 1600	1600 1.00 1.00 1600	1600 1.00 0.00 0	1600 1.00 0.00 0	1600 1.00 0.00 0	1600 1.00 0.12 192	1600 1.00 2.75 4400	1600 1.00 0.13 208		
Capacity Anal Vol/Sat: Crit Moves:	ysis 0.02 ****	Modul 0.05	le: 0.00	0.00	0.05	0.02	0.00	0.00	0.00	0.38	0.38	 0.38 ******		

AM Existing (2008) Golden Shore Master Plan, Long Beach (2.08.2995.1) Linscott, Law and Greenspan, Engineers												
ICU 1(Loss ****	 I as Cy *****	evel Of cle Ler	f Serv ngth %	vice (5) Met	Computation (Finite States)	tion F uture *****	Report Volum	: ne Alte: ******	rnativ *****	e) ****	****
Intersection	#4 Lo	ng Be	ach Bou	ılevar	d at	7th St:	reet *****	* * * * *	*****	* * * * * *	* * * * *	*****
Cycle (sec): Loss Time (se Optimal Cycle	c): : *****	10 1 9 *****)0 .5)0 ******	* * * * * *	* * * * *	Critica Average Level (al Vol e Dela Of Ser	./Cap ay (se cvice:	o.(X): ec/veh)	*****	0.7 xxxx	14 xx C ******
Street Name: Approach: Movement:	Nor L -	Long th Bo T	g Beach ound - R	Boule Sou L -	evard ith Bo - T	ound - R	Ea L -	ast Bo - T	7th S [.] ound - R	treet We L -	st Bo	ound - R
Control: Rights: Min. Green: Y+R: Lanes:	Pr 0 4.0 1 0	otect Inclu 4.0 2	2.ed ade 0 4.0 0 0	4.0 0	Permit Inclu 4.0 2	ted ide 0 4.0 0 1	Spl 0 4.0 0 (Lit Pr Inclu 0 4.0	nase ade 0 4.0 0 0	Spl 0 4.0 1 0	it Ph Inclu 4.0 3	ase ide 4.0 0 1
Volume Module Base Vol: Growth Adj: Initial Bse: Added Vol: PasserByVol: Initial Fut: User Adj: PHF Adj: PHF Volume: Reduct Vol: Reduced Vol: PCE Adj: MLF Adj: FinalVolume:	: 197 1.00 197 0 197 1.00 1.00 197 1.00 1.00 1.00 1.00 1.00 1.00 1.00	397 1.00 397 0 397 1.00 1.00 397 0 397 1.00 1.00 397	0 1.00 0 0 0 1.00 1.00 1.00 1.00 1.00 0 0 0 0 0 0 0 0 0 0 0 0	0 1.00 0 0 0 1.00 1.00 1.00 1.00 1.00 0 0 0 0 0 0 0 0 0 0 0 0	$\begin{array}{c} 447\\ 1.00\\ 447\\ 0\\ 447\\ 1.00\\ 1.00\\ 447\\ 0\\ 447\\ 1.00\\ 1.00\\ 1.00\\ 447\end{array}$	101 1.00 101 0 101 1.00 101 1.00 101 1.00 1.00 1.00 1.01	0 1.00 0 0 1.00 1.00 0 1.00 1.00 1.00 0 0 1.00 0 0 0 0 0 0 0 0 0 0 0 0	$\begin{array}{c} 0\\ 1.00\\ 0\\ 0\\ 0\\ 1.00\\ 1.00\\ 0\\ 0\\ 1.00\\ 1.00\\ 0\\ 0\\ 0\\ 0\\ 0\\ 0\\ 0\\ 0\\ 0\\ 0\\ 0\\ 0\\ $	0 1.00 0 0 1.00 1.00 0 0 1.00 1.00 0 0 0 0 0 0 0 0 0 0 0 0	161 1.00 161 0 161 1.00 161 1.00 161 1.00 161 1.00 161	1444 1.00 1444 0 1444 1.00 1.00 1444 0 1444 1.00 1.444 1.00 1.444	118 1.00 118 0 118 1.00 1.00 118 1.00 1.00 118 1.00 1.00 118
Saturation Fl Sat/Lane: Adjustment: Lanes: Final Sat.:	ow Mo 1600 1.00 1.00 1600	dule: 1600 1.00 2.00 3200	1600 1.00 0.00 0	1600 1.00 0.00 0	1600 1.00 2.00 3200	1600 1.00 1.00 1600	1600 1.00 0.00 0	1600 1.00 0.00 0	1600 1.00 0.00 0	1600 1.00 1.00 1600	1600 1.00 3.00 4800	1600 1.00 1.00 1600
Capacity Anal Vol/Sat: Crit Moves:	ysis 0.12 ****	Modul 0.12	Le: 0.00	0.00	0.14	0.06	0.00	0.00	0.00	0.10	0.30	0.07

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	Golden Sh Lir	nore Ma nscott,	AM Ex ster P Law a	istir lan, nd Gr	ng (200 Long B ceenspa	8) each (n, Eng	2.08. ineer	2995.1 s)		
ICU 1(************* Intersection	I Loss as Cy ********* #5 Atlant	Level O ycle Len ******	 f Serv ngth % ***** ue at	ice () Met **** 7th S	Computa thod (F ******	tion R uture *****	eport Volum ****	ne Alte	rnativ	7e) *****	· * * * * * *
<pre>************************************</pre>	**************************************	* * * * * * * *)0 L0 30	*****	****	****** Critic Averag Level	***** al Vol e Dela Of Ser	***** ./Cap y (se vice:	(X): ec/veh)	*****	0.6 xxxx	****** 75 xx B
Street Name: Approach: Movement:	At North Bc L - T	lantic ound - R	Avenu Sou L -	e th Bo T	ound - R	Ea L -	st Bo	7th S ound - R	treet We L -	est Bc - T	ound - R
Control: Rights: Min. Green: Y+R: Lanes:	Permit Inclu 0 0 4.0 4.0 0 1 1	ted ide 4.0 0 0	P 0 4.0 0 0	ermit Inclu 0 4.0 1	ted ude 4.0 1 0	Spl 0 4.0 0 0	it Ph Inclu 0 4.0	nase nde 4.0 0 0	Sp] 0 4.0 0 1	it Ph Inclu 0 4.0 1	ase ide 4.0 1 0
Volume Module Base Vol: Growth Adj: Initial Bse: Added Vol: PasserByVol: Initial Fut: User Adj: PHF Adj: PHF Volume: Reduct Vol: Reduced Vol: PCE Adj: MLF Adj: FinalVolume:	$\begin{array}{c} & & & & & & \\ & & & & & & & \\ & & & & $	0 1.00 0 0 0 1.00 1.00 1.00 1.00 0 0 0 0 0 0 0 0 0 0 0 0	0 1.00 0 0 0 1.00 1.00 1.00 1.00 1.00 0 0 0 0 0 0 0 0 0 0 0 0	360 1.00 360 0 360 1.00 360 0 360 1.00 1.00 360 1.00 360	81 1.00 81 0 81 1.00 1.00 81 1.00 1.00 81 	0 1.00 0 0 0 1.00 1.00 1.00 1.00 1.00 0 0 1.00 0 0 0 0 0 0 0 0 0 0 0 0	0 1.00 0 0 1.00 1.00 0 1.00 1.00 1.00 0 0 0 0 0 0 0 0 0 0 0 0	$\begin{array}{c} 0\\ 1.00\\ 0\\ 0\\ 0\\ 0\\ 1.00\\ 1.00\\ 0\\ 0\\ 1.00\\ 1.00\\ 0\\ 0\\ 0\\ 0\\ 0\\ 0\\ 0\\ 0\\ 0\\ 0\\ 0\\ 0\\ $	126 1.00 126 0 126 1.00 1.00 126 1.00 126 1.00 126 1.00 126	1652 1.00 1652 0 1652 1.00 1.00 1652 1.00 1.00 1.00 1.00	121 1.00 121 0 121 1.00 1.21 1.00 121 1.00 1.00 1.21 1.00
Saturation Fl Sat/Lane: Adjustment: Lanes: Final Sat.:	ow Module: 1600 1600 1.00 1.00 0.33 1.67 527 2673	1600 1.00 0.00 0	1600 1.00 0.00 0	1600 1.00 1.63 2612	1600 1.00 0.37 588	1600 1.00 0.00 0	1600 1.00 0.00 0	1600 1.00 0.00 0	1600 1.00 0.20 318	1600 1.00 2.61 4176	1600 1.00 0.19 306
Capacity Anal Vol/Sat: Crit Moves: ***********	ysis Modul 0.04 0.13 ****	 e: 0.00	0.00	 0.14 ****	0.14	0.00	0.00	0.00	0.40	0.40	0.40

	Gold	den Sh Lir	nore Ma nscott,	AM Ex ster F Law a	istin lan, ind Gi	ng (2008 Long Be reenspar	3) each (n, Eng	2.08. jineer	2995.1 s)		
ICU 1(Loss ****	as Cy	Level C ycle Le ******	of Servength %	vice (5) Met	Computat thod (Fi	tion F uture ******	Report Volum	ne Alte:	rnativ *****	re) •****	*****
Intersection ********	#6 Ma	artin	Luther ******	• King *****	Boule ****	evard at ******	: 7th *****	Stree *****	et ******	*****	*****	*****
Cycle (sec): Loss Time (se Optimal Cycle	ec): e: ******	1(00 10 90 ******	* * * * * *	****	Critica Average Level (al Vol e Dela Of Ser *****	./Cap ny (se tvice:	o.(X): ec/veh)	: * * * * * *	0.2 xxxx	298 XXX A ******
Street Name: Approach: Movement:	Mar Nor L -	ctin 1 cth Bo - T	Luther ound - R	King E Sou L -	Boule ath Bo - T	vard ound - R	Ea L -	ast Bo - T	7th S [.] ound - R	treet We L -	est Bo - T	ound - R
Control: Rights:	E	Permit Ovl	tted	F	Permit Inclu	tted ude	Spl	it Ph Inclu	nase 1de	Spl	it Ph Inclu	nase nde
Min. Green: Y+R: Lanes:	0 4.0 1 (0 4.0) 1	4.0 0 2	0 4.0 1 (4.0 0	0 4.0 1 0	4.0 0 (0 4.0 0 0	4.0 0 0	4.0 0 ($ \begin{array}{c} 0 \\ 4.0 \\ 1 \\$	4.0 1 0
Volume Module Base Vol: Growth Adj: Initial Bse: Added Vol: PasserByVol: Initial Fut: User Adj: PHF Adj: PHF Volume: Reduct Vol: Reduced Vol: PCE Adj: MLF Adj: FinalVolume: OvlAdjVol:	75 1.00 75 0 0 75 1.00 1.00 75 1.00 1.00 75 1.00 1.00 75 1.00 1.00 75 1.00 75 1.00 75 1.00 75 1.00 75 1.00 75 1.00 75 1.00 75 1.00 75 1.00 75 1.00 75 1.00 75 1.00 75 1.00 75 1.00 75 1.00 1.00 75 1.00 1.00 75 1.00 1.00 75 1.00 1.00 75 1.00 1.00 1.00 75 1.00 1.00 1.00 1.00 75 1.00 1.00 1.00 1.00 75 1.000 1.000 1.000 75 1.000	141 1.00 141 1.00 141 1.00 141 0 141 1.00 1.00	362 1.00 362 0 362 1.00 1.00 362 0 362 1.00 1.00 362 0 362 0 0 362 0 0 0 0 0 0 0 0 0 0 0 0 0	135 1.00 135 0 135 1.00 1.00 135 1.00 1.00 1.00 1.35	$ \begin{array}{c} 61\\ 1.00\\ 61\\ 0\\ 61\\ 1.00\\ 61\\ 0\\ 61\\ 1.00\\ 1.00\\ 61\\ \end{array} $	118 1.00 118 0 118 1.00 1.00 118 0 118 1.00 1.00 1.18 1.00 1.18	0 1.00 0 0 1.00 1.00 0 0 1.00 1.00 1.00 1.00 1.00	$\begin{array}{c} 0\\ 1.00\\ 0\\ 0\\ 0\\ 1.00\\ 1.00\\ 0\\ 0\\ 1.00\\ 1.00\\ 0\\ 0\\ 0\\ 0\\ 0\\ 0\\ 0\\ 0\\ 0\\ 0\\ 0\\ 0\\ $	0 1.00 0 0 1.00 1.00 0 0 1.00 1.00 0 0 0 0 0 0 0 0 0 0 0 0	0 1.00 0 0 1.00 1.00 0 1.00 1.00 1.00 0 1.00	1687 1.00 1687 1.00 1.00 1687 1.00 1687 1.00 1.00 1.00 1.00	36 1.00 36 1.00 1.00 36 0 36 1.00 1.00 36
Saturation Fl Sat/Lane: Adjustment: Lanes: Final Sat.:	ow Mo 1600 1.00 1.00 1600	dule 1600 1.00 1.00 1600	: 1600 1.00 2.00 3200	1600 1.00 1.00 1600	1600 1.00 0.34 545	1600 1.00 0.66 1055	1600 1.00 0.00 0	1600 1.00 0.00 0	1600 1.00 0.00 0	1600 1.00 0.00 0	1600 1.00 1.96 3133	1600 1.00 0.04 67
Capacity Anal Vol/Sat: OvlAdjV/S: Crit Moves:	ysis 0.05	Modu 0.09	 le: 0.11 0.00 ****	0.08	0.11	0.11	0.00	0.00	0.00	0.00	0.54	0.54

AM Existing	(2008))	We	ed Aug	5, 20	009 16:	27:10			F	Page	12-1
	Gold	den Sl Lii	hore Ma nscott,	AM Ex aster l Law a	kistin Plan, and G:	ng (200 Long B reenspa	8) each n, Enc	(2.08 ginee:	.2995.1 rs)		
ICU 1	(Loss *****	as C *****	Level (ycle Le ******)f Servength %	vice (8) Met	Computa thod (F ******	tion H uture	Report Volu	t me Alte ******	rnati; *****	7e) ****	* * * * * * *
Intersection *******	#7 <u>A</u>	lamit:	os Boul ******	evard	at 71	th Stre ******	et *****	****	* * * * * * *	* * * * * *	****	* * * * * * *
Cycle (sec): Loss Time (sec) Optimal Cycle	ec): e:	1 1: * * * * * *	00 15 20	*****	* * * * *	Critic Averag Level	al Vol e Dela Of Sen	L./Ca ay (se cvice	p.(X): ec/veh) :	* * * * * *	0. xxx:	872 xxx D
Street Name: Approach:	Noi	Ala rth_B	amitos ound_	Boulev	vard uth_Bo	ound_	Ea	ast B	7th S ound	treet We	est_B	ound
Movement:	ь. 	- Т 	– R 	L -	- T	– R 	L -	- T	- R	L -	- T - -	– R I
Control: Rights: Min. Green: Y+R: Lanes:	0 4.0 1 (Permi Ovl 0 4.0 2 2	tted 0 4.0 0 1	0 4.0 1 (Permi Inclu 0 4.0	tted ude 4.0 1 0	0 4.0 1 0	Permi Incl 0 4.0	tted ude 0 4.0 1 0	Pr 0 4.0 1 0	rotec Incl 0 4.0	ted ude 4.0 1 0
			!									
Volume Module Base Vol: Growth Adj: Initial Bse: Added Vol: PasserByVol: Initial Fut: User Adj: PHF Adj: PHF Volume: Reduced Vol: PCE Adj: FinalVolume: Caturation F	e: 68 1.00 68 0 0 68 1.00 1.00 68 1.00 68 1.00 68 1.00 68 1.00 1.00 68 1.00 68 1.00 68 0 0 0 0 0 0 0 0 0 0 0 0 0	350 1.00 350 0 350 1.00 1.00 350 1.00 1.00 350 	104 1.00 104 0 104 1.00 1.00 1.00 1.04 1.00 1.00 1.00 1.00	$58 \\ 1.00 \\ 58 \\ 0 \\ 0 \\ 58 \\ 1.00 \\ 1.00 \\ 58 \\ 0 \\ 58 \\ 1.00 \\ 1.00 \\ 58 \\ 1.00 \\ 1.00 \\ 58 \\ 1.00 \\ 1.00 \\ 58 \\ 1.00 \\ 58 \\ 1.00 \\ 1.00 \\ 58 \\ 1.00 \\ 58 \\ 1.00 \\ 1.00 \\ 58 \\ 1.00 \\ 1.00 \\ 58 \\ 1.00 \\ 1.00 \\ 58 \\ 1.00 \\ 1.00 \\ 58 \\ 1.00 \\ 1.00 \\ 58 \\ 1.00 \\ 1.00 \\ 58 \\ 1.00 \\ 1.00 \\ 58 \\ 1.00 \\ 1.00 \\ 58 \\ 1.00 \\ 1.00 \\ 58 \\ 1.00 \\ 1.00 \\ 58 \\ 1.00 \\ 1.00 \\ 58 \\ 1.00 \\ 1.00 \\ 58 \\ 1.00 \\ 1.00 \\ 58 \\ 1.00 \\ 1.00 \\ 58 \\ 1.00 \\ 1.00 \\ 58 \\ 1.00 \\ 1.00 \\ 58 \\ 1.00 \\ 1.00 \\ 58 \\ 1.00 \\ 1.00 \\ 58 \\ 1.00 \\ 58 \\ 1.00 \\ 1.00 \\ 58 \\ 1.00 \\ 1.00 \\ 58 \\ 1.00 \\ 1.00 \\ 58 \\ 1.00 \\ 1.00 \\ 58 \\ 1.00 \\ 1.00 \\ 58 \\ 1.00 \\ $	$\begin{array}{c} 437\\ 1.00\\ 437\\ 0\\ 0\\ 437\\ 1.00\\ 1.00\\ 437\\ 1.00\\ 1.00\\ 1.00\\ 437\end{array}$	126 1.00 126 0 126 1.00 1.00 1.00 1.26 1.00 1.00 1.00 1.26	51 1.00 51 0 0 51 1.00 1.00 51 1.00 1.00 1.00 1.00 1.00	$\begin{array}{c} 477\\ 1.00\\ 477\\ 0\\ 0\\ 477\\ 1.00\\ 1.00\\ 477\\ 1.00\\ 1.00\\ 1.00\\ 477\\ \end{array}$	$\begin{array}{c} 9\\ 1.00\\ 9\\ 0\\ 0\\ 9\\ 1.00\\ 1.00\\ 9\\ 0\\ 9\\ 1.00\\ 1.00\\ 9\\ 9\\ 9\\ 1.00\\ 1.00\\ 9\\ 9\\ 9\\ 1.00\\ 1.00\\ 9\\ 9\\ 9\\ 1.00\\ 1.00\\ 9\\ 9\\ 1.00\\ 1.00\\ 9\\ 9\\ 1.00\\ 1.00\\ 1.00\\ 9\\ 9\\ 1.00\\ 1.$	234 1.00 234 0 234 1.00 234 1.00 234 1.00 234 1.00 234	$1554 \\ 1.00 \\ 1554 \\ 0 \\ 0 \\ 1554 \\ 1.00 \\ 1.554 \\ 0 \\ 1554 \\ 1.00 \\ 1.554 \\ 1.00 \\ 1.554 \\ 0 \\ 1.554 \\ 0 \\ 1.554 \\ 0 \\ 1.554 \\ 0 \\ 1.554 \\ 0 \\ 1.554 \\ 0 \\ 1.554 \\ 0 \\ 0 \\ 0 \\ 1.554 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ $	$56 \\ 1.00 \\ 56 \\ 0 \\ 56 \\ 1.00 \\ 1.00 \\ 56 \\ 0 \\ 56 \\ 1.00 \\ 1.00 \\ 56 \\ 1.00 \\ 56 \\ $
Saturation F	LOW Ma	odule	: 1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment: Lanes: Final Sat.:	1.00 1.00 1600	1.00 2.00 3200	1.00 1.00 1600	1.00 1.00 1600	1.00 1.55 2484	1.00 0.45 716	1.00 1.00 1600	1.00 1.96 3141	1.00 0.04 59	1.00 1.00 1600	1.00 1.93 3089	1.00 0.07 111
Capacity Anal Vol/Sat: Crit Moves:	 lysis 0.04 ****	Modu 0.11	 le: 0.07	0.04	0.18	 0.18 ******	0.03	0.15	 0.15 ******	0.15	0.50	 0.50 ******

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	Gold	en Sł Lir	nore Ma nscott,	AM Ex ster E Law a	ristin Plan, and Gu	ng (200 Long B reenspa	8) each (n, Eng	(2.08. gineer	2995.1 s)				
ICU 1	Level Of Service Computation Report ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative) ************************************													
Cycle (sec): Loss Time (se Optimal Cycle	ec): e: *****	1()0 L0 90	* * * * * *	****	Critic Averag Level	al Vol e Dela Of Ser *****	L./Cap ay (se rvice:	o.(X): ec/veh) : *******	*****	0.4 xxxx	177 XXX A X*****		
Street Name: Approach: Movement:	Nor L -	Ma th Bo T	agnolia ound - R	Avenu Sou L -	ie ith Bo - T	ound - R	Ea L -	ast Bo - T	6th S ound - R	treet We L -	st Bo T	ound - R		
Control: Rights: Min. Green: Y+R: Lanes:	P 0 4.0 0 0	ermit Inclu 4.0	ted ude 4.0 1 0	9 0 4.0 1 0	Permit Inclu 0 4.0) 1	ted ude 4.0 0 0	Sp] 0 4.0 0 1	lit Pf Inclu 0 4.0 1 1	nase ide 4.0 1 0	Spl 0 4.0 0 0	it Ph Inclu 4.0	nase nde 0 4.0 0 0		
Volume Module Base Vol: Growth Adj: Initial Bse: Added Vol: PasserByVol: Initial Fut: User Adj: PHF Adj: PHF Volume: Reduct Vol: Reduced Vol: PCE Adj: MLF Adj: FinalVolume:	<pre>>: 0 1.00 0 0 0 1.00 1.00 0 0 0 1.00 1.00 1.00 0 0 0 </pre>	151 1.00 151 0 151 1.00 151 1.00 151 1.00 1.00 1.00 1.51	63 1.00 63 0 63 1.00 1.00 63 1.00 1.00 63 	78 1.00 78 0 78 1.00 1.00 78 1.00 78 1.00 78 1.00 78 1.00 78 1.00 78 1.00 78 1.00 78 1.00 78 0 78 0 78 0 78 0 78 0 78 0 78 0 78 0 78 0 78 1.00 78 1.00 78 0 78 1.00 78 1.00 78 0 78 1.00 78 0 78 1.00 78 1.00 78 0 78 1.00 78 78 0 78 1.00 78 78 0 78 78 0 78 1.00 78 78 0 78 78 1.00 78 78 78 78 1.00 78 78 78 78 78 78 78 78 78 78	423 1.00 423 0 423 1.00 1.00 423 0 423 1.00 1.00 423	0 1.00 0 0 0 1.00 1.00 1.00 1.00 0 0 0 0 0 0 0 0 0 0 0 0	78 1.00 78 0 78 1.00 1.00 78 0 78 1.00 78 1.00 78 1.00 78 1.00 78 1.00 78 1.00 78 1.00 78 1.00 78 0 78 1.00 78 0 78 1.00 78 1.00 78 1.00 78 1.00 78 1.00 78 1.00 78 1.00 78 1.00 78 1.00 78 1.00 78 1.00 78 1.00 78 1.00 78 78 1.00 78 78 78 78 78 78 78 78 78 78	421 1.00 421 0 421 1.00 1.00 421 0 421 1.00 1.00 421	42 1.00 42 0 42 1.00 1.00 42 0 42 1.00 1.00 42 1.00 1.00 42	0 1.00 0 0 0 1.00 1.00 0 0 1.00 1.00 0 0 1.00 0 0 0 0 0 0 0 0 0 0 0 0	0 1.00 0 0 1.00 1.00 0 1.00 0 1.00 0 0 0 0 0 0 0 0 0 0 0 0	0 1.00 0 0 0 1.00 1.00 0 0 1.00 1.00 0 0 0 0 0 0 0 0 0 0 0 0		
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Capacity Anal Vol/Sat: Crit Moves:	lysis 0.00 ****	Modul 0.13	Le: 0.13	0.05	0.26	0.00	0.11	0.11	0.11 ****	0.00	0.00	0.00 *****		

AM Existing (2008) Golden Shore Master Plan, Long Beach (2.08.2995.1) Linscott, Law and Greenspan, Engineers _____ Level Of Service Computation Report 2000 HCM Unsignalized Method (Future Volume Alternative) Intersection #9 Magnolia Avenue at 5th Street Average Delay (sec/veh): 1.1 Worst Case Level Of Service: B[12.7] Street Name:Magnolia Avenue5th StreetApproach:North BoundSouth BoundEast BoundWest BoundMovement:L - T - RL - T - RL - T - RL - T - R Control:UncontrolledUncontrolledStop SignStop SignRights:IncludeIncludeIncludeIncludeLanes:1001010010001!00001!00 Volume Module: Base Vol: 5 193 4 10 430 29 6 3 22

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 Move Cap.:
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 851

 Volume/Cap:
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 Level Of Service Module: SharedQueue:xxxxx xxxx xxxxx xxxx xxxx xxxxx 0.2 xxxxx xxxxx 0.1 xxxxx Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxxx xxxxx 12.4 xxxxx xxxxx 12.7 xxxxx Shared LOS:****B*B**B**B**B**B**B**B**B**B**B**B**B***B***BB Note: Queue reported is the number of cars per lane.

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	Gold	len Sh Lin	ore Ma scott,	AM Ex ster F Law a	istin lan, Ind Gr	ig (2008 Long Be reenspar	3) each (h, Eng	2.08. ineer	2995.1; s			
ICU 1(************************************	Loss ***** #10 A	as Cy ****	evel O cle Le ***** os Bou	f Serv ngth % ***** levarc	rice (5) Met ***** 1 at 4	Computat hod (Fu *******	tion F uture *****	eport Volum *****	e Alte: *****	rnativ *****	e) ****	* * * * * *
Cycle (sec): Loss Time (se Optimal Cycle	**************************************											
Street Name: Approach: Movement:	Nor L -	Ala th Bc T	mitos ound - R	Boulev Sou L -	vard ith Bo - T	ound - R	Ea L -	st Bc • T	4th S [.] und - R	treet We L -	st Bc T	und - R
Control: Rights: Min. Green: Y+R: Lanes:	P 0 4.0 1 C	Permit Inclu 4.0 1	ted ide 4.0 1 0	0 4.0 1 (Permit Inclu 4.0) 1	ted ude 0 4.0 1 0	4.0 1 0	Permit Inclu 4.0 0	ted de 4.0 1 0	9 0 4.0 1 0	Permit Inclu 4.0 0	ted .de 4.0 1 0
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Capacity Anal Vol/Sat: Crit Moves:	lysis 0.03 ****	Modu] 0.14	le: 0.14	0.09	0.23	0.23	0.03	0.14	0.15	0.09	0.32	0.32

AM Existing (2008) Wed Aug 5, 2009 16:27:10 Page 16-1

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ICU 1	(Loss ***** #11 M	as C *****	Level O ycle Le ****** lia Ave	f Serv ngth % ***** nue at	vice (5) Met **** : 3rd	Computat thod (Fu ******* Street	ion F iture *****	Report Volum	ne Alte	rnativ *****	'e) *****	· * * * * * *	
**************************************						<pre>************************************</pre>						***** 502 (xx B ******	
Street Name: Approach: Movement:	: Magnolia Avenue North Bound Sout L - T - R L -					3rd St Bound East Bound - R L - T - R					reet West Bound L - T - R		
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Capacity Anal Vol/Sat: Crit Moves:	 lysis 0.03 ****	 Modu 0.07	 le: 0.00	0.00	0.15	 0.15 ******	0.00	0.00	 0.00 ******	0.28	0.28	 0.28 ******	

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Street Name: Approach: Movement:	Nor L -	I th Bo T	Pacific ound - R	Avenu Sou L -	Avenue South Bound L - T - R			Br ast Bc - T	roadway bund - R	Avenue West Bound L - T - R		
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Saturation Fl Sat/Lane: Adjustment: Lanes: Final Sat.:	Low Mo 1600 1.00 0.00 0	dule 1600 1.00 2.00 3200	1600 1.00 1.00 1600	1600 1.00 1.00 1600	1600 1.00 2.00 3200	1600 1.00 0.00 0	1600 1.00 0.14 219	1600 1.00 1.99 3188	1600 1.00 0.87 1393	1600 1.00 0.00 0	1600 1.00 0.00 0	1600 1.00 0.00 0
Capacity Anal Vol/Sat: Crit Moves:	Lysis 0.00	Modu 0.06	le: 0.04	0.04	0.14	0.00	0.20	0.20	0.20	0.00	0.00	0.00

AM Existing ((2008)		Wed Aug	5, 20	Page 19-1						
	Golder	Shore	AM E≯ Master H t, Law a	kistir Plan, and Gr	ng (2008 Long Be reenspar	3) each (n, Eng	2.08. ineer	2995.1 s)		
ICU 1	(Loss as	Level Cycle	Of Serv Length %	vice (3) Met	Computat Chod (Fu	tion R uture *****	eport Volum *****	e Alte. *****	rnativ *****	re) *****	* * * * * *
Intersection *********	#14 Pir ******	ie Avenu *******	e at Bro ******	badway	/ Avenue	∋ * * * * * *	****	*****	* * * * * *	****	* * * * * *
Cycle (sec): Loss Time (se Optimal Cycle	ec): e: ** ******	100 10 90	* * * * * * * *	* * * * * *	: * * * * * *	0.395 xxxxxx A					
Street Name: Approach: Movement:	North L -	Pine Bound T - R	Avenue Sou L -	uth Bo - T	ound - R	Ea L -	Br st Bo T	oadway und - R	Avenu We L -	ie est Bo T	ound - R
Control: Rights: Min. Green: Y+R: Lanes:	Per Ir 0 4.0 4 0 0	mitted 0 0.0 4. 0 1 0	0 0 0 4.0 1 (Permit Inclu 4.0 0 1	2	Spl 0 4.0 1 0	it Ph Inclu 0 4.0	ase de 4.0 1 0	Spl 0 4.0 0 (it Ph Inclu 4.0	ase ade 0 4.0 0 0
Volume Module Base Vol: Growth Adj: Initial Bse: Added Vol: PasserByVol: Initial Fut: User Adj: PHF Adj: PHF Volume: Reduct Vol: Reduced Vol: PCE Adj: MLF Adj: FinalVolume:	<pre></pre>	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	2 49 0 1.00 2 49 0 0 2 49 0 1.00 2 49 0 1.00 2 49 0 0 2 49 0 1.00 2 49 0 1.00 2 49 0 1.00 2 49 0 1.00 2 49 0 0 1.00	236 1.00 236 0 236 1.00 236 236 1.00 236 1.00 236	0 1.00 0 0 1.00 1.00 1.00 0 0 1.00 1.00 0 0 0 0 0 0 0 0 0 0 0 0	39 1.00 39 0 0 39 1.00 1.00 39 1.00 1.00 39 1.00	$571 \\ 1.00 \\ 571 \\ 0 \\ 571 \\ 1.00 \\ 571 \\ 0 \\ 571 \\ 1.00 \\ 1.00 \\ 571 \\ 1.00 \\ $	138 1.00 138 0 0 138 1.00 138 0 138 1.00 138 1.00 138 1.00 138 1.00 138 1.00 138 1.00 138 0 138 0 138 1.00 138 1.00 138 1.00 138 1.00 138 1.00 138 1.00 138 1.00 138 1.00	0 1.00 0 0 1.00 1.00 0 1.00 1.00 1.00 1.00 1.00 1.00	$\begin{array}{c} 0\\ 1.00\\ 0\\ 0\\ 0\\ 1.00\\ 1.00\\ 0\\ 0\\ 1.00\\ 1.00\\ 0\\ 0\\ 0\\ 0\\ 0\\ 0\\ 0\\ 0\\ 0\\ 0\\ 0\\ 0\\ $	0 1.00 0 0 1.00 1.00 1.00 0 0 1.00 1.00 0 0 0 0 0 0 0 0 0 0 0 0
Saturation F1 Sat/Lane: Adjustment: Lanes: Final Sat.:	low Modu 1600 16 1.00 1. 0.00 0. 0 9	11e: 500 160 .00 1.0 .58 0.4 935 66	0 1600 0 1.00 2 1.00 5 1600	1600 1.00 1.00 1600	1600 1.00 0.00 0	1600 1.00 1.00 1600	1600 1.00 2.42 3866	1600 1.00 0.58 934	1600 1.00 0.00 0	1600 1.00 0.00 0	1600 1.00 0.00 0
Capacity Ana Vol/Sat: Crit Moves:	lysis Mc 0.00 0. ****	odule: 06 0.0	6 0.03	0.15	0.00	0.02	0.15	0.15	0.00	0.00	ا 0.00 ******

AM Existing	(2008) Wed Aug 5, 2009 16:27:10										Page 20-1		
	Gold	len Sh Lir	nore Ma	AM Ex ster F Law a	istin Plan, and Gr	ig (2008 Long Be reenspar	8) each (n, Eng	2.08. jineer	.2995.1) cs)			
ICU 1	(Loss *****	I as Cy *****	Level O vcle Le	f Serv ngth % ******	vice (5) Met	Computation (Final Action of the second s	tion F uture *****	Report Volum	: ne Alte: ******	rnativ *****	e) ****	*****	
Intersection #15 Alamitos Boulevard at Broadway Avenue ***********************************													
Cycle (sec): Loss Time (se Optimal Cycle	ele (sec): 100 s Time (sec): 15 imal Cycle: 90					Critical Vol./Cap.(X): Average Delay (sec/veh): Level Of Service:							
Street Name: Approach: Movement:	Nor L -	Ala th Bo T	amitos bund - R	Boulev Sou L -	vard ith Bo - T	ound - R	Ea L -	Br ast Bo - T	coadway bund - R	Avenu We L -	e st Bo T	ound - R	
Control: Rights: Min. Green: Y+R: Lanes:	F 0 4.0 0 C	Permit Inclu 0 4.0 1	2.500	4.0 1 (Permit Inclu 4.0) 1	ted ide 0 4.0 0 0	Pr 0 4.0 2 (rotect Inclu 0 4.0	ted ide 4.0 0 1	Prc 0 4.0 1 0	t+Per Inclu 4.0	cmit ide 0 4.0 0 1	
Volume Module Base Vol: Growth Adj: Initial Bse: Added Vol: PasserByVol: Initial Fut: User Adj: PHF Adj: PHF Volume: Reduced Vol: Reduced Vol: PCE Adj: FinalVolume:	0 1.00 0 0 0 1.00 1.00 1.00 1.00 1.00 1.00 1.00 0 0 0 0 0 0 0 0 0 0 0 0	405 1.00 405 0 0 405 1.00 405 1.00 405 1.00 405	39 1.00 39 0 0 39 1.00 1.00 39 1.00 1.00 39	29 1.00 29 0 0 29 1.00 1.00 29 1.00 1.00 29 1.00 1.00 29	$\begin{array}{c} 473\\ 1.00\\ 473\\ 0\\ 0\\ 473\\ 1.00\\ 1.00\\ 473\\ 1.00\\ 1.00\\ 1.00\\ 473\\ 1.00\\ 1.00\\ 1.73\\ 0\\ 1.00\\ 1$	0 1.00 0 0 1.00 1.00 1.00 1.00 1.00 0 0 0 0 0 0 0 0 0 0 0 0	123 1.00 123 0 123 1.00 123 1.00 123 1.00 123 1.00 123 1.00	238 1.00 238 0 0 238 1.00 238 0 238 1.00 238	34 1.00 34 0 0 34 1.00 1.00 34 1.00 1.00 34 1.00 34	406 1.00 406 1.00 1.00 406 1.00 406 1.00 1.00 406 1.00 1.00 406	0 1.00 0 0 1.00 1.00 0 1.00 1.00 0 0 0 0 0 0 0 0 0 0 0 0	425 1.00 425 0 0 425 1.00 1.00 425 1.00 1.00 425 1.00 1.00	
Saturation F: Sat/Lane: Adjustment: Lanes: Final Sat.:	low Mc 1600 1.00 0.00 0	dule: 1600 1.00 1.82 2919	1600 1.00 0.18 281	1600 1.00 1.00 1600	1600 1.00 1.00 1600	1600 1.00 0.00 0	1600 0.90 2.00 2880	1600 1.00 2.00 3200	1600 1.00 1.00 1600	1600 1.00 1.00 1600	1600 1.00 0.00 0	1600 1.00 1.00 1600	
Capacity Anal Vol/Sat: Crit Moves:	lysis 0.00 ****	Modul 0.14	 le: 0.14 ******	0.02	0.30	0.00	0.04	0.07	0.02	0.25	0.00	0.27	

AM Existing (2008) Wed Aug 5, 2009 16:27:10 Page 21-1

	Gold	en Sh Lin	nore Ma	AM Ex ster F Law a	istin lan, Ind Gr	ng (2008 Long Be reenspar	3) each (n, Eng	2.08. jineer	2995.1)		
ICU 1(************************************	Loss ***** #16 G	I as Cy ***** older	Level O vcle Le ****** Shore	f Serv ngth % ***** Stree	vice () Met *****	Computation (Finder (Finder))	tion F uture ****** enue a	Report Volum *****	e Alte ****** ean Bou	rnativ ***** levarc	re) ***** l	****
Cycle (sec): Loss Time (se Optimal Cycle	: * * * * * * *)0 .5)0 : * * * * * *	* * * * * *	Critical Vol./Cap.(X): 0.616 Average Delay (sec/veh): xxxxxx Level Of Service: E									
Street Name:G Approach: Movement:	Solden Nor L -	Shor th Bo T	re Stre bund - R	et/Gol Sou L -	den A ith Bo T	Avenue ound - R	Ea L -	Oc ast Bo - T	cean Bo bund - R	ulevar We L -	d est Bo - T	ound - R
Control: Rights: Min. Green: Y+R: Lanes:	F 0 4.0 1 C	ermit Inclu 0 4.0 1	ted ide 4.0 1 0	9 4.0 1 0	Permit Inclu 0 4.0) 1	ted ude 4.0 0 0	' Pr 0 4.0 1 (Inclu 0 4.0 2	2ed 1de 4.0 1 0	9 4.0 1 (Permit Inclu 4.0 2	ted de 4.0 1 1
Volume Module Base Vol: Growth Adj: Initial Bse: Added Vol: PasserByVol: Initial Fut: User Adj: PHF Adj: PHF Volume: Reduct Vol: Reduced Vol: PCE Adj: FinalVolume:	19 1.00 19 0 19 1.00 1.00 19 0 1.00 19 0 19 0 19 0 1.00 19 0 19 0 1.00 19 0 19 0 0 19 0 0 0 19 0 0 0 0 19 0 0 0 0 19 0 0 0 19 0 0 0 0 19 1.00 19 0 0 0 0 0 19 1.00	52 1.00 52 0 52 1.00 1.00 52 0 52 1.00 1.00 52 1.00 52 0 52 0 52 0 52 0 52 0 52 0 52 0 52 0 52 0 52 1.00 52 1.00 52 0 52 1.00 52 52 1.00 52 52 1.00 52 1.00 52 52 1.00 52 1.00 52 1.00 52 1.00 52 1.00 52 1.00 52 1.00 52 1.00 52 1.00 52 1.00 52 1.00 52 1.00 52 1.00 52 1.00 52 1.00 52 1.00 52 1.00 1.00 52 52 1.00 1.00 52 1.00 1.00 52 1.00 1.00 52 1.00 1.00 1.00 52 1.00 1.00 1.00 1.00 52 1.00 1.0	124 1.00 124 0 124 1.00 1.24 0 124 1.00 124 1.00 124 1.00 124	3 1.00 3 0 3 1.00 1.00 3 1.00 1.00 3 1.00 1.00 3 1.00	$ \begin{array}{c} 6 \\ 1.00 \\ 6 \\ 0 \\ 6 \\ 1.00 \\ 1.00 \\ 6 \\ 1.00 \\ 1.00 \\ 6 \\ \end{array} $	0 1.00 0 0 0 1.00 1.00 1.00 1.00 0 0 0 0 0 0 0 0 0 0 0 0	56 1.00 56 0 56 1.00 1.00 56 1.00 1.00 56 1.00 1.00 56	$\begin{array}{c} 643\\ 1.00\\ 643\\ 0\\ 643\\ 1.00\\ 1.00\\ 643\\ 0\\ 643\\ 1.00\\ 1.00\\ 643\\ \end{array}$	129 1.00 129 0 129 1.00 129 1.00 129 0 129 1.00 129 1.00 129 0 129 0 129 0 129 0 129 0 0 0 0 0 0 0 0 0 0 0 0 0	106 1.00 106 1.00 106 1.00 106 1.00 106 1.00 1.00 1.00 1.00 1.00	1590 1.00 1590 1590 1.00 1.00 1590 0 1590 1.00 1.00 1.00 1.590	663 1.00 663 0 663 1.00 1.00 663 0 663 1.00 1.00 663
Saturation Fl Sat/Lane: Adjustment: Lanes: Final Sat.:	Low Mc 1600 1.00 1.00 1600	dule: 1600 1.00 1.00 1600	1600 1.00 1.00 1600	1600 1.00 1.00 1600	1600 1.00 1.00 1600	1600 1.00 0.00 0	1600 1.00 1.00 1600	1600 1.00 2.50 3998	1600 1.00 0.50 802	1600 1.00 1.00 1600	1600 1.00 2.82 4517	1600 1.00 1.18 1883
Capacity Anal Vol/Sat: Crit Moves:	Lysis 0.01	Modu 0.03	Le: 0.08 ****	0.00	0.00	0.00	0.04	0.16	0.16 *****	0.07	0.35	- 1 0.35 ******
AM Existing (2008)		Wed	d Aug	5, 20	09 16:2	27 : 10			Page 2	22-1	
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	Gold	en Sh	ore Mas scott,	AM Ex ster F Law a	istin lan, nd Gr	ig (2008 Long Be reenspar	each (, Eng	2.08. jineer	2995.1) S	·		
Level Of Service Computation Report ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative) ************************************												
Intersection #17 Magnolia Avenue at Ocean Boulevard												
Cycle (sec):100Critical Vol./Cap.(X):0.783Loss Time (sec):10Average Delay (sec/veh):xxxxxOptimal Cycle:90Level Of Service:C***********************************									783 <xx C ******</xx 			
Street Name: Approach: Movement:	Nor L -	Ma th Bo T	gnolia und - R	Avenu Sou L -	ie ith Bo - T	ound - R	Ea L -	Oc ast Bo T	cean Bou ound - R	ulevard West Bo L - T	ound - R	
Control: Rights: Min. Green: Y+R: Lanes:	P 4.0 1 0	ermit Inclu 4.0 2	ted de 0 4.0 0 1	4.0 1 (0)	Permit Inclu 0 4.0) 2	ted ade 0 4.0 0 1	E 0 4.0 1 0	Permit Inclu 0 4.0) 2	ted ide 0 4.0 1 0	Permit Inclu 0 0 4.0 4.0 1 0 3		
Volume Module Base Vol: Growth Adj: Initial Bse: Added Vol: PasserByVol: Initial Fut: User Adj: PHF Adj: PHF Volume: Reduct Vol: Reduced Vol: PCE Adj: MLF Adj: FinalVolume:	27 1.00 27 0 0 27 1.00 1.00 27 1.00 1.00 27 1.00 1.00 27	75 1.00 75 0 75 1.00 1.00 75 1.00 1.00 75	15 1.00 15 0 0 15 1.00 1.00 15 1.00 1.5 1.00 1.5 1.00 1.5 1.00 1.5 1.00 1.5 1.00 1.5 1.5 0 1.5 1.5 0 1.5 1.5 0 1.5 1.5 0 1.5 1.00 1.5 1.5 1.00 1.5 1.5 1.5 1.00 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5	178 1.00 178 0 0 178 1.00 178 0 178 1.00 178 1.00 178 1.00 178	135 1.00 135 0 0 135 1.00 1.00 135 1.00 1.00 1.00 1.35	369 1.00 369 0 369 1.00 1.00 369 1.00 369 1.00 369	77 1.00 77 0 0 77 1.00 1.00 77 1.00 1.00 77 1.00 1.00	$\begin{array}{c} 677\\ 1.00\\ 677\\ 0\\ 0\\ 677\\ 1.00\\ 1.00\\ 677\\ 0\\ 677\\ 1.00\\ 1.00\\ 677\\ \end{array}$	24 1.00 24 0 0 24 1.00 1.00 24 1.00 1.00 24 	$\begin{array}{c} 94 & 1857 \\ 1.00 & 1.00 \\ 94 & 1857 \\ 0 & 0 \\ 94 & 1857 \\ 1.00 & 1.00 \\ 1.00 & 1.00 \\ 1.00 & 1.00 \\ 94 & 1857 \\ 0 & 0 \\ 94 & 1857 \\ 1.00 & 1.00 \\ 1.00 & 1.00 \\ 1.00 & 1.00 \\ 94 & 1857 \\ \end{array}$	93 1.00 93 0 93 1.00 1.00 93 0 93 1.00 1.00 93 	
Saturation Fl Sat/Lane: Adjustment: Lanes: Final Sat.:	Low Mc 1600 1.00 1.00 1600	odule: 1600 1.00 2.00 3200	1600 1.00 1.00 1600	1600 1.00 1.00 1600	1600 1.00 2.00 3200	1600 1.00 1.00 1600	1600 1.00 1.00 1600	1600 1.00 2.90 4636	1600 1.00 0.10 164	1600 1600 1.00 1.00 1.00 3.00 1600 4800	1600 1.00 1.00 1600	
Capacity Anal Vol/Sat: Crit Moves:	Lysis 0.02 ****	Modul 0.02	e: 0.01	0.11	0.04	0.23	0.05	0.15	0.15	0.06 0.39	0.06	

AM Existing	(2008)	We	d Aug	5, 20	09 16:	27 : 10			P	age 2	23-1
	Golden S Li	Shore Ma .nscott,	AM Ex ster H Law a	kistir Plan, and Gr	ng (200 Long B reenspa	8) each (n, Eng	(2.08. Jineel	.2995.1 rs	> >		
Level Of Service Computation Report ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)											
Intersection #18 Chestnut Place at Ocean Boulevard											
Cycle (sec):100Critical Vol./Cap.(X):0.556Loss Time (sec):10Average Delay (sec/veh):xxxxxxOptimal Cycle:90Level Of Service:A***********************************										556 <xx A ******</xx 	
Street Name: Approach: Movement:	North H L - T	Chestnu Bound - R	t Plac Sou L -	ce ith Bo - T	ound - R	Ea L -	Od ast Bo - T	cean Bo ound - R	ulevar We L -	d st Bo T	ound - R
Control: Rights: Min. Green: Y+R: Lanes:	Split F Incl 0 (4.0 4.0 1 0 0	Phase Lude) 0) 4.0 0 1	Sp] 4.0 0 (lit Pr Inclu 0 4.0	ase ide 4.0 0 0	4.0 0 1	Permit Inclu 0 4.0	tted ude 4.0 1 0	4.0 1 C	Permit Inclu 0 4.0) 3	2.1 2.1 2.1 2.0 2.0 0.0
Volume Module Base Vol: Growth Adj: Initial Bse: Added Vol: PasserByVol: Initial Fut: User Adj: PHF Adj: PHF Volume: Reduct Vol: Reduced Vol: PCE Adj: MLF Adj: FinalVolume: 	42 (0 42 (0 42 (0 42 (0 42 (0 1.00 1.00 42 (0 0 (0 42 (0 0 (0 1.00 (0 1.00 (0 1.00 (0 1.00 (0 42 (0 1.00 (0 1.00 (0 42 (0 1.00 (0 1.00 (0 1.00 (0 1.00 (0 1.00 (0 42 (0 1.00 (0 1.00 (0 42 (0 1.00 (0 1.00 (0 42 (0 1.00 (0 1.00 (0 1.00 (0 1.00 (0 1.00 (0 42 (0) (0) (0) (0) (0) (0) (0) (0) (0) (0)) 60) 1.00) 60) 0) 60) 1.00) 1.00) 60) 1.00) 60) 1.00) 60) 1.00) 60) 1.00) 60) 60) 60) 2.00) 60) 60) 60) 0) 60) 0) 60) 0) 0) 60) 0) 0) 0) 0) 0) 0) 0)	0 1.00 0 0 1.00 1.00 0 1.00 1.00 1.00 1.00 1.00 0 1.00	$\begin{array}{c} 0\\ 1.00\\ 0\\ 0\\ 0\\ 1.00\\ 1.00\\ 0\\ 0\\ 1.00\\ 1.00\\ 0\\ 0\\ 0\\ 0\\ 0\\ 0\\ 0\\ 0\\ 0\\ 0\\ 0\\ 0\\ $	0 1.00 0 0 1.00 1.00 0 0 1.00 1.00 0 0 0 0 0 0 0 0 0 0 0 0	0 1.00 0 0 1.00 1.00 0 1.00 1.00 1.00 0 1.00 0 1.00 0 0 1.00 0 0 0 0 0 0 0 0 0 0 0 0	773 1.00 773 0 773 1.00 1.00 773 1.00 1.00 773	29 1.00 29 0 29 1.00 1.00 29 0 29 1.00 1.00 29	67 1.00 67 0 67 1.00 1.00 67 1.00 67 1.00 67 1.00 67	2011 1.00 2011 0 2011 1.00 2011 0 2011 1.00 1.00 2011	0 1.00 0 0 1.00 1.00 0 0 1.00 1.00 1.00 0 0 0 0 0 0 0 0 0 0 0 0
Sat/Lane: Adjustment: Lanes: Final Sat.:	$\begin{array}{c} 1600 & 1600 \\ 1.00 & 1.00 \\ 1.00 & 0.00 \\ 1600 & 0 \end{array}$	<pre></pre>	1600 1.00 0.00 0	1600 1.00 0.00 0	1600 1.00 0.00 0	1600 1.00 0.00 0	1600 1.00 2.89 4626	1600 1.00 0.11 174	1600 1.00 1.00 1600	1600 1.00 3.00 4800	1600 1.00 0.00 0
Capacity Anal Vol/Sat: Crit Moves:	lysis Modu 0.03 0.00	 ile:) 0.04 ****	0.00	0.00	0.00 ******	0.00 ****	0.17	 0.17 *****	0.04	0.42	0.00

AM Existing (2008)	Wed Aug	5, 20	09 16:2	27 : 10			P	age 2	4-1		
	Golden Sho: Linse	AM Ex re Master H cott, Law a	istin Plan, and Gr	g (2008 Long Be eenspar	3) each (2 1, Eng	2.08. ineer	2995.1) s					
ICU 1(Level Of Service Computation Report ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)											
Intersection	<pre>#19 Pacific +++++++++</pre>	Avenue at	Ocean	. Boulev	vard *****	* * * * *	*****	*****	****	* * * * * *		
Cycle (sec): Loss Time (se Optimal Cycle	100 c): 12 : 90	* * * * * * * * * * * *	*****	Critica Average Level (al Vol e Dela Of Ser	./Cap y (se vice: *****	<pre>>.(X): ec/veh): *******</pre>	*****	0.6 xxxx	89 xx B *****		
Street Name: Approach: Movement:	Pa North Bou L - T -	cific Avenu nd Sou R L -	ie ith Bc - T	und - R	Ea L -	Oc st Bc T	ean Bou ound - R	levar We L -	d st Bo T	und - R		
Control: Rights: Min. Green: Y+R: Lanes:	Permitt. Includ 0 0 4.0 4.0 0 0 1! 0	ed I e 0 0 4.0 4.0 0 2 0	Permit Ovl 0 4.0	ted 0 4.0 0 1	Pro 0 4.0 1 0	t+Per Inclu 0 4.0 2	rmit ude 4.0 1 0	Pro 0 4.0 1 0	t+Per Inclu 0 4.0 3	mit de 4.0 0 1		
Volume Module Base Vol: Growth Adj: Initial Bse: Added Vol: PasserByVol: Initial Fut: User Adj: PHF Adj: PHF Volume: Reduct Vol: Reduced Vol: PCE Adj: MLF Adj: FinalVolume: OvlAdjVol:	$\begin{array}{c} 3 & 2 \\ 1.00 & 1.00 \\ 3 & 2 \\ 0 & 0 \\ 0 & 0 \\ 3 & 2 \\ 1.00 & 1.00 \\ 1.00 & 1.00 \\ 3 & 2 \\ 0 & 0 \\ 3 & 2 \\ 1.00 & 1.00 \\ 1.00 & 1.00 \\ 1.00 & 1.00 \\ 3 & 2 \end{array}$	3 86 1.00 1.00 3 86 0 0 0 0 3 86 1.00 1.00 1.00 1.00 3 86 1.00 1.00 3 86 1.00 1.00 1.00 1.00 3 86 1.00 1.00 3 86 3 86 1.00 1.00 3 86 3 86	0 1.00 0 0 1.00 1.00 0 0 1.00 1.00 0 0	289 1.00 289 0 289 1.00 1.00 289 0 289 1.00 1.00 289 1.00 1.00 289 1.23	166 1.00 166 1.00 166 1.00 166 1.00 166 1.00 1.66 1.00 1.66	655 1.00 655 1.00 1.00 655 1.00 1.00 1.00 655	7 1.00 7 0 0 7 1.00 1.00 7 1.00 7 1.00 1.00 7 .00 7 .00 .00 .00 .00 .00	25 1.00 25 1.00 1.00 25 1.00 1.00 25 1.00 1.00 25 1.00	1853 1.00 1853 1.00 1.00 1.00 1853 1.00	157 1.00 157 0 0 157 1.00 157 1.00 157 1.00 157 1.00 157 .00 157 .00 157 .00 .00 .00 .00 .00 .00 .00 .0		
Saturation Fl Sat/Lane: Adjustment: Lanes: Final Sat.:	ow Module: 1600 1600 1.00 1.00 0.37 0.25 600 400	1600 1600 1.00 0.90 0.38 2.00 600 2880	1600 1.00 0.00 0	1600 1.00 1.00 1600	1600 1.00 1.00 1600	1600 1.00 2.97 4749	1600 1.00 0.03 51	1600 1.00 1.00 1600	1600 1.00 3.00 4800	1600 1.00 1.00 1600		
Capacity Anal Vol/Sat: OvlAdjV/S: Crit Moves:	ysis Module 0.00 0.01	: 0.01 0.03	0.00	0.18 0.08 ****	0.10 **** ****	0.14	0.14	0.02	0.39 ****	, 0.10		

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AM Existing (2008) Wed Aug 5, 2009 16:27:10 Page 25-1

AM Existing (2008) Golden Shore Master Plan, Long Beach (2.08.2995.1) Linscott, Law and Greenspan, Engineers											
Level Of Service Computation Report ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative) Intersection #20 Pine Avenue at Ocean Boulevard											
Cycle (sec): Loss Time (se Optimal Cycle	10 ec): 1 e: 9	0 0 * * * * * * *	*****	* * * * *	Critica Average Level (******	al Vol e Dela Of Ser *****	./Cap y (se vice: *****	.(X): c/veh) *****	*****	0.6 xxxx	34 xx B *****
Street Name:Pine AvenueOcean BoulevardApproach:North BoundSouth BoundEast BoundMovement:L - T - RL - T - RL - T - R											
Control: Permitted Permitted Permitted Permitted Rights: Include Include Include Include Min. Green: 0 0 0 0 0 0 0 Y+R: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 Lanes: 1 0 1 0 1 0 2 1 0 1 0										ted de 4.0 0 1	
Volume Module Base Vol: Growth Adj: Initial Bse: Added Vol: PasserByVol: Initial Fut: User Adj: PHF Adj: PHF Volume: Reduct Vol: Reduced Vol: PCE Adj: MLF Adj: FinalVolume:	$\begin{array}{c} 36 & 24 \\ 1.00 & 1.00 \\ 36 & 24 \\ 0 & 0 \\ 0 & 0 \\ 36 & 24 \\ 1.00 & 1.00 \\ 1.00 & 1.00 \\ 36 & 24 \\ 0 & 0 \\ 36 & 24 \\ 1.00 & 1.00 \\ 1.00 & 1.00 \\ 36 & 24 \\ 1.00 & 1.00 \\ 36 & 24 \\ 1.00 & 1.00 \\ 36 & 24 \\ 1.00 & 1.00 \\ 36 & 24 \\ 1.00 & 1.00 \\ 36 & 24 \\ 1.00 & 1.00 \\ 36 & 24 \\ 1.00 & 1.00 \\ 36 & 24 \\ 1.00 & 1.00 \\ 36 & 24 \\ 1.00 & 1.00 \\ 36 & 24 \\ 1.00 & 1.00 \\ 36 & 24 \\ 1.00 & 1.00 \\ 36 & 24 \\ 1.00 & 1.00 \\ 36 & 24 \\ 1.00 & 1.00 \\ 36 & 24 \\ 1.00 & 1.00 \\ 36 & 24 \\ 1.00 & 1.00 \\ 36 & 24 \\ 1.00 & 1.00 \\ 36 & 24 \\ 1.00 & 1.00 \\ 36 & 24 \\ 1.00 & 1.00 \\ 1.0$	19 1.00 19 0 19 1.00 1.00 19 0 1.00 19 1.00 1.00 1.99 	27 1.00 27 0 0 27 1.00 1.00 27 1.00 1.00 27 1.00 1.00 27 1.00	65 1.00 65 1.00 1.00 65 1.00 1.00 65 1.00 1.00 65	65 1.00 65 0 65 1.00 1.00 65 1.00 1.00 65 1.00 1.00 65 1.00	34 1.00 34 0 34 1.00 1.00 34 1.00 34 1.00 34 1.00 34 1.00 34	672 1.00 672 0 672 1.00 1.00 672 0 672 1.00 1.00 672 1.00 1.00 672	74 1.00 74 0 74 1.00 1.00 74 1.00 74 1.00 74 1.00 74 1.00 74	95 1.00 95 1.00 1.00 95 1.00 95 1.00 1.00 95 1.00 1.00	2075 1.00 2075 0 2075 1.00 1.00 2075 0 2075 1.00 1.00 2075	96 1.00 96 1.00 1.00 96 1.00 1.00 96
Saturation F: Sat/Lane: Adjustment: Lanes: Final Sat.:	Saturation Flow Module:Sat/Lane:1600 1600 1600 1600 1600 1600 1600 1600										
Capacity Anal Vol/Sat: Crit Moves:	ysis Modul 0.02 0.02 ****	e: 0.01	0.02	0.06	0.04	0.02	0.16	0.16	0.06	0.43	0.06

AM Existing	(2008)	Wed Aug 5,	2009 16:2	27:10		Page 2	6-1			
	Golden Shore Linsco	AM Exist Master Plar tt, Law and	ting (2008 n, Long Be Greenspar	8) each (2.08.1 n, Engineer	2995.1) s					
Level Of Service Computation Report ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative) ************************************										
Loss Time (sec):12Average Delay (sec/veh):xxxxxOptimal Cycle:90Level Of Service:C***********************************										
Street Name: Approach: Movement:	Long Be North Bound L - T -	ach Bouleva: South R L - 1	rd Bound I' – R 	Oc East Bo L - T	ean Boul und - R -	evard West Bo L - T 	und - R			
Control: Rights: Min. Green: Y+R: Lanes:	Split Phase Include 0 0 4.0 4.0 4 0 0 0 0	e Split Ind 0 0 1.0 4.0 4 0 1 0	Phase clude 0 0 .0 4.0 1! 0 1	Prot+Per Inclu 0 0 4.0 4.0 1 0 3	mit de 4.0 0 0 -	Permit Inclu 0 0 4.0 4.0 0 0 3	ted de 4.0 0 1			
Volume Module Base Vol: Growth Adj: Initial Bse: Added Vol: PasserByVol: Initial Fut: User Adj: PHF Adj: PHF Volume: Reduct Vol: Reduced Vol: PCE Adj: MLF Adj: FinalVolume:	$\begin{array}{c} 0 & 0 \\ 1.00 & 1.00 & 1. \\ 0 & 0 \\ 0 & 0 \\ 0 & 0 \\ 0 & 0 \\ 1.00 & 1.00 & 1. \\ 1.00 & 1.00 & 1. \\ 1.00 & 1.00 & 1. \\ 0 & 0 \\ 1.00 & 1.00 & 1. \\ 1.00 & 1.00 & 1. \\ 0 & 0 \\ 0 & 0 \\ 0 & 0 \\ 1.00 & 1.00 & 1. \\ 0 & 0 \\ 0 $	0 98 00 1.00 1.1 0 98 0 0 0 98 00 1.00 1. 00 1.00 1. 0 98 0 0 0 98 0 0 0 98 0 0 0 98 .00 1.00 1. 0 98 .00 0 .00 1.00 1. .00 1. .00 1. .00 1. .00 0 .00 0 .00 0 .00 0 .00 0 .00 1. .00 1. .00 1. .00 0 .00 0	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	0 1.00 1 0 0 1.00 1 1.00 1 1.00 1 1.00 1 1.00 1 0 0 0 0 0 1.00 1 0 0 0 0 0 0 0 0 0 0 0 0 0	0 2108 .00 1.00 0 2108 0 0 0 2108 .00 1.00 .00 1.00 0 2108 .00 1.00 .00 1.00 .00 1.00 0 2108	80 1.00 80 0 0 80 1.00 1.00 80 1.00 1.00 80 1.00 1.00			
Saturation F: Sat/Lane: Adjustment: Lanes: Final Sat.:	low Module: 1600 1600 16 1.00 1.00 1. 0.00 0.00 0. 0 0	500 1600 16 .00 1.00 1. .00 1.00 0. 0 1600	00 1600 00 1.00 00 2.00 0 3200	1600 1600 1.00 1.00 1.00 3.00 1600 4800	1600 1 1.00 1 0.00 0 0	.00 1600 .00 1.00 .00 3.00 0 4800	1600 1.00 1.00 1600			
Capacity Ana Vol/Sat: Crit Moves:	lysis Module: 0.00 0.00 0.	.00 0.06 0.		0.08 0.12 ****	0.00 0).00 0.44 ****				

AM Existing (2008)		Wee	d Aug	5, 20	09 16:	27 : 10			Pa	age 2	27-1
	Gold	len Sh Lir	nore Mas nscott,	AM Ex ster F Law a	istin lan, and Gr	ig (200 Long B reenspa	8) each (n, Eng	2.08.	2995.1) s	, ,		.
Level Of Service Computation Report ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)												
Intersection *****	ntersection #22 Atlantic Avenue at Ocean Boulevard											
Cycle (sec): Loss Time (se Optimal Cycle	ec): e: *****	10])0 _0 }0 ******	* * * * * *	*****	Critic Averag Level	al Vol e Dela Of Ser *****	./Cap ny (se rvice: *****	<pre>0.(X): ec/veh);</pre>	*****	0.6 xxxx *****	551 xxx B ******
Street Name: Approach: Movement:	Nor L -	At th Bo T	lantic ound - R	Avenu Sou L -	ie ith Bo - T	ound - R	Ea L -	Oc ast Bo - T	ean Boi bund - R	ulevaro We: L -	d st Bo T	ound - R
Control: Rights: Min. Green: Y+R: Lanes:	F 4.0 0 1	Permit Inclu 0 4.0	ted ade 0 4.0 0 0	9	Permit Inclu 4.0	2.100 2.00 2.0 0 1	9 4.0 1 0	Permit Inclu 4.0 2	ted ode 4.0 1 0	P 0 4.0 1 0	ermit Inclu 0 4.0 2	2.ted 1.de 4.0 1 0
Volume Module Base Vol: Growth Adj: Initial Bse: Added Vol: PasserByVol: Initial Fut: User Adj: PHF Adj: PHF Volume: Reduct Vol: Reduced Vol: PCE Adj: MLF Adj: FinalVolume: Saturation FJ	2: 3 1.00 3 1.00 1.00 3 1.00 1.00 3 1.00 1.00 3 1.00 1.00 3 1.00 1.00 1.00 3 1.00	1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00	0 1.00 0 0 1.00 1.00 0 0 1.00 1.00 0 0 0 0 0 0 0 0 0 0 0 0	43 1.00 43 0 43 1.00 1.00 43 1.00 1.00 43 1.00 1.00 43 1.00	1.00 1 0 1 1.00 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 0 1 0 0 1 1 0 0 0 1 0 0 0 1 0 0 0 1 0 0 0 1 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0	109 1.00 109 1.00 1.00 1.00 109 1.00 1.00 1.00 1.00 1.09	71 1.00 71 0 0 71 1.00 1.00 71 1.00 1.00 71 1.00 1.00 71	$\begin{array}{c} 665\\ 1.00\\ 665\\ 0\\ 665\\ 1.00\\ 1.00\\ 665\\ 0\\ 665\\ 1.00\\ 1.00\\ 665\\ \end{array}$	1 1.00 1 0 1 1.00 1.00 1 1.00 1 1.00 1 .00 1 .00 1 .00 1 .00 1 .00 .00	0 1.00 0 0 1.00 1.00 0 0 1.00 0 1.00 0 0 1.00 0 0 0 0 0 0 0 0 0 0 0 0	2024 1.00 2024 0 2024 1.00 2024 0 2024 1.00 1.00 2024 	72 1.00 72 0 72 1.00 1.00 72 1.00 72 1.00 72 1.00 72
Sat/Lane: Adjustment: Lanes: Final Sat.:	1600 1.00 0.75 1200	1600 1.00 0.25 400	1600 1.00 0.00 0	1600 1.00 0.98 1564	1600 1.00 0.02 36	1600 1.00 1.00 1600	1600 1.00 1.00 1600	1600 1.00 2.99 4793	1600 1.00 0.01 7	1600 1.00 1.00 1600	1600 1.00 2.90 4635	1600 1.00 0.10 165
Capacity Anal Vol/Sat: Crit Moves:	lysis 0.00 ****	Modul 0.00	 le: 0.00	0.03	0.03	 0.07 ****	0.04	0.14	0.14	0.00	0.44	0.44

AM Existing (2008)		Wee	d Aug	5, 20	09 16:2	27:10			P	age 2	8-1
	Gold	len Sh Lin	ore Ma	AM Ex ster F Law a	istin lan, nd Gr	ng (2008 Long Be reenspar	8) each (n, Eng	2.08. ineer	2995.1)			
ICU 1(Level Of Service Computation Report ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)											
**************************************	***** #23	***** Shorel	****** ine Dr.	****** ive/Al ******	***** amitc	****** os Boule	****** evard *****	***** at Oc ****	******* cean Bou *******	***** ilevar *****	***** d *****	******
Cycle (sec):100Critical Vol./Cap.(X):Loss Time (sec):18Average Delay (sec/veh):Optimal Cycle:120Level Of Service:***********************************									*****	1.1 xxxx	20 xx F *****	
Street Name:S Approach: Movement:	Shorel Nor L -	line D th Bo - T	Drive/A Dund - R	lamito Sou L -	os Bou ith Bo - T	ulevar bund - R	Ea L -	Oc ist Bo T	cean Boi ound - R 	levar We L -	d st Bo T	ound - R
Control: Rights: Min. Green: Y+R: Lanes:	P1 0 4.0 1 (rotect Inclu 4.0) 3	zed ide 4.0 0 1	Pr 0 4.0 1 (totect Inclu 4.0 2	2ed ude 4.0 1 0	Pr 0 4.0 1 0	otect Inclu 4.0 3	2ed 1de 4.0 0 1	Pr 0 4.0 2 0	otect Inclu 4.0	2ed 0de 0 10
Volume Module Base Vol: Growth Adj: Initial Bse: Added Vol: PasserByVol: Initial Fut: User Adj: PHF Adj: PHF Volume: Reduct Vol: Reduced Vol: PCE Adj: MLF Adj: FinalVolume: Saturation F1	35 1.00 35 1.00 1.00 35 1.00 35 1.00 1.00 35 1.00 1.00 35 1.00 1.00 35 1.00 1.00 35 1.00 1.00 35 0 0 0 0 0 0 0 0 0 0 0 0 0	88 1.00 88 0 88 1.00 1.00 88 1.00 1.00 88 0 88	134 1.00 134 0 134 1.00 134 0 134 1.00 1.00 1.34 1.00 1.00	55 1.00 55 0 0 55 1.00 1.00 55 1.00 1.00 55 1.00 1.00 55	342 1.00 342 0 342 1.00 1.00 342 0 342 1.00 1.00 342 1.00 342	459 1.00 459 0 459 1.00 1.00 459 1.00 1.00 459 1.00 1.00 459	159 1.00 159 0 159 1.00 159 1.00 159 1.00 1.00 159 1.00 1.59	$548 \\ 1.00 \\ 548 \\ 0 \\ 0 \\ 548 \\ 1.00 \\ 548 \\ 0 \\ 548 \\ 1.00 \\ 548 \\ 1.00 \\ 548 \\ 1.00 \\ 548 \\ 1.00 \\ 548 \\ 1.00 \\ 548 \\ 1.00 \\ 1.00 \\ 548 \\ 1.00 \\ 1.00 \\ 548 \\ 1.00 \\ 1.00 \\ 548 \\ 1.00 \\ 1.00 \\ 548 \\ 1.00 \\ 1.00 \\ 548 \\ 1.00 \\ 1.0$	22 1.00 22 0 0 22 1.00 1.00 22 1.00 1.00 22 1.00 1.00 22	367 1.00 367 0 367 1.00 1.00 367 1.00 1.00 367	$1677 \\ 1.00 \\ 1677 \\ 0 \\ 0 \\ 1677 \\ 1.00 \\ 1.00 \\ 1677 \\ 0 \\ 1677 \\ 1.00 \\ 1.00 \\ 1.00 \\ 1677 \\ 1.00 \\ 1.07 \\ 1.00 \\ 1677 \\ 1.00 \\ 1.00 \\ 1677 \\ 1.00 \\ 1.$	25 1.00 25 1.00 1.00 25 1.00 25 1.00 1.00 25 1.00 1.00 25
Sat/Lane: Adjustment: Lanes: Final Sat.:	1600 1.00 1.00 1600	1600 1.00 3.00 4800	1600 1.00 1.00 1600	1600 1.00 1.00 1600	1600 1.00 2.00 3200	1600 1.00 1.00 1600	1600 1.00 1.00 1600	1600 1.00 3.00 4800	1600 1.00 1.00 1600	1600 0.90 2.00 2880	1600 1.00 1.97 3153	1600 1.00 0.03 47
Capacity Anal Vol/Sat: Crit Moves:	lysis 0.02 ****	Modu 0.02	le: 0.08	0.03	0.11	" 0.29 ****	0.10	0.11	0.01	0.13	0.53	' 0.53 ******

AM Existing	(2008)		We	d Aug	5, 20	09 16:	27:10			P	age 2	9-1
	Gold	len Sh Lin	ore Ma	AM Ex ster P Law a	istin lan, nd Gr	g (200 Long B eenspa	8) each (n, Eng	2.08. ineer	2995.1 s)		
	Level Of Service Computation Report 2000 HCM Unsignalized Method (Future Volume Alternative)											
2000 HCM Unsignalized Method (Future volume Alternative)												
Intersection #24 Golden Shore Street at Seaside Way (2)												
Average Dela *******	y (sec *****	/veh)	: ******	3.7	****	Worst *****	Case I *****	evel ****	Of Ser *****	vice: *****	C[15 ****	.5] *****
Street Name: Approach: Movement:	Nor L -	Gold th Bo	len Shc ound - R	re Str Sou L -	eet ith Bo T	ound - R	Ea L -	st Bc T	Seasid ound - R	le Way We L -	st Bo	und - R
Control: Rights: Lanes:	Unc 1 (contro Inclu) 1	olled ide 1 0	Unc 1 0	ontro Inclu) 1	olled ide 1 0	st	op Si Inclu) 1!	.gn ide 0 0	, St	op Si Inclu) 1!	.gn ide 0 1
Volume Modul Base Vol: Growth Adj: Initial Bse: Added Vol: PasserByVol: Initial Fut: User Adj: PHF Adj: PHF Volume: Reduct Vol: FinalVolume: Critical Gap Critical Gp: FollowUpTim: Capacity Mod Cnflict Vol:	e: 24 1.00 24 0 47 71 1.00 1.00 71 0 71 0 71 0 71 0 1.0	144 1.00 144 0 144 1.00 1.00 144 0 144 0 144 0 144 0 144 ×xxx ×xxx	198 1.00 198 0 198 1.00 198 1.00 198 0 198 0 198 0 198 0 198 0 198 0 198 0 198 0 198 0 198 0 198 1.00 198 0 198 1.00 198 0 198 1.00 198 1.00 198 0 198 1.00 198 1.00 198 0 1.00 198 0 1.00 198 0 1.00 198 0 1.00 198 0 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.08 0 1.00 1.00 1.00 1.08 0 1.00 1.00 1.00 1.08 0 1.00 1.08 0 1.00 1.08 0 1.00 1.08 0 1.08 0 1.00 1.08 0 1	122 1.00 122 0 122 1.00 1.22 0 122 1.00 122 0 122 1.00 122 0 122 1.00 122 0 122 1.00 122 0 122 1.00 122 0 122 1.00 122 1.00 122 0 122 1.00 122 0 122 1.00 122 1.00 122 0 122 1.00 122 0 122 0 122 1.00 122 0 122 0 122 1.00 122 0 122 0 122 1.00 122 0 122 1.00 122 0 122 1.00 122 0 122 1.00 1.22 1.00 1.22 1.0	136 1.00 136 0 136 1.00 1.00 1.36 0 1.36 0 1.36 .00 1.36 .00 1.36 .00 .00 .00 .00 .00 .00 .00 .0	19 1.00 19 0 42 61 1.00 61 0 61 	4 1.00 4 0 14 18 1.00 1.00 18 0 18 1 7.5 3.5 1 625	0 1.00 0 0 1.00 1.00 0 0 6.5 4.0 895	1 1.00 1 0 4 5 1.00 1.00 5 0 5 6.9 3.3 	44 1.00 44 0 44 1.00 1.00 44 0 44 0 44 0 44 0 44 0 44 0 44 0 697	2 1.00 2 0 1.00 1.00 0 0 0 6.5 4.0 826	46 1.00 46 0 46 1.00 46 0 46 0 46 0 46 0 46 0 46 0 1.00 46 0 1.00 1.00 46 0 1.00 1
Potent Cap.: Move Cap.: Volume/Cap:	1388 1388 0.05	XXXX XXXX XXXX	XXXXX XXXXX XXXXX XXXX	1228 1228 0.10	×××× ×××× ××××	XXXXX XXXXX XXXXX XXXX	374 314 0.06	282 241 0.00	945 945 0.01	331 293 0.15	310 265 0.00	849 849 0.05
Level Of Ser 2Way95thQ: Control Del: LOS by Move: Movement: Shared Cap.: Shared Queue: Shrd ConDel: Shared LOS: ApproachDel: ApproachLOS:	vice 1 0.2 7.7 A LT xxxx xxxxx xxxxx xxxxx xxxxx	Module	e: xxxxx - RT xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx	0.3 8.3 A LT XXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXX	xxxx xxxx - LTR xxxx xxxx xxxx * *	xxxxx xxxxx - RT xxxxx xxxxx xxxxx *	××××× × LT - ×××× ××××× × *	xxxx xxxx - LTR 367 0.2 15.5 C 15.5 C ******	XXXXX XXXXX - RT XXXXX XXXXX XXXXX *	0.2 18.3 C LT - XXXX XXXX XXXXX *	xxxx xxxx - LTR 440 0.3 14.1 B 13.9 B *****	0.1 9.4 A - RT xxxxx xxxxx xxxxx *
Note: Queue	repor *****	ted i *****	s the : ******	number *****	of c ****	ars pe: *****	r lane ******	•	*****	* * * * * *	* * * * *	* * * * * * *

AM Existing	2008)	Wed Aug 5, 20	09 16:27:10	Page 30-1
	Golden Shore Linsco	AM Existin Master Plan, tt, Law and Gr	g (2008) Long Beach (2.08. eenspan, Engineer	2995.1) s
	Leve 2000 HCM 4-Wav	l Of Service C Stop Method (Computation Report Future Volume Alt	ernative)
**********	****	****	* * * * * * * * * * * * * * * *	******
Intersection *******	#25 Chestnut	Place at Seasi ***********	de Way ******	* * * * * * * * * * * * * * * * * * * *
Cycle (sec): Loss Time (se Optimal Cycle	100 ec): 0 e: 0	* * * * * * * * * * * * * * *	Critical Vol./Cap Average Delay (se Level Of Service: ************	.(X): 0.150 c/veh): 8.5 A
Street Name: Approach: Movement:	Ches North Bound L - T -	tnut Place South Bc R L - T	ound East Bo - R L - T	Seaside Way und West Bound - R L - T - R
Control: Rights: Min. Green: Lanes:	Stop Sign Include 0 0 1 0 0 1	Stop Si Inclu 0 0 0 0 1 0 0	gn Stop Si nde Inclu 0 0 0 1 0 0 1 0	gn Stop Sign de Include 0 0 0 0 0 1 0 1 0 1 0
Volume Module Base Vol: Growth Adj: Initial Bse: Added Vol: PasserByVol: Initial Fut: User Adj: PHF Adj: PHF Volume: Reduced Vol: Reduced Vol: PCE Adj: FinalVolume:	$\begin{array}{c} 95 & 61 \\ 1.00 & 1.00 & 1. \\ 95 & 61 \\ 0 & 0 \\ 95 & 61 \\ 1.00 & 1.00 & 1. \\ 1.00 & 1.00 & 1. \\ 1.00 & 1.00 & 1. \\ 95 & 61 \\ 0 & 0 \\ 95 & 61 \\ 1.00 & 1.00 & 1. \\ 1.00 & 1.00 & 1. \\ 95 & 61 \\ \end{array}$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$
Saturation F Adjustment: Lanes: Final Sat.:	low Module: 1.00 1.00 1. 1.00 0.82 0. 632 584 1	00 1.00 1.00 18 1.00 0.57 24 620 410	1.00 1.00 1.00 0.43 0.29 0.71 311 181 453	1.00 1.00 1.00 1.00 1.00 0.69 0.89 0.42 743 432 602 292
Capacity Ana Vol/Sat: Crit Moves:	lysis Module: 0.15 0.10 0. ****	10 0.01 0.12	0.12 0.08 0.08	0.00 0.10 0.10 0.09
Delay/Veh: Delay Adj: AdjDel/Veh: LOS by Move: ApproachDel: Delay Adj: ApprAdjDel:	9.2 8.2 8 1.00 1.00 1. 9.2 8.2 8 A A 8.8 1.00 8.8 7	.2 8.4 8.2 00 1.00 1.00 .2 8.4 8.2 A A A 8.2 1.00 8.2 a	8.2 8.6 8.6 1.00 1.00 1.00 8.2 8.6 8.6 A A A 8.5 1.00 8.5	7.3 8.9 8.4 8.1 1.00 1.00 1.00 1.00 7.3 8.9 8.4 8.1 A A A A 8.5 1.00 8.5 A
AllWayAvgQ:	0.2 0.1 (**********	1 0.0 0.1 *****	0.1 0.1 0.1	0.0 0.1 0.1 0.1 ****

AM Existing (2	008
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AM Existing (2008) Wed Aug 5, 2009 16:27:10 Page 31-1

	Golden	Shore Ma Linscott,	AM Exis ster Pla Law and	ting (200 n, Long B Greenspa	8) each (2.08 n, Enginee	8.2995.1 ers)		
ICU 1(************************************	(Loss as * * * * * * * * #26 Pin	Level O Cycle Le *********	f Servic ngth %) ******** at Seasi	e Computa Method (F ******** de Way	tion Repo: uture Volu	 rt .me Alte *******	rnative) ***********	*****	
Cycle (sec): Loss Time (se Optimal Cycle	ec): : :	100 15 90 *******	*****	Critic Averag Level	al Vol./Ca e Delay (: Of Service ******	ap.(X): sec/veh) e: *******	0.2 : xxxx	263 <xx A ******</xx 	
Street Name:Pine AvenueSeaside WayApproach:North BoundSouth BoundEast BoundMovement:L - T - RL - T - RL - T - R									
Control: Rights: Min. Green: Y+R: Lanes:	Prot In 0 4.0 4 1 0	ected 1 0 0 0 0 0 1 0 1 0 1	Prot In 0 4.0 4 1 0	ected clude 0 0 .0 4.0 1 1 0	Perm. Inc. 0 4.0 4.1 1 0 0	itted lude 0 0 0 4.0 1 0	Permit Inclu 0 0 4.0 4.0 1 0 1	ted 1de 4.0 0 1	
Volume Module Base Vol: Growth Adj: Initial Bse: Added Vol: PasserByVol: Initial Fut: User Adj: PHF Adj: PHF Volume: Reduct Vol: Reduced Vol: PCE Adj: MLF Adj: FinalVolume:	$\begin{array}{c} & & & \\ & & & \\ 1 & 0 & 1 \\ & & \\ & & \\ & & \\ 0 \\ & & \\ 1 & 0 & 1 \\ 1 & 0 & 1 \\ & & \\ 1 & 0 & 1 \\ 1 & 0 & 1 \\ \end{array}$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$\begin{array}{c} 65 & 1 \\ 1.00 & 1. \\ 65 & 1 \\ 0 \\ 65 & 1 \\ 1.00 & 1. \\ 1.00 & 1. \\ 65 & 1 \\ 0 \\ 65 & 1 \\ 1.00 & 1. \\ 1.00 & 1. \\ 1.00 & 1. \\ 65 & 1 \end{array}$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	17 3 1.00 1.0 17 3 0 17 3 1.00 1.0 17 3 1.00 1.0 17 3 1.00 1.0 17 3 1.00 1.0 17 3 1.00 1.0 17 3 1.00 1.0	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	21 1.00 21 0 21 1.00 1.00 21 0 21 1.00 1.00 21 1.00 21 1.00	
Saturation Fl Sat/Lane: Adjustment: Lanes: Final Sat.:	Low Modu 1600 16 1.00 1. 1.00 1. 1600 16	lle: 500 1600 00 1.00 00 1.00 500 1600	1600 16 1.00 1. 1.00 1. 1600 25	500 1600 00 1.00 59 0.41 37 663	1600 160 1.00 1.0 1.00 0.8 1600 132	0 1600 0 1.00 3 0.17 8 272	1600 1600 1.00 1.00 1.00 1.00 1600 1600	1600 1.00 1.00 1600	
Capacity Anal Vol/Sat: Crit Moves:	Lysis Mc 0.00 0. **	odule: 02 0.02	0.04 0.	05 0.05	0.01 0.0	; 3 0.03 * ********	0.02 0.02	0.01	

AM Existing (2008) Wed Aug 5, 2009 16:27:10 Page 32-1

AM Existing (2008) Golden Shore Master Plan, Long Beach (2.08.2995.1) Linscott, Law and Greenspan, Engineers ______ Level Of Service Computation Report 2000 HCM Unsignalized Method (Future Volume Alternative) Intersection #27 Golden Shore Street at I-710 SB Off-Ramp Average Delay (sec/veh): 8.1 Worst Case Level Of Service: B[11.9] Street Name:Golden Shore StreetI-710 SB Off-RampApproach:North BoundSouth BoundEast BoundMovement:L - T - RL - T - RL - T - R Control:UncontrolledUncontrolledStop SignStop SignRights:IncludeIncludeIncludeIncludeLanes:0 0 2 0 0 0 0 1 0 0 1 0 0 0 1 0 0 0 0

 Volume Module:

 Base Vol:
 0
 84
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 181
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 0
 0

 Growth Adj:
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 Critical Gap Module: Capacity Module: Cnflict Vol: xxxx xxxx xxxx xxxx xxxx 223 xxxx 181 xxxx xxxx xxxx Potent Cap.: xxxx xxxx xxxx xxxx 770 xxxx 867 xxxx xxxx xxxx Move Cap.: xxxx xxxx xxxx xxxx 770 xxxx 867 xxxx xxxx xxxx Volume/Cap: xxxx xxxx xxx xxx xxx 0.41 xxxx 0.28 xxxx xxxx xxxx _____| Level Of Service Module: 2Way95thQ: xxxx xxxx xxxx xxxx xxxx 2.0 xxxx 1.2 xxxx xxxx xxxx Control Del:xxxxx xxxx xxxxx xxxxx xxxxx 12.9 xxxx 10.8 xxxxx xxxx xxxx LOS by Move: * * * * * * B * B * * * * Movement: LT - LTR - RT Shared LOS:*** Note: Queue reported is the number of cars per lane.

AM Existing (2008) Wed Aug 5, 2009 16:27:10 Page 33-1

AM Existing (2008) Golden Shore Master Plan, Long Beach (2.08.2995.1) Linscott, Law and Greenspan, Engineers _____ Level Of Service Computation Report 2000 HCM Unsignalized Method (Future Volume Alternative) Intersection #28 Golden Shore Street at Shoreline Drive Average Delay (sec/veh): 0.3 Worst Case Level Of Service: B[11.8]

 Street Name:
 Golden Shore Street
 Shoreline Drive

 Approach:
 North Bound
 South Bound
 East Bound

 Movement:
 L - T - R
 L - T - R
 L - T - R

 Control:UncontrolledUncontrolledStop SignStop SignRights:IncludeIncludeIncludeIncludeLanes:0010100000

 Volume Module:

 Base Vol:
 3
 74
 2
 5
 413
 9
 7
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 0
 0
 0

 Growth Adj:
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 -----||------||------|| Critical Gap Module:

 Critical Gp:
 4.1 xxxx xxxxx
 4.1 xxxx xxxxx
 6.4
 6.5
 6.2 xxxxx xxxx xxxx

 FollowUpTim:
 2.2 xxxx xxxxx
 2.2 xxxx xxxxx
 3.5
 4.0
 3.3 xxxxx xxxx xxxx

 Capacity Module:
 Cnflict Vol:
 422 xxxx xxxxx
 76 xxxx xxxxx
 504
 505
 413
 xxxx xxxx xxxx

 Potent Cap.:
 1148 xxxx xxxxx
 1536 xxxx xxxxx
 531
 473
 643
 xxxx xxxx xxxx
 -----!|-----!|------! Level Of Service Module: 2Way95thQ:0.0 xxxx xxxx0.0 xxxx xxxx xxxx xxxx xxxx xxxx xxxx2Way95thQ:0.0 xxxx xxxxControl Del:8.1 xxxx xxxxLOS by Move:A*A**Movement:LT - LTR - RTLT - LTR - RTLT - LTR - RTLT - LTR - RTLT - LTR - RT SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx 0.0 xxxxx xxxxx xxxx Shared LOS:***</h>** Note: Queue reported is the number of cars per lane.

AM Existing (2008) Wed Aug 5, 2009 16:27:10 Page 34-1

AM Existing (2008) Golden Shore Master Plan, Long Beach (2.08.2995.1) Linscott, Law and Greenspan, Engineers												
Level Of Service Computation Report ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative) ************************************												
Cycle (sec): Loss Time (se Optimal Cycle	c): :	1()0 L8 90	* * * * * *	* * * * *	Critic Averag Level	al Vol e Dela Of Ser *****	./Cap y (se vice: ****).(X): ec/veh)	* * * * * * *	0.3 xxxx	45 xx A *****
Street Name:Chestnut PlaceShoreline DriveApproach:North BoundSouth BoundEast BoundMovement:L - T - RL - T - RL - T - R												
Control: Split Phase Split Phase Protected Protected Rights: Include Include Include Include Min. Green: 0 1 0 0 1 0 1 0 0 1 0 0 1 0 0 1 0 1 0 0 1 0 0 0 1 0 0 0 0												
Volume Module Base Vol: Growth Adj: Initial Bse: Added Vol: PasserByVol: Initial Fut: User Adj: PHF Adj: PHF Volume: Reduct Vol: Reduced Vol: PCE Adj: FinalVolume:	2: 1.00 1 0 0 1.000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.00000 1.0000 1.000000 1.0000 1.00000000 1.	0 1.00 0 0 1.00 1.00 0 1.00 0 1.00 0 0 0 0 0 0 0 0 0 0 0 0	32 1.00 32 0 0 32 1.00 1.00 32 0 32 1.00 1.00 32 0 32 1.00 1.00 32 0 32 1.00 1.00 32 0 0 32 1.00 1.00 32 0 0 32 1.00 1.00 32 0 0 32 1.00 1.00 32 0 32 1.00 1.00 32 1.00 1.00 32 1.00 1.00 32 1.00 1.00 32 1.00 1.00 1.00 32 1.00 1.00 1.00 32 1.00 1.00 1.00 1.00 1.00 32 1.00 1.	8 1.00 8 0 0 8 1.00 1.00 8 1.00 1.00 8 1.00 1.00 8 1.00	2 1.00 2 1.00 1.00 2 1.00 1.00 2 1.00 1.00	84 1.00 84 0 84 1.00 1.00 84 1.00 1.00 84 	56 1.00 56 0 56 1.00 1.00 56 1.00 1.00 56 1.00 1.00 56 1.00 1.00 1.00 56 1.00 1.00 56 0 56 0 56 0 56 0 56 0 56 0 56 0 56 0 56 0 56 0 56 1.00 56 1.00 56 1.00 56 1.00 56 1.00 56 1.00 56 1.00 1.00 56 1.00 1.00 56 1.00 1.00 56 1.00 1.00 1.00 56 1.00 1.00 1.00 56 1.00 1.00 56 1.00 1.00 56 1.00 1.00 56 1.00 1.00 56 1.00 1.00 56 1.00 1.00 56 1.00 1.00 56 1.00 1.00 56 1.00 1.00 56 1.00 1.00 56 1.00 1.00 56 1.00 1.00 56 1.00 1.00 1.00 1.00 1.00 1.00 1.00	188 1.00 188 0 0 188 1.00 1.00 188 1.00 1.88 1.88 1.00 1.88 1.00 1.88 1.00 1.88 1.00 1.88 1.00 1.88 1.00 1.88 1.00 1.88 1.00 1.88 1.00 1.00 1.88 1.00 1.00 1.88 1.00 1.00 1.88 1.00 1.00 1.88 1.00 1.00 1.88 1.00 1.88 1.00 1.00 1.88 1.00 1.00 1.88 1.00 1.00 1.88 1.00 1.00 1.88 1.00 1.00 1.88 1.00 1.00 1.00 1.00 1.00	14 1.00 14 0 14 1.00 1.00 14 0 14 1.00 14 1.00 14 1.00 14 1.00 14 1.00 14 14 0 14 14 0 14 14 0 14 14 0 14 14 0 14 14 14 14 14 14 14 14 14 14	144 1.00 144 0 144 1.00 144 1.00 144 1.00 144 1.00 144 1.00 144 1.00 144 1.00 144 1.00 144 0 1.00	270 00 270 0 270 1.00 270 0 270 1.00 1.00 270 1.00 270	117 1.00 117 0 0 117 1.00 1.00 117 0 117 1.00 117 1.00 117 1.00 117 1.00 117 0 117 0 117 0 117 0 117 0 117 0 117 0 117 1.00 117 0 117 1.00 1.17 1.00 1.17 1.00 1.17 1.00 1.17 1.00 1.17 1.00 1.17 1.00 1.17 1.00 1.17 1.00 1.17 1.00 1.17 1.00 1.17 1.00 1.00 1.17 1.00 1.00 1.17 1.00 1.17 1.00 1.00 1.17 1.00 1.17 1.00 1.17 1.00 1.17 1.00 1.00 1.17 1.00 1.00 1.17 1.00 1.00 1.17 1.00 1.00 1.17 1.00 1.00 1.07 1.00 1.07 1.00 1
Saturation FJ Sat/Lane: Adjustment: Lanes: Final Sat.:	1600 1.00 2.00 3200	1600 1.00 0.00 0	1600 1.00 1.00 1600	1600 1.00 0.80 1280	1600 1.00 0.20 320	1600 1.00 1.00 1600	1600 0.90 2.00 2880	1600 1.00 3.00 4800	1600 1.00 1.00 1600	1600 0.90 2.00 2880	1600 1.00 3.00 4800	1600 1.00 1.00 1600
Capacity Anal Vol/Sat: Crit Moves:	ysis 0.00	Modu. 0.00	le: 0.02 ****	0.01	0.01	0.05	0.02	0.04	' 0.01 *****	' 0.05 (*****).06 *****	0.07 ****

AM Existing (2008	AM	Existing	(2008)
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Wed Aug 5, 2009 16:27:10 ____**_**_____**__**___**__**____

AM Existing (2008) Golden Shore Master Plan, Long Beach (2.08.2995.1) Linscott, Law and Greenspan, Engineers													
ICU 1	Level Of Service Computation Report ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative) ************************************												
Cycle (sec): Loss Time (se Optimal Cycle	ec): : ********	100 18 90 *******	*****	Critic Averag Level	al Vol./Ca e Delay (se Of Service ******	p.(X): ec/veh) : *******	0.3 : xxxx	55 xx A *****					
Street Name: Approach: Movement:	North L - T	Pine A Bound - R	venue South L - T	Bound ' – R	S East B L - T	horelin ound - R	e Drive West Bo L - T	und - R 1					
Control: Protected Protected Protected Protected Protected Protected Rights: Include Include Include Include Include Min. Green: 0 0 0 0 0 0 0 0 Y+R: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 Lanes: 1 0 1 0 1 0 1 1 0 3 0 1													
Volume Module Base Vol: Growth Adj: Initial Bse: Added Vol: PasserByVol: Initial Fut: User Adj: PHF Adj: PHF Volume: Reduct Vol: Reduced Vol: PCE Adj: MLF Adj: FinalVolume:	$\begin{array}{c} & & 9 \\ 1.00 & 1.0 \\ & 9 \\ & 0 \\ & 0 \\ & 9 \\ 1.00 & 1.0 \\ 1.00 & 1.0 \\ & 9 \\ & 0 \\ & 9 \\ & 1.00 & 1.0 \\ 1.00 & 1.0 \\ & 9 \\ \end{array}$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	22 1.00 1.0 22 0 22 1.00 1.0 22 1.00 1.0 22 0 22 1.00 1.0 22 1.00 1.0 22	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	83 135 1.00 1.00 83 135 0 0 83 135 1.00 1.00 1.00 1.00 83 135 0 0 83 135 1.00 1.00 83 135 1.00 1.00 1.00 1.00 1.00 1.00 83 135	7 1.00 7 0 0 7 1.00 1.00 7 1.00 1.00 7 7 1.00 1.00 7 7 1.00	11 559 1.00 1.00 11 559 0 0 11 559 1.00 1.00 1.00 1.00 11 559 0 0 11 559 0 0 11 559 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00	36 1.00 36 1.00 1.00 36 1.00 36 1.00 1.00 36 					
Saturation Fl Sat/Lane: Adjustment: Lanes: Final Sat.:	low Modul 1600 160 1.00 1.0 1.00 1.0 1600 160	e: 0 1600 0 1.00 0 1.00 0 1600	1600 160 1.00 1.0 1.00 1.0 1600 160	1600 1.00 1.00 1.00 1.00 1.00 1600	1600 1600 0.90 1.00 2.00 3.00 2880 4800	1600 1.00 1.00 1600	1600 1600 1.00 1.00 1.00 3.00 1600 4800	1600 1.00 1.00 1600					
Capacity Anal Vol/Sat: Crit Moves:	Lysis Mod 0.01 0.0 ****	ule: 0 0.01	0.01 0.0)1 0.02	0.03 0.03	0.00	0.01 0.12	0.02					

PM Existing (2008)	Wed	Aug	5, 20	09 16:	27 : 22				Page	6-1
	Golden Sho Lins	Fe Mast cott, I	PM Ex er P Jaw a	istin lan, nd Gr	g (200 Long B eenspa	8) each (n, Eng	2.08. jineer	2995.1)		
ICU 1	Le Loss as Cyc	vel Of le Leng	Serv gth %	ice C) Met	omputa hod (F	tion F uture	Report Volum	: ne Alte: *****	rnativ *****	e) *****	* * * * * *
Intersection	#1 Magnolia	Avenue	e at *****	7th S ****	treet *****	*****	*****	*****	* * * * * *	* * * * *	* * * * * * *
Cycle (sec): Loss Time (se Optimal Cycle	100 ec): 10 e: 90	*****	****	* * * * *	Critic Averag Level *****	al Vol e Dela Of Ser *****	./Cap ay (se tvice: *****	o.(X): ec/veh)	: * * * * * *	0.5 xxxx	576 <xx A ******</xx
Street Name: Approach: Movement:	Mag North Bou L - T -	nolia A nd R	Avenu Sou L -	e th Bo T	und - R	Ea L -	ast Bo - T	7th S ound - R	treet We L -	st Bo	ound - R
Control: Rights: Min. Green: Y+R: Lanes:	Permitt Includ 0 0 4.0 4.0 1 0 1 0	ed le 4.0 0	P 0 4.0 0 0	ermit Inclu 4.0 0	ted de 4.0 1 0	Sp] 0 4.0 0 (lit Ph Inclu 4.0 0 0	nase ide 4.0 0 0	Spl 0 4.0 0 1	it Ph Inclu 4.0 1	nase ude 4.0 1 0
Volume Module Base Vol: Growth Adj: Initial Bse: Added Vol: PasserByVol: Initial Fut: User Adj: PHF Adj: PHF Volume: Reduced Vol: PCE Adj: MLF Adj: FinalVolume:	102 350 1.00 1.00 102 350 0 0 102 350 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.02 350 0 0 102 350 1.00 1.00 1.02 350 1.00 1.00 1.00 1.00 1.02 350	0 1.00 0 0 1.00 1.00 1.00 1.00 1.00 0 0 0 0 0 0 0 0 0 0 0 0	0 1.00 0 0 1.00 1.00 1.00 1.00 0 0 0 0 0 0 0 0 0 0 0 0	310 1.00 310 0 0 310 1.00 310 1.00 310 1.00 310 1.00 310	61 1.00 61 1.00 1.00 61 1.00 61 1.00 61 1.00 61	0 1.00 0 0 0 1.00 1.00 0 1.00 1.00 0 1.00 0 0 0 0 0 0 0 0 0 0 0 0	0 1.00 0 0 1.00 1.00 0 1.00 1.00 0	0 1.00 0 0 1.00 1.00 1.00 0 0 1.00 1.00 0 0 0 0 0 0 0 0 0 0 0 0	99 1.00 99 0 99 1.00 1.00 99 0 99 1.00 1.00 99 1.00	$ \begin{array}{c} 654 \\ 1.00 \\ 654 \\ 0 \\ 654 \\ 1.00 \\ 1.00 \\ 654 \\ 1.00 \\ 1.00 \\ 654 \\ 1.00 \\ 1.00 \\ 654 \\ 1.00 \\ 1.00 \\ 654 \\ 1.00 \\ 1.00 \\ 654 \\ 1.00 \\ 1.00 \\ 654 \\ 1.00 \\ 654 \\ 1.00 \\ 1.00 \\ 654 \\ 1.00 \\ 1.00 \\ 654 \\ 1.00 \\ 1.00 \\ 654 \\ 1.00 \\ 1.00 \\ 654 \\ 1.00 \\ 1.00 \\ 654 \\ 1.00 \\ 1.00 \\ 654 \\ 1.00 \\ 1.00 \\ 654 \\ 1.00 \\ 654 \\ 1.00 \\ 654 \\ 1.00 \\ 1.00 \\ 1.00 \\ 654 \\ 1.00 \\ 654 \\ 1.00 \\ 1.00 \\ 1.00 \\ 654 \\ 1.00 \\ 1.00 \\ 1.00 \\ 1.00 \\ 1.00 \\ 1.00 \\ 1.00$	114 1.00 114 0 0 114 1.00 1.00 114 1.00 1.00 1.00 1.14 1.00 1.00 1.14 1.00 1.00 1.14
Saturation F. Sat/Lane: Adjustment: Lanes: Final Sat.:	low Module: 1600 1600 1.00 1.00 1.00 1.00 1600 1600	1600 1.00 0.00 0	1600 1.00 0.00 0	1600 1.00 0.84 1337	1600 1.00 0.16 263	1600 1.00 0.00 0	1600 1.00 0.00 0	1600 1.00 0.00 0	1600 1.00 0.34 548	1600 1.00 2.27 3621	1600 1.00 0.39 631
Capacity Ana Vol/Sat: Crit Moves:	lysis Module 0.06 0.22 ****	e: 0.00	0.00	0.23	0.23	0.00	0.00	' 0.00 ******	0.18	0.18 ****	0.18

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PM Existing (2008) Golden Shore Master Plan, Long Beach (2.08.2995.1) Linscott, Law and Greenspan, Engineers											
ICU 1(Loss ****	I as Cy ****	Level O Vcle Le	f Serv ngth % *****	vice () Met	Computat thod (Fu	tion R uture	Report Volum	: ne Alte: ******	rnative) ********	* * * * * * *
Intersection	#2 Pa	cific ****	Avenu	e at 7 *****	'th St	reet	* * * * * *	*****	******	* * * * * * * * * * *	*****
Cycle (sec): Loss Time (se Optimal Cycle	C): : *****	10 1 2)0 _5)0 ******	* * * * * *	* * * * * *	Critica Average Level (al Vol e Dela Of Ser *****	./Cap ay (se rvice:	0.(X): ec/veh)	0.5 : xxxx	513 xxx A ******
Street Name: Approach: Movement:	Nor L -	H T T	Pacific bund - R	Avenu Sou L -	ie ith Bo • T	ound - R	Ea L -	st Bo - T	7th S [.] ound - R	treet West Bo L - T	ound - R
Control: Rights: Min. Green: Y+R: Lanes:	Pr 0 4.0 1 0	otect Inclu 4.0 2	2ed ade 4.0 0 0	e E 4.0 0 (Permit Inclu 0 4.0) 1	ted ade 4.0 1 0	Spl 4.0 0 (it Ph Inclu 4.0	nase nde 0 4.0 0 0	Split Pr Inclu 0 0 4.0 4.0 1 0 2	ase ade 0 4.0 1 0
Volume Module Base Vol: Growth Adj: Initial Bse: Added Vol: PasserByVol: Initial Fut: User Adj: PHF Adj: PHF Volume: Reduct Vol: Reduced Vol: PCE Adj: FinalVolume:	64 1.00 64 0 64 1.00 1.00 64 0 64 1.00 1.00 64 0 0 64 0 0 64 0 0 64 0 0 64 0 0 64 0 0 0 64 0 0 0 0 64 0 0 0 0 0 0 0 0 0 0 0 0 0	$522 \\ 1.00 \\ 522 \\ 0 \\ 522 \\ 1.00 \\ 1.00 \\ 522 \\ 0 \\ 522 \\ 1.00 \\ 1.00 \\ 522 \\ 1.00 \\ 1.00 \\ 522 \\ 0 \\ 1.00 \\ 522 \\ 0 \\ 0 \\ 522 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\$	0 1.00 0 0 0 1.00 1.00 1.00 1.00 1.00 0 0 0 0 0 0 0 0 0 0 0 0	0 1.00 0 0 1.00 1.00 1.00 1.00 1.00 1.00	374 1.00 374 0 0 374 1.00 1.00 374 1.00 374 1.00 374	60 1.00 60 0 60 1.00 1.00 60 1.00 1.00 1.00 60	0 1.00 0 0 0 1.00 1.00 1.00 1.00 1.00 0 0 0 0 0 0 0 0 0 0 0 0	$\begin{array}{c} 0\\ 1.00\\ 0\\ 0\\ 0\\ 1.00\\ 1.00\\ 0\\ 0\\ 1.00\\ 1.00\\ 0\\ 0\\ 0\\ 0\\ 0\\ 0\\ 0\\ 0\\ 0\\ 0\\ 0\\ 0\\ $		$\begin{array}{cccccccccccccccccccccccccccccccccccc$	121 1.00 121 0 121 1.00 121 1.00 121 1.00 1.00 1.21
Saturation Fl Sat/Lane: Adjustment: Lanes: Final Sat.: 	.ow Mc 1600 1.00 1.00 1600 ysis 0.04	dule: 1600 1.00 2.00 3200 Modul 0.16	: 1600 1.00 0.00 0 	1600 1.00 0.00 0 	1600 1.00 1.72 2758	1600 1.00 0.28 442 	1600 1.00 0.00 0 	1600 1.00 0.00 0	1600 1.00 0.00 0 	1600 1600 1.00 1.00 1.00 2.60 1600 4153 	1600 1.00 0.40 647 0.19
Crit Moves:	* * * * *	*****	* * * * * * *	*****	****	* * * * * * *	* * * * * *	* * * * *	*****	* * * * * * * * * * *	**** *****

PM Existing	(2008)	We	d Aug	5, 20	09 16:	27 : 22			P	age	8-1
	Golden S Li	hore Ma nscott,	PM Ex ster P Law a	istir lan, Ind Gr	ng (200 Long B reenspa	8) each (n, Eng	(2.08. gineer	2995.1)		
ICU 1	(Loss as C	Level O ycle Le	f Serv ngth %	vice (Computa thod (Fi	tion F uture	Report Volum	: ne Alte	rnative)	ale ale ale ale ale ale
Intersection	#3 Pine A	venue a	t 7th	Stree	et	******	*****	******	+++++++	+ + + + +	*****
Cycle (sec): Loss Time (s Optimal Cycl	1 ec): e: *********	00 10 90 *****	* * * * * *	· * * * * *	Critic Average Level	al Vol e Dela Of Ser *****	./Cap ay (se rvice:	o.(X): ec/veh);	*****	0.4 xxxx ****	52 xx A *****
Street Name: Approach: Movement:	North E L - T	Pine A ound - R	venue Sou L -	ith Bo	ound - R	Ea L -	ast Bo - T	7th S ound - R	treet Wes L -	t Bor	und - R
Control: Rights: Min. Green: Y+R: Lanes:	Permi Incl 0 0 4.0 4.0 1 0 1	tted ude 4.0 0 0	P 0 4.0 0 C	Permit Inclu 4.0 1	ted ude 4.0 0 1	Spl 0 4.0 0 (it Ph Inclu 4.0	nase ude 4.0 0 0	Spli I 0 4.0 0 1	t Pha nclua 0 4.0 1	ase de 4.0 1 0
Volume Modul Base Vol: Growth Adj: Initial Bse: Added Vol: PasserByVol: Initial Fut: User Adj: PHF Adj: PHF Volume: Reduct Vol: Reduced Vol: PCE Adj: MLF Adj: FinalVolume:	e: 79 194 1.00 1.00 79 194 0 0 0 0 79 194 1.00 1.00 1.00 1.00 79 194 0 0 79 194 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00	0 1.00 0 0 1.00 1.00 1.00 0 0 1.00 0 0 0 0 0 0 0 0 0 0 0 0	0 1.00 0 0 1.00 1.00 0 1.00 1.00 1.00 0 1.00 0 1.00 0 0 1.00 0 0 0 0 0 0 0 0 0 0 0 0	133 1.00 133 0 133 1.00 1.00 133 1.00 1.33 1.00 1.33 1.00 1.33	59 1.00 59 0 59 1.00 1.00 59 1.00 1.00 59 1.00 59 1.00	0 1.00 0 0 1.00 1.00 0 1.00 1.00 1.00 0 1.00 0 0 0 0 0 0 0 0 0 0 0 0	$\begin{array}{c} 0\\ 1.00\\ 0\\ 0\\ 0\\ 1.00\\ 1.00\\ 0\\ 0\\ 1.00\\ 1.00\\ 0\\ 0\\ 0\\ 0\\ 0\\ 0\\ 0\\ 0\\ 0\\ 0\\ 0\\ 0\\ $	0 1.00 0 0 1.00 1.00 0 0 1.00 1.00 0 0 0 0 0 0 0 0 0 0 0 0	82 1.00 1 82 0 82 1.00 1 1.00 1 82 0 82 1.00 1 1.00 1 82 1.00 1 1.00 1 82	866 .00 866 .00 .00 866 .00 866 .00 .00 866	107 1.00 107 0 107 1.00 1.00 107 1.00 107 1.00 1.00 1.07 1.00
Saturation F Sat/Lane: Adjustment: Lanes: Final Sat.:	low Module 1600 1600 1.00 1.00 1.00 1.00 1600 1600	: 1600 1.00 0.00 0	1600 1.00 0.00 0	1600 1.00 1.00 1600	1600 1.00 1.00 1600	1600 1.00 0.00 0	1600 1.00 0.00 0	1600 1.00 0.00 0	1600 1 1.00 1 0.23 2 373 3	600 .00 .47 940	1600 1.00 0.30 487
Capacity Ana Vol/Sat: Crit Moves:	lysis Modu 0.05 0.12 ****	le: 0.00	0.00	0.08	0.04	0.00	0.00	0.00	0.22 0	 .22 ****	 0.22 **** ****

PM Existing	(2008)	Wed Aug	5, 200)9 16 : 2	7:22				Page	9-1
	Golden Shore Linsco	PM Ex e Master P ott, Law a	isting lan, I nd Gre	g (2008 Long Be eenspan	each (, Eng	2.08.2 ineers	2995.1) s			
ICU 1	Leve Loss as Cycle	el Of Serv e Length % *******	ice Cc) Meth *****	omputat nod (Fu	ion R ture	eport Volume *****	e Alter ******	nativ *****	e) ****	* * * * * *
Intersection ********	#4 Long Beach	n Boulevar *******	d at 7 *****	7th Str ******	reet *****	* * * * * *	* * * * * * *	****	* * * * *	* * * * * *
Cycle (sec): Loss Time (se Optimal Cycle	100 ec): 15 e: 90	* * * * * * * * * * *) 7 1 * * * * * *	Critica Average Level C	al Vol e Dela)f Ser	./Cap y (sec vice: *****	.(X): c/veh): ******	****	0.5 xxxx ****	31 xx A *****
Street Name: Approach: Movement:	Long Be North Bound L - T -	each Boule d Sou R L -	vard th Bou T -	und - R 	Ea L -	st Bor T	7th St und - R 	reet We L -	st Bo T	und - R
Control: Rights: Min. Green: Y+R: Lanes:	Protected Include 0 0 4.0 4.0 1 0 2 0	0 0 4.0 4.0 0 0 C	ermitt Incluc 0 4.0 2 (ted de 4.0 0 1	Spl 0 4.0 0 C	it Ph Inclue 4.0	ase de 4.0 0 0	Spl 0 4.0 1 C	it Ph Inclu 0 4.0 3	ase de 4.0 0 1
Volume Module Base Vol: Growth Adj: Initial Bse: Added Vol: PasserByVol: Initial Fut: User Adj: PHF Adj: PHF Volume: Reduct Vol: Reduced Vol: PCE Adj: MLF Adj: FinalVolume:	<pre> 160 517 1.00 1.00 1 160 517 0 0 0 160 517 1.00 1.00 1 160 517 1.00 1.00 1 160 517 1.00 1.00 1 1.00 1.00 1 1.00 1.00 1 1.00 1.00</pre>	0 0 .00 1.00 0 0 0 0 0 0 0 0 .00 1.00 0 0 0 0 0 0 0 0 0 0 0 0 0 0	382 1.00 382 0 382 1.00 1.00 382 0 382 1.00 1.00 382 1.00 382	85 1.00 85 0 0 85 1.00 1.00 85 1.00 1.00 85 1.00 1.00 85 1.00	0 1.00 0 0 1.00 1.00 0 1.00 1.00 0	$ \begin{array}{c} 0 \\ 1.00 \\ 0 \\ 0 \\ 0 \\ 1.00 \\ 1.00 \\ 0 \\ 0 \\ 1.00 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\$	0 1.00 0 0 1.00 1.00 0 0 1.00 1.00 0 0 0 0 0 0 0 0 0 0 0 0	145 1.00 145 0 145 1.00 145 1.00 145 1.00 1.00 145	778 1.00 778 0 778 1.00 778 1.00 778 1.00 1.00 778	79 1.00 79 0 79 1.00 1.00 79 1.00 1.00 79 1.00 79
Saturation F. Sat/Lane: Adjustment: Lanes: Final Sat.:	low Module: 1600 1600 1 1.00 1.00 1 1.00 2.00 0 1600 3200	600 1600 .00 1.00 .00 0.00 0 0	1600 1.00 2.00 3200	1600 1.00 1.00 1600	1600 1.00 0.00 0	1600 1.00 0.00 0	1600 1.00 0.00 0	1600 1.00 1.00 1600	1600 1.00 3.00 4800	1600 1.00 1.00 1600
Capacity Ana Vol/Sat: Crit Moves:	lysis Module: 0.10 0.16 0 ****	.00 0.00	0.12	0.05 *****	0.00 *****	0.00	0.00 *****	' 0.09 *****	0.16 ****	0.05

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PM Existing (2008)	We	d Aug	5, 20	09 16 : 2	27:22			Pa	age 1()-1
	Golder	h Shore Ma Linscott,	PM Ex ster P Law a	istin lan, nd Gr	g (2008 Long Be eenspar	3) each (2 n, Eng:	2.08. ineer	2995.1) s			
ICU 1(Loss as	Level O s Cycle Le	f Serv ngth %	ice C) Met ****	omputat hod (Fu ******	tion Re uture '	eport Volum	e Alte: ******	nativ	e) *****	*****
Intersection ********	#5 Atla	antic Aven	ue at *****	7th S ****	treet ******	*****	* * * * *	* * * * * * *	*****	* * * * * *	*****
Cycle (sec): Loss Time (se Optimal Cycle	ec): e: *******	100 10 90	* * * * * *	****	Critica Average Level (******	al Vol e Dela Of Ser	./Cap y (se vice: *****	.(X): c/veh): ******	*****	0.4 xxxxx *****	76 <x A *****</x
Street Name: Approach: Movement:	North L -	Atlantic n Bound T - R	Avenu Sou L -	ie ith Bo · T	und - R 	Ea L -	st Bo T	7th St und - R l	reet We L -	st Bor	und - R
Control: Rights: Min. Green: Y+R: Lanes:	Per Ir 4.0 0 1	rmitted nclude 0 0 4.0 4.0 1 0 0	0 4.0 0 (Permit Inclu 0 4.0) 1	ted de 4.0 1 0	Spl 0 4.0 0 0	it Ph Inclu 0 4.0 0	ase de 4.0 0 0 	Spl 0 4.0 0 1	it Pha Inclue 0 4.0 1	ase de 4.0 1 0
Volume Module Base Vol: Growth Adj: Initial Bse: Added Vol: PasserByVol: Initial Fut: User Adj: PHF Adj: PHF Volume: Reduct Vol: Reduced Vol: PCE Adj: FinalVolume:	39 1.00 39 0 0 39 1.00 1 .00 1 .00 1 .00 1 .00 1 .00 1 .00 1 .00 1 .00 1 .00 1 .00 1 .00 .0 .0 .0 .0 .0 .0 .0 .0	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	0 1.00 0 0 0 1.00 1.00 0 1.00 1.00 0 1.00 0 1.00 0 0 0 0 0 0 0 0 0 0 0 0	365 1.00 365 0 365 1.00 1.00 365 1.00 1.00 365	72 1.00 72 0 0 72 1.00 1.00 72 1.00 1.00 72 1.00 72 1.00	0 1.00 0 0 1.00 1.00 0 1.00 0 1.00 0 1.00 0 0 0 0 0 0 0 0 0 0 0 0	0 1.00 0 0 1.00 1.00 0 1.00 1.00 0 0 0 0 0 0 0 0 0 0 0 0	0 1.00 0 0 1.00 1.00 0 0 1.00 0 0 1.00 0 0 0 0 0 0 0 0 0 0 0 0	84 1.00 84 0 84 1.00 1.00 84 1.00 84 1.00 84 1.00 84	819 1.00 819 0 0 819 1.00 819 1.00 1.00 819 1.00 819	127 1.00 127 0 127 1.00 1.00 127 0 127 1.00 1.27 1.00 1.27
Saturation F. Sat/Lane: Adjustment: Lanes: Final Sat.:	low Mod 1600 1 1.00 1 0.16 1 263 2	ule: 600 1600 .00 1.00 .84 0.00 937 0	1600 1.00 0.00 0	1600 1.00 1.67 2673	1600 1.00 0.33 527	1600 1.00 0.00 0	1600 1.00 0.00 0	1600 1.00 0.00 0	1600 1.00 0.24 391	1600 1.00 2.39 3817	1600 1.00 0.37 592
Capacity Ana Vol/Sat: Crit Moves:	 lysis M 0.02 0 ****	odule: .15 0.00	0.00	0.14	0.14	0.00	0.00	0.00	0.21	0.21	0.21 *****

PM Existing (2008)	Wee	d Aug	5, 20	09 16:	27:22			P	age 1	1-1
	Golden Sh Lin	ore Ma: scott,	PM Ex ster P Law a	istir lan, nd Gr	ig (200 Long B ceenspa	 8) each (n, Eng	2.08. jineer	2995.1)	_	
ICU 1(Loss as Cy ********	evel 0: cle Lei ******	f Serv ngth % *****	ice () Met	Computa hod (F	tion R uture *****	Report Volum	: ne Alte ******	rnativ *****	e) *****	****
Intersection ********	#6 Martin	Luther ******	King *****	Boule *****	evard a	t 7th *****	Stree	et ******	*****	****	*****
Cycle (sec): Loss Time (se Optimal Cycle	10 ec): 1 e: 9 *****	0 0 0 * * * * * * * *	* * * * * *	* * * * *	Critic Averag Level	al Vol e Dela Of Ser *****	./Cap y (se vice:	0.(X): ec/veh)	:	0.4 xxxx	74 xx A *****
Street Name: Approach: Movement:	Martin L North Bo L - T	uther 1 und - R 	King B Sou L -	oulev th Bo T	vard ound - R	Ea L -	ist Bo T	7th S ound - R	treet We L -	st Bo	und - R
Control: Rights: Min. Green: Y+R: Lanes:	Permit Ovl 0 0 4.0 4.0 1 0 1	ted 0 4.0 0 2	F 0 4.0 1 0	Permit Inclu 4.0	ted de 0 4.0 1 0	Spl 0 4.0 0 0	it Pr Inclu 4.0	ase ade 0 4.0 0 0	Spl 0 4.0 0 0	it Ph Inclu 0 4.0	ase de 4.0 1 0
Volume Module Base Vol: Growth Adj: Initial Bse: Added Vol: PasserByVol: Initial Fut: User Adj: PHF Adj: PHF Volume: Reduct Vol: Reduced Vol: PCE Adj: MLF Adj: FinalVolume: OvlAdjVol:	$\begin{array}{c} 37 & 112 \\ 1.00 & 1.00 \\ 37 & 112 \\ 0 & 0 \\ 37 & 112 \\ 0 & 0 \\ 37 & 112 \\ 1.00 & 1.00 \\ 1.00 & 1.00 \\ 37 & 112 \\ 0 & 0 \\ 37 & 112 \\ 1.00 & 1.00 \\ 1.00 & 1.00 \\ 37 & 112 \\ \end{array}$	978 1.00 978 0 978 1.00 1.00 978 0 978 1.00 1.00 978 1.00 1.00 978	110 1.00 110 0 110 1.00 1.00 110 1.00 110 1.00 1.	65 1.00 65 0 65 1.00 1.00 65 1.00 1.00 65	$\begin{array}{c} 65\\ 1.00\\ 65\\ 0\\ 0\\ 65\\ 1.00\\ 1.00\\ 65\\ 1.00\\ 1.00\\ 65\\ 1.00\\ 1.00\\ 65\\ \end{array}$	0 1.00 0 0 0 1.00 1.00 1.00 1.00 1.00 0 0 1.00 0 0 0 0 0 0 0 0 0 0 0 0	0 1.00 0 0 1.00 1.00 0 1.00 1.00 1.00 0 0 0 0 0 0 0 0 0 0 0 0	0 1.00 0 0 0 1.00 1.00 1.00 1.00 1.00 0 0 0 0 0 0 0 0 0 0 0 0	0 1.00 0 0 0 1.00 1.00 1.00 1.00 1.00 0 0 1.00	904 1.00 904 0 904 1.00 904 0 904 1.00 904 1.00 904	 62 1.00 62 0 62 1.00 1.00 62 1.00 1.00 62
Saturation Fl Sat/Lane: Adjustment: Lanes: Final Sat.:	ow Module: 1600 1600 1.00 1.00 1.00 1.00 1600 1600	1600 1.00 2.00 3200	1600 1.00 1.00 1600	1600 1.00 0.50 800	1600 1.00 0.50 800	1600 1.00 0.00 0	1600 1.00 0.00 0	1600 1.00 0.00 0	1600 1.00 0.00 0	1600 1.00 1.87 2995	1600 1.00 0.13 205
Capacity Anal Vol/Sat: OvlAdjV/S: Crit Moves: *********	ysis Modul 0.02 0.07	e: 0.31 0.00 ****	0.07 **** ****	0.08	0.08 ******	0.00	0.00	0.00	0.00	0.30	0.30 **** ****

PM Existing ((2008)		We	d Aug	5, 20	09 16:	27:22			Page 1	12-1		
	PM Existing (2008) Golden Shore Master Plan, Long Beach (2.08.2995.1) Linscott, Law and Greenspan, Engineers												
ICU 1((Loss &	L as Cy ****	evel O cle Le *****	f Serv ngth % *****	/ice (5) Met	Computa chod (F	tion F uture *****	Report Volum	: ne Alte: ******	rnative) *********	* * * * * * *		
Intersection	#7 Ala	amitc	s Boul	evard	at 7t	h Stre	et *****	* * * * * *	* * * * * * * *	* * * * * * * * * * *	******		
Cycle (sec): Loss Time (se Optimal Cycle	Cycle (sec):100Critical Vol./Cap.(X):0.735Loss Time (sec):15Average Delay (sec/veh):xxxxxOptimal Cycle:90Level Of Service:CCC												
Street Name:Alamitos Boulevard7th StreetApproach:North BoundSouth BoundEast BoundWest BoundMovement:L - T - RL - T - RL - T - RL - T - R													
Information Information Information Information Control: Permitted Permitted Permitted Protected Rights: Ovl Include Include Include Min. Green: 0 0 0 0 0 0 0 Y+R: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 Lanes: 1 0 2 0 1 1 0 1 0 1 0													
Lanes: 1 0 2 0 1 1 0 1 <td>$57 \\ 1.00 \\ 57 \\ 0 \\ 0 \\ 57 \\ 1.00 \\ 1.00 \\ 57 \\ 0 \\ 57 \\ 1.00 \\ 1.00 \\ 57 \\ 1.00 \\ 1.00 \\ 57 \\ 1.00 \\ 1.00 \\ 57 \\ 1.00 \\ 1.00 \\ 57 \\ 1.00 \\ 57 \\ 1.00 \\ 1.00 \\ 57 \\ 1.00 \\ 57 \\ 1.00 \\ 1.00 \\ 57 \\ 1.00 \\ 57 \\ 1.00 \\ 1.00 \\ 57 \\ 1.00 \\ 1.00 \\ 57 \\ 1.00 \\ 1.00 \\ 57 \\ 1.00 \\ 1.00 \\ 57 \\ 1.00 \\ 1.00 \\ 57 \\ 1.00 \\ 1.00 \\ 57 \\ 1.00 \\ 1.00 \\ 1.00 \\ 57 \\ 1.00 \\ 1.$</td>										$57 \\ 1.00 \\ 57 \\ 0 \\ 0 \\ 57 \\ 1.00 \\ 1.00 \\ 57 \\ 0 \\ 57 \\ 1.00 \\ 1.00 \\ 57 \\ 1.00 \\ 1.00 \\ 57 \\ 1.00 \\ 1.00 \\ 57 \\ 1.00 \\ 1.00 \\ 57 \\ 1.00 \\ 57 \\ 1.00 \\ 1.00 \\ 57 \\ 1.00 \\ 57 \\ 1.00 \\ 1.00 \\ 57 \\ 1.00 \\ 57 \\ 1.00 \\ 1.00 \\ 57 \\ 1.00 \\ 1.00 \\ 57 \\ 1.00 \\ 1.00 \\ 57 \\ 1.00 \\ 1.00 \\ 57 \\ 1.00 \\ 1.00 \\ 57 \\ 1.00 \\ 1.00 \\ 57 \\ 1.00 \\ 1.00 \\ 1.00 \\ 57 \\ 1.00 \\ 1.$			
Saturation FI Sat/Lane: Adjustment: Lanes: Final Sat.:	low Mo 1600 1.00 1.00 1600	dule: 1600 1.00 2.00 3200	1600 1.00 1.00 1600	1600 1.00 1.00 1600	1600 1.00 1.55 2478	1600 1.00 0.45 722	1600 1.00 1.00 1600	1600 1.00 1.98 3170	1600 1.00 0.02 30	1600 1600 1.00 1.00 1.00 1.87 1600 2985	1600 1.00 0.13 215		
Capacity Anal Vol/Sat: Crit Moves:	lysis 0.04 *****	Modu] 0.16 ****	e: 0.15	0.04	0.14	0.14	0.04	0.30	0.30	0.08 0.27	0.26		

PM Existing (2008) Golden Shore Master Plan, Long Beach (2.08.2995.1) Linscott, Law and Greenspan, Engineers													
ICU 1(Level Of Service Computation Report ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative) ************************************												
Cycle (sec): Loss Time (se Optimal Cycle	**************************************	* * * * * * * * * * * * * * * * * * *	****	******** Critic Averag Level	***** al Vol e Dela Of Ser	***** ./Cap y (se vice:	******* .(X): c/veh):	*****	***** 0.7 xxxx ****	***** 05 xx C *****			
Street Name: Approach: Movement:	Ma North Bo L - T	gnolia und - R l	Avenue South L -	Bound T - R	Ea L -	.st Bo T	6th S1 und - R 	Ereet We L -	st Bo T -	und - R 			
Control: Permitted Permitted Split Phase Split Phase Rights: Include Include Include Include Min. Green: 0 0 0 0 0 0 0 Y+R: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 Lanes: 0 0 1 0 1 0 0 0 0													
Volume Module Base Vol: Growth Adj: Initial Bse: Added Vol: PasserByVol: Initial Fut: User Adj: PHF Adj: PHF Volume: Reduct Vol: Reduced Vol: PCE Adj: MLF Adj: FinalVolume:	$\begin{array}{c} & 0 & 360 \\ 1.00 & 1.00 \\ 0 & 360 \\ 0 & 0 \\ 0 & 0 \\ 0 & 0 \\ 0 & 0 \\ 0 & 0 \\ 1.00 & 1.00 \\ 1.00 & 1.00 \\ 0 & 360 \\ 0 & 0 \\ 0 & 0 \\ 1.00 & 1.00 \\ 1.00 & 1.00 \\ 0 & 360 \\ \end{array}$	68 1.00 68 0 68 1.00 1.00 68 1.00 1.00 68 1.00 68	99 3 1.00 1. 99 3 0 99 3 1.00 1. 1.00 1. 99 3 0 99 3 1.00 1. 1.00 1. 99 3 1.00 1. 1.00 1. 99 3	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	93 1.00 93 0 93 1.00 1.00 93 1.00 1.00 93 1.00 1.00 93	1169 1.00 1169 0 1169 1.00 1.00 1169 0 1169 1.00 1.00 1.00 1.00 1.00 1.00	60 1.00 60 0 60 1.00 1.00 60 1.00 1.00 60 	0 1.00 0 0 1.00 1.00 0 0 1.00 1.00 0 1.00 0 1.00 0 0 0 0 0 0 0 0 0 0 0 0	0 1.00 0 1.00 1.00 0 1.00 1.00 0 0 0 0 0 0 0 0 0 0 0 0	0 1.00 0 0 1.00 1.00 0 0 1.00 1.00 0 0 0 0 0 0 0 0 0 0 0 0			
Saturation F: Sat/Lane: Adjustment: Lanes: Final Sat.:	low Module: 1600 1600 1.00 1.00 0.00 0.84 0 1346	1600 1.00 0.16 254	1600 16 1.00 1. 1.00 1. 1600 16	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	1600 1.00 0.21 338	1600 1.00 2.65 4244	1600 1.00 0.14 218	1600 1.00 0.00 0	1600 1.00 0.00 0	1600 1.00 0.00 0			
Capacity Ana Vol/Sat: Crit Moves:	lysis Modul 0.00 0.27 ****	.e: 0.27	0.06 0.	.19 0.00	0.28	0.28 ****	0.28	' 0.00 *****	0.00	' 0.00 ******			

PM Existing (2008) Wed Aug 5, 2009 16:27:22 Page 14-1 PM Existing (2008) Golden Shore Master Plan, Long Beach (2.08.2995.1) Linscott, Law and Greenspan, Engineers Level Of Service Computation Report 2000 HCM Unsignalized Method (Future Volume Alternative) Intersection #9 Magnolia Avenue at 5th Street Average Delay (sec/veh): 2.4 Worst Case Level Of Service: C[17.2] Street Name: Magnolia Avenue 5th Street Street Name:Magnoria AvenueStreetApproach:North BoundSouth BoundEast BoundMovement:L - T - RL - T - RL - T - R Control:UncontrolledUncontrolledStop SignStop SignRights:IncludeIncludeIncludeIncludeLanes:1010100

Lanes:	, T () ()	T 0	т с 1		t	1	, <u> </u>	1	1		
Volume Module	 >:			Į						1		I
Base Vol:	11	390	14	24	310	51	14	24	16	11	11	45
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	11	390	14	24	310	51	14	24	16	11	11	45
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	11	390	14	24	310	51	14	24	16	11	11	45
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	11	390	14	24	310	51	14	24	16	11	11	45
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	11	390	14	24	310	51	14	24	16	11	11	45
		 -										
Critical Gap	Modu.	le:					7 1	C F	6 0	7 1	65	6 2
Critical Gp:	4.1	XXXX	XXXXX	4.1	XXXX	XXXXX		6.0	0.2	7.1	4 0	2.2
FollowUpTim:	2.2	XXXX	XXXXX	, 2.2	XXXX	XXXXX	3.0	4.0	3.3	J.J	4.0	J.J
Mad			!							1		I
Cafist Vol	ure:	*******		101	~~~~	~~~~~	831	810	336	823	828	397
Detent Cap :	1200	XXXX	VVVVV	1166	VVVV	VVVVV	291	316	711	295	309	657
Move Cap.:	1209	AAAA VVVV	VVVVV	1166	VVVV	XXXXXX	258	307	711	265	300	657
Move cap	0 01	~~~~	VVVV	0 02	XXXX	XXXX	0.05	0.08	0.02	0.04	0.04	0.07
vorume/cap.												
Level Of Ser	vice l	Modul	e:	1		'						
2Way95thQ:	0.0	XXXX	XXXXX	0.1	XXXX	XXXXX	XXXX	XXXX	XXXXX	XXXX	XXXX	XXXXX
Control Del:	8.0	XXXX	XXXXX	8.2	XXXX	XXXXX	XXXXX	XXXX	XXXXX	XXXXX	XXXX	XXXXX
LOS by Move:	А	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT	- LTR	- RT	LT	– LTR	– RT	LT	- LTR	- RT	LT ·	- LTR	– RT
Shared Cap.:	XXXX	XXXX	XXXXX	XXXX	XXXX	XXXXX	XXXX	349	XXXXX	XXXX	457	XXXXX
SharedQueue:	xxxxx	XXXX	XXXXX	XXXXX	XXXX	XXXXX	XXXXX	0.5	XXXXX	XXXXX	0.5	XXXXX
Shrd ConDel:	XXXXX	XXXX	XXXXX	XXXXX	XXXX	XXXXX	XXXXX	17.2	XXXXX	XXXXX	14.2	XXXXX
Shared LOS:	*	*	*	*	*	*	*	С	*	*	В	*
ApproachDel:	Х	XXXXX		Х	XXXXX			17.2			14.2	
ApproachLOS:		*			*			С			В	
*******	* * * * *	* * * * *	*****	* * * * * *	* * * * *	* * * * * * •	* * * * * *	* * * * *	*****	* * * * * *	* * * * * *	* * * * * * *
Note: Queue	repor *****	ted i *****	s the 1 *****	number *****	of c ****	ars pe: ******	r lane *****	• * * * * *	* * * * * * *	* * * * * *	* * * * *	* * * * * * *

PM Existing ((2008)		We	d Aug	5, 20	09 16:2	27:23			E	Page 1	5-1
	Gold	len Sf Lir	nore Ma nscott,	PM Ex ster E Law a	ristir Plan, and Gr	ig (2008 Long Be ceenspar	3) each (n, Eng	2.08. jineer	2995.1 :s)		
ICU 1	(Loss	I as Cy	Level O ycle Le	f Serv ngth %	vice (5) Met	Computat thod (Fu	tion F uture *****	eport Volum	ne Alte:	rnativ *****	7e) *****	*****
Intersection #10 Alamitos Boulevard at 4th Street												
Cycle (sec): Loss Time (se Optimal Cycle	ec): e: *****	1(] <u>{</u>)0 L0 }4 ******	* * * * * *	* * * * * *	Critica Average Level (al Vol e Dela Of Ser *****	./Cap ay (se rvice:	<pre>>.(X): ec/veh) </pre>	: * * * * * * *	0.8 xxxx	888 xxx D *******
Street Name: Approach: Movement:	Noi L -	Ala th Bo - T	amitos bund - R	Boulev Sou L -	vard ith Bo - T	ound - R	Ea L -	st Bo T	4th S ⁻ ound - R	treet We L-	est Bo - T	ound - R
Control: Rights: Min. Green: Y+R: Lanes:	0 4.0 1 (Permit Inclu 0 4.0	2.100 100 100 10	9 9 9 9 1 1 1	Permit Inclu 4.0	1 0	e P P P P P P P P P P P P P P P P P P P	Permit Inclu 4.0	2	4.0 1 (Permit Inclu 4.0 0	ted ide 4.0 1 0
Volume Module Base Vol: Growth Adj: Initial Bse: Added Vol: PasserByVol: Initial Fut: User Adj: PHF Adj: PHF Volume: Reduct Vol: Reduced Vol: PCE Adj: MLF Adj: FinalVolume:	43 1.00 43 0 43 1.00 1.00 43 0 43 1.00 1.00 43 1.00 1.00 43 1.00 1.00 43 1.00 43 0 1.00 43 0 1.00 43 0 0 1.00	977 1.00 977 0 977 1.00 1.00 977 1.00 1.00 977	183 1.00 183 0 183 1.00 1.00 183 0 183 1.00 1.00 1.83 1.00 1.00 1.83	174 1.00 174 1.00 174 1.00 174 0 174 1.00 174 1.00 174 1.00 174	$\begin{array}{c} 465 \\ 1.00 \\ 465 \\ 0 \\ 465 \\ 1.00 \\ 1.00 \\ 465 \\ 0 \\ 465 \\ 1.00 \\ 1.00 \\ 465 \end{array}$	43 1.00 43 0 43 1.00 1.00 43 0 43 1.00 1.00 43 	56 1.00 56 0 56 1.00 1.00 56 1.00 1.00 56	423 1.00 423 0 423 1.00 1.00 423 0 423 1.00 1.00 423 1.00 1.00 423	22 1.00 22 0 0 22 1.00 1.00 22 0 22 1.00 1.00 22 1.00	62 1.00 62 0 62 1.00 1.00 62 0 62 1.00 1.00 62 1.00 1.00 62	272 1.00 272 0 272 1.00 1.00 272 0 272 1.00 1.00 272	45 1.00 45 0 45 1.00 1.00 45 1.00 1.00 45
Saturation F: Sat/Lane: Adjustment: Lanes: Final Sat.:	low M 1600 1.00 1.00 1600	odule 1600 1.00 1.68 2695	: 1600 1.00 0.32 505	1600 1.00 1.00 1600	1600 1.00 0.92 1465	1600 1.00 0.08 135	1600 1.00 1.00 1600	1600 1.00 0.95 1521	1600 1.00 0.05 79	1600 1.00 1.00 1600	1600 1.00 0.86 1373	1600 1.00 0.14 227
Capacity Ana. Vol/Sat: Crit Moves:	Lysis 0.03	Modu. 0.36 ****	Le: 0.36 ******	0.11	0.32	0.32	0.04	0.28	0.28	0.04 ****	0.20	0.20

PM Existing	(2008)		We	Wed Aug 5, 2009 16:27:23						Page 16-1			
	Golc	den Sl Lii	nore Ma nscott,	PM Ez ster l Law a	xistin Plan, and G:	ng (2008 Long Be reenspar	3) each n, Eng	(2.08. gineer	2995.1)			
ICU 1	Level Of Service Computation Report ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)												
Intersection *****	#11 N *****	1agno.	lia Ave ******	nue at *****	t 3rd *****	Street ******	* * * * * *	* * * * * *	******	* * * * * *	*****	*****	
Cycle (sec): Loss Time (sec) Optimal Cycle	ec): e: *****	1	00 15 90	* * * * *	* * * * *	Critica Average Level (al Vol e Dela Of Sei	l./Cap ay (se rvice:	o.(X): ec/veh)	:	0.5 XXXX	545 <xx A ******</xx 	
Street Name: Approach: Movement:	Noi L -	Ma th Ba - T	agnolia ound - R	Avent Sou L	ue uth Bo - T	ound - R	Ea L -	ast Bo - T	3rd S [.] bund - R	treet We L -	est Bo - T	ound - R	
Control: Rights: Min. Green: Y+R: Lanes:	Pr 0 4.0 1 (rotec Incli 0 4.0	ted ude 0 4.0 0 0	0 4.0 0 1	Permit Inclu 0 4.0 0 1	tted ude 4.0 1 0	Sp: 0 4.0 0 (Lit Pr Inclu 0 4.0 0 0	 nase ude 0 4.0 0 0	Spl 0 4.0 0 1	it Pr. Inclu 0 4.0 1	nase ude 4.0 1 0	
Volume Module Base Vol: Growth Adj: Initial Bse: Added Vol: PasserByVol: Initial Fut: User Adj: PHF Adj: PHF Volume: Reduct Vol: Reduced Vol: PCE Adj: FinalVolume:	e: 79 1.00 79 0 0 79 1.00 1.00 79 1.00 1.00 79 1.00 79	346 1.00 346 1.00 1.00 346 1.00 346 1.00 346	0 1.00 0 0 1.00 1.00 1.00 0 0 1.00 1.00 1.00 1.00	0 1.00 0 0 0 1.00 1.00 0 1.00 1.00 1.00 1.00 1.00	254 1.00 254 0 254 1.00 254 0 254 1.00 1.00 254	$58 \\ 1.00 \\ 58 \\ 0 \\ 58 \\ 1.00 \\ 1.00 \\ 58 \\ 0 \\ 58 \\ 1.00 \\ 1.00 \\ 58 \\ 1.00 \\ 58 \\ 1.00 \\ 58 \\ $	0 1.00 0 0 1.00 1.00 1.00 1.00 1.00 1.00 0 1.00	$\begin{array}{c} 0\\ 1.00\\ 0\\ 0\\ 0\\ 1.00\\ 1.00\\ 0\\ 0\\ 1.00\\ 1.00\\ 0\\ 0\\ 0\\ 0\\ 0\\ 0\\ 0\\ 0\\ 0\\ 0\\ 0\\ 0\\ $	0 1.00 0 0 1.00 1.00 1.00 1.00 1.00 0 0 0 0 0 0 0 0 0 0 0 0	98 1.00 98 0 98 1.00 1.00 98 1.00 1.00 98 1.00 1.00	$ \begin{array}{r} 694\\ 1.00\\ 694\\ 0\\ 694\\ 1.00\\ 694\\ 0\\ 694\\ 1.00\\ 694\\ 1.00\\ 694\\ 0\\ 694\\ 0\\ 694\\ 0\\ 694\\ 0\\ 694\\ 0\\ 0\\ 0\\ 0\\ 0\\ 0\\ 0\\ 0\\ 0\\ 0\\ 0\\ 0\\ 0\\$	68 1.00 68 1.00 1.00 68 1.00 68 1.00 1.00 68 1.00	
Saturation F: Sat/Lane: Adjustment: Lanes: Final Sat.:	low Mc 1600 1.00 1.00 1600	dule 1600 1.00 1.00 1600	: 1600 1.00 0.00 0	1600 1.00 0.00 0	1600 1.00 1.63 2605	1600 1.00 0.37 595	1600 1.00 0.00 0	1600 1.00 0.00 0	1600 1.00 0.00 0	1600 1.00 0.34 547	1600 1.00 2.42 3873	1600 1.00 0.24 380	
Capacity Anal Vol/Sat: Crit Moves:	lysis 0.05	Modu 0.22 ****	 le: 0.00	0.00	0.10	0.10	0.00	0.00	0.00	0.18	0.18		

PM Existing (2008)	Wed Aug 5, 2	009 16:2	27:23		Page 1	/- <u>1</u>
ICU 1(Leve Loss as Cycle	1 Of Service Length %) Me	Computat thod (Fu	tion Report	e Alter ******	native) ********	* * * * * *
Intersection *******	#12 Magnolia . ******	Avenue at Bro *********	adway Av	/enue **********	* * * * * * *	******	*****
Cycle (sec): Loss Time (se Optimal Cycle	100 c): 10 : 90	* * * * * * * * * * * * *	Critica Average Level (al Vol./Cap e Delay (se Of Service: ******	.(X): c/veh): ******	0.4 xxxx:	62 xx A *****
Street Name: Approach: Movement:	Magno North Bound L - T -	lia Avenue South B R L - T	ound - R	Br East Bo L - T	oadway und - R	Avenue West Bor L - T	und - R
Control: Rights: Min. Green: Y+R: Lanes:	Permitted Include 0 0 4.0 4.0 4 0 0 2 0	Permi Incl 0 0 0 .0 4.0 4.0 1 0 1 1	tted ude 0 4.0 0 0	Split Ph Inclu 0 0 4.0 4.0 0 1 2	ase de 4.0 0 1 	Split Ph Inclu 0 0 4.0 4.0 0 0 0	ase de 4.0 0 0
Volume Module Base Vol: Growth Adj: Initial Bse: Added Vol: PasserByVol: Initial Fut: User Adj: PHF Adj: PHF Volume: Reduced Vol: Reduced Vol: PCE Adj: FinalVolume:	$\begin{array}{c} & 0 & 323 \\ 1.00 & 1.00 & 1. \\ 0 & 323 \\ 0 & 0 \\ 0 & 0 \\ 0 & 0 \\ 0 & 323 \\ 1.00 & 1.00 & 1. \\ 1.00 & 1.00 & 1. \\ 0 & 323 \\ 0 & 0 \\ 0 & 323 \\ 1.00 & 1.00 & 1. \\ 1.00 & 1.00 & 1. \\ 0 & 323 \\ \end{array}$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	90 988 1.00 1.00 90 988 0 0 90 988 1.00 1.00 1.00 1.00 90 988 0 0 90 988 1.00 1.00 1.00 1.00 1.00 1.00 90 988	176 1.00 176 0 176 1.00 176 1.00 176 1.00 176 1.00 176	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	0 1.00 0 0 1.00 1.00 0 1.00 0 1.00 0 0 0 0 0 0 0 0 0 0 0 0
Saturation F Sat/Lane: Adjustment: Lanes: Final Sat.:	low Module: 1600 1600 16 1.00 1.00 1. 0.00 2.00 1. 0 3200 16	500 1600 1600 .00 1.00 1.00 .00 0.34 1.6 500 551 264	0 1600 0 1.00 6 0.00 9 0	1600 1600 1.00 1.00 0.25 2.75 401 4399	1600 1.00 1.00 1600	1600 1600 1.00 1.00 0.00 0.00 0 0	1600 1.00 0.00 0
Capacity Ana Vol/Sat: Crit Moves:	lysis Module: 0.00 0.10 0 ****	.04 0.04 0.1 ****	' 1 0.00 *******	0.22 0.22	0.11 ******	0.00 0.00 ********	0.00

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PM Existing	g (2008) Wed Aug 5, 2009 16:27:23									Page 18-1		
	Gold	en Sh Lin	ore Mas scott,	PM Ex ster P Law a	istin lan, nd Gr	g (2008 Long Be reenspar	3) each (n, Eng	2.08. ineer	2995.1) S	· · · · · · · · · · · · ·		
ICU 1	(Loss *****	L as Cy ****	evel 0: cle Lei	f Serv ngth % *****	rice C) Met	Computat hod (Fi	tion R uture *****	eport. Volum	: ne Alte: ******	rnativ	e) ****	* * * * * *
Intersection	#13 P *****	acifi ****	c Aven;	ue at *****	Broad ****	lway Ave	enue *****	****	*****	*****	* * * * *	*****
Cycle (sec): Loss Time (s Optimal Cycl	ec): e: *****	10 1 9 *****	0 5 0 ******	* * * * * *	*****	Critica Average Level (al Vol e Dela Of Ser *****	./Cap y (se vice:	0.(X): ec/veh):	* * * * * *	0.6 xxxx	54 xx B *****
Street Name: Approach: Movement:	Nor L -	P th Bo T	acific und - R 	Avenu Sou L -	ie ith Bo - T	ound - R	Ea L -	Br Ist Bo T	roadway bund - R	Avenu We L -	e st Bo T	ound - R
Control: Rights: Min. Green: Y+R: Lanes:	P 0 4.0 0 0	ermit Inclu 4.0 2	ted de 4.0 0 1	Pr 0 4.0 1 0	totect Inclu 4.0 2	ed ide 4.0 0 0	Spl 0 4.0 0 1	it Ph Inclu 4.0	nase nde 4.0 1 0	Spl 0 4.0 0 0	it Ph Inclu 4.0	nase nde 4.0 0 0
Volume Modul Base Vol: Growth Adj: Initial Bse: Added Vol: PasserByVol: Initial Fut: User Adj: PHF Adj: PHF Volume: Reduct Vol: Reduced Vol: PCE Adj: MLF Adj: FinalVolume:	e: 0 1.00 0 0 0 1.00 1.00 0 1.00 0 1.00 0 1.00 0 0 1.00 0 0 0 0 0 0 0 0 0 0 0 0	445 1.00 445 0 445 1.00 1.00 445 1.00 445 1.00 1.00 445	241 1.00 241 0 241 1.00 241 0 241 0 241 1.00 241 1.00 241 1.00 241	92 1.00 92 0 92 1.00 1.00 92 0 92 1.00 1.00 92 1.00 1.00 92	196 1.00 196 0 196 1.00 196 0 196 1.00 1.00 1.00 1.00	0 1.00 0 0 1.00 1.00 0 0 1.00 1.00 0 0 0 0 0 0 0 0 0 0 0 0	86 1.00 86 1.00 1.00 86 1.00 86 1.00 1.00 86 1.00 86	1238 1.00 1238 0 1238 1.00 1.00 1238 0 1238 1.00 1.238 1.00 1.238 1.00 1.238 1.00 1.238 1.00 1.238 0 1.00 1.238 1.00 1.00 1.238 1.00 1.00 1.238 1.00 1.238 1.00 1.00 1.00 1.238 1.00 1.00 1.238 1.00 1.00 1.238 1.00 1.238 1.00 1.238 1.00 1.238 1.00 1.238 1.00 1.238 1.00 1.238 1.00 1.238 1.00 1.238 1.00 1.238 1.00 1.238 1.00 1.238 1.00 1.238 1.00 1.238 1.00 1.238 1.00 1.238 1.00 1.238 1.00 1.00 1.238 1.00 1.238 1.00 1.00 1.00 1.238 1.00 1.00 1.00 1.238 1.00 1.00 1.00 1.238 1.00 1.00 1.00 1.238 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.238 1.00	97 1.00 97 0 97 1.00 1.00 97 0 97 1.00 1.00 97 	0 1.00 0 0 1.00 1.00 0 1.00 1.00 0 1.00 0 1.00 0 0 0 0 0 0 0 0 0 0 0 0	0 1.00 0 0 1.00 1.00 0 1.00 1.00 0 0 1.00 0 0 0 0 0 0 0 0 0 0 0 0	0 1.00 0 0 1.00 1.00 0 0 1.00 1.00 0 0 0 0 0 0 0 0 0 0 0 0
Saturation F Sat/Lane: Adjustment: Lanes: Final Sat.:	10w Mc 1600 1.00 0.00 0	dule: 1600 1.00 2.00 3200	1600 1.00 1.00 1600	1600 1.00 1.00 1600	1600 1.00 2.00 3200	1600 1.00 0.00 0	1600 1.00 0.18 290	1600 1.00 2.62 4182	1600 1.00 0.20 328	1600 1.00 0.00 0	1600 1.00 0.00 0	1600 1.00 0.00 0
Capacity Ana Vol/Sat: Crit Moves:	lysis 0.00	Modul 0.14	.e: 0.15 ****	0.06	0.06	۱ 0.00 ******	0.30	0.30 ****	0.30 ******	0.00 *****	0.00	۱ 0.00 ******

PM Existing (3	2008)		Wed	d Aug	5, 20	09 16:2	27 : 23			Pa	age 1	9-1
	Gold	en Sho Lins	ore Mas	PM Ex ster P Law a	istin lan, nd Gr	g (2008 Long Be eenspar	each (, Eng	2.08. ineer	2995.1) s			
Level Of Service Computation Report ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative) ************************************												
Intersection ****	#14 P ****	ine Av *****	7enue a	at Bro *****	adway ****	Avenue) * * * * * *	* * * * *	* * * * * * *	*****	* * * * *	*****
Cycle (sec):100Critical Vol./Cap.(X):Loss Time (sec):10Average Delay (sec/veh):Optimal Cycle:90Level Of Service:***********************************											0.6 xxxx *****	572 xx B ******
Street Name: Approach: Movement:	Nor L -	th Box T ·	Pine A und - R	venue Sou L -	th Bo	ound - R	Ea L -	Br Ist Bo T	oadway ound - R	Avenu We L -	e st Bc T 	ound - R
Control: Rights: Min. Green: Y+R: Lanes:	P 4.0 0 0	ermit Includ 4.0 0	ted de 4.0 1 0	F 0 4.0 1 C	ermit Inclu 0 4.0 1	ted ade 0 4.0 0 0	Spl 0 4.0 1 0	it Ph Inclu 0 4.0 2	ase ade 0 4.0 1 0	Spl 0 4.0 0 0	it Ph Inclu 0 4.0 0	nase nde 0 4.0 0 0
Volume Module Base Vol: Growth Adj: Initial Bse: Added Vol: PasserByVol: Initial Fut: User Adj: PHF Adj: PHF Volume: Reduced Vol: PCE Adj: MLF Adj: FinalVolume:	2: 0 1.00 0 0 0 1.00 1.00 0 1.00 1.00 0 0 0 0 0 0 0 0 0 0 0 0	216 1.00 216 1.00 1.00 216 1.00 216 1.00 216	96 1.00 96 1.00 1.00 96 1.00 96 1.00 1.00 96 1.00 96	83 1.00 83 0 0 83 1.00 1.00 83 1.00 1.00 83 1.00 1.00	$149 \\ 1.00 \\ 149 \\ 0 \\ 0 \\ 149 \\ 1.00 \\ 1.00 \\ 1.49 \\ 0 \\ 1.00 \\ 1.00 \\ 1.49 \\ 1.00 \\ 1.49 \\ 1.00 \\ 1.49 \\ 1.00 $	0 1.00 0 0 1.00 1.00 1.00 1.00 1.00 0 0 0 0 0 0 0 0 0 0 0 0	$\begin{array}{c} 46\\ 1.00\\ 46\\ 0\\ 46\\ 1.00\\ 1.00\\ 46\\ 1.00\\ 46\\ 1.00\\ 1.00\\ 46\\ 1.00\\ 1.00\\ 46\\ 1.00\\ 1.00\\ 46\\ 1.00\\ $	$\begin{array}{c} 1476 \\ 1.00 \\ 1476 \\ 0 \\ 0 \\ 1476 \\ 1.00 \\ 1.00 \\ 1476 \\ 0 \\ 1476 \\ 1.00 \\ 1.00 \\ 1476 \end{array}$	86 1.00 86 0 86 1.00 1.00 86 1.00 1.00 86	0 1.00 0 0 1.00 1.00 0 0 1.00 1.00 1.00 1.00 0 1.00	0 1.00 0 0 1.00 1.00 0 1.00 1.00 1.00 0 0 0 0 0 0 0 0 0 0 0 0	0 1.00 0 0 1.00 1.00 0 0 1.00 1.00 1.00 0 0 0 0 0 0 0 0 0 0 0 0
Saturation Fl Sat/Lane: Adjustment: Lanes: Final Sat.:	Low Mc 1600 1.00 0.00 0	odule: 1600 1.00 0.69 1108	1600 1.00 0.31 492	1600 1.00 1.00 1600	1600 1.00 1.00 1600	1600 1.00 0.00 0	1600 1.00 1.00 1600	1600 1.00 2.83 4536	1600 1.00 0.17 264	1600 1.00 0.00 0	1600 1.00 0.00 0	1600 1.00 0.00 0
Capacity Anal Vol/Sat: Crit Moves:	lysis 0.00	Modul 0.19	e: 0.20 ****	0.05	0.09	0.00 *****	0.03	0.33	0.33	0.00	0.00	۱ 0.00 ******

PM Existing	(2008)	Page 20-1											
	Golden S Li	hore Ma nscott,	PM Exist ster Plan Law and	ting (200 h, Long B Greenspa	8) each (2.08 n, Enginee	8.2995.1 ers)						
ICU 1	Level Of Service Computation Report ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)												
Intersection	#15 Alami *****	tos Bou ******	levard at	t Broadwa *******	y Avenue *********	*****	* * * * * * * * * * *	*****					
Cycle (sec): Loss Time (s Optimal Cycl	1 ec): e: ********	00 15 90 ******	*****	Critic Averag Level	al Vol./Ca e Delay (s Of Service ******	ap.(X): sec/veh) e:	0.7 : xxxx *********	247 xxx C ******					
Street Name: Approach: Movement:	Al North B L - T	amitos ound - R	Boulevard South L - '	d Bound I – R 1	East E L - T	Broadway Bound - R	Avenue West Bo L - T	ound - R					
Control: Rights: Min. Green: Y+R: Lanes:	Permi Incl 0 0 4.0 4.0 0 0 1	tted ude 4.0 1 0	Perr Inc 0 4.0 4 1 0	mitted clude 0 0 .0 4.0 1 0 0	Protec Incl 0 (4.0 4.0 2 0 2	cted Lude) 0) 4.0 0 1	Prot+Per Inclu 0 0 4.0 4.0 1 0 0	cmit ide 4.0 0 1					
Volume Modul Base Vol: Growth Adj: Initial Bse: Added Vol: PasserByVol: Initial Fut: User Adj: PHF Adj: PHF Volume: Reduct Vol: Reduced Vol: PCE Adj: MLF Adj: FinalVolume: 	e: 0 839 1.00 1.00 0 839 0 0 0 839 1.00 1.00 1.00 1.00 0 839 0 0 839 0 0 839 1.00 1.00 1.00 1.00 1.00 1.00 0 839 1.00 1.00 1.00 1.00 0 839	37 1.00 37 0 0 37 1.00 1.00 37 1.00 1.00 37 1.00 1.00 37 1.00 1.00 37 1.00 1.00 37 1.00 1.00 37 1.00 1.00 37 1.00 1.00 37 1.00 1.00 1.00 37 1.00 1.00 37 1.00 1.00 1.00 37 1.00 1.00 1.00 37 1.00 1.00 37 1.00	58 4 1.00 1. 58 4 0 58 4 1.00 1. 1.00 1. 58 4 0 58 4 1.00 1. 58 4 1.00 1. 58 4 1.00 1. 58 4 1.00 1.	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$) 117) 1.00) 117) 0) 0) 117) 1.00) 1.00) 117) 0) 117) 0) 1.00) 117) 0) 117) 1.00) 1.00) 117) 1.00) 117) 1.00) 117) 0) 117) 0) 0) 117) 1.00) 1.17) 0) 1.00) 1.00) 1.17) 0] 1.00) 1.17) 0] 1.00] 117] 0] 1.00] 117] 0] 1.00] 117] 0] 117] 0] 1.00] 117] 0] 1.00] 117] 1.00] 117] 1.00] 1.17	118 0 1.00 1.00 118 0 0 0 118 0 1.00 1.00 1.00 1.00 118 0 1.00 1.00 118 0 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00	153 1.00 153 0 153 1.00 153 0 153 1.00 1.00 153 1.00 1.53					
Saturation F Sat/Lane: Adjustment: Lanes: Final Sat.:	1600 1600 1.00 1.00 0.00 1.92 0 3065	1600 1.00 0.08 135	1600 16 1.00 1. 1.00 1. 1600 16	$\begin{array}{cccc} 00 & 1600 \\ 00 & 1.00 \\ 00 & 0.00 \\ 00 & 0 \end{array}$	1600 1600 0.90 1.00 2.00 2.00 2880 3200) 1600) 1.00) 1.00) 1.00) 1600	1600 1600 1.00 1.00 1.00 0.00 1600 0	1600 1.00 1.00 1600					
Capacity Ana Vol/Sat: Crit Moves: *********	lysis Modu 0.00 0.27 ****	le: 0.27	0.04 0.	25 0.00 ****	0.19 0.1	7 0.07	0.07 0.00	0.10					

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PM Existing (2008) Wed Aug 5, 2009 16:27:23 Page 21-1

PM Existing (2008)	
Golden Shore Master Plan, Long Beach	(2.08.2995.1)
Linscott, Law and Greenspan, E	Ingineers

	Gold	len Sh Lin	ore Ma scott,	ster P Law a	lan, nd Gr	Long B ceenspa	each (n, Eng	2.08. ineer	2995.1 s)		
	Loss	L L L	evel O:	f Serv	rice (Computa bod (F	tion R	eport Volum	e Alte		 e)	
***********	****	*****	*****	*****	*****	******	*****	*****	*****	* * * * * *	~ * * * * *	*****
Intersection *******	#16 G	Golden	Shore	Stree *****	et/Gol	den Av	enue a *****	t Oce	an Bou *****	levard *****	****	*****
Cycle (sec): Loss Time (se Optimal Cycle	c): : *****	10 1 12	0 5 0 *****	* * * * * *	* * * * *	Critic Averag Level	al Vol e Dela Of Ser *****	./Cap y (se vice: *****	<pre>>.(X): ec/veh)</pre>	*****	0.7 xxxx	59 :xx C *****
Street Name:G Approach: Movement:	older Nor L -	n Shor th Bo - T	e Stre ound - R	et/Gol Sou L -	den A ath Bo T	Avenue ound - R	Ea L -	Oc Ist Bo T	ean Bo bund - R	ulevar We L -	d st Bo T	und - R
Control: Rights: Min. Green: Y+R: Lanes:	F 0 4.0 1 0	Permit Inclu 4.0 1	ted ide 4.0 1 0	P P 0 4.0 1 C	Permit Inclu 4.0) 1	ted ide 4.0 0 0	Pr 0 4.0 1 0	totect Inclu 4.0 2	2ed 1de 4.0 1 0	P 0 4.0 1 0	ermit Inclu 4.0 2	ted ide 0 4.0 1 1
Volume Module Base Vol: Growth Adj: Initial Bse: Added Vol: PasserByVol: Initial Fut: User Adj: PHF Adj: PHF Volume: Reduct Vol: Reduced Vol: PCE Adj: MLF Adj: FinalVolume:	: 127 1.00 127 0 127 1.00 1.00 127 0 127 1.00 127 1.00 127 0 127 - 0 127 - 0 127 - 0 - 0 - 0 - 0 - 0 - 0 - - - - - - - - - - - - -	482 1.00 482 0 482 1.00 1.00 482 0 482 1.00 1.00 482 1.00 1.00 482	136 1.00 136 0 136 1.00 136 0 136 1.00 136 1.00 136 1.00 136	9 1.00 9 0 9 1.00 1.00 9 1.00 1.00 9 1.00 1.00 9 1.00	3 1.00 3 0 3 1.00 1.00 3 1.00 1.00 3 3	0 1.00 0 0 0 1.00 1.00 0 0 1.00 1.00 0 0 0 0 0 0 0 0 0 0 0 0	80 1.00 80 0 80 1.00 1.00 80 1.00 1.00 80 1.00 80 1.00 80	1918 1.00 1918 0 1918 1.00 1.00 1918 0 1918 1.00 1.00 1.00 1.00 1.00 1.00	50 1.00 50 1.00 1.00 50 1.00 1.00 1.00 50 1.00 1.00	49 1.00 49 0 49 1.00 1.00 49 0 49 1.00 1.00 49 1.00 49 1.00 49 1.00 49 1.00 49 0 1.00 49 0 1.00 49 1.00 1.00 49 1.00	841 1.00 841 0 841 1.00 841 0 841 1.00 841 1.00 841	465 1.00 465 0 465 1.00 1.00 465 1.00 465 1.00 465 1.00 465
Saturation Fl Sat/Lane: Adjustment: Lanes: Final Sat.: 	.ow Mc 1600 1.00 1.00 1600 	dule: 1600 1.00 1.56 2496 Modul	1600 1.00 0.44 704 Le:	1600 1.00 1.00 1600	1600 1.00 1.00 1600	1600 1.00 0.00 0	1600 1.00 1.00 1600	1600 1.00 2.92 4678	1600 1.00 0.08 122	1600 1.00 1.00 1600	1600 1.00 2.58 4121	1600 1.00 1.42 2279
voi/Sat: Crit Moves: ************	· * * * * * * *	€ ± . ∪ **** ****	∪.⊥9 ******	∪ • ∪⊥ **** ****	****	*****	*****	U•41 ****	******	*****	****	*****

PM Existing (2008)	Wed Aug S	5, 2009 16:2	27:23		Page 22-1						
	Golden Shor Linsc	PM Ex: e Master Pi ott, Law an	isting (2008 lan, Long Be nd Greenspar	8) each (2.08.2 n, Engineers	995.1)							
Level Of Service Computation Report ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative) ************************************												
****************** Cycle (sec): Loss Time (se Optimal Cycle	100 (c): 10 (c): 90 (c): 20	*****	**************************************	**************************************	(X): (X): c/veh):	**************************************						
Street Name: Approach: Movement:	Magn North Boun L - T -	nolia Avenu nd Sou R L -	e th Bound T - R	Oce East Bou L - T -	an Bouleva und N - R L	ard West Bound - T - R 1						
Control: Rights: Min. Green: Y+R: Lanes:	Permitte Include 0 0 4.0 4.0 1 0 2 0	ed P 0 0 4.0 4.0 1 1 0	ermitted Include 0 0 4.0 4.0 2 0 1	Permitt Includ 0 0 4.0 4.0 1 0 2 1	ted 0 4.0 4. 1 0 1	Permitted Include 0 0 0 0 4.0 4.0 0 3 0 1						
Volume Module Base Vol: Growth Adj: Initial Bse: Added Vol: PasserByVol: Initial Fut: User Adj: PHF Adj: PHF Volume: Reduced Vol: Reduced Vol: PCE Adj: MLF Adj: FinalVolume: 	<pre>>: 79 103 1.00 1.00 1 79 103 0 0 79 103 1.00 1.00 1 1.00 1.00 1 79 103 0 0 79 103 1.00 1.00 1 1.00 1.00 1 79 103 1.00 1.00 1 1.00 1.00 1 1.00 1.00 1 79 103</pre>	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	146 1995 1.00 1.00 146 1995 0 0 146 1995 1.00 1.00 146 1995 1.00 1.00 146 1995 0 0 146 1995 1.00 1.00 1.00 1.00 146 1995 1.00 1.00 146 1995	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$						
Sat/Lane: Adjustment: Lanes: Final Sat.:	1.00 1.00 1 1.00 2.00 1 1600 3200	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	1.00 1.00 2.00 1.00 3200 1600	1.00 1.00 1.00 2.97 1600 4752	1.00 1.0 0.03 1.0 48 160	1.00 1.00 00 3.00 1.00 00 4800 1600						
Capacity Ana Vol/Sat: Crit Moves:	lysis Module 0.05 0.03	: 0.03 0.09	0.02 0.13 ****	0.09 0.42 ****	0.42 0.0)2 0.23 0.08 **						

PM Existing (2008) Wed Aug 5, 2009 16:27:23 Page 23-1

PM EXISCING (2000)											
	Gold	en Sh Lin	ore Mas scott,	PM Ex ster P Law a	istin lan, nd Gr	g (2008 Long Be eenspar	8) each (n, Eng	2.08. ineer	2995.1) s			
ICU 1(Loss *****	L as Cy ****	evel Of cle Ler ******	f Serv ngth % *****	rice C) Met	omputat hod (Fi ******	tion R ture	eport Volum *****	e Alter ******	nativ	e) *****	* * * * * *
Intersection	#18 C ****	hestn ****	ut Plac ******	ce at *****	Ocean	Boulev	/ard *****	* * * * *	* * * * * * *	*****	*****	*****
Cycle (sec):100Critical Vol./Cap.(X):0.634Loss Time (sec):10Average Delay (sec/veh):xxxxxOptimal Cycle:90Level Of Service:B***********************************												
Street Name: Approach: Movement:	Nor L -	C th Bo T	hestnut und - R	t Plac Sou L -	ce ith Bc - T	und - R	Ea L -	Oc st Bc T	ean Bou ound - R	ulevar We L -	d st Bo T	und - R 1
Control: Rights: Min. Green: Y+R: Lanes:	Spl 0 4.0 1 (it Ph Inclu 0 4.0	ase de 0 4.0 0 1	Spl 0 4.0 0 (it Ph Inclu 4.0	ase ide 0 4.0 0 0	E 0 4.0 0 C	Permit Inclu 4.0 2	ted ide 0 4.0 1 0	P 0 4.0 1 0	ermit Inclu 4.0 3	ted de 4.0 0 0
Volume Module Base Vol: Growth Adj: Initial Bse: Added Vol: PasserByVol: Initial Fut: User Adj: PHF Adj: PHF Volume: Reduct Vol: Reduced Vol: PCE Adj: MLF Adj: FinalVolume:	40 1.00 40 0 40 1.00 1.00 1.00 40 1.00 1.00 1.00 1.00 40 0 40 0 40 0 40 0 0 40 0 0 40 0 0 40 0 0 0 40 0 0 0 40 0 0 0 0 0 0 0 0 0 0 0 0 0	0 1.00 0 0 1.00 1.00 0 1.00 1.00 1.00 0 0 0 0 0 0 0 0 0 0 0 0	79 1.00 79 0 79 1.00 1.00 79 0 79 1.00 1.00 79 1.00 79	0 1.00 0 0 0 1.00 1.00 0 1.00 1.00 1.00 1.00 1.00 0 1.00 1.00 0 0 0 0 0 0 0 0 0 0 0 0	0 1.00 0 0 1.00 1.00 0 0 1.00 1.00 0 0 0 0 0 0 0 0 0 0 0 0	0 1.00 0 0 0 0 1.00 1.00 0 0 1.00 1.00 0 0 0 0 0 0 0 0 0 0 0 0	0 1.00 0 0 1.00 1.00 0 1.00 0 1.00 0 1.00 0 0 0 0 0 0 0 0 0 0 0 0	2129 1.00 2129 0 2129 1.00 1.00 2129 0 2129 1.00 1.00 2129	29 1.00 29 0 29 1.00 1.00 29 0 29 1.00 1.00 29 1.00	56 1.00 56 1.00 1.00 56 1.00 56 1.00 1.00 56 1.00 1.00 56	1238 1.00 1238 0 1238 1.00 1.00 1238 0 1238 1.00 1.238 1.00 1.238 1.00 1.238 1.00 1.238 1.00 1.238 1.00 1.238 1.00 1.238 1.00 1.238 1.00 1.238 1.00 1.238 1.00 1.238 1.00 1.238 1.00 1.238 1.00 1.238 1.00 1.238 1.00 1.00 1.00 1.00 1.00 1.238 1.00 1.00 1.00 1.238 1.00 1.00 1.238 1.00 1.00 1.238 1.00 1.238 1.00 1.238 1.00 1.238 1.00 1.238 1.00 1.238 1.00 1.238 1.00 1.238 1.00 1.238 1.00 1.238 1.00 1.238 1.00 1.238 1.00 1.238 1.00 1.238 1.00 1.238 1.00 1.238 1.00 1.00 1.238 1.00 1.00 1.238 1.00 1.238	0 1.00 0 0 0 1.00 1.00 0 0 1.00 1.00 0 0 0 0 0 0 0 0 0 0 0 0
Saturation Fl Sat/Lane: Adjustment: Lanes: Final Sat.:	-0w Mo 1600 1.00 1.00 1600	odule: 1600 1.00 0.00 0	1600 1.00 1.00 1600	1600 1.00 0.00 0	1600 1.00 0.00 0	1600 1.00 0.00 0	1600 1.00 0.00 0	1600 1.00 2.96 4735	1600 1.00 0.04 65	1600 1.00 1.00 1600	1600 1.00 3.00 4800	1600 1.00 0.00 0
Capacity Anal Vol/Sat: Crit Moves:	lysis 0.03	Modul 0.00	Le: 0.05 ****	0.00	0.00	؛ 0.00 ******	0.00	0.45	0.45 ******	0.04 ****	0.26	0.00 ******

 PM Existing (2008)
 Wed Aug 5, 2009 16:27:23
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PM Existing (2008) Golden Shore Master Plan, Long Beach (2.08.2995.1) Linscott, Law and Greenspan, Engineers												
ICU 1(Level Of Service Computation Report ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)											
Intersection *****	#19 E	Pacif:	ic Aven ******	ue at *****	Ocear	n Bouley ******	vard *****	* * * * *	*****	*****	****	*****
Cycle (sec):100Critical Vol./Cap.(X):0.632Loss Time (sec):12Average Delay (sec/veh):xxxxxOptimal Cycle:90Level Of Service:B***********************************											32 :xx B ******	
Street Name: Approach: Movement:	Noi L -	th Bo	Pacific ound - R	Avenu Sou L -	ie ith Bo - T	ound - R	Ea L -	Oc ast Bo - T	cean Bou bund - R	levar We L -	d st Bo T	ound - R
Control: Rights: Min. Green:	I O	Permit Inclu	tted ude 0	, D	Permit Ovl 0	ted 0	Pro 0	nt+Per Inclu 0	rmit 1de 0	Pro 0	ot+Per Inclu 0	rmit Ide 0
Y+R: Lanes:	4.0 0 (4.0) 1!	4.0 0 0	4.0	4.0) 0	4.0 0 1	4.0	4.0	4.0	4.0 1 0	4.0	4.0 0 1
Volume Module Base Vol: Growth Adj: Initial Bse: Added Vol: PasserByVol: Initial Fut: User Adj: PHF Adj: PHF Volume: Reduct Vol: Reduced Vol: PCE Adj: MLF Adj: FinalVolume: OvlAdjVol:	13 1.00 13 0 0 13 1.00 1.00 13 0 13 1.00 13 0 13 1.00 13 0 13 0 13 0 13 0 13 0 13 0 13 0 0 13 0 0 13 0 0 13 0 0 13 0 0 13 0 0 13 0 0 13 1.00 1.00 1.00 1.3 0 0 0 1.3 0 0 0 1.3 0 0 0 1.3 0 0 0 1.00	$ \begin{array}{r} 5\\ 1.00\\ 5\\ 0\\ 0\\ 5\\ 1.00\\ 1.00\\ 5\\ 1.00\\ 1.00\\ 5\\ 5\\ 1.00\\ 5\\ 5\\ 5\\ 5\\ 5\\ 5\\ 5\\ 5\\ 5\\ 5\\ 5\\ 5\\ 5\\$	18 1.00 18 0 0 18 1.00 1.00 18 0 18 1.00 1.00 18 1.00 18 1.00 18 0 18 0 18 1.00 18 1.00 18 0 18 1.00 1.00 18 1.00 1.00 18 1.00 1.00 18 1.00 1.	133 1.00 133 0 133 1.00 133 1.00 133 1.00 133 1.00 133	$ \begin{array}{c} 0\\ 1.00\\ 0\\ 0\\ 0\\ 1.00\\ 1.00\\ 0\\ 0\\ 1.00\\ 1.00\\ 0\\ 0\\ 0\\ 0\\ 0\\ 0\\ 0\\ 0\\ 0\\ 0\\ 0\\ 0\\ $	152 1.00 152 0 152 1.00 1.00 152 0 152 1.00 1.52 0 152 0 152 0 152 0 152 0 0 152 0 0 0 152 0 0 0 152 0 0 0 0 152 0 0 0 152 0 0 0 152 0 0 0 152 0 0 0 152 0 0 0 152 0 0 152 0 0 152 0 0 152 0 0 152 0 0 152 1.00 152 0 152 0 0 152 1.00 152 0 152 0 152 0 152 0 152 0 152 0 152 0 152 0 152 0 152 0 152 0 152 0 152 0 152 0 152 0 152 0 152 0 152 1.00 152 0 152 0 152 0 152 0 152 0 152 0 152 0 152 0 152 0 152 0 152 1.00 152 0 1.00 152 0 1.00 1.00 152 0 1.0	198 1.00 198 0 198 1.00 198 1.00 198 1.00 198 1.00 198	2030 1.00 2030 0 2030 1.00 2030 0 2030 1.00 1.00 2030 1.00 2030	10 1.00 10 10 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00	30 1.00 30 0 30 1.00 1.00 30 1.00 1.00 30 1.00 30	1110 1.00 1110 0 1110 1.00 1.00 1110 1.00 1.00 1.00 1.00 1.00 1.10	180 1.00 180 0 180 1.00 180 1.00 180 1.00 180 1.00 180
Saturation Fl Sat/Lane: Adjustment: Lanes: Final Sat.:	ow Mo 1600 1.00 0.36 578	odule 1600 1.00 0.14 222	: 1600 1.00 0.50 800	1600 0.90 2.00 2880	1600 1.00 0.00 0	1600 1.00 1.00 1600	1600 1.00 1.00 1600	1600 1.00 2.99 4776	1600 1.00 0.01 24	1600 1.00 1.00 1600	1600 1.00 3.00 4800	1600 1.00 1.00 1600
Capacity Anal Vol/Sat: OvlAdjV/S: Crit Moves:	ysis 0.01	Modu 0.02	le: 0.02	0.05	0.00	0.10 0.00	0.12	0.42	0.43	0.02	0.23	0.11

PM Existing (2008)	Wed Aug	5, 200	9 16:2	7:23			Pa	age 2	5-1			
	Golden Shor Linsc	PM Ex e Master F ott, Law a	isting lan, I Ind Gre	(2008 Jong Be enspan	ach (, Eng	2.08.	2995.1) s						
ICU 1(Level Of Service Computation Report ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative) ************************************												
Intersection *********	#20	nue at Oce ********	ean Bou ******	11evarc ******	1 : * * * * *	****	* * * * * * *	*****	* * * * *	*****			
Cycle (sec): Loss Time (se Optimal Cycle	100 ec): 10 e: 90	* * * * * * * * * *) 7 I * * * * * *	Critica Average Jevel C	l Vol Dela)f Ser	./Cap y (se vice: *****	.(X): c/veh): ******	****	0.7 xxxx *****	74 xx C *****			
Street Name: Approach: Movement:	Pi North Boun L - T -	ne Avenue d Sou R L -	ith Bou - T -	ind - R	Ea L -	Oc st Bo T	ean Bou und - R	levar We L -	d st Bo T 	und - R			
Control: Rights: Min. Green: Y+R: Lanes:	Permitte Include 0 0 4.0 4.0 1 0 1 0	d F	Permitt Incluc 0 4.0	2ed de 4.0 0 1	F 0 4.0 1 C	ermit Inclu 4.0 2	ted de 4.0 1 0	P 0 4.0 1 0	ermit Inclu 0 4.0 3	ted de 0 4.0 0 1			
Volume Module Base Vol: Growth Adj: Initial Bse: Added Vol: PasserByVol: Initial Fut: User Adj: PHF Adj: PHF Volume: Reduct Vol: Reduced Vol: PCE Adj: MLF Adj: FinalVolume:	$\begin{array}{c} & & & & & & \\ & & & & & & \\ & & & & & $	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	120 1.00 120 0 120 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00	64 1.00 64 0 64 1.00 1.00 64 1.00 1.00 64 1.00 64	62 1.00 62 1.00 1.00 62 0 62 1.00 1.00 62 1.00 1.00 62	1916 1.00 1916 1.00 1.00 1916 0 1916 1.00 1.00 1.00 1.00 1916	84 1.00 84 1.00 1.00 84 1.00 84 1.00 84 1.00 84 1.00 84 1.00	76 1.00 76 0 76 1.00 1.00 76 1.00 1.00 76	1172 1.00 1172 0 1172 1.00 1.00 1172 1.00 1.00 1.00 1.00 1.00	42 1.00 42 0 42 1.00 1.00 42 1.00 1.00 42 1.00 42 1.00 42 0 42 1.00 42 0 42 0 42 0 42 0 42 0 42 0 42 0 42 1.00 42 0 42 1.00 42 0 42 1.00 42 0 42 1.00 42 0 42 1.00 42 0 42 1.00 42 0 42 1.00 42 0 42 1.00 42 0 42 1.00 1.00 42 1.00 1.00 42 1.000 42 1.000 1.000 42 1.000 1.000 42 1.000 1.000 42 1.000 1.000 42 1.000 1.000 42 1.000 1.000 42 1.000 1.000 42 1.000 1.000 42 1.000 1.000 42 1.000 1.000 42 1.000 1.000 42 1.000 1.000 42 1.000 1.000 42 1.000 1.000 42 1.000 1.000 1.000 42 1.000 1.000 42 1.000 1.000 42 1.000 1.000 42 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.00000 1.00000 1.00000 1.000000 1.0000000000			
Saturation Fi Sat/Lane: Adjustment: Lanes: Final Sat.:	low Module: 1600 1600 1 1.00 1.00 1 1.00 1.00 1 1600 1600 1	600 1600 .00 1.00 .00 0.56 600 899	1600 1.00 0.44 701	1600 1.00 1.00 1600	1600 1.00 1.00 1600	1600 1.00 2.87 4598	1600 1.00 0.13 202	1600 1.00 1.00 1600	1600 1.00 3.00 4800	1600 1.00 1.00 1600			
Capacity Anal Vol/Sat: Crit Moves:	lysis Module: 0.04 0.05 0 ****	0.04 0.10	0.17	0.04	0.04 *****	0.42	0.42	' 0.05 ****	0.24	0.03			

PM Existing ((2008) Wed Aug 5, 2009 16:27:23									P	Page 26-1		
	Golc	len Sh Lin	ore Ma scott,	PM Ex ster E Law a	istin lan, nd Gr	g (2008 Long Be eenspar	8) each (n, Eng	2.08. jineer	2995.1) s				
ICU 1(Loss	I as Cy	evel O vcle Lei	f Serv ngth %	vice C 5) Met	omputat hod (Fu	tion R uture	leport Volun	: ne Altei	rnativ	e)		
**************************************	***** #21 I *****	.***** Jong E	8each B	***** ouleva *****	***** ard at *****	******* Ocean ******	***** Boule *****	evard	*******	******	* * * * *	******	
Cycle (sec): Loss Time (se Optimal Cycle	ec): :: :*****	10 1 9)0 .2)0 :*****	* * * * * *	* * * * *	Critica Average Level (al Vol e Dela Of Ser *****	./Cap y (se vice:	0.(X): ec/veh) : *******	* * * * * *	0.5 xxxx	584 xxx A ******	
Street Name: Approach: Movement:	Nor L -	Long th Bo T	g Beach ound - R	Boule Sou L -	evard ith Bo T	ound - R	Ea L -	Oc ast Bo - T	cean Bou ound - R	ulevar We L -	d st Bo T	ound - R	
Control: Rights: Min. Green: Y+R: Lanes:	Sp] 0 4.0 0 (lit Pr Inclu 0 4.0 0 0	nase nde 4.0 0 0	Sp] 0 4.0 1 (it Ph Inclu 0 4.0) 1!	nase nde 4.0 0 1	Prc 0 4.0 1 0	0t+Per Inclu 4.0 3	emit ide 4.0 0_0	P 0 4.0 0 0	ermit Inclu 4.0 3	ted ude 4.0 0 1	
Volume Module				1					1	1		1.2.5	
Growth Adj: Initial Bse: Added Vol: PasserByVol: Initial Fut: User Adj: PHF Adj:	1.00 0 0 1.00	1.00 0 0 1.00	1.00 0 0 1.00	110 1.00 118 0 0 118 1.00 1.00	1.00 0 0 1.00 1.00	1,4 1.00 174 0 0 174 1.00 1.00	1.00 155 0 155 1.00 1.00	1.00 1934 0 1934 1.00 1.00	1.00 0 0 0 1.00 1.00	1.00 0 0 0 1.00 1.00	1.00 1073 0 1073 1.00 1.00	1.00 175 0 175 1.00 1.00	
PHF Volume: Reduct Vol: Reduced Vol: PCE Adj: MLF Adj: FinalVolume:	0 0 1.00 1.00 0	0 0 1.00 1.00 0	0 0 0 1.00 1.00 0	118 0 118 1.00 1.00 118	0 0 1.00 1.00 0	174 0 174 1.00 1.00 174	155 0 155 1.00 1.00 155	1934 0 1934 1.00 1.00 1934	0 0 1.00 1.00 0	0 0 1.00 1.00 0	1073 0 1073 1.00 1.00 1073	175 0 175 1.00 1.00 175	
													
Sat/Lane: Adjustment: Lanes: Final Sat.:	1600 1.00 0.00 0	1600 1.00 0.00 0	1600 1.00 0.00 0	1600 1.00 1.21 1940	1600 1.00 0.00 0	1600 1.00 1.79 2860	1600 1.00 1.00 1600	1600 1.00 3.00 4800	1600 1.00 0.00 0	1600 1.00 0.00 0	1600 1.00 3.00 4800	1600 1.00 1.00 1600	
Capacity Anal Vol/Sat: Crit Moves:	Lysis 0.00	Modul 0.00	le: 0.00	0.06	0.00	0.06	0.10	0.40	0.00 *****	0.00	0.22	0.11	

PM Existing (2008) Wed Aug 5, 2009 16:27:23 Page 27-1

PM Existing (2008) Golden Shore Master Plan, Long Beach (2.08.2995.1) Linscott, Law and Greenspan, Engineers												
Level Of Service Computation Report ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)												
Intersection	#22 #	\tlant *****	cic Ave:	nue at *****	: Ocea	an Boul ******	evard *****	*****	*****	*****	* * * * *	*****
Cycle (sec): 100 Loss Time (sec): 10 Optimal Cycle: 90 ************************************				Critical Vol./Cap.(X): Average Delay (sec/veh): Level Of Service:						0.598 : xxxxxx A ******		
Street Name: Approach: Movement:	Atlantic North Bound L - T - R			Avenue South Bound L - T - R			Ocean Bou East Bound L - T - R			llevard West Bound L - T - R		
Control: Rights: Min. Green: Y+R: Lanes:	Permitted Include 0 0 0 4.0 4.0 4.0 0 1 0 0 0		Permitted Include 0 0 0 4.0 4.0 4.0 0 1 0 0 1		Permitted Include 0 0 0 4.0 4.0 4.0 1 0 2 1 0			Permitted Include 0 0 0 4.0 4.0 4.0 1 0 2 1 0				
Volume Module Base Vol: Growth Adj: Initial Bse: Added Vol: PasserByVol: Initial Fut: User Adj: PHF Adj: PHF Volume: Reduct Vol: Reduced Vol: PCE Adj: MLF Adj: FinalVolume:	4 1.00 4 0 4 1.00 1.00 4 0 4 1.00 1.00 4 0 4 1.00 4 0 4 0 4 0 4 0 4 0 4 0 0 4 0 0 4 0 0 4 0 0 4 0 0 4 0 0 0 4 0 0 0 4 0 0 0 4 0 0 0 0 0 0 0 0 0 0 0 0 0	$\begin{array}{c} 2\\ 1.00\\ 2\\ 0\\ 2\\ 1.00\\ 1.00\\ 2\\ 0\\ 2\\ 1.00\\ 1.00\\ 2\end{array}$		108 1.00 108 0 108 1.00 108 1.00 108 1.00 1.00	$\begin{array}{c} 4\\ 1.00\\ 4\\ 0\\ 4\\ 1.00\\ 1.00\\ 4\\ 0\\ 4\\ 1.00\\ 1.00\\ 4\end{array}$	145 1.00 145 0 145 1.00 145 1.00 145 1.00 1.00 145	151 1.00 151 0 151 1.00 151 1.00 151 1.00 151 1.00 151	1881 1.00 1881 0 1881 1.00 1.00 1881 0 1881 1.00 1.00 1.881	4 1.00 4 0 4 1.00 1.00 4 1.00 1.00 4 1.00 1.00 4	19 1.00 19 0 19 1.00 1.00 19 0 1.00 19 1.00 19 1.00 19 1.00 19 1.00 19 1.00 19 19 1.00 19 19 1.00 19 19 19 19 10 19 19 10 19 19 10 19 19 10 19 19 10 19 19 10 19 10 19 10 19 10 19 10 19 10 19 10 19 10 19 10 19 10 19 10 19 10 19 10 19 10 19 10 19 10 19 10 19 10 19 19 10 19 10 19 19 10 19 19 10 19 19 10 19 19 19 19 10 19 19 19 19 10 19 19 19 19 19 10 19 19 19 19 10 19 19 10 19 19 10 19 19 19 10 19 19 10 19 19 10 19 19 10 19 10 19 19 10 19 19 10 19 10 19 10 19 10 19 10 19 10 19 10 19 10 19 10 19 10 19 10 19 10 19 10 10 19 10 19 10 10 19 10 10 19 10 10 10 19 10 19 10 10 19 10 19 10 10 19 10 10 10 10 10 10 10 10 10 10	1075 1.00 1075 1.00 1.00 1.00 1075 1.00 1.00 1.00 1.00 1.00	$ \begin{array}{c} 64 \\ 1.00 \\ 64 \\ 0 \\ 64 \\ 1.00 \\ 64 \\ 0 \\ 64 \\ 1.00 \\ 1.00 \\ 64 \\ 0 \\ 64 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0$
Saturation F Sat/Lane: Adjustment: Lanes: Final Sat.: 	ow Mo 1600 1.00 0.67 1067	dule: 1600 1.00 0.33 533 Modu	1600 1.00 0.00 0 	1600 1.00 0.96 1543	1600 1.00 0.04 57	1600 1.00 1.00 1600	1600 1.00 1.00 1600	1600 1.00 2.99 4790	1600 1.00 0.01 10	1600 1.00 1.00 1600	1600 1.00 2.83 4530	1600 1.00 0.17 270
Vol/Sat: Crit Moves:	0.00	0.00	0.00	0.07	0.07	0.09	0.09	0.39	0.39	0.01	0.24	0.24
PM Existing (2008)		We	d Aug	5, 20	09 16:2	27:23			Page	28-1	
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	Gold	len Sh Lir	nore Ma	PM Ex ster H Law a	istir Plan, and Gr	ng (2008 Long Be reenspar	3) each (n, Eng	2.08. jineer	.2995.1; cs)		
Level Of Service Computation Report ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)												
Intersection *********	#23 S	Shorel	ine Dr	ive/A] *****	.amito	os Boule	evard *****	at Oc *****	cean Bou	levard ********	******	
Cycle (sec): Loss Time (se Optimal Cycle	ec):	1(12 *****)0 L8 20 * * * * * * *	* * * * * *	• * * * * *	Critica Average Level (al Vol e Dela Of Ser *****	./Cap ay (se rvice:	o.(X): ec/veh) : *******	1. : xxx	062 xxx F ******	
Street Name:S Approach: Movement:	Shore] Nor L -	ine I th Bo T	Drive/A bund - R	lamito Sou L -	os Bou ith Bo - T	ulevar bund - R	Ea L -	Oc ast Bo - T	cean Boi ound - R	ulevard West B L - T	ound - R	
Control: Rights: Min. Green: Y+R: Lanes:	Pr 0 4.0 1 (0	totect Inclu 4.0	2ed 2de 4.0 0 1	P1 0 4.0 1 (rotect Inclu 4.0 2	2 ed 2 de 4.0 1 0	Pr 0 4.0 1 (otect Inclu 4.0) 3	2 ed 1 de 4.0 0 1	Protec Incl 0 0 4.0 4.0 2 0 1	ted ude 4.0 1 0	
Volume Module Base Vol: Growth Adj: Initial Bse: Added Vol: PasserByVol: Initial Fut: User Adj: PHF Adj: PHF Volume: Reduct Vol: Reduced Vol: PCE Adj: FinalVolume:	59 1.00 59 0 59 1.00 1.00 59 1.00 1.00 59	601 1.00 601 1.00 1.00 601 1.00 1.00 601 1.00 1.00	589 1.00 589 0 589 1.00 1.00 589 0 589 1.00 1.00 589	77 1.00 77 0 0 77 1.00 1.00 77 1.00 1.00 1.00 1.00 1.00	129 1.00 129 0 129 1.00 129 0 129 1.00 1.00 129	177 1.00 177 1.00 1.00 1.00 177 1.00 1.77 1.00 1.77 1.00	284 1.00 284 0 284 1.00 284 0 284 1.00 284 1.00 284 1.00 284	$1747 \\ 1.00 \\ 1747 \\ 0 \\ 0 \\ 1747 \\ 1.00 \\ 1.00 \\ 1747 \\ 0 \\ 1747 \\ 1.00 \\ 1.00 \\ 1.747 \\ 1.00 $	29 1.00 29 0 0 29 1.00 1.00 29 0 29 1.00 1.00 29 	216 892 1.00 1.00 216 892 0 0 216 892 1.00 1.00 216 892 1.00 1.00 216 892 1.00 1.00 216 892 1.00 1.00 1.00 1.00 216 892	30 1.00 30 0 30 1.00 1.00 1.00 1.00 1.00 1.00 1.00 30 1.00 1.00	
Saturation Fl Sat/Lane: Adjustment: Lanes: Final Sat.:	Low Ma 1600 1.00 1.00 1600	dule 1600 1.00 3.00 4800	1600 1.00 1.00 1600	1600 1.00 1.00 1600	1600 1.00 2.00 3200	1600 1.00 1.00 1600	1600 1.00 1.00 1600	1600 1.00 3.00 4800	1600 1.00 1.00 1600	1600 1600 0.90 1.00 2.00 1.93 2880 3096	1600 1.00 0.07 104	
Capacity Anal Vol/Sat: Crit Moves:	lysis 0.04	Modu 0.13	le: 0.37 ****	0.05	0.04	0.11	0.18	0.36	0.02	0.08 0.29	0.29	

PM Existing	(2008)		We	ed Aug	5, 20	09 16:	27 : 23			F	age 2	9-1
	Golc	len Sh Lir	nore Ma	PM Ex ister F Law a	istir lan, and Gr	ng (200 Long B reenspa	8) Beach (2.08. jineer	2995.1 :s	.)		
2()00 HC	I IM Uns	Level C signali)f Serv zed Me	vice (ethod	Computa (Futur	tion F e Volu	Report ame Al	: ternat ******	ive) ******	* * * * *	· * * * * * *
Intersection *********	Intersection #24 Golden Shore Street at Seaside Way (2)											
Average Delay (sec/veh): 6.9 Worst Case Level Of Service: C[20.2]												
Street Name: Approach: Movement:	Nor L -	Gold th Bo T	len Sho bund - R	ore Str Sou L -	reet uth Bo - T	ound - R	Ea L -	ast Bo - T	Seasic ound - R	le Way West Bound L - T - R		
Control: Rights: Lanes:	Unc 1 (contro Inclu) 1	olled ude 1 0	Unc 1 (contro Inclu) 1	olled ude 1 0	' St	cop Si Inclu) 1!	lgn 1de 00	St	op Si Inclu) 1!	.gn 1de 0 1
Volume Module Base Vol: Growth Adj: Initial Bse: Added Vol: PasserByVol: Initial Fut: User Adj: PHF Adj: PHF Volume: Reduct Vol: FinalVolume: Critical Gap Critical Gp: FollowUpTim: Capacity Modu Cnflict Vol: Potent Cap.: Move Cap.:	4 1.00 4 0 10 14 1.00 1.00 14 0 14 0 14 0 14 0 14 0 14 0 14 0 14 0 14 1535 1535 0 0 1535 1	388 1.00 388 0 0 388 1.00 1.00 388 0 388 0 388 0 388 0 388 0 388 0 388 0 1.00 1.00 388 0 1.00 1.00 388 0 1.00 1.00 388 0 1.00 1.00 388 0 1.00 1.00 388 0 1.00 1.00 388 0 1.00 1.00 388 0 1.00 1.00 388 0 1.00 388 0 1.00 1.00 388 0 388 0 1.00 1.00 388 0 1.00	23 1.00 23 0 23 1.00 1.00 23 0 23 0 23 	30 1.00 30 0 30 1.00 1.00 1.00 30 1.00 30 1.00 30 1.00 4.1 2.2 1.00 4.1 2.2 1.00 4.1 1.59 1.59 0.02	66 1.00 66 1.00 1.00 66 0 66 0 66 	7 1.00 7 0 4 11 1.00 1.00 11 0 11 0 11 xxxxx xxxxx xxxxx xxxxx xxxxx	36 1.00 36 0 79 115 1.00 1.00 115 0 115 7.5 3.5 3.5 354 581 326 0 25	2 1.00 2 0 0 2 1.00 1.00 2 0 2 6.5 4.0 571 434 419 0 0 0 2 0 0 0 2 0 0 0 2 0 0 0 0 0 0 0 0 0 0 0 0 0	3 1.00 30 33 1.00 1.00 33 0 33 6.9 3.3 39 1031 1031 0 03	5 1.00 5 0 0 5 1.00 1.00 5 1.00 5 1.00 5 1.00 5 1.00 5 1.00 5 1.00 5 1.00 5 1.00 5 1.00 5 1.00 5 0 5 1.00 1.00 5 0 5 1.00 1.00 5 0 5 1.00 1.00 5 0 5 1.00 5 0 1.00 5 0 5 1.00 5 0 5 1.00 5 0 5 1.00 5 5 1.00 5 5 1.00 5 5 1.00 5 5 1.00 5 5 1.00 5 5 1.00 5 5 1.00 5 5 1.00 5 5 1.00 5 5 1.00 5 5 1.00 5 1.00 5 1.00 5 5 1.00 5 1.00 5 1.00 5 1.00 5 1.00 5 1.00 5 1.00 5 1.00 5 5 1.00 5 1.00 5 1.00 5 1.00 5 1.00 5 1.00 5 1.00 5 1.00 5 1.00 5 1.00 5 1.00 5 1.00 5 1.00 5 1.00 5 1.00 5 2.2 4.42 4.15 0.00 1.00 5 5 2.2 4.00 0.	$ \begin{array}{c} 1\\ 1.00\\ 1\\ 0\\ 1.00\\ 1.00\\ 1\\ 0\\ 1\\ 6.5\\ 4.0\\ 565\\ 4.0\\ 565\\ 4.7\\ 422\\ 0.00 \end{array} $	341 1.00 341 0 341 1.00 341 1.00 341 0 0 341 0 0 341 0 0 341 0 0 0 807 807 0 0 42
volume/Cap: Level Of Ser 2Way95thQ: Control Del: LOS by Move: Movement: Shared Cap.: Shared Cap.: Shared Queue: Shrd ConDel: Shared LOS: ApproachDel: ApproachLOS:	U.01 vice N 0.0 7.4 A LT - xxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxx	Addule xxxx + - LTR xxxx xxxx xxxx * *	xxxx e: xxxxx - RT xxxxx xxxxx *	0.03 0.1 8.2 A LT XXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXX	XXXX XXXX XXXX - LTR XXXX XXXX XXXX XXXX XXXX XXXX XXXXX XXXX	×××× ××××× - RT ××××× × *	U.35 XXXX XXXXX LT XXXX XXXXX XXXXX XXXXX XXXXX XXXXX	xxxx xxxx - LTR 385 1.8 20.2 C 20.2 C *****	0.03 xxxxx - RT xxxxx xxxx xxxxx *	0.01 0.0 13.7 B LT XXXX XXXX XXXXX *	xxxx xxxx + - LTR 792 0.8 10.8 B 10.8 B 10.8	0.42 0.8 10.6 B - RT XXXXX XXXX XXXX *
Note: Queue **********	report	ted i: *****	s the : ******	number *****	of c *****	ars pe: *****	r lane *****	• * * * * *	* * * * * *	* * * * * *	* * * * *	* * * * * * *

PM Existing	(2008)	2008) Wed Aug 5, 2009 16:27:23							
	Golden Shore Linsco	PM Existir Master Plan, tt, Law and Gr	ig (2008) Long Beach ceenspan, E	(2.08.2995.1 ngineers	.)				
	Leve 2000 HCM 4-Way	l Of Service (Stop Method	Computation (Future Vol	Report ume Alternati	ve)				
**********************	$\frac{1}{2}$	******************* Place at Seasi	*********** de Wav	***********	*****				
**********	****	****	****	* * * * * * * * * * * * *	*****				
Cycle (sec): Loss Time (s Optimal Cycl	100 ec): 0 e: 0 *********	* * * * * * * * * * * * * * *	Critical V Average De Level Of S	<pre>Col./Cap.(X): elay (sec/veh) ervice: ************************************</pre>	0.252 : 8.6 A				
Street Name: Approach: Movement:	Ches North Bound L - T -	tnut Place South Bo R L - T	ound - R L	Seasic East Bound - T - R	de Way West Bound L - T - R				
Control: Rights: Min. Green: Lanes:	Stop Sign Include 0 0 1 0 0 1	Stop S: Inclu 0 0 0 0 1 0 0	ign ide 0 1 0 0	Stop Sign Include 0 0 0 1 0 0 1	Stop Sign Include 0 0 0 0 1 0 1 0				
			!						
Volume Modul Base Vol: Growth Adj: Initial Bse: Added Vol: PasserByVol: Initial Fut: User Adj: PHF Adj: PHF Volume: Reduced Vol: Reduced Vol: PCE Adj: MLF Adj: FinalVolume: Saturation F Adjustment: Lanes:	e: 12 40 1.00 1.00 1. 12 40 0 0 12 40 1.00 1.00 1. 1.00 1.00 1. 12 40 1.00 1.00 1. 12 40 1.00 1.00 1. 1.00 1.00 1. 1.00 1.00 1. 1.00 1.00 1. 1.00 1.00 1. 1.00 0.66 0.	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	23 6 1.00 1.0 23 6 1.00 1.0 23 6 1.00 1.0 23 6 1.00 1.0 23 6 1.00 1.0 23 6 1.00 1.0 1.00 1.0 23 6 1.00 1.0 23 6 1.00 1.0 23 6 0 0 23 6 0 0 1.00 1.0 0 0 0 0 0 0 0 0 0 0 0 0 0	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$				
Final Sat.:	583 435 2	28 585 412	256 25	50 433 819	462 576 319				
Capacity Ana Vol/Sat: Crit Moves:	lysis Module: 0.02 0.09 0. **	09 0.04 0.09 **	0.09 0.2 ****	25 0.25 0.11 ****	0.06 0.06 0.05				
Delay/Veh: Delay Adj: AdjDel/Veh: LOS by Move: ApproachDel: Delay Adj: ApprAdjDel: LOS by Appr:	8.7 8.3 8 1.00 1.00 1. 8.7 8.3 8 A A 8.4 1.00 8.4 A	.3 8.8 8.3 00 1.00 1.00 .3 8.8 8.3 A A A 8.4 1.00 8.4 A	8.3 9. 1.00 1.0 8.3 9. A	5 9.5 7.5 00 1.00 1.00 5 9.5 7.5 A A A 8.8 1.00 8.8 A	8.5 8.0 7.8 1.00 1.00 1.00 8.5 8.0 7.8 A A A 8.2 1.00 8.2 A				
AllWayAvgQ:	0.0 0.1 0	.1 0.0 0.1	0.1 0.	.3 0.3 0.1	0.1 0.1 0.1 0.1				

PM Existing	(2008)	Wed Aug 5, 20	009 16:	27:23		Page 3	1-1	
	Golden Shor Linsc	PM Existin e Master Plan, ott, Law and G	ng (200) Long B reenspai	8) each (2.08. n, Engineer	2995.1) s			
ICU 1	Lev (Loss as Cycl)	el Of Service (e Length %) Me ⁻ ******	Computa thod (F	tion Report uture Volum ******	e Alter ******	native) ********	* * * * * *	
Intersection ******************* Cycle (sec): Loss Time (se Optimal Cycle	#26 Pine Ave ************************************	nue at Seaside ***************	Way ****** Critic Average Level	********** al Vol./Cap e Delay (se Of Service:	******* .(X): c/veh):	**************************************		
Street Name: Approach: Movement:	******************** Pi: North Boun L - T -	**************************************	******* ound - R	************ East Bo L - T	******* Seaside und - R	Way West Bo L - T	und - R	
Control: Rights: Min. Green: Y+R: Lanes:	Protected Include 0 0 4.0 4.0 1 0 1 0	Protect Incl 0 0 0 4.0 4.0 4.0 1 1 0 1	ted ude 4.0 1 0	Permit Inclu 0 0 4.0 4.0 1 0 0		Permit Inclu 0 0 4.0 4.0 1 0 1	ted de 4.0 0 1	
Volume Module Base Vol: Growth Adj: Initial Bse: Added Vol: PasserByVol: Initial Fut: User Adj: PHF Adj: PHF Volume: Reduct Vol: Reduced Vol: PCE Adj: FinalVolume:	$\begin{array}{c} 2 & 153 \\ 1.00 & 1.00 & 1 \\ 2 & 153 \\ 0 & 0 \\ 2 & 153 \\ 1.00 & 1.00 & 1 \\ 1.00 & 1.00 & 1 \\ 1.00 & 1.00 & 1 \\ 2 & 153 \\ 0 & 0 \\ 2 & 153 \\ 1.00 & 1.00 & 1 \\ 1.00 & 1.00 & 1 \\ 2 & 153 \end{array}$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$\begin{array}{c} 37\\ 1.00\\ 37\\ 0\\ 0\\ 37\\ 1.00\\ 1.00\\ 37\\ 0\\ 37\\ 1.00\\ 1.00\\ 37\\ 1.00\\ 37\\1\end{array}$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	7 1.00 7 0 7 1.00 1.00 7 1.00 1.00 7 1.00 1.00 7 1.00	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	28 1.00 28 0 28 1.00 1.00 28 0 28 1.00 1.00 28 0 28 0 28 0 28 0 28 0 28 0 0 28 0 28 0 1.00 28 1.00 28 0 28 1.00 28 0 28 1.00 28 1.00 28 1.00 28 1.00 28 1.00 28 1.00 28 1.00 1.00 28 1.00 1.00 28 1.00 1.00 28 1.00 1.00 28 1.00 1.00 28 1.00 1.00 28 1.00 1.00 28 1.00 1.00 28 1.00 1.00 1.00 1.00 28 1.00 1.	
Saturation Fi Sat/Lane: Adjustment: Lanes: Final Sat.:	low Module: 1600 1600 1 1.00 1.00 1 1.00 1.00 1 1600 1600 1	600 1600 1600 .00 1.00 1.00 .00 1.00 1.71 600 1600 2730	1600 1.00 0.29 470	1600 1600 1.00 1.00 1.00 0.88 1600 1404	1600 1.00 0.12 196	1600 1600 1.00 1.00 1.00 1.00 1600 1600	1600 1.00 1.00 1600	
Capacity Ana Vol/Sat: Crit Moves:	lysis Module: 0.00 0.10 0 ****	.01 0.01 0.08 ****	0.08 ******	0.02 0.04	0.04	0.01 0.03	1 0.02 *****	

PM Existing	(2008)		We	ed Aug	5, 20	09 16:	27 : 23			E	Page 3	32-1	
PM Existing (2008) Golden Shore Master Plan, Long Beach (2.08.2995.1) Linscott, Law and Greenspan, Engineers													
2	Level Of Service Computation Report 2000 HCM Unsignalized Method (Future Volume Alternative)												

Intersection ****	#27(*****	Golder	n Shore ******	e Stree *****	et at *****	I-710 ******) SB O1 ******	:1-Ran *****	****** UD	******	*****	* * * * * * *	
Average Delay (sec/veh): 1.2 Worst Case Level Of Service: A[9.5]													
Street Name: Approach: Movement:	Noi L -	Gold th Bo T	den Sho bund - R	ore Sti Sou L -	reet uth Bo - T	ound - R	Ea L -	I-7 ast Bo - T	710 SB bund - R	Off-Ramp West Bound L - T - R			
Control: Rights: Lanes:	Unc 0 (contro Inclu) 2	olled ude 0 0	Unc 0 (contro Inclu) 1	olled ude 0 0	St	top Si Inclu) 0	ign 1de 0 1	St 0 (top Si Inclu) 0	ign 1de 0 0	
Volume Modul Base Vol: Growth Adj: Initial Bse: Added Vol: PasserByVol: Initial Fut: User Adj: PHF Adj: PHF Volume: Reduct Vol: FinalVolume: Critical Gap Critical Gp: FollowUpTim: Capacity Mod Cnflict Vol: Potent Cap.: Volume/Cap:	 e: 0 1.00 0 0 1.00 1.00 0 0 1.00 0 0 0 0 0	385 1.00 385 0 385 1.00 1.00 385 0 385 0 385 0 385	0 1.00 0 0 0 0 1.00 1.00 0 0 0 0 0 0 0 0 0 0 0 0	0 1.00 0 0 0 0 1.00 1.00 0 0 1.00 0 0 0 1.00 0 0 0 0 1.00 0 0 0 0 0 0 0 0 0 0 0 0	85 1.00 85 0 85 1.00 1.00 85 0 85 	0 1.00 0 0 0 1.00 1.00 0 0 0 0 0 0 0 0 0 0 0 0	34 1.00 34 0 34 1.00 1.00 34 0 34 0 34 0 34 0 34 0 34 0 34 0 34 0 34 0 1.00 34 0 1.00 34 0 1.00 34 0 1.00 34 0 1.00 34 0 1.00 34 0 1.00 34 0 1.00 34 0 0 1.00 34 0 0 1.00 34 0 0 1.00 34 0 0 0 1.00 34 0 0 0 1.00 1.00 34 0 0 0 1.00 1.00 34 0 0 0 1.00 1.00 1.00 34 0 0 0 0 0 0 0 0 0 0 0 0 0	0 1.00 0 0 0 1.00 1.00 0 0 0 0 0 0 0 0 0 0 0 0	36 1.00 .36 0 36 1.00 1.00 36 0 36 6.2 3.3 85 980 980 0.04	0 1.00 0 0 0 0 1.00 1.00 0 0 1.00 0 0 0 1.00 0 0 0 0 1.00 0 0 0 0 0 0 0 0 0 0 0 0	0 1.00 0 0 0 1.00 1.00 0 0 0 0 0 0 0 0 0 0 0 0	0 1.00 0 0 0 0 1.00 1.00 0 0 0 0 0 0 0 0 0 0 0 0	
Level Of Ser 2Way95thQ: Control Del: LOS by Move: Movement: Shared Cap.: SharedQueue: Shrd ConDel: Shared LOS: ApproachDel: ApproachLOS:	 vice I xxxx LT xxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxx	Module xxxx * - LTR xxxx xxxx * * *	e: xxxxx - RT xxxxx xxxxx xxxxx *	×××××××	xxxx xxxx - LTR xxxx xxxx xxxx *	××××× × - RT ××××× × × × ×××××	0.1 10.3 ET XXXX XXXXX XXXXX XXXXX	xxxx xxxx - LTR xxxx xxxx xxxx 9.5 A	0.1 8.8 A - RT XXXXX XXXXX XXXXX *	××××××××××××××××××××××××××××××××××××××	xxxx xxxx + LTR xxxx xxxx xxxx * xxxxx *		
Note: Queue *********	repor ****	ted i. *****	s the : ******	number *****	of c *****	ars pe: ******	r lane *****	•	* * * * * *	* * * * * *	* * * * *	* * * * * * *	

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PM Existing (2008)		We	d Aug	5, 20	09 16:	27 : 23			F	age 3	3-1
	Gold	len Sh Lir	ore Ma	PM Ex ster F Law a	istin lan, Ind Gr	ig (200 Long E reenspa)8) Beach (an, Eng	2.08. gineer	2995.1	.)		.
20	000 HC	I M Uns ****	level C signali ******)f Serv zed Me	vice C ethod	Computa (Futur	ation F re Volu	Report ime Al	: _ternat ******	ive)	****	* * * * * *
Intersection ********	#28 G	Golder	1 Shore *****	: Stree *****	et at *****	Shorel	ine Dr *****	ive *****	*****	*****	*****	*****
Average Delay	/ (sec	/veh)	:	0.5	* * * * *	Worst ******	Case I	Level	Of Ser ******	vice: *****	B[12	2.2] ******
Street Name: Approach: Movement:	Nor L -	Gold th Bo T	len Sho ound - R	ore Str Sou L -	reet ith Bo - T	ound - R	Ea L -	Sh ast Bo - T	norelir bund - R	e Drive West Bound L - T - R		
Control: Rights: Lanes:	Unc 0 (contro Inclu) 1!	olled ide 0 0	Unc 1 (contro Inclu) 1	olled ide 0 1	' St 0 (top Si Inclu) 1!	lgn 1de 00	0 (top Si Inclu) 0	_gn ide 0 0
Volume Module Base Vol: Growth Adj: Initial Bse: Added Vol: PasserByVol: Initial Fut: User Adj: PHF Adj: PHF Volume: Reduct Vol: FinalVolume:	1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00	386 1.00 386 0 386 1.00 1.00 386 0 386	92 1.00 92 0 92 1.00 1.00 92 0 92	30 1.00 30 0 30 1.00 1.00 30 30 30 1.00	77 1.00 77 0 77 1.00 1.00 77 0 77	17 1.00 17 0 17 1.00 1.00 1.00 17 0 17	3 1.00 3 0 3 1.00 1.00 3 0 3	$1 \\ 1.00 \\ 1 \\ 0 \\ 1 \\ 1.00 \\ 1.00 \\ 1 \\ 0 \\ 1 \\ 0 \\ 1$	1 1.00 1 0 1 1.00 1.00 1.00 1 0 1		$\begin{array}{c} 0\\ 1.00\\ 0\\ 0\\ 0\\ 1.00\\ 1.00\\ 0\\ 0\\ 0\\ 0\\ 0\end{array}$	
Critical Gap Critical Gp: FollowUpTim:	Modu] 4.1 2.2	le: xxxx xxxx	xxxxx xxxxx	4.1 2.2	xxxx xxxx	xxxxx xxxxx	6.4 3.5	6.5 4.0	6.2	×××××× ××××××	xxxx xxxx	xxxxx xxxxx
Capacity Modu Cnflict Vol: Potent Cap.: Move Cap.: Volume/Cap:	11e: 94 1513 1513 0.00	XXXX XXXX XXXX XXXX	XXXXX XXXXX XXXXX XXXX	478 1095 1095 0.03	XXXX XXXX XXXX XXXX	XXXXX XXXXX XXXXX XXXX	571 486 475 0.01	617 408 397 0.00	77 990 990 0.00	xxxx xxxx xxxx xxxx xxxx	×××× ×××× ×××× ××××	xxxxx xxxxx xxxxx xxxx xxxx
Level Of Serv 2Way95thQ: Control Del: LOS by Move: Movement: Shared Cap.: Shared Queue: Shared ConDel: Shared LOS: ApproachDel: ApproachLOS:	/ice N 0.0 7.4 A LT - xxxx xxxxx xxxxx xxxxx xxxxx	40dule xxxx * - LTR xxxx xxxx xxxx * *	<pre> =: xxxxx x - RT xxxxx xxxx x xxxx x xxxx x</pre>	0.1 8.4 LT xxxx xxxxx xxxxx xxxxx xxxxx	xxxx xxxx - LTR xxxx xxxx xxxx * *	xxxxx xxxxx - RT xxxxx xxxxx *	××××× × LT ×××× × ××××× *	xxxx xxxx - LTR 508 0.0 12.2 B 12.2 B 12.2 B	XXXXX XXXXX - RT XXXXX XXXXX XXXXX *	xxxx xxxxx LT xxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxx	xxxx xxxx - LTR xxxx xxxx xxxx * *	- RT ××××× - RT ××××× × ××××××× *
Note: Queue 1 ***********	report	ted i: *****	s the 1 ******	number *****	of c: *****	ars pe: *****	r lane *****	•	* * * * * *	* * * * * *	* * * * *	* * * * * * *

PM Existing (2008) Wed Aug 5, 2009 16:27:23

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PM Existing (2008) Golden Shore Master Plan, Long Beach (2.08.2995.1) Linscott, Law and Greenspan, Engineers													
Level Of Service Computation Report ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative) ************************************													
Intersection	#29 (Chestn	ut Pla *****	ce at *****	Shor *****	eline [Drive *****	*****	******	* * * * * * * * * *	******		
Cycle (sec): 100 Loss Time (sec): 18 Optimal Cycle: 90					Critical Vol./Cap.(X): 0.573 Average Delay (sec/veh): xxxxx Level Of Service: A								
Street Name: Approach: Movement:	Nor L -	C th Bo - T	hestnu ound - R	t Plac Sou L -	ce ith Bo - T	ound - R	Ea L -	Sh ist Bo • T	norelin bund - R	e Drive West E L - T	ound - R		
Control: Rights: Min. Green: Y+R: Lanes:	Sp] 0 4.0 1 1	it Ph Inclu 4.0	ase ide 0 4.0 0 1	Spl 0 4.0 0 1	lit Ph Inclu 4.0 L 0	ase ade 0 4.0 0 1	Pr 0 4.0 2 0	rotect Inclu 4.0 3	2ed 1de 0 4.0 0 1	Protec Incl 0 0 4.0 4.0 2 0 3	ted ude 4.0 1 0		
Volume Module Base Vol: Growth Adj: Initial Bse: Added Vol: PasserByVol: Initial Fut: User Adj: PHF Adj: PHF Volume: Reduct Vol: Reduced Vol: PCE Adj: FinalVolume:	78 1.00 78 0 78 1.00 1.00 78 0 78 1.00 1.00 78 1.00 78 0 78 0 78 0 78 0 78 0 78 0 78 1.00 1.00 78 0 78 1.00 1.00 78 0 78 1.00 1.00 78 0 78 0 78 1.00 1.00 78 0 78 0 78 0 78 0 78 0 78 0 78 0 78 0 78 0 78 78 0 78 78 0 78 78 0 78 0 78 78 0 78 0 78 78 0 78 78 0 78 78 78 78 78 78 78 78 78 78	7 1.00 7 0 7 1.00 1.00 7 1.00 1.00 7 1.00 7 1.00 7 7 1.00 7 7 7 7 7 7 7 7 7 7 7 7 7	331 1.00 331 0 331 1.00 1.00 331 0 331 1.00 1.00 331	74 1.00 74 0 74 1.00 1.00 74 0 74 1.00 1.00 74 1.00 74	1 1.00 1 0 1 1.00 1.00 1 0 1.00	$ \begin{array}{r} 59\\ 1.00\\ 59\\ 0\\ 59\\ 1.00\\ 1.00\\ 59\\ 0\\ 59\\ 1.00\\ 1.00\\ 59 \end{array} $	34 1.00 34 0 34 1.00 1.00 34 0 34 1.00 1.00 34	$591 \\ 1.00 \\ 591 \\ 0 \\ 591 \\ 1.00 \\ 1.00 \\ 591 \\ 0 \\ 591 \\ 1.00 \\ 1.00 \\ 1.00 \\ 591 \\ 1.00 \\ 1.00 \\ 591 \\ 1.00 \\ 591 \\ 1.00 \\ 591 \\ 1.00 \\ 591 \\ 1.00 \\ 591 \\ 1.00 \\ 591 \\ 1.00 \\ 591 \\ 1.00 \\ 591 \\ 1.00 \\ 591 \\ 1.00 \\ 591 \\ 1.00 \\ 591 \\ 1.00 \\ 591 \\ 1.00 \\ 591 \\ 1.00 \\ 591 \\ 1.00 \\ 591 \\ 1.00 \\ 591 \\ 1.00 \\ 1.00 \\ 591 \\ 1.00 \\ 1.00 \\ 591 \\ 1.00 \\ 1.$	8 1.00 8 0 8 1.00 1.00 8 1.00 1.00 8	$\begin{array}{c} 47 & 178 \\ 1.00 & 1.00 \\ 47 & 178 \\ 0 & 0 \\ 0 & 0 \\ 47 & 178 \\ 1.00 & 1.00 \\ 1.00 & 1.00 \\ 47 & 178 \\ 0 & 0 \\ 47 & 178 \\ 1.00 & 1.00 \\ 1.00 & 1.00 \\ 1.00 & 1.00 \\ 47 & 178 \\ 1.00 & 1.00 \\ 1.00 & 1.00 \\ 47 & 178 \\ 1.00 & 1.00 \\ 1.00 &$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$		
Saturation Fl Sat/Lane: Adjustment: Lanes: Final Sat.: 	 1.00 1.84 2936 ysis 0.03	Ddule: 1600 1.00 0.16 264 Modul 0.03	1600 1.00 1.00 1600 	1600 1.00 0.99 1579 	1600 1.00 0.01 21 0.05	1600 1.00 1.00 1600 	1600 0.90 2.00 2880 	1600 1.00 3.00 4800	1600 1.00 1600 ;	1600 1600 0.90 1.00 2.00 3.49 2880 5584) 1600) 1.00 9 0.51 4 816 3 0.03		
Crit Moves:	****	* * * * * *	* * * * * * * * * *	*****	* * * * *	* * * * * * *	* * * * * *	****	* * * * * * *	****	******		

	Gold	len Sl Lir	nore Ma nscott,	PM Ex ster H Law a	kistir Plan, and Gi	ng (200 Long B reenspa	8) each (n, Eng	(2.08. gineer	2995.1 s)		
ICU 1	(Loss	I as Cy *****	Level O ycle Le	f Serv	vice (Computa thod (F	tion F uture *****	eport Volum	: ne Alte	rnativ	7e) *****	*****
Intersection	4 0と# *****	21ne A	Avenue ******	at Sho	>re⊥1r *****	ne Driv ******	e *****	*****	* * * * * * *	* * * * * *	*****	· * * * * * *
Cycle (sec): 100 Loss Time (sec): 18 Optimal Cycle: 90					Critical Vol./Cap.(X): 0.48 Average Delay (sec/veh): xxxxx Level Of Service:							
Street Name: Approach: Movement:	Noi L -	cth Bo - T	Pine A ound - R	venue Sou L -	ith Bo - T	ound – R	Ea L -	Sh ast Bo - T	norelin bund - R	e Driv We L -	ve est Bo - T	ound - R
Control: Rights: Min. Green: Y+R: Lanes:	Pr 0 4.0 1 (rotect Inclu 4.0) 1	ted ude 0 4.0 0 1	P1 0 4.0 1 (rotect Inclu 0 4.0	ted ude 0 4.0 0 1	P1 0 4.0 2 (rotect Inclu 4.0) 3	ted ide 0 4.0 0 1	Pr 0 4.0 1 (totect Inclu 4.0 3	2 ed ade 4.0 0 1
Volume Module Base Vol: Growth Adj: Initial Bse: Added Vol: PasserByVol: Initial Fut: User Adj: PHF Adj: PHF Volume: Reduct Vol: Reduced Vol: PCE Adj: MLF Adj: FinalVolume:	21 1.00 21 0 21 1.00 1.00 21 1.00 21 1.00 1.00 21 1.00 21 1.00 21 0 21 0 21 0 21 0 0 0 21 0 0 0 0 0 0 0 0 0 0 0 0 0	22 1.00 22 0 0 22 1.00 1.00 22 0 22 1.00 1.00	43 1.00 43 0 43 1.00 1.00 43 1.00 1.00 43 	94 1.00 94 0 94 1.00 1.00 94 0 94 1.00 1.00 94 1.00 94	33 1.00 33 0 0 33 1.00 1.00 33 1.00 1.00	71 1.00 71 0 71 1.00 1.00 71 1.00 1.00 71 1.00 1.00 71	80 1.00 80 0 80 1.00 1.00 80 1.00 80 1.00 80 1.00 80 1.00 80 1.00 80 1.00 80 80 80 80 80 80 80 80 80	981 1.00 981 0 981 1.00 981 0 981 1.00 1.00 981	32 1.00 32 0 32 1.00 1.00 32 0 32 1.00 1.00 32 	25 1.00 25 1.00 25 1.00 25 1.00 25 1.00 25 1.00 25 1.00 25 1.00 25 1.00 25 1.000 25 1.000 1.000 25 1.000 25 1.000 25 1.000 25 1.000 1.000 25 1.000 25 1.000 1.000 25 1.000 25 1.000 25 1.000 25 1.000 25 1.000 25 1.000 25 1.000 25 1.000 25 1.000 25 1.000 25 1.000 25 1.000 25 1.000 25 1.000 1.000 25 1.000 1.000 25 1.000 1.000 25 1.000 1.000 1.000 25 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0	$ 194 \\ 1.00 \\ 194 \\ 0 \\ 194 \\ 1.00 \\ 194 \\ 0 \\ 194 \\ 1.00 \\ 194 \\ 1.00 \\ 1.94 \\ 1.00 \\ 1.94 \\ 1.00 \\ 1.94 \\ 1.00 \\ 1.94 \\ 1.00 \\ 1.94 \\ 1.00 \\ 1.00 \\ 1.94 \\ 1.00 \\ 1.00 \\ 1.00 \\ 1.94 \\ 1.00 $	63 1.00 63 0 63 1.00 63 0 63 1.00 1.00 63
Saturation Fl Sat/Lane: Adjustment: Lanes: Final Sat.: Capacity Anal	low Ma 1600 1.00 1.00 1600 	Ddule 1600 1.00 1.00 1600 Modu	: 1600 1.00 1.00 1600 le:	1600 1.00 1.00 1600	1600 1.00 1.00 1600	1600 1.00 1.00 1600	1600 0.90 2.00 2880	1600 1.00 3.00 4800	1600 1.00 1.00 1600	1600 1.00 1.00 1600	1600 1.00 3.00 4800	1600 1.00 1.00 1600
Vol/Sat: Crit Moves:	0.01	0.01	0.03 ****	0.06	0.02	0.04	0.03	0.20	0.02	0.02	0.04	0.04