a number of households that include school age children who would attend local public schools. The number of such children cannot be precisely estimated. Nearby grade schools in the Los Angeles Unified School District (LAUSD) are located in the immediate area, and schoolchildren would be assigned to those schools unless it is agreed by the school districts otherwise. In accordance with Section 65995 of the California Government Code, the developer must pay the most current impact fee to the local school district(s), prior to the issuance of building permits, to help fund the ongoing expansion of local school facilities. This is considered a less than significant impact.

Parks - **Less Than Significant Impact.** Project residents are expected to use onsite recreation facilities regularly, and may visit one or more City parks occasionally. Usage of local parks by project residents would not necessitate physical alterations to those parks that would result in significant environmental effects. In addition, the developer must pay the required park dedication fee to the City to help fund the ongoing expansion and maintenance of local park facilities within the City. This is considered a less than significant impact.

Other public facilities - **Less Than Significant Impact.** The proposed project will have a limited impact on governmental services, and would not require construction of any new government facilities, or any physical alterations to existing facilities.

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XIV.	**RECREATION.**				
a)	Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration the facility would occur to be accelerated?	☐	☐	☑	☐
b)	Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse effect on the environment?	☐	☐	☑	☐

Explanation:

a) **Less Than Significant Impact.** Residents of the proposed residential project will likely increase the use of existing local and regional parks. This would occur on a periodic basis, most likely in small numbers, and would not result in physical deterioration of affected parks. Usage of local parks by project residents would not necessitate physical alterations to those parks that would result in significant environmental effects. In addition, the developer must pay the required park dedication fee to the City to help fund the ongoing expansion and maintenance of local park facilities within the City. This is considered a less than significant impact.

b) **Less Than Significant Impact**. An outdoor swimming pool/courtyard, two additional outdoor courtyards, a community clubhouse and an indoor fitness center are included in the proposed project, to provide residents with a variety of passive and active recreation opportunities on site. These facilities would not result in significant environmental effects on or off site. Occasional resident demands for local public parks would not be substantial enough to require construction of a new park or expansion of an existing public park and recreational facilities.

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XV.	**TRANSPORTATION/TRAFFIC.** *Would the project:*				
a)	Cause an increase in traffic, which is substantial in relation to the existing system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?	☐	☑	☐	☐
b)	Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	☐	☐	☑	☐
c)	Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☑
d)	Substantially increase hazards due to design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☑	☐	☐
e)	Result in inadequate emergency access?	☐	☐	☐	☑
f)	Result in inadequate parking capacity?	☐	☐	☑	☐
g)	Conflicts with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	☐	☐	☐	☑

Explanation:

a) **Less Than Significant Impact with Mitigation Incorporated**. The proposed mixed-use development project would result in an increase in traffic volumes on the streets in the vicinity of the project site as the proposed land uses would generate a higher volume of traffic than the uses that currently occupy the site. The streets that would be most directly affected by the additional site-generated traffic are Avalon Boulevard and Carson Street. The trip generation rates and the anticipated volumes of traffic

that would be generated by the project are shown in Table XV-1. As the proposed development would displace existing land uses at the site, the volumes of traffic that are generated by the existing uses were subtracted from the project-generated traffic volumes to quantify the net increase in traffic that would occur as a result of the proposed project. The trip rates used for the calculations represent the values shown in the *Trip Generation* manual (Institute of Transportation Engineers, 7th Edition, 2003) for the existing and proposed land use categories.

Table XV-1 indicates that the proposed development would generate an estimated 173 vehicle trips during the morning peak hour (70 inbound and 103 outbound), 231 trips during the afternoon peak hour (136 inbound and 95 outbound), and 2,820 trips per day. These traffic estimates incorporate the assumption that the project-generated traffic would be reduced by approximately 10 percent because the mixed-use nature of the development would provide the opportunity for internal walking trips to occur between the on-site residential units and the retail/restaurant land uses at the development. When the traffic that is currently generated by the existing land uses is subtracted from the project-generated traffic volumes, the net increase in site-generated traffic would be 47 vehicle trips during the morning peak hour (-4 inbound and 51 outbound), 103 trips during the afternoon peak hour (70 inbound and 33 outbound), and 970 trips per day.

TABLE XV-1
PROJECT GENERATED TRAFFIC

Land Use	AM Peak Hour			PM Peak Hour			Daily
	Total	In	Out	Total	In	Out	Traffic
TRIP GENERATION RATES (per 1,000 sq. ft. except as noted)							
Condos (per unit)	0.44	17%	83%	0.52	67%	33%	5.86
Senior Residential (per unit)	0.08	45%	55%	0.11	61%	39%	3.48
Retail	1.03	61%	39%	3.75	48%	52%	42.94
Sit-Down Restaurant	11.52	52%	48%	10.92	61%	39%	127.15
Fast-Food Restaurant	43.87	60%	40%	26.15	51%	49%	716
General Office	1.55	88%	12%	1.49	17%	83%	11.01
Lube Shop	3.0	67%	33%	5.19	55%	45%	40.0
GENERATED TRAFFIC VOLUMES							
Proposed Land Uses							
Condos (150 units)	66	11	55	78	52	26	880
Senior Resid (86 units)	7	3	4	10	6	4	300
Retail (20,245 sq. ft.)	21	13	8	76	36	40	870
Restaurant (8,518 sq. ft.)	98	51	47	93	57	36	1,080
Proposed Project Total	192	78	114	257	151	106	3,130
With 10% Reduction For Internal Trips	173	70	103	231	136	95	2,820
Existing Land Uses							
Lube Shop (1,500 sq. ft.)	5	3	2	8	4	4	60
Restaurant (4,960 sf)	57	30	27	54	33	21	630
Fast-Food Rest (1,064 sf)	47	28	19	28	14	14	760
General Office (5,699 sf)	9	8	1	8	1	7	60
Retail (8,000 sf)	8	5	3	30	14	16	340
Total Existing Land Uses	126	74	52	128	66	62	1,850
Net Increase in Traffic	47	(4)	51	103	70	33	970

The project-generated traffic would primarily affect the nearby segments of Avalon Boulevard and Carson Street and the signalized intersection of those two streets, which is located at the northwest corner of the project site. An analysis of traffic impacts was conducted by quantifying the before-and-after traffic volumes, then determining the intersection capacity utilization (ICU) values and levels of service (LOS) at the Avalon Boulevard/Carson Street intersection for the "without project" and "with project" scenarios. The before-and-after ICU values and LOS at this intersection are summarized in Table XV-2 for the morning and afternoon peak hours. The table shows the existing traffic conditions, the future cumulative traffic conditions without the project, and the future cumulative traffic conditions with the addition of the project traffic. The table also shows the increase in the ICU values attributable to the project and the cumulative increase in the ICU values associated with other proposed development projects in Carson. The future cumulative traffic conditions were taken from the report titled "Traffic Impact Study for the Carson Marketplace" (Kaku Associates, October 2005).

An impact is considered to be significant if the increase in the ICU value would be 0.020 or greater at an intersection that is projected to operate at LOS E or F. Table XV-2 indicates that the project would not result in a significant impact because the project-related increase in the ICU value would be 0.005 and 0.006 for the morning and afternoon peak hours, respectively. The cumulative increase in traffic volumes at this intersection would, however, result in a significant impact during the afternoon

peak hour because the intersection is projected to operate at LOS E and the cumulative increase in the ICU value would be 0.163, which is greater than the significance threshold of 0.020.

TABLE XV-2
PROJECT IMPACT ON INTERSECTION LEVELS OF SERVICE

Intersection	ICU Value and Levels of Service				
	Existing Conditions	Future Cumulative Without Project	Future Cumulative With Project	Increase in ICU – Significant Impact	
				Project Only	Cumula-tive
Avalon Blvd/Carson Street					
AM Peak Hour	0.758 – C	0.875 – D	0.880 – D	0.005 – No	0.122 – No
PM Peak Hour	0.821 – D	0.978 – E	0.984 – E	0.006 – No	0.163 - Yes

Although the project, when considered individually, would not result in a significant impact, it would contribute to the cumulative significant impact at the intersection of Avalon Boulevard and Carson Street. The "Traffic Impact Study for the Carson Marketplace" identified the improvements that would be required to mitigate the impacts at this intersection, which include constructing right-turn lanes on the northbound, westbound, and southbound approaches to the intersection. As these recommended intersection improvements would require additional right-of-way, as the proposed project abuts the northbound approach to the intersection, and as the proposed project is a contributor to the cumulative significant impact at this intersection, the project applicant shall be required to dedicate sufficient right-of-way to accommodate the construction of a northbound right-turn lane on the east side of Avalon Boulevard south of Carson Street. The developers of the Carson Marketplace project would be responsible for construction of the right-turn lane at this location.

Mitigation Measure T-1

Dedicate right-of-way on the east side of Avalon Boulevard south of Carson Street to accommodate the construction of a right-turn lane on the northbound approach of the Avalon Boulevard/Carson Street intersection, subject to approval by the City Engineer.

b) **Less Than Significant Impact.** The Los Angeles County Congestion Management Program (CMP) indicates that a project may have a significant impact and that a traffic study would be required if the project would contribute 50 or more peak hour vehicle trips to a designated CMP intersection and/or if the project would add 150 or more peak hour trips in either direction to a designated CMP freeway monitoring location.

The CMP arterial routes closest to the project site are Alameda Street, which is located approximately two miles east of the project site and Pacific Coast Highway (State Route 1), which is located approximately 2.5 miles south of the project site. It is estimated that a maximum of 10 percent of the project-generated traffic would travel on either of these CMP routes, which equates to 5 vehicle trips during the morning peak hour and 10 trips during the afternoon peak hour. As these project-related traffic volumes are well below the CMP threshold of 50 trips per hour, a

detailed CMP intersection analysis is not required and the project would not have a significant impact at a CMP intersection.

With regard to the project's CMP-related freeway impacts, the nearest CMP freeway monitoring location is on the San Diego Freeway (Interstate 405) south of I-110. It is estimated that a maximum of 20 percent of the project-generated traffic would use this segment of I-405 or any other freeway segment as an access route, which equates to approximately 9 trips during the morning peak hour and 21 trips during the afternoon peak hour. As this volume is well below the CMP threshold of 150 trips for freeways, a detailed CMP freeway analysis is not required and the project would not have a significant impact on the freeway network. The project would not, therefore, exceed a level of service standard established by the county congestion management agency.

c) **No Impact**. The proposed project would not encroach into any air traffic space and this mixed-use project would have no effect on air traffic patterns.

d) **Less Than Significant with Mitigation Incorporated**. Vehicular access is proposed via a commercial entry/exit driveway on the east side of Avalon Boulevard at the center of the project site, a residential entry/exit driveway on the east side of Avalon Boulevard at the southern edge of the project site, and a residential/commercial entry/exit driveway on the south side of Carson Street. The commercial driveway on Avalon Boulevard would be located opposite an existing driveway that serves the commercial property on the west side of Avalon Boulevard. A median break is currently provided at this location and a left-turn pocket is in place to accommodate northbound left turns into the property on the west side of the street. A left-turn pocket is not currently provided, however, to accommodate southbound traffic that would be turning left into the proposed project's commercial driveway. A hazardous situation would occur if these left-turn movements were to be made from the southbound through lane of Avalon Boulevard. It is recommended, therefore, that the median be reconstructed to provide a southbound left-turn pocket in the median of Avalon Boulevard at the project site's commercial driveway.

The residential driveway would only accommodate right turns into and out of the site because a raised median is currently in place on Avalon Boulevard. It would not be feasible to provide a southbound left-turn pocket at this location because it would conflict with an existing northbound left-turn pocket that provides access to a commercial property on the west side of Avalon Boulevard.

The driveway on Carson Street on the north side of the project site would provide right turn access into and out of the project site. A median break is currently in place on the Carson Street median east of Avalon Boulevard, which could potentially accommodate left turns. It is recommended, however, that this median be reconstructed to eliminate the opening in the median and thereby eliminate left turns and improve safety. This recommendation is based on the close proximity of the existing median break to the Avalon Boulevard/Carson Street intersection.

With the implementation of the proposed mitigation measures, the project would not substantially increase hazards due to a design feature or incompatible uses.

Mitigation Measure T-2

Reconstruct the median on Avalon Boulevard south of Carson Street to provide a left-turn pocket at the project's commercial driveway, subject to approval by the City Engineer.

Mitigation Measure T-3

Reconstruct the median on Carson Street east of Avalon Boulevard to eliminate the existing median opening, subject to approval by the City Engineer.

e) **No Impact.** This project would not affect emergency access to any surrounding properties and emergency access would be provided to all required areas of the project site. A fire lane is proposed along the south and east sides of the development to facilitate access by fire trucks and other emergency vehicles. Both Avalon Boulevard and Carson Street are identified as emergency evacuation routes in the City's Emergency Preparedness Plan, and the project would meet all requirements of the Los Angeles County Fire Department in terms of fire lanes and accessibility. The project would not, therefore, result in inadequate emergency access.

f) **Less Than Significant Impact.** A total of 580 parking spaces are proposed on site, which includes 202 parking spaces on the ground level for commercial and residential guest parking and 378 subterranean parking spaces (78 for senior residents and 300 for condominium residents). Based on the Carson Municipal Code and the Urban Land Institute parking rates, 558 parking spaces would be required. A shared parking analysis that was conducted for the project ("Carson Street/Avalon Boulevard Mixed Parking Project – Shared Parking Analysis," Kunzman Associates, January 14, 2008) indicates that the maximum parking demand that would be generated by the facility would be 496 vehicles on weekdays and 514 vehicles on weekends. The number of spaces proposed would, therefore, sufficiently accommodate the proposed project's parking demands.

Although the proposed number of parking spaces would not meet the current requirements of the MU-CS (Mixed Use – Carson Street) development standards, the number of spaces that would be provided would be sufficient according to the parking rates approved by City staff and the maximum parking demands presented in the shared parking analysis. As the proposed number of parking spaces exceeds the parking requirements as well as the shared parking demand, the project would have an adequate parking capacity and would result in a less than significant parking impact.

g) **No Impact**. On Avalon Boulevard and Carson Street adjacent to the project site, there are no designated bike lanes according to the Bicycle Plan of the Transportation Element of the City's General Plan. Therefore, no additional right-of-way or street improvements would be required of the project relative to bike lanes. With regard to public transit, Carson Circuit operates several bus lines on Carson Street and Avalon Boulevard adjacent to the project site, Torrance Transit operates Line 3 along Carson Street and Avalon Boulevard, and Metro operates Lines 446/447 along Avalon Boulevard. The proposed project would not conflict with any of these transit operations nor with any adopted policies, plans or programs supporting alternative transportation.

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XVI.	**UTILITIES AND SERVICE SYSTEMS.** *Would the project:*				
a)	Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	☑
b)	Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☑
c)	Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☑	☐
d)	Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☑	☐
e)	Result in determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☑
f)	Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☑	☐
g)	Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐	☑

Explanation:

a) **No Impact**. All wastewater generated by interior plumbing devices will discharge to on-site sanitary sewer system, which will flow into an existing local sewer, and then into an exiting sewer main, maintained by the County Sanitation Districts of Los Angeles County (CSDLAC) sewer facilities. The City's wastewater is treated at the CSDLAC's Joint Water Pollution Control Plant. Wastewater from the proposed retail, restaurant, residential, office, clubhouse and fitness center would not require any unusual forms of treatment, and would not exceed any wastewater treatment requirements.

As discussed in the previous response to item VIII.a, this project must comply with the NPDES water quality standards enforced by the Los Angeles Regional Water Quality Control Board, for both construction period activities, and with respect to permanent filtration controls for the developed site. Compliance with these standards ensures that this project would not violate any wastewater treatment standards involving site runoff.

b) **No Impact**. It is estimated that this project would generate roughly 92,160 gallons of wastewater per day, all of which would be conveyed for treatment at the Joint Water Pollution Control Plant (JWPCP), operated by the CSDLA. The JWPCP has a design capacity for 400 million gallons per day (mgd) and currently processes an average flow of 311.3 mgd. There is sufficient capacity, therefore, to handle the volumes of wastewater that would be generated by this project and no additional wastewater treatment facilities would be required. A preliminary engineering assessment (see Appendix B) determined that the existing six (6)-inch sewer lateral, has sufficient capacity to handle the increased flow volume. This assessment also determined that the 15-inch sewer main in Carson Street that will receive the flows from the six (6)-inch lateral also has sufficient capacity for the projected loads from this project. No expansion to either sewer line will be required for this project.

As discussed in the response to item d), later in this section, this project would not require acquisition or construction of any new water supply or water storage facilities. No new water treatment facilities would be needed to deliver potable water to this mixed-use project. There is some possibility that a new water line or an upgrade to one or more existing water delivery pipelines may be required to provide the required fire flows for this project. That will be determined at the plan check stage when the Fire Department establishes the fire flow criteria for this project. If such off-site water system improvements are required, minor and less than significant impacts would occur during the temporary period of construction of those improvements.

c) **Less Than Significant Impact.** The subject site lies within an area designated to drain into an existing 81-inch storm drain system, located at the NW corner of the development. The project site is within an area intended to flow directly into the 81-inch storm drain without flow restrictions. An underground storm drain system will be designed for this project to connect to the existing 81-inch storm drain lateral at the NW corner of the property. No alterations to the existing off-site storm drain system will be required for this project.

Construction of the on-site drainage system would not result in any significant impacts or any impacts that would be independent from construction of other infrastructure facilities for this project.

d) **Less Than Significant Impact**. Water service for this project would be provided by the California Water Service Company, which supplies water for most of the City of Carson. The total number of California Water customers is projected to grow approximately 6.2 percent from 1995 to 2015. Future shifts in water demand most likely would result from either the expansion/downsizing of major industrial customers, new industrial customer growth and the introduction of recycled water. To meet water demands for the next decade, the company will rely on a mix of ground, imported, desalinated and recycled water sources. California Water projections indicate that, under normal precipitation conditions, it will have sufficient water

supplies to meet annual customer water demand through 2015. This is based on the continuation of conservation programs, on desalinated and recycled water becoming available, and on planned efforts to emphasize groundwater supplies and to reduce reliance on imported water sources.

The proposed mixed-use development would not represent a significant impact on the total water demand projections for the California Water Service Company, and no new water supply entitlements would be necessary to meet this project's demands.

e) **No Impact.** Please refer to the previous response to item XVI. b.

f) **Less Than Significant Impact**. Waste Management currently provides residential, commercial and industrial waste collection service for the City of Carson. The recently updated General Plan indicates that approximately 70,000 tons are collected from residential customers and 153,500 tons are collected from commercial and industrial customers per year. The disposal service uses traditional methods of solid waste collection using standard trash trucks and crews. The service also includes the pickup of sorted recyclable materials, which are transported directly to a company that separates and sells them.

The solid waste collected by Waste Management is transported to the company's transfer station at 321 W. Francisco Street in Carson, where it is sorted. The 10-acre facility has a permitted capacity of 5,300 tons per day. After the materials are sorted, tires, green waste, steel, and wood are sent to special facilities for disposal or recycling. The remaining waste materials are loaded onto trailers and taken to the El Sobrante Landfill in Riverside County, a distance of 75 miles from Carson. The El Sobrante Landfill can accept up to 10,000 tons per day of solid waste from Los Angeles, Orange, Riverside, San Bernardino, and San Diego Counties. Its current life expectancy is 100 years. Waste Management also uses Lancaster Landfill and Simi Valley Landfill as alternates.

Waste Management and any future waste collection firms who may be employed by the City may haul solid wastes only to properly licensed and permitted landfills that have capacity to accept the wastes being delivered.

While the proposed residential portion of the project would generate a higher volume of solid wastes than a commercial development, the additional solid waste would not cause the capacity of any of the regional landfills to be exceeded. No unique waste disposal methods would be required and this project would be required to comply with any City regulations governing recycling, reuse and other reductions of the volume of materials that require landfill disposal.

g) **No Impact**. Contractors must properly dispose of all solid waste materials during the construction phases as required by law, or risk losing their licenses. Over the long-term operating life of this project, solid wastes would be collected by the local waste hauler and added to the residential and commercial waste stream collected throughout Carson. No unique waste disposal methods would be required and this project would be required to comply with any City regulations governing recycling, reuse and other reductions of the volume of materials that require landfill disposal. This project would not result in any conflicts with federal, state or local regulations governing solid waste disposal.

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XVII.	**MANDATORY FINDINGS OF SIGNIFICANCE.**				
a)	Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☑	☐	☐
b)	Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☐	☑	☐
c)	Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☐	☑

Explanation:

a) **Less Than Significant With Mitigation Incorporated**. As discussed in the responses to items IVa-IVf, there is no sensitive habitat on or near this site that could support any rare, endangered, threatened or otherwise sensitive plants, fish, or wildlife species; therefore, the project would have no effect upon important biological resources or any conservation plans established to protect such resources. As discussed in the response to item Va-V.b, no historic or prehistoric resources were identified on site in past cultural resource surveys, and none are expected to be found. Monitoring of grading activities by a qualified archaeologist will ensure that no unexpected historic or archaeological resources are accidentally damaged. Grading will be monitored by a qualified paleontologist to ensure that any potentially significant fossil materials that may be uncovered are properly identified and salvaged, if necessary, to preserve the important scientific information therein. With these mitigation measures, potentially significant impacts to archaeological and paleontological resources will be avoided.

b) **Less Than Significant Impact**. Project-related impacts involving aesthetics would

be site specific, and less than significant, and would not contribute to cumulative impacts on any scenic resources or to any substantial degradation of visual character and quality. Since this project would have no effect upon agricultural resources, it would not contribute to any cumulative impacts on such resources. The air quality assessment conducted for this project (Appendix A) determined that construction and long-term emissions would not exceed SCAQMD thresholds, which were established to provide criteria to determine whether impacts are significant at a project level, or cumulatively considerable. With the monitoring of grading by qualified archaeologist and paleontologist, this project would avoid impacts to significant cultural and paleontological resources and would not, therefore, contribute to any cumulative impacts on such resources. Geological and soils constraints affecting site development can be mitigated entirely through routine design and construction methods and would have no effect beyond the project site.

Research on the site did not reveal existing hazardous materials from uses on the site, therefore no hazardous materials remediation is required and would therefore not affect surrounding properties,. This project's impacts relative to the regional hazardous waste disposal requirements are not cumulatively considerable. Compliance with existing water quality regulations administered by the LARWQCB and the City of Carson will ensure that runoff from active construction areas and from the developed site would not violate any water quality standards and would have a less than cumulatively considerable impact on surface and ground waters in this watershed. The subject site is not within any kind of flood hazard zone. Therefore, there would be no cumulative effect involving exposure of more persons and properties to such hazards.

The proposed use is allowed under the Mixed Use – Residential General Plan Land Use Designation and within the MU-CS (Mixed Use – Carson Street) zone. As such, the project would not result in any significant impacts or cumulatively considerable effect involving land use policies, programs or regulations. Since there are no mineral resources affected by this project, there would be no cumulative effects on such resources. The noise impact associated with this project will primarily involve an increase in traffic noise which would be imperceptible by itself, and when combined with projected growth in traffic volumes from other sources over the next 20 years. The project's noise impacts, therefore, would not be cumulatively considerable. Citywide population is projected to increase by roughly 8,700 persons through the year 2020.[1] The project's roughly 490 residents represent about five percent of that projected growth, a less than cumulatively considerable impact.

No new or expanded public services facilities would need to be built to provide service to this project. Cumulative effects on fire and police protection, public schools, libraries, parks, and water, sewer, storm drainage, electricity, natural gas and telephone utilities were addressed comprehensively, on a citywide basis, are identified in the Final EIR certified for the updated Carson General Plan. That EIR concluded that the policies in the General Plan would be sufficient to avoid significant impacts involving the cumulative impacts associated with expanding public services and utilities to accommodate the City's growth. Although the proposed project was not included in the General Plan FEIR, the project would not result in any new or more severe cumulative impacts not addressed in the FEIR. No significant traffic

1 City of Carson General Plan, Housing Element. As adopted July 2002.

congestion impacts were identified in the traffic study prepared for this project (Appendix C), which examined both near-term, project-level impacts and long-term, cumulative impacts.

c) **No Impact**. The proposed project is for mixed- use residential and commercial land uses located adjacent to an existing mobile home park and commercial land uses. The proposed project has been designed to meet the Building and Safety Code for the protection of public health, safety, and welfare, and will not cause substantial adverse effects on human beings, either directly or indirectly.

Earlier Analysis

Earlier analyses may be used where, pursuant to tiering, program EIR, or other CEQA process, one or more effects may have been adequately analyzed in an earlier EIR or negative declaration, Section 15603(c)(3)(D).

Relative information was taken from the *Carson Mixed-Use District Master Plan (June, 2006), General Plan Environmental Impact Report SCH #2001091120 (October, 2002),)* prepared for the General Plan Update, the Amended General Plan (2004), *Carson Marketplace Final Environmental Impact Report SCH No. 2005051059 (January 2006)* and Municipal Zoning Code for Carson, California. These documents are available for review at the City of Carson Planning Division located at 701 E. Carson Street, Carson, CA and on the internet at http://ci.carson.ca.us.

January 17, 2008

Signature

Date

Rocio Lopez, Planner - City of Carson

Printed Name

XVIII. SUMMARY OF MITIGATION MEASURES

Air Quality

(1) Construction

AQ1 Use zero Volatile Organic Compounds (VOC) content architectural coatings on buildings. These reduce VOC (ROG) emissions by 95% over conventional architectural coatings. The following websites provide lists of manufacturers and major brand names:

http://www.aqmd.gov/business/brochures/zerovoc.html;
http://www.delta-institute.org/publications/paints.pdf;
http://www.cleanaircounts.org/factsheet/FS%20PDF/Low%20VOC%20Paint.pdf;

- Restrict the number of gallons of coatings used per day.
- Encourage water-based coatings or other low-emitting alternatives.
- Consider requiring the use of coatings with a lower VOC content than 100 grams per liter.
- Where feasible, paint contractors should use hand applications as well instead of from spray guns.

AQ2 The grading contractor shall do the following:

- Provide watering of the active grading area at least twice a day, throughout the grading phase.
- Apply soil stabilizers to inactive areas.
- Replace ground cover in disturbed areas quickly.

AQ3 General contractor(s) shall maintain and operate construction equipment so as to minimize exhaust emissions. During construction, trucks and vehicles in loading and unloading queues would turn their engines off, when not in use, to reduce vehicle emissions. Construction emissions should be phased and scheduled to avoid emissions peaks and discontinued during second-stage smog alerts.

AQ4 Electricity from power poles, rather than temporary diesel or gasoline powered generators, shall be used to the extent feasible.

AQ5 All construction vehicles shall be prohibited from idling in excess of five minutes, both on and off-site.

AQ6 All construction related equipment shall use aqueous diesel fuel, a diesel particulate filter and cooled exhaust gas recirculation.

AQ7 All construction vehicles tires shall be washed at the time these vehicles exit the project site.

AQ8 All fill material carried by haul trucks and stock piles shall be covered by a tarp or other means.

AQ9 Reduce speed on unpaved roads to less than 15 miles per hour (mph).

AQ10 Supply lunch van to construction site for employees, to reduce vehicle trips.

(2) Operations

Service and Support Facilities (point sources)

AQ11 All point source facilities shall obtain all required permits from the SCAQMD. The issuance of these permits by the SCAQMD shall require the operators of these facilities to implement Best Available Control Technology and other required measures that reduce emissions of criteria air pollutants.

AQ12 Land uses on the project site shall be limited to those that do not emit high levels of potentially toxic contaminants or odors.

Natural Gas Consumption and Electricity Production

AQ13 All residents and non-residential buildings shall meet the California Title 24 Energy Efficiency standards for water heating, space heating and cooling, to the extent feasible.

AQ14 All fixtures used for lighting of exterior common areas shall be regulated by automatic devices to turn off lights when they are not needed, but a minimum level of lighting should be provided for safety.

Building Materials, Architectural Coatings and Cleaning Solvents

AQ15 Building materials, architectural coatings and cleaning solvents shall comply with all applicable SCAQMD rules and regulations.

Transportation System Management and Demand Management

AQ16 The applicant shall, to the extent feasible, schedule deliveries during off-peak traffic periods to encourage the reduction of trips during the most congested periods.

AQ17 The applicant shall coordinate with the Carson Circuit Transit System, the City of Carson, the MTA and Los Angeles Department of Transportation to provide information with regard to local bus and rail services.

AQ18 During site plan review, consideration shall be given regarding the provision

of safe and convenient access to bus stops and public transportation facilities.

AQ19 Applicant shall provide bicycle racks located at convenient locations throughout the project site.

Cultural Resources

CR1 A qualified archaeologist shall be on site during all earth moving and trenching activities. The archaeologist shall be empowered to stop and/or relocate earth-moving activities if cultural resources are identified. In the event that previously unknown archaeological remains are uncovered during construction, land alteration work in the general vicinity of the find shall be halted. Prompt evaluations would then be made regarding the finds and an appropriate course of action would be implemented as directed by the archaeologist. If prehistoric archaeological deposits are discovered, local Native American organizations shall be consulted and involved in making cultural resources management decisions. All such procedures shall comply with CEQA Guidelines Section 15064.5, Public Resources Code 5097.98, and Health and Safety Code 7050.5. All resources shall be documented and curated, and a report shall be filed with the City's Planning Department within 30 days of the find.

Geology and Soils

GS1 Prior to issuance of building permits, the Building Department shall review and approve all structural plans to assure compliance with the seismic safety design parameters set forth in the most current version of the City's Building Code. Compliance with these requirements would ensure implementation of appropriate measures, such as reinforcement and shoring, designated construction zones, barriers, and other methods, to anticipate and avoid the potential for significant and adverse impacts caused by building site instability and falling debris during construction activities (as caused by a seismically induced event). Such plans shall be prepared in consultation with or certified by a qualified structural engineer, experienced with earthquake-resistant design techniques.

GS2 Prior to issuance of a grading permit, the Building Department shall ensure that the recommendations of a certified geologist's site-specific report are incorporated into the grading plan to mitigate seismically-induced ground shaking hazards and all applicable requirements of the City's grading ordinance.

Hazards and Hazardous Materials

HHM1 As a condition to the issuance of grading and shoring permits for the Econo Lube site and the site of the former cleaners, (the Econo Lube contaminated with fuel and the cleaners contaminated with PCE above actionable levels), the developer shall provide the City with a plan of action for remediation that has been approved by the Los Angeles Regional Water Quality Control Board or other lead agency. Upon the developer's completion of the remediation in accordance with the approved plan, including the installation of water monitoring wells (to the extent required) and the delivery of the contaminated soil removal completion report prepard by the developer's State-licensed consultant, the City shall issue the building permit for those sites.

HHM2 As a condition to issuance of a certificate of occupancy for the buildings to be constructed on those sites, the developer shall deliver a No Further Action letter from the Regional Water Qualify Board or other lead agency in connection with the soils remediation. Developer shall diligently pursue a No Further Action letter with respect to the groundwater in a timely manner.

HHM3 Prior to the issuance of any grading permit for residential/commercial development at the subject site, the City shall obtain evidence of issuance of a "No Further Action" letter from the LARWQCB, to certify that any contaminated portions of the site have been fully and adequately remediated.

Noise

N1 All construction equipment powered by internal combustion engines shall be equipped with proper mufflers and air-intake silencers in good working order.

N2 All equipment maintenance activities shall be performed within the center of the project site as is practical.

N3 Stationary equipment such as concrete pumps, generators and compressors shall be located more than 200 feet from the nearest residential uses. Alternately, they may be located behind a structure or temporary noise barrier constructed of minimum 3/4" thick plywood with no gaps or cracks that blocks line of site between the residential uses within 200 feet of the unit and the unit itself.

N4 Solid noise barriers shall be provided for all exterior patios and balconies for units along Avalon Boulevard and Carson Street. This will reduce exterior noise levels in these private outdoor recreation spaces to less than the City's maximum exposure of 65 dBA CNEL. When final grading plans become available, and prior to grading permit issuance, an analysis will be performed to determine the exact height and location of barriers required to meet the noise standards in the residential patios and balconies. This analysis shall be

prepared by a qualified acoustical engineer and be reviewed and approved by the City prior to permit issuance.

N5 Mechanical ventilation shall be provided for all dwelling units along Avalon Boulevard and Carson Street. This will enable residents to close all windows to achieve the City's interior noise level standard of 45 dBA CNEL or less. Compliance with this requirement shall be shown on the architectural plans, prior to issuance of building permits.

N6 Exterior construction activities at the project site shall be limited to the hours of 7:00 a.m. to 8:00 p.m. Monday through Saturday and shall exclude public holidays. Interior construction activities that do not generate exterior noise are exempt from this requirement.

Transportation/Traffic

T1 Dedicate right-of-way on the east side of Avalon Boulevard south of Carson Street to accommodate the construction of a right-turn lane on the northbound approach of the Avalon Boulevard/Carson Street intersection, subject to approval by the City Engineer.

T2 Reconstruct the median on Avalon Boulevard south of Carson Street to provide a left-turn pocket at the project's commercial driveway, subject to approval by the City Engineer.

T3 Reconstruct the median on Carson Street east of Avalon Boulevard to eliminate the existing median opening, subject to approval by the City Engineer.

APPENDIX A
Air Quality Study

(See attached)

URBEMIS 2002 For Windows 8.7.0

File Name: C:\URBEMIS\Porject-04172007.urb
Project Name: carson avalon mixed use
Project Location: South Coast Air Basin (Los Angeles area)
On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

SUMMARY REPORT
(Pounds/Day - Summer)

CONSTRUCTION EMISSION ESTIMATES

*** 2008 ***	ROG	NOx	CO	SO2	PM10 TOTAL	PM10 EXHAUST	PM10 DUST
TOTALS (lbs/day,unmitigated)	10.21	64.40	84.28	0.00	22.26	2.25	20.01
TOTALS (lbs/day, mitigated)	1.06	33.24	8.91	0.00	3.02	0.02	3.00

*** 2009 ***	ROG	NOx	CO	SO2	PM10 TOTAL	PM10 EXHAUST	PM10 DUST
TOTALS (lbs/day,unmitigated)	10.21	62.77	85.15	0.00	22.10	2.09	20.01
TOTALS (lbs/day, mitigated)	1.06	32.40	8.96	0.00	3.02	0.02	3.00

*** 2010 ***	ROG	NOx	CO	SO2	PM10 TOTAL	PM10 EXHAUST	PM10 DUST
TOTALS (lbs/day,unmitigated)	246.97	25.15	43.88	0.00	1.03	0.83	0.20
TOTALS (lbs/day, mitigated)	243.36	13.21	13.74	0.00	0.22	0.02	0.20

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10
TOTALS (lbs/day,unmitigated)	16.10	1.96	3.24	0.00	0.01

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10
TOTALS (lbs/day,unmitigated)	23.89	25.62	281.63	0.24	21.76

SUM OF AREA AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10
TOTALS (lbs/day,unmitigated)	39.99	27.58	284.87	0.24	21.77

*2010 Mitigated: Using zero VOC content architectural coatings on buildings reduces the ROG level by 95% According to AQMD. True reading for mitigated ROG is therefore 14.33.

URBEMIS 2002 For Windows 8.7.0

File Name: C:\URBEMIS\Porject-04172007.urb
Project Name: carson avalon mixed use
Project Location: South Coast Air Basin (Los Angeles area)
On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

DETAIL REPORT
(Pounds/Day - Summer)

Construction Start Month and Year: November, 2008
Construction Duration: 24
Total Land Use Area to be Developed: 4.59 acres
Maximum Acreage Disturbed Per Day: 2 acres
Single Family Units: 0 Multi-Family Units: 236
Retail/Office/Institutional/Industrial Square Footage: 17000

CONSTRUCTION EMISSION ESTIMATES UNMITIGATED (lbs/day)

Source	ROG	NOx	CO	SO2	PM10 TOTAL	PM10 EXHAUST	PM10 DUST
*** 2008***							
Phase 1 - Demolition Emissions							
Fugitive Dust	-	-	-	-	0.00	-	0.00
Off-Road Diesel	3.57	23.21	28.89	-	0.83	0.83	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.06	0.11	1.29	0.00	0.00	0.00	0.00
Maximum lbs/day	3.63	23.32	30.18	0.00	0.83	0.83	0.00
Phase 2 - Site Grading Emissions							
Fugitive Dust	-	-	-	-	20.00	-	20.00
Off-Road Diesel	10.17	64.37	83.74	-	2.25	2.25	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.04	0.03	0.54	0.00	0.01	0.00	0.01
Maximum lbs/day	10.21	64.40	84.28	0.00	22.26	2.25	20.01
Phase 3 - Building Construction							
Bldg Const Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
Bldg Const Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Arch Coatings Off-Gas	0.00	-	-	-	-	-	-
Arch Coatings Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Off-Gas	0.00	-	-	-	-	-	-
Asphalt Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
Asphalt On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Max lbs/day all phases	10.21	64.40	84.28	0.00	22.26	2.25	20.01
*** 2009***							
Phase 1 - Demolition Emissions							
Fugitive Dust	-	-	-	-	0.00	-	0.00
Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Phase 2 - Site Grading Emissions							
Fugitive Dust	-	-	-	-	20.00	-	20.00
Off-Road Diesel	10.17	62.75	84.66	-	2.09	2.09	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.04	0.02	0.49	0.00	0.01	0.00	0.01
Maximum lbs/day	10.21	62.77	85.15	0.00	22.10	2.09	20.01
Phase 3 - Building Construction							
Bldg Const Off-Road Diesel	2.09	12.80	17.38	-	0.42	0.42	0.00
Bldg Const Worker Trips	0.45	0.26	5.58	0.00	0.11	0.01	0.10
Arch Coatings Off-Gas	0.00	-	-	-	-	-	-
Arch Coatings Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Off-Gas	0.00	-	-	-	-	-	-
Asphalt Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
Asphalt On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	2.53	13.07	22.96	0.00	0.52	0.42	0.10
Max lbs/day all phases	10.21	62.77	85.15	0.00	22.10	2.09	20.01

*** 2010***

Phase 1 - Demolition Emissions							
Fugitive Dust	-	-	-	-	0.00	-	0.00
Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Phase 2 - Site Grading Emissions							
Fugitive Dust	-	-	-	-	0.00	-	0.00
Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Phase 3 - Building Construction							
Bldg Const Off-Road Diesel	2.09	12.56	17.56	-	0.40	0.40	0.00
Bldg Const Worker Trips	0.41	0.24	5.14	0.00	0.11	0.01	0.10
Arch Coatings Off-Gas	242.02	-	-	-	-	-	-
Arch Coatings Worker Trips	0.41	0.24	5.14	0.00	0.11	0.01	0.10
Asphalt Off-Gas	0.12	-	-	-	-	-	-
Asphalt Off-Road Diesel	1.90	11.76	15.86	-	0.41	0.41	0.00
Asphalt On-Road Diesel	0.02	0.35	0.07	0.00	0.01	0.01	0.00
Asphalt Worker Trips	0.01	0.01	0.11	0.00	0.00	0.00	0.00
Maximum lbs/day	246.97	25.15	43.88	0.00	1.03	0.83	0.20
Max lbs/day all phases	246.97	25.15	43.88	0.00	1.03	0.83	0.20

Phase 1 - Demolition Assumptions
Start Month/Year for Phase 1: Nov '08
Phase 1 Duration: 1.2 months
Building Volume Total (cubic feet): 0
Building Volume Daily (cubic feet): 0
Miles per round trip set to zero
Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
1	Concrete/Industrial saws	84	0.730	8.0
1	Excavators	180	0.580	8.0
1	Tractor/Loaders/Backhoes	79	0.465	8.0

Phase 2 - Site Grading Assumptions
Start Month/Year for Phase 2: Dec '08
Phase 2 Duration: 2.4 months
On-Road Truck Travel (VMT): 0
Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
1	Cranes	190	0.430	8.0
1	Crawler Tractors	143	0.575	8.0
2	Excavators	180	0.580	8.0
1	Graders	174	0.575	8.0
1	Off Highway Tractors	255	0.410	8.0

Phase 3 - Building Construction Assumptions
Start Month/Year for Phase 3: Feb '09
Phase 3 Duration: 20.4 months
Start Month/Year for SubPhase Building: Feb '09
SubPhase Building Duration: 20.4 months
Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
1	Cranes	190	0.430	8.0
1	Tractor/Loaders/Backhoes	79	0.465	8.0

Start Month/Year for SubPhase Architectural Coatings: Sep '10
SubPhase Architectural Coatings Duration: 2 months
Start Month/Year for SubPhase Asphalt: Oct '10
SubPhase Asphalt Duration: 1 months
Acres to be Paved: 1
Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
1	Paving Equipment	111	0.530	8.0
1	Rollers	114	0.430	8.0

AREA SOURCE EMISSION ESTIMATES (Summer Pounds per Day, Unmitigated)

Source	ROG	NOx	CO	SO2	PM10
Natural Gas	0.15	1.94	0.90	0	0.00
Hearth - No summer emissions					
Landscaping	0.37	0.01	2.34	0.00	0.01
Consumer Prdcts	11.55	-	-	-	-
Architectural Coatings	4.03	-	-	-	-
TOTALS(lbs/day,unmitigated)	16.10	1.96	3.24	0.00	0.01

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DETAIL REPORT
(Pounds/Day - Summer)

Construction Start Month and Year: November, 2008
Construction Duration: 24
Total Land Use Area to be Developed: 4.59 acres
Maximum Acreage Disturbed Per Day: 2 acres
Single Family Units: 0 Multi-Family Units: 236
Retail/Office/Institutional/Industrial Square Footage: 17000

CONSTRUCTION EMISSION ESTIMATES MITIGATED (lbs/day)

Source	ROG	NOx	CO	SO2	PM10 TOTAL	PM10 EXHAUST	PM10 DUST
*** 2008***							
Phase 1 - Demolition Emissions							
Fugitive Dust	-	-	-	-	0.00	-	0.00
Off-Road Diesel	0.36	11.98	2.89	-	0.01	0.01	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.06	0.11	1.29	0.00	0.00	0.00	0.00
Maximum lbs/day	0.42	12.09	4.18	0.00	0.01	0.01	0.00
Phase 2 - Site Grading Emissions							
Fugitive Dust	-	-	-	-	2.99	-	2.99
Off-Road Diesel	1.02	33.21	8.37	-	0.02	0.02	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.04	0.03	0.54	0.00	0.01	0.00	0.01
Maximum lbs/day	1.06	33.24	8.91	0.00	3.02	0.02	3.00
Phase 3 - Building Construction							
Bldg Const Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
Bldg Const Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Arch Coatings Off-Gas	0.00	-	-	-	-	-	-
Arch Coatings Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Off-Gas	0.00	-	-	-	-	-	-
Asphalt Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
Asphalt On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Max lbs/day all phases	1.06	33.24	8.91	0.00	3.02	0.02	3.00
*** 2009***							
Phase 1 - Demolition Emissions							
Fugitive Dust	-	-	-	-	0.00	-	0.00
Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Phase 2 - Site Grading Emissions							
Fugitive Dust	-	-	-	-	2.99	-	2.99
Off-Road Diesel	1.02	32.38	8.47	-	0.02	0.02	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.04	0.02	0.49	0.00	0.01	0.00	0.01
Maximum lbs/day	1.06	32.40	8.96	0.00	3.02	0.02	3.00
Phase 3 - Building Construction							
Bldg Const Off-Road Diesel	0.21	6.60	1.74	-	0.00	0.00	0.00
Bldg Const Worker Trips	0.45	0.26	5.58	0.00	0.11	0.01	0.10
Arch Coatings Off-Gas	0.00	-	-	-	-	-	-
Arch Coatings Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Off-Gas	0.00	-	-	-	-	-	-
Asphalt Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
Asphalt On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	0.66	6.87	7.32	0.00	0.11	0.01	0.10
Max lbs/day all phases	1.06	32.40	8.96	0.00	3.02	0.02	3.00

*** 2010***

Phase 1 - Demolition Emissions							
Fugitive Dust	-	-	-	-	0.00	-	0.00
Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Phase 2 - Site Grading Emissions							
Fugitive Dust	-	-	-	-	0.00	-	0.00
Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Phase 3 - Building Construction							
Bldg Const Off-Road Diesel	0.21	6.48	1.76	-	0.00	0.00	0.00
Bldg Const Worker Trips	0.41	0.24	5.14	0.00	0.11	0.01	0.10
Arch Coatings Off-Gas	242.02	-	-	-	-	-	-
Arch Coatings Worker Trips	0.41	0.24	5.14	0.00	0.11	0.01	0.10
Asphalt Off-Gas	0.12	-	-	-	-	-	-
Asphalt Off-Road Diesel	0.19	6.07	1.59	-	0.00	0.00	0.00
Asphalt On-Road Diesel	0.00	0.18	0.01	0.00	0.00	0.00	0.00
Asphalt Worker Trips	0.01	0.01	0.11	0.00	0.00	0.00	0.00
Maximum lbs/day	243.36	13.21	13.74	0.00	0.22	0.02	0.20
Max lbs/day all phases	243.36	13.21	13.74	0.00	0.22	0.02	0.20

Construction-Related Mitigation Measures

Phase 1: Off-Road Diesel Exhaust: Use aqueous diesel fuel
Percent Reduction(ROG 0.0% NOx 14.0% CO 0.0% SO2 0.0% PM10 63.0%)
Phase 1: Off-Road Diesel Exhaust: Use diesel particulate filter
Percent Reduction(ROG 0.0% NOx 0.0% CO 0.0% SO2 0.0% PM10 80.0%)
Phase 1: Off-Road Diesel Exhaust: Use cooled exhaust gas recirculation
Percent Reduction(ROG 90.0% NOx 40.0% CO 90.0% SO2 0.0% PM10 85.0%)
Phase 1: On-Road Diesel Exhaust: Use aqueous diesel fuel
Percent Reduction(ROG 0.0% NOx 14.0% CO 0.0% SO2 0.0% PM10 63.0%)
Phase 1: On-Road Diesel Exhaust: Use diesel particulate filter
Percent Reduction(ROG 0.0% NOx 0.0% CO 0.0% SO2 0.0% PM10 80.0%)
Phase 1: On-Road Diesel Exhaust: Use cooled exhaust gas recirculation(EGR)
Percent Reduction(ROG 90.0% NOx 40.0% CO 90.0% SO2 0.0% PM10 85.0%)
Phase 1: Worker Trips: Supply lunch van to site.
Percent Reduction(ROG 0.0% NOx 0.0% CO 0.0% SO2 0.0% PM10 0.0%)
Phase 2: Soil Disturbance: Apply soil stabilizers to inactive areas
Percent Reduction(ROG 0.0% NOx 0.0% CO 0.0% SO2 0.0% PM10 30.0%)
Phase 2: Soil Disturbance: Replace ground cover in disturbed areas quickly
Percent Reduction(ROG 0.0% NOx 0.0% CO 0.0% SO2 0.0% PM10 15.0%)
Phase 2: Soil Disturbance: Water exposed surfaces - 2x daily
Percent Reduction(ROG 0.0% NOx 0.0% CO 0.0% SO2 0.0% PM10 34.0%)
Phase 2: Off-Road Diesel Exhaust: Use aqueous diesel fuel
Percent Reduction(ROG 0.0% NOx 14.0% CO 0.0% SO2 0.0% PM10 63.0%)
Phase 2: Off-Road Diesel Exhaust: Use diesel particulate filter
Percent Reduction(ROG 0.0% NOx 0.0% CO 0.0% SO2 0.0% PM10 80.0%)
Phase 2: Off-Road Diesel Exhaust: Use cooled exhaust gas recirculation(EGR)
Percent Reduction(ROG 90.0% NOx 40.0% CO 90.0% SO2 0.0% PM10 85.0%)
Phase 2: On-Road Diesel Exhaust: Use aqueous diesel fuel
Percent Reduction(ROG 0.0% NOx 14.0% CO 0.0% SO2 0.0% PM10 63.0%)
Phase 2: On-Road Diesel Exhaust: Use diesel particulate filter
Percent Reduction(ROG 0.0% NOx 0.0% CO 0.0% SO2 0.0% PM10 80.0%)
Phase 2: On-Road Diesel Exhaust: Use cooled exhaust gas recirculation(EGR)
Percent Reduction(ROG 90.0% NOx 40.0% CO 90.0% SO2 0.0% PM10 85.0%)
Phase 2: Stockpiles: Cover all stock piles with tarps
Percent Reduction(ROG 0.0% NOx 0.0% CO 0.0% SO2 0.0% PM10 9.5%)
Phase 2: Unpaved Roads: Water all haul roads 2x daily
Percent Reduction(ROG 0.0% NOx 0.0% CO 0.0% SO2 0.0% PM10 30.0%)
Phase 2: Unpaved Roads: Reduce speed on unpaved roads to < 15 mph
Percent Reduction(ROG 0.0% NOx 0.0% CO 0.0% SO2 0.0% PM10 40.0%)
Phase 2: Worker Trips: Supply lunch truck to site
Percent Reduction(ROG 0.0% NOx 0.0% CO 0.0% SO2 0.0% PM10 0.0%)
Phase 3: Off-Road Diesel Exhaust: Use aqueous diesel fuel
Percent Reduction(ROG 0.0% NOx 14.0% CO 0.0% SO2 0.0% PM10 63.0%)
Phase 3: Off-Road Diesel Exhaust: Use diesel particulate filter
Percent Reduction(ROG 0.0% NOx 0.0% CO 0.0% SO2 0.0% PM10 80.0%)
Phase 3: Off-Road Diesel Exhaust: Use cooled exhaust gas recirculation(EGR)
Percent Reduction(ROG 90.0% NOx 40.0% CO 90.0% SO2 0.0% PM10 85.0%)
Phase 3: Off-Road Diesel Exhaust: Use aqueous diesel fuel

Percent Reduction(ROG 0.0% NOx 14.0% CO 0.0% SO2 0.0% PM10 63.0%)
Phase 3: Off-Road Diesel Exhaust: Use diesel particulate filter
Percent Reduction(ROG 0.0% NOx 0.0% CO 0.0% SO2 0.0% PM10 80.0%)
Phase 3: Off-Road Diesel Exhaust: Use cooled exhaust gas recirculation(EGR)
Percent Reduction(ROG 90.0% NOx 40.0% CO 90.0% SO2 0.0% PM10 85.0%)
Phase 3: On-Road Diesel Exhaust: Use aqueous diesel fuel
Percent Reduction(ROG 0.0% NOx 14.0% CO 0.0% SO2 0.0% PM10 63.0%)
Phase 3: On-Road Diesel Exhaust: Use diesel particulate filter
Percent Reduction(ROG 0.0% NOx 0.0% CO 0.0% SO2 0.0% PM10 80.0%)
Phase 3: On-Road Diesel Exhaust: Use cooled exhaust gas recirculation(EGR)
Percent Reduction(ROG 90.0% NOx 40.0% CO 90.0% SO2 0.0% PM10 85.0%)
Phase 3: Worker Trips: Supply lunch truck on site
Percent Reduction(ROG 0.0% NOx 0.0% CO 0.0% SO2 0.0% PM10 0.0%)
Phase 3: Worker Trips: Supply lunch truck on site
Percent Reduction(ROG 0.0% NOx 0.0% CO 0.0% SO2 0.0% PM10 0.0%)
Phase 3: Worker Trips: Supply lunch truck on site
Percent Reduction(ROG 0.0% NOx 0.0% CO 0.0% SO2 0.0% PM10 0.0%)
Phase 1 - Demolition Assumptions
Start Month/Year for Phase 1: Nov '08
Phase 1 Duration: 1.2 months
Building Volume Total (cubic feet): 0
Building Volume Daily (cubic feet): 0
Miles per round trip set to zero
Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
1	Concrete/Industrial saws	84	0.730	8.0
1	Excavators	180	0.580	8.0
1	Tractor/Loaders/Backhoes	79	0.465	8.0

Phase 2 - Site Grading Assumptions
Start Month/Year for Phase 2: Dec '08
Phase 2 Duration: 2.4 months
On-Road Truck Travel (VMT): 0
Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
1	Cranes	190	0.430	8.0
1	Crawler Tractors	143	0.575	8.0
2	Excavators	180	0.580	8.0
1	Graders	174	0.575	8.0
1	Off Highway Tractors	255	0.410	8.0

Phase 3 - Building Construction Assumptions
Start Month/Year for Phase 3: Feb '09
Phase 3 Duration: 20.4 months
Start Month/Year for SubPhase Building: Feb '09
SubPhase Building Duration: 20.4 months
Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
1	Cranes	190	0.430	8.0
1	Tractor/Loaders/Backhoes	79	0.465	8.0

Start Month/Year for SubPhase Architectural Coatings: Sep '10
SubPhase Architectural Coatings Duration: 2 months
Start Month/Year for SubPhase Asphalt: Oct '10
SubPhase Asphalt Duration: 1 months
Acres to be Paved: 1
Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
1	Paving Equipment	111	0.530	8.0
1	Rollers	114	0.430	8.0

UNMITIGATED OPERATIONAL EMISSIONS

	ROG	NOx	CO	SO2	PM10
Apartments mid rise	6.07	5.90	65.80	0.06	5.04
Condo/townhouse general	12.14	12.32	137.48	0.12	10.52
Strip mall	5.68	7.40	78.35	0.07	6.20
TOTAL EMISSIONS (lbs/day)	23.89	25.62	281.63	0.24	21.76

Does not include correction for passby trips.
Does not include double counting adjustment for internal trips.

OPERATIONAL (Vehicle) EMISSION ESTIMATES

Analysis Year: 2005 Temperature (F): 90 Season: Summer

EMFAC Version: EMFAC2002 (9/2002)

Summary of Land Uses:

Unit Type	Acreage	Trip Rate	No. Units	Total Trips
Apartments mid rise	2.26	5.76 trips/dwelling unit	86.00	495.36
Condo/townhouse general	9.38	6.90 trips/dwelling unit	150.00	1,035.00
Strip mall		42.94 trips/1000 sq. ft.	17.00	729.98
		Sum of Total Trips		2,260.34
		Total Vehicle Miles Traveled		14,323.84

Vehicle Assumptions:

Fleet Mix:

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	56.10	2.30	97.10	0.60
Light Truck < 3,750 lbs	15.10	4.00	93.40	2.60
Light Truck 3,751- 5,750	15.50	1.90	96.80	1.30
Med Truck 5,751- 8,500	6.80	1.50	95.60	2.90
Lite-Heavy 8,501-10,000	1.00	0.00	80.00	20.00
Lite-Heavy 10,001-14,000	0.30	0.00	66.70	33.30
Med-Heavy 14,001-33,000	1.00	10.00	20.00	70.00
Heavy-Heavy 33,001-60,000	0.80	0.00	12.50	87.50
Line Haul > 60,000 lbs	0.00	0.00	0.00	100.00
Urban Bus	0.10	0.00	0.00	100.00
Motorcycle	1.60	87.50	12.50	0.00
School Bus	0.30	0.00	0.00	100.00
Motor Home	1.40	14.30	78.60	7.10

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	11.5	4.9	6.0	10.3	5.5	5.5
Rural Trip Length (miles)	11.5	4.9	6.0	10.3	5.5	5.5
Trip Speeds (mph)	35.0	40.0	40.0	40.0	40.0	40.0
% of Trips - Residential	20.0	37.0	43.0			
% of Trips - Commercial (by land use)						
Strip mall				2.0	1.0	97.0

Changes made to the default values for Land Use Trip Percentages

Changes made to the default values for Construction

Phase 1 mitigation measure Off-Road Diesel Exhaust: Use aqueous diesel fuel
has been changed from off to on.
Phase 1 mitigation measure Off-Road Diesel Exhaust: Use diesel particulate filter
has been changed from off to on.
Phase 1 mitigation measure Off-Road Diesel Exhaust: Use cooled exhaust gas recirculation
has been changed from off to on.
Phase 1 mitigation measure On-Road Diesel Exhaust: Use aqueous diesel fuel
has been changed from off to on.
Phase 1 mitigation measure On-Road Diesel Exhaust: Use diesel particulate filter
has been changed from off to on.
Phase 1 mitigation measure On-Road Diesel Exhaust: Use cooled exhaust gas recirculation(EGR)
has been changed from off to on.
Phase 1 mitigation measure Worker Trips: Supply lunch van to site.
has been changed from off to on.
Phase 2 mitigation measure Soil Disturbance: Apply soil stabilizers to inactive areas
has been changed from off to on.
Phase 2 mitigation measure Soil Disturbance: Replace ground cover in disturbed areas quickly
has been changed from off to on.
Phase 2 mitigation measure Soil Disturbance: Water exposed surfaces - 2x daily
has been changed from off to on.
Phase 2 mitigation measure Off-Road Diesel Exhaust: Use aqueous diesel fuel
has been changed from off to on.
Phase 2 mitigation measure Off-Road Diesel Exhaust: Use diesel particulate filter
has been changed from off to on.
Phase 2 mitigation measure Off-Road Diesel Exhaust: Use cooled exhaust gas recirculation(EGR)
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Phase 2 mitigation measure Stockpiles: Cover all stock piles with tarps
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Phase 2 mitigation measure Unpaved Roads: Water all haul roads 2x daily
has been changed from off to on.
Phase 2 mitigation measure Unpaved Roads: Reduce speed on unpaved roads to < 15 mph
has been changed from off to on.
Phase 2 mitigation measure Worker Trips: Supply lunch truck to site
has been changed from off to on.
Phase 3 mitigation measure Off-Road Diesel Exhaust: Use aqueous diesel fuel
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Phase 3 mitigation measure Off-Road Diesel Exhaust: Use diesel particulate filter
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has been changed from off to on.
Phase 3 mitigation measure Worker Trips: Supply lunch truck on site
has been changed from off to on.
Phase 3 mitigation measure Worker Trips: Supply lunch truck on site
has been changed from off to on.

Changes made to the default values for Area

Mitigation measure Residential Increase Efficiency Beyond Title 24
has been changed from off to on.
Mitigation measure Commercial Increase Efficiency Beyond Title 24
has been changed from off to on.
Mitigation measure Residential Electric Landscape Maintenance Equipment
has been changed from off to on.

Mitigation measure Commercial/Industrial Electric Landscape Maintenance Equipment has been changed from off to on.

Changes made to the default values for Operations

KUNZMAN ASSOCIATES
TRAFFIC ENGINEERING AND TRANSPORTATION PLANNING

January 14, 2008

Mr. Rick Siebert
THOMAS SAFRAN & ASSOCIATES
11812 San Vicente Boulevard, Suite 600
Los Angeles, CA 90049-5063

Dear Mr. Siebert:

INTRODUCTION

The firm of Kunzman Associates is pleased to provide this revised shared parking analysis for the Carson Street/Avalon Boulevard mixed use parking project. The proposed development is located at the southeast corner of Avalon Boulevard and Carson Street in the City of Carson (see Figure 1). Access to the project site is provided on Avalon Boulevard and Carson Street.

This report summarizes our methodology, analysis and findings. We trust that the findings, which are summarized in the front of the report, will be of immediate as well as continuing value to you and the City of Carson in evaluating the project.

Although this is a technical report, every effort has been made to write the report clearly and concisely. To assist the reader with those terms unique to transportation engineering, a glossary of terms is provided in Appendix A.

SUMMARY

Based on the City of Carson Parking Code requirements, 566 parking spaces are required for the portion of the project site that is suited for the shared parking concept.

Once shared parking factors are utilized, a December maximum parking demand of 496 parking spaces will occur on weekdays at 7:00 PM, and a December maximum parking demand of 514 parking spaces will occur on weekends at 7:00 PM. Based on the shared parking analysis, 582 parking spaces are sufficient for the project site.

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PHONE: (714) 973-8383 ▪ FAX: (714) 973-8821 ▪ TOLL FREE: (877) 972-1220
E-MAIL: MAIL @ TRAFFIC-ENGINEER.COM ▪ WEB: WWW.TRAFFIC-ENGINEER.COM

PROPOSED DEVELOPMENT

The shared parking portion of the project site is proposed to be developed with 20,649 square feet of commercial retail, 9,036 square feet of family restaurant, 86 affordable senior apartment dwelling units, and 150 condominium dwelling units. The project site plan is illustrated on Figure 1.

PARKING CODE

The City of Carson Parking Code requirements are included in Appendix B. Typically, a parking code includes an overage factor. A parking code may require 5.00 parking spaces per thousand square feet of floor space; however, the actual number of vehicles parked will typically be, for instance, a maximum of 4.50 vehicles parked per thousand square feet of floor space at any one point during the week. Thus, in this example, there is an overage of 0.50 spaces per thousand square feet of floor space during peak parking demand.

Based on the City of Carson Parking Code requirements, 566 parking spaces are needed per Table 1. This demand is required if all land uses simultaneously generated their maximum parking code demands.

To conduct a shared parking analysis, it is necessary to disaggregate the parking code into weekday and weekend as well as customer/visitor/guest and employee/resident parking space demands. Based on the City of Carson Parking Code and the Urban Land Institute recommended parking ratios, the disaggregated parking rates are shown in Table 1.

Also shown in Table 1 is the implied parking space demand when only the weekday and weekend peak parking rates are multiplied by the land use quantities. A total of 531 parking spaces are required for weekdays and 566 parking spaces are required for weekends.

As will be shown below when monthly, day of week, and hourly parking factors are utilized, then even less than 566 parking spaces will be needed for the project site.

SHARED PARKING

Kunzman Associates has used the procedures developed by the Urban Land Institute Shared Parking (2005). The Urban Land Institute shared parking analysis evaluates the types of uses, parking rates, monthly variations of parking demand by land use, differences between weekday and weekend parking demand for customer/visitor and employees, and the hourly distribution of peak parking demand for each type of land use. The Urban Land Institute procedures were utilized in this study to evaluate peak parking demand that would occur for the project at any point in time when monthly, day of week, and hourly factors are utilized.

A computer program was used to analyze the shared parking for the proposed development. The program is consistent with the procedures provided by the Urban Land Institute. The following inputs were included within the shared parking computer program for each land use:

a. Peak parking demand by land use per parking code.

b. Weekend vs. weekday adjustment factors.

c. Customer/visitor/guest and employee/resident factors.

d. Monthly adjustment factors to account for variations in parking demand over the year. It should be noted that a late December month is defined as the period between Christmas and New Year's Day, reflecting high attendance at active entertainment venues, lower demand at office and other employment-centered destinations, and moderate demand for retail.

e. Hourly distribution of parking demand based upon the Urban Land Institute data.

The idea of a shared parking analysis is that if the various land uses have peak parking demands at different points in time, or on different days of the week, then the number of spaces required is not the sum of the parking requirements for each land use, but rather less. If the peak demands for the various land uses are non-coincidental, then there is an opportunity for sharing of parking. To determine the degree to which shared parking can occur, the cumulative hourly parking demand of the land uses is calculated at all points in time throughout the day for both weekdays and weekends. With the parking demand known by hour and day, then the maximum peak parking demand during a seven day week can be determined. The maximum expected parking demand during the seven day week is then used as a basis for determining the number of parking spaces needed.

To determine the degree to which sharing of parking can occur, each month of the year was evaluated and the peak parking demand for both weekdays and weekends was determined utilizing data provide by the Urban Land Institute.

Table 2 shows the expected hourly peak parking demand of the land uses for both weekdays and weekends. Table 3 shows the cumulative parking demand peaks for all uses combined.

Based on the calculations in this report, a December maximum parking demand of 496 parking spaces will occur on weekdays at 7:00 PM, and a December maximum parking demand of 514 parking spaces will occur on weekends at 7:00 PM. The detailed computer calculations for each month are included in Appendix C.

CONCLUSIONS

1. The shared parking portion of the project site is proposed to be developed with 20,649 square feet of commercial retail, 9,036 square feet of family restaurant, 86 affordable senior apartment dwelling units, and 150 condominium dwelling units.

2. Based on City of Carson Parking Code requirements, a total of 566 parking spaces are needed.

3. Because the peak parking demands for the various land uses are non-coincidental, there is substantial opportunity for shared parking to occur.

4. Based on the City of Carson Parking Code and Urban Land Institute parking factors for weekdays and weekend, a total of 531 parking spaces are required for weekdays and 566 parking spaces are required for weekends before shared parking factors are considered.

5. Once shared parking factors are utilized, a December maximum parking demand of 496 parking spaces will occur on weekdays at 7:00 PM, and a December maximum parking demand of 514 parking spaces will occur on weekends at 7:00 PM.

6. Based on the shared parking analysis, 582 parking spaces are sufficient for the project site.

It has been a pleasure to serve your needs on this project. Should you have any questions or if we can be of further assistance, please do not hesitate to call.

Sincerely,

KUNZMAN ASSOCIATES

Carl Ballard
Principal Associate

REGISTERED PROFESSIONAL ENGINEER
WILLIAM A. KUNZMAN
No. TR0056
TRAFFIC
STATE OF CALIFORNIA

KUNZMAN ASSOCIATES

William Kunzman, P.E.
Principal
Professional Registration
Expiration Date 3-31-2008

#3645b

Table 1

Parking Code Requirements[1]

Land Use	Quantity	Units[2]	City Parking Code	Weekday Requirements			Weekend Requirements		
				Customer/ Visitor/Guest	Employee/ Resident	Total	Customer/ Visitor/Guest	Employee/ Resident	Total
Parking Rates:									
Commercial Retail	20.649	TSF	3.33	2.42	0.58	3.00	2.66	0.67	3.33
Family Restaurant	9.036	TSF	10.00	6.00	1.00	7.00	8.50	1.50	10.00
Affordable Senior Apartments									
- Resident[3,4]	85	DU	1.25	0.25	1.00	1.25	0.25	1.00	1.25
- Manager	1	DU	2.00	0.00	2.00	2.00	0.00	2.00	2.00
Condominiums[3]	150	DU	2.25	0.25	2.00	2.25	0.25	2.00	2.25
Parking Required:									
Commercial Retail	20.649	TSF	69	50	12	62	55	14	69
Family Restaurant	9.036	TSF	91	54	9	63	77	14	91
Affordable Senior Apartments									
- Resident[3,4]	85	DU	76	16	60	76	16	60	76
- Manager	1	DU	2	0	2	2	0	2	2
Condominiums[3]	150	DU	328	28	300	328	28	300	328
Total			566	148	383	531	176	390	566

[1] Source: City of Carson and Urban Land Institute, Shared Parking, 2nd Edition, 2005.

[2] TSF = Thousand Square Feet; DU = Dwelling Units

[3] A reduction of 75 percent was used to assess the parking requirements for the customer/visitor/guest portion of the affordable senior apartments/condominium land uses. Deviations from the parking requirements may be authorized subject to approval of a Development Plan by the Planning Commission pursuant to Section 9172.23 (Site Plan and Design Review) if the project includes affordable housing opportunities defined by code.

[4] A reduction of 70 percent was used to assess the parking requirements for the resident portion of the affordable senior apartments land use. Deviations from the parking requirements may be authorized subject to approval of a Development Plan by the Planning Commission pursuant to Section 9172.23 (Site Plan and Design Review) if the project includes affordable housing opportunities defined by code.

Table 2

Hourly Peak Parking Demand

Weekday

	January			February			March			April			May			June			July			August			September			October			November			December			Late December		
Time of the Day	Customer/ Visitor	Employee	Total	Customer/ Visitor	Employee	Total	Customer/ Visitor	Employee	Total	Customer/ Visitor	Employee	Total	Customer/ Visitor	Employee	Total	Customer/ Visitor	Employee	Total	Customer/ Visitor	Employee	Total	Customer/ Visitor	Employee	Total	Customer/ Visitor	Employee	Total	Customer/ Visitor	Employee	Total	Customer/ Visitor	Employee	Total	Customer/ Visitor	Employee	Total	Customer/ Visitor	Employee	Total
6:00 AM	12	368	380	12	368	380	13	368	381	13	368	381	13	368	381	13	368	381	13	368	381	13	368	381	12	368	380	13	368	381	13	368	381	15	368	383	13	368	381
7:00 AM	28	335	363	28	335	363	32	335	367	31	335	366	32	335	367	32	335	367	33	335	368	33	335	368	31	335	366	32	335	367	31	335	366	34	335	369	32	335	367
8:00 AM	41	320	361	41	320	361	45	320	365	44	320	364	45	320	365	45	320	365	46	320	366	46	320	366	43	320	363	45	320	365	44	320	364	49	321	370	44	320	364
9:00 AM	54	306	360	54	306	360	58	306	364	58	306	364	60	306	366	59	306	365	60	306	366	61	306	367	57	306	363	60	306	366	60	305	365	65	307	372	55	306	361
10:00 AM	66	290	356	67	290	357	73	290	363	73	290	363	74	290	364	74	290	364	75	290	365	77	290	367	72	290	362	74	290	364	75	290	365	83	291	374	66	290	356
11:00 AM	74	272	346	75	272	347	82	272	354	81	272	353	84	272	356	84	272	356	84	272	356	87	272	359	80	272	352	84	272	356	85	272	357	96	273	369	81	272	353
12:00 NOON	82	254	336	83	254	337	90	254	344	89	254	343	92	254	346	92	254	346	92	254	346	95	254	349	88	254	342	92	254	346	93	255	348	108	256	364	96	255	351
1:00 PM	78	272	350	79	272	351	87	272	359	86	272	358	89	272	361	89	272	361	89	272	361	92	272	364	85	272	357	89	272	361	90	273	363	108	274	382	98	273	368
2:00 PM	59	272	331	60	272	332	65	272	337	64	272	336	66	272	338	67	272	339	65	272	338	69	272	341	64	272	336	66	272	338	68	273	341	86	274	360	75	273	348
3:00 PM	55	270	325	56	270	326	61	270	331	61	270	331	62	270	332	63	270	333	62	270	332	65	270	335	60	270	330	62	270	332	64	271	335	83	272	355	72	271	343
4:00 PM	68	289	344	56	289	345	61	289	350	61	289	350	62	289	351	63	289	352	62	289	351	66	289	354	60	289	349	62	289	351	64	290	354	81	291	372	70	290	360
5:00 PM	80	327	407	81	327	408	86	327	413	86	327	413	88	327	415	88	327	415	88	327	415	91	327	418	85	327	412	88	327	415	90	327	417	102	328	430	90	327	417
6:00 PM	90	345	435	91	345	436	97	345	442	96	345	441	99	345	444	99	345	444	98	345	443	101	345	446	95	345	440	99	345	444	100	345	445	109	346	455	95	345	440
7:00 PM	108	370	478	109	370	479	115	370	485	114	370	484	117	370	487	117	370	487	116	370	486	119	370	489	113	370	483	117	370	487	116	370	486	125	371	496	107	370	477
8:00 PM	103	373	476	104	373	477	111	373	484	110	373	483	112	373	485	112	373	485	112	373	485	114	373	487	109	373	482	112	373	485	113	374	487	120	375	495	101	374	475
9:00 PM	86	373	459	87	373	460	91	373	464	90	373	463	92	373	465	92	373	465	92	373	465	94	373	467	89	373	462	92	373	465	92	373	465	101	374	475	85	373	458
10:00 PM	77	372	449	78	372	450	82	372	454	82	372	454	83	372	455	82	372	454	83	372	455	84	372	456	81	372	453	83	372	455	83	372	455	89	373	462	78	372	450
11:00 PM	61	370	431	61	370	431	64	370	434	63	370	433	64	370	434	64	370	434	65	370	435	66	370	436	63	370	433	64	370	434	64	370	434	67	370	437	63	370	433
Maximum			478			479			485			484			487			487			486			489			483			487			488			496			477

Weekend

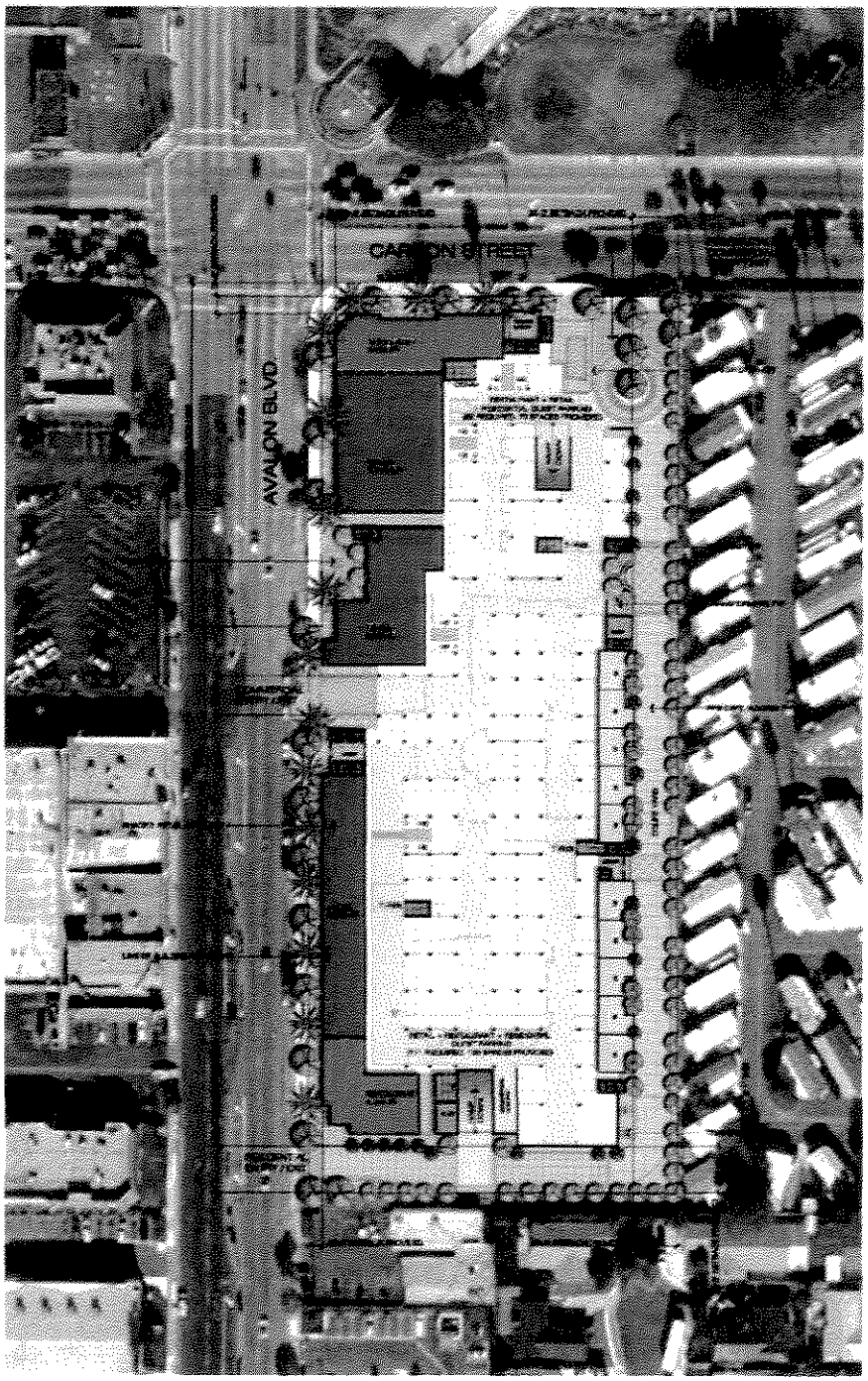
	January			February			March			April			May			June			July			August			September			October			November			December			Late December		
Time of the Day	Customer/ Visitor	Employee	Total	Customer/ Visitor	Employee	Total	Customer/ Visitor	Employee	Total	Customer/ Visitor	Employee	Total	Customer/ Visitor	Employee	Total	Customer/ Visitor	Employee	Total	Customer/ Visitor	Employee	Total	Customer/ Visitor	Employee	Total	Customer/ Visitor	Employee	Total	Customer/ Visitor	Employee	Total	Customer/ Visitor	Employee	Total	Customer/ Visitor	Employee	Total	Customer/ Visitor	Employee	Total
6:00 AM	7	370	377	7	370	377	7	370	377	7	370	377	7	370	377	7	370	377	8	370	378	8	370	378	7	370	377	7	370	377	7	370	377	9	370	379	7	370	377
7:00 AM	27	338	365	28	338	366	29	339	368	29	336	365	30	336	366	29	339	368	30	339	369	30	339	369	29	339	368	30	339	369	29	339	368	31	339	370	29	339	368
8:00 AM	41	324	365	42	324	366	46	325	371	45	325	370	46	325	371	46	325	371	47	325	372	47	325	372	45	326	370	46	325	371	45	326	371	50	327	377	46	326	372
9:00 AM	64	310	374	64	310	374	71	311	382	70	311	381	72	311	383	71	311	382	73	311	384	73	311	384	69	311	380	72	311	383	71	313	384	82	314	396	69	313	382
10:00 AM	84	294	378	84	294	378	93	295	388	91	295	386	94	295	389	94	295	389	96	295	390	96	295	391	90	295	385	94	295	389	94	297	391	111	298	409	93	297	390
11:00 AM	88	276	364	88	276	364	98	277	375	96	277	373	99	277	376	99	277	376	100	277	377	102	277	379	95	277	372	99	277	376	100	279	379	117	280	397	101	279	380
12:00 NOON	99	259	358	100	259	359	110	260	370	106	260	366	112	260	372	112	260	372	112	260	372	115	260	375	107	260	367	112	260	372	113	262	375	133	263	396	117	262	379
1:00 PM	92	277	369	93	277	370	103	278	381	101	278	379	104	278	382	104	278	382	105	278	383	108	278	386	101	278	379	104	278	382	105	280	385	126	281	407	113	280	393
2:00 PM	82	277	359	83	277	360	91	278	369	90	278	368	93	278	371	93	278	371	93	278	371	96	278	374	90	278	368	93	278	371	95	280	376	114	281	395	100	280	380
3:00 PM	66	274	340	66	274	340	73	275	348	72	275	347	75	275	350	75	275	350	74	275	349	77	275	352	72	275	347	75	275	350	79	277	356	95	278	373	82	277	359
4:00 PM	67	293	360	68	293	361	75	294	369	74	294	368	76	294	370	77	294	371	76	294	370	79	294	373	74	294	368	76	294	370	79	296	375	96	297	393	84	296	380
5:00 PM	86	330	416	86	330	416	94	331	425	93	331	424	94	331	425	96	331	426	95	331	426	98	331	429	92	331	423	94	331	425	97	333	430	114	334	448	99	333	432
6:00 PM	97	347	444	97	347	444	105	348	453	104	348	452	107	348	455	107	348	455	107	348	455	109	348	457	103	348	451	107	348	455	108	350	458	124	351	475	108	350	458
7:00 PM	113	372	485	113	372	485	121	373	494	120	373	493	123	373	496	123	373	496	123	373	496	126	373	499	119	373	492	123	373	496	124	374	498	139	376	514	121	374	495
8:00 PM	106	375	481	107	375	482	114	376	490	113	376	489	115	376	491	115	376	491	116	376	492	118	376	494	113	376	489	115	376	491	117	378	495	130	379	509	113	378	491
9:00 PM	80	375	455	80	375	455	84	376	460	83	376	459	84	376	460	85	376	461	85	376	461	86	376	462	83	376	459	84	376	460	86	377	463	95	378	473	79	377	456
10:00 PM	71	375	446	72	375	447	74	376	450	74	376	450	76	376	452	75	376	451	75	376	451	76	376	452	74	376	450	76	376	452	75	377	453	82	377	459	71	377	448
11:00 PM	50	372	422	50	372	422	51	373	424	51	373	424	51	373	424	52	373	425	51	373	424	52	373	425	51	373	424	51	373	424	52	373	425	56	373	428	50	373	423
Maximum			485			485			494			493			496			496			496			499			492			496			498			514			495

Table 3

Monthly Peak Parking Demand

Month	Weekdays	Weekends
January	478	485
February	479	485
March	485	494
April	484	493
May	487	496
June	487	496
July	486	496
August	489	499
September	483	492
October	487	496
November	488	498
December	496	514
Late December	477	495
Maximum	496	514

Figure 1
Site Plan



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APPENDIX A

Glossary of Transportation Terms

GLOSSARY OF TRANSPORTATION TERMS

COMMON ABBREVIATIONS

AC:	Acres
ADT:	Average Daily Traffic
Caltrans:	California Department of Transportation
DU:	Dwelling Unit
ICU:	Intersection Capacity Utilization
LOS:	Level of Service
TSF:	Thousand Square Feet
V/C:	Volume/Capacity
VMT:	Vehicle Miles Traveled

TERMS

AVERAGE DAILY TRAFFIC: The total volume during a year divided by the number of days in a year. Usually only weekdays are included.

BANDWIDTH: The number of seconds of green time available for through traffic in a signal progression.

BOTTLENECK: A constriction along a travelway that limits the amount of traffic that can proceed downstream from its location.

CAPACITY: The maximum number of vehicles that can be reasonably expected to pass over a given section of a lane or a roadway in a given time period.

CHANNELIZATION: The separation or regulation of conflicting traffic movements into definite paths of travel by the use of pavement markings, raised islands, or other suitable means to facilitate the safe and orderly movements of both vehicles and pedestrians.

CLEARANCE INTERVAL: Nearly same as yellow time. If there is an all red interval after the end of a yellow, then that is also added into the clearance interval.

CORDON: An imaginary line around an area across which vehicles, persons, or other items are counted (in and out).

CYCLE LENGTH: The time period in seconds required for one complete signal cycle.

CUL-DE-SAC STREET: A local street open at one end only, and with special provisions for turning around.

DAILY CAPACITY: The daily volume of traffic that will result in a volume during the peak hour equal to the capacity of the roadway.

DELAY: The time consumed while traffic is impeded in its movement by some element over which it has no control, usually expressed in seconds per vehicle.

DEMAND RESPONSIVE SIGNAL: Same as traffic-actuated signal.

DENSITY: The number of vehicles occupying in a unit length of the through traffic lanes of a roadway at any given instant. Usually expressed in vehicles per mile.

DETECTOR: A device that responds to a physical stimulus and transmits a resulting impulse to the signal controller.

DESIGN SPEED: A speed selected for purposes of design. Features of a highway, such as curvature, superelevation, and sight distance (upon which the safe operation of vehicles is dependent) are correlated to design speed.

DIRECTIONAL SPLIT: The percent of traffic in the peak direction at any point in time.

DIVERSION: The rerouting of peak hour traffic to avoid congestion.

FORCED FLOW: Opposite of free flow.

FREE FLOW: Volumes are well below capacity. Vehicles can maneuver freely and travel is unimpeded by other traffic.

GAP: Time or distance between successive vehicles in a traffic stream, rear bumper to front bumper.

HEADWAY: Time or distance spacing between successive vehicles in a traffic stream, front bumper to front bumper.

INTERCONNECTED SIGNAL SYSTEM: A number of intersections that are connected to achieve signal progression.

LEVEL OF SERVICE: A qualitative measure of a number of factors, which include speed and travel time, traffic interruptions, freedom to maneuver, safety, driving comfort and convenience, and operating costs.

LOOP DETECTOR: A vehicle detector consisting of a loop of wire embedded in the roadway, energized by alternating current and producing an output circuit closure when passed over by a vehicle.

MINIMUM ACCEPTABLE GAP: Smallest time headway between successive vehicles in a traffic stream into which another vehicle is willing and able to cross or merge.

MULTI-MODAL: More than one mode; such as automobile, bus transit, rail rapid transit, and bicycle transportation modes.

OFFSET: The time interval in seconds between the beginning of green at one intersection and the beginning of green at an adjacent intersection.

PLATOON: A closely grouped component of traffic that is composed of several vehicles moving, or standing ready to move, with clear spaces ahead and behind.

ORIGIN-DESTINATION SURVEY: A survey to determine the point of origin and the point of destination for a given vehicle trip.

PASSENGER CAR EQUIVALENTS (PCE): One car is one Passenger Car Equivalent. A truck is equal to 2 or 3 Passenger Car Equivalents in that a truck requires longer to start, goes slower, and accelerates slower. Loaded trucks have a higher Passenger Car Equivalent than empty trucks.

PEAK HOUR: The 60 consecutive minutes with the highest number of vehicles.

PRETIMED SIGNAL: A type of traffic signal that directs traffic to stop and go on a predetermined time schedule without regard to traffic conditions. Also, fixed time signal.

PROGRESSION: A term used to describe the progressive movement of traffic through several signalized intersections.

SCREEN-LINE: An imaginary line or physical feature across which all trips are counted, normally to verify the validity of mathematical traffic models.

SIGNAL CYCLE: The time period in seconds required for one complete sequence of signal indications.

SIGNAL PHASE: The part of the signal cycle allocated to one or more traffic movements.

STARTING DELAY: The delay experienced in initiating the movement of queued traffic from a stop to an average running speed through a signalized intersection.

TRAFFIC-ACTUATED SIGNAL: A type of traffic signal that directs traffic to stop and go in accordance with the demands of traffic, as registered by the actuation of detectors.

TRIP: The movement of a person or vehicle from one location (origin) to another (destination). For example, from home to store to home is two trips, not one.

TRIP-END: One end of a trip at either the origin or destination; i.e. each trip has two trip-ends. A trip-end occurs when a person, object, or message is transferred to or from a vehicle.

TRIP GENERATION RATE: The quality of trips produced and/or attracted by a specific land use stated in terms of units such as per dwelling, per acre, and per 1,000 square feet of floor space.

TRUCK: A vehicle having dual tires on one or more axles, or having more than two axles.

UNBALANCED FLOW: Heavier traffic flow in one direction than the other. On a daily basis, most facilities have balanced flow. During the peak hours, flow is seldom balanced in an urban area.

VEHICLE MILES OF TRAVEL: A measure of the amount of usage of a section of highway, obtained by multiplying the average daily traffic by length of facility in miles.