

Memorandum

To: Alan Sako, ESA

From: Michael Bates, Iain Conway

Subject: 1045 S Olive Project – AB 900 Traffic Assessment - Revised

Date: April 3, 2018

This Memorandum provides a transportation assessment of the 1045 S Olive Project to determine whether it meets the transportation efficiency requirements for classification as an Environmental Leadership Development Project under California Assembly Bill 900 (AB 900).

1. Project Location

The Project Site is located in downtown Los Angeles, the dense, mixed-use urban core of the extensive metropolitan region. Downtown Los Angeles serves as the hub of the regional transit system with many regional rail and bus public transit services passing through or beginning and terminating services there. Downtown Los Angeles is also a highly walkable and bicycle-friendly area.

The Project Site is located at the northwest corner of Olive Street and 11th Street, and is bounded by Olive Street on the east, 11th Street on the south, an alley on the west and private property on the north. The block on which the Project is located is also bounded by Grand Avenue on the west and Olympic Boulevard to the north. The surrounding area includes a large range of newer mixed-use development, and older commercial, office, residential and warehouse uses.

The Project Site is directly served by Olive Street and 11th Street, which are designated as a Modified Avenue II and a Modified Collector Street respectively, in the City of Los Angeles Mobility Plan 2035. Adjacent streets are Grand Avenue and Olympic Boulevard which are designated as a Modified Avenue II and a Modified Avenue I respectively. There are bike lanes on Olive Street and on Grand Avenue.

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The Project Site is located approximately 0.6 miles north of the Santa Monica Freeway (I-10) and 0.6 miles east of the Harbor Freeway (I-110).

The Project Site is located less than 0.5 miles from the Pico Metro Station at Pico Boulevard and Flower Street. The Pico Metro Station serves the Metro Blue Line (Downtown Los Angeles – Long Beach) and Metro Expo Line (Downtown Los Angeles – Santa Monica), which travel at 6-minute and 12-minute intervals during weekday peak hours. These services terminate at 7th Street Metro Center Station in Downtown Los Angeles, providing access to the Metro Red and Purple Lines. The Project Site is also located within 0.7 miles of the 7th Street/Metro Center Station, which serves the Metro Red Line (Downtown Los Angeles – North Hollywood / Universal City) and Metro Purple Line (Downtown Los Angeles – Koreatown), which travel at 5-minute intervals during weekday peak hours. The Metro Red and Purple Lines also provide access to Union Station, with connections to the Metro Gold Line and the Metrolink Commuter Rail system.

The 1.9 mile Metro Regional Connector Project is currently under construction to connect Union Station and the 7th Street/Metro Center Station and will serve Little Tokyo, the Arts District, Civic Center, The Historic Core, Broadway, Grand Avenue, Bunker Hill, Flower Street and the Financial District. Additionally, the Regional Connector will provide direct connections between the Metro Gold Line and the Blue, Expo, Red and Purple Lines at 7th Street/Metro Center Station, eliminating the need for passenger transfers.

The Project Site is located approximately 0.27 miles east of Figueroa Street. The MyFig Project is currently being implemented on Figueroa Street and will add protected bike lanes, enhanced sidewalks, landscaping and pedestrian facilities, which along with the existing northbound bus lane will transform the Figueroa Corridor into a multimodal street with improved transit, streetscape and landscaping features to better serve the needs of pedestrians, bicyclists, transit riders, and drivers alike. The MyFig Project will also install a protected bike lane and similar enhancements along the north side of 11th Street from Broadway to Figueroa Street.

The Los Angeles Streetcar is a streetcar project planned for downtown Los Angeles, which will run on streets in a loop connecting the Civic Center, Broadway Corridor, Financial District and 7th Street. In the vicinity of the Project, it will run south on Broadway, west on 11th Street immediately adjacent to the Project, and north on Figueroa Street.

Bicycle facilities in the Project Area include bike lanes on Olive Street, Grand Avenue and Spring Street (3 blocks east of the Project). Additionally, there are bike lanes planned on Flower Street (3 blocks west of the Project) and Broadway (2 blocks east of the Project), according to City of Los Angeles' Mobility Plan 2035.

Metro Bike Share is a bicycle-sharing system with approximately 60 stations in and around downtown Los Angeles. Many stations are located at transit hubs, such as Union Station and

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7th Street/Metro Center Station. Access to the system is provided 24 hours per day and payment can be made for an individual trip or on a monthly basis. The nearest stations to the Project Site are located at 11th Street & Hope Street, 12th Street & Hill Street and Olympic Boulevard & Grand Avenue, each being approximately a two-block walk from the Project Site.

2. Project Description

The Project Site is currently occupied by four commercial buildings totaling 35,651 sq. ft. and approximately 5,952 square feet paved parking area. The four buildings are one-story in height and are reflective of the older single story development in the Downtown area. Existing active land uses include 14,653 sq. ft. of manufacturing space and 5,171 sq. ft. of retail space. The remaining 15,827 sq. ft. is currently vacant.

The Proposed Project is a mixed-use development comprising 794 residential units and 12,504 square feet of neighborhood serving commercial uses located at the ground and mezzanine levels. The commercial space has been conservatively assessed as half high-turnover restaurant and half quality restaurant for trip generation purposes. The development would include a 61-story tower atop a nine level podium structure (Podium) for a total of 70 floors. Approximately 100,652 square feet of amenity/open space would be provided including a ground level public plaza with streetscaping, landscaping and public art display (Plaza). On-site open space and recreation facilities for residents would be located atop the Podium (10th Floor Terrace), at mid-tower, on a terrace on the tower rooftop (Tower Roof Terrace) and within private balconies.

3. Site Access and Circulation

Vehicle access would be provided from one driveway on Olive Street, near the northern property line, and from two driveways on the alley between 11th Street and Olympic. Vehicle parking would be provided within 6 subterranean parking levels and in 8 levels of parking above grade within the Podium. An additional service driveway on the alley near the center of the Project Site would provide access to on-site loading and move-in/out services.

Pedestrian access to the Project Site would be provided from a 17-foot sidewalk along Olive Street. Access to the retail uses would be provided from a 15-foot sidewalk (including a 3-foot sidewalk easement) along 11th Street and the 17-foot sidewalk along Olive Street. Pedestrian access into the local neighborhood is facilitated by a midblock signalized pedestrian crosswalk on Olive Street between Olympic Boulevard and 11th Street and signalized crosswalks at all intersections in the vicinity of the Project. Additionally, there are midblock crosswalks on Grand Avenue south of 14th Street, on Hill Street (one block east of the Project) between 8th Street and 9th Street and between 11th Street and 12th Street, on Broadway (2 blocks east of the

Project) between 8th Street and 9th Street, between 9th Street and Olympic Boulevard, between Olympic Boulevard and 11th Street and between 11th Street and 12th Street.

The Project Site is located on the downtown bicycle network, comprising a bike lane on Grand Avenue, half a block west of the Project Site and by a bike lane running along Olive Street adjacent to the Project Site. The wider Project Area contains a high-level of bicycle access, with bike lanes as described earlier in Section 1.

4. Existing Transit Service

The Project Site is served by numerous transit lines within a one block walking distance on Olive Street, Grand Avenue, and Olympic Boulevard, including two Rapid Lines 770 and 728, eleven Metro lines 14, 28, 37, 70, 71, 76, 78, 79, 378, and 96, one Foothill Transit Line (FT Silver Streak), one Santa Monica Transit Line (BBB 10), and two LADOT Commuter Express Lines CE 431 and CE 437. There are twelve bus services on Olive Street, twelve services on Grand Avenue, nine services on Hill Street, six on Broadway, four on 9th Street, four on Olympic Boulevard, two on 11th Street and one on Pico Boulevard.

The Project Site is located within 0.5 miles of the Pico Light Rail Station, which provides services to the Metro Blue and Expo Lines. The Project Site is also located within 0.7 miles of the 7th Street Metro Center Station, which provides services to Metro Red and Purple Lines. The Metro Blue Line travels between Long Beach Transit Mall and 7th Street Metro Center at 6-minute intervals during weekday peak hours, the Metro Expo Line travels between Santa Monica and Downtown Los Angeles at 12-minute intervals during weekday peak hours, and the Metro Red and Purple Lines travel between North Hollywood and Downtown Los Angeles at 5-minute intervals during weekday peak hours.

5. Project Trip Generation and Vehicle Miles Travelled (VMT)

Trip generation for the Proposed Project was estimated using ITE's 9th Edition Trip Generation Manual, as shown in Table 1. ITE trip rates for Apartments, High-Turnover Restaurant and Quality Restaurant were used for the land uses of the Proposed Project and ITE trip rates for Manufacturing and Specialty Retail were used for the existing uses. The trip generation estimates were adjusted for trip credits for existing active land uses to be removed and reductions for pass-by, transit, walk and internal capture. The Proposed Project is estimated to generate 4,817 net daily trips, 359 net trips in the AM Peak Hour, comprising 79 net inbound trips and 280 net outbound trips and 440 net trips in the PM Peak Hour, comprising 287 net inbound trips and 153 net outbound trips.

The Project type and location enjoy a number of advantages that will reduce the number of trips that will be generated. These include:

- Removal of Existing Uses from the Project Site.
- Internal Capture within Project land uses.
- Use of Transit and Walk/Bike.
- Pass-by trips.
- Transportation Demand Management (TDM) measures.

In order to demonstrate the efficacy of these trip reductions, trip generation was estimated for the Proposed Project without trip credits for the existing active land uses and without reductions for pass-by, transit, walk/bike and internal capture, as shown in Table 2. Trip generation was estimated at 6,637 daily trips, 478 trips in the AM peak hour and 601 trips in the PM peak hour.

Table 2 also shows the estimated vehicle miles travelled (VMT) without trip reductions. Average trip lengths for each land use were estimated using the California Emissions Estimator Model (CalEEMod) for the South Coast Air Basin (LA County except for the Antelope Valley, Orange County, and the urbanized portions of Riverside and San Bernardino Counties). CalEEMod specifies average trip lengths for the South Coast Air Basin by trip purpose (Home-Work, Home-Shop, Home-Other, Commercial-Customer, Commercial-Work and Commercial-Nonwork). For each land use, CalEEMod specifies the proportion of trips that are of each trip purpose, thus enabling the calculation of average trip lengths by land use. Trip lengths were calculated for the Home-Work, Home-Shop, Home-Other trip purposes for the residential units, and for the for the Commercial-Customer, Commercial-Work and Commercial-Nonwork trip purposes for the commercial uses. Table 2 shows the average trip length for each land use. As shown in Table 2, the average trip length from CalEEMod for the South Coast Air Basin is estimated at 10.6 miles for residential apartments, 8.8 miles for high-turnover restaurant and 9.1 miles for quality restaurant. These trip lengths were applied to the Project trips to develop the total vehicle miles traveled (VMT) of the Project.

As shown in Table 2, the Proposed Project prior to accounting for applicable reductions is estimated to generate 68,078 daily VMT, 4,937 VMT in the AM Peak Hour and 6,189 VMT in the PM Peak Hour.

6. Comparable Project

The Proposed Project's performance has been assessed in comparison to a Comparable Project, which represents a baseline case. The Comparable Project has the same land uses and quantities as the Proposed Project, but does not have the location-specific nor the Proposed Project design-specific benefits nor the infill nature of the Proposed Project that would lead to trip reductions.

For the purposes of analysis it is considered that pass-by trip reductions would be equally applicable to the Comparable Project and the Proposed Project, as these reductions are generally applied to all projects in the City of Los Angeles regardless of location, in accordance with LADOT's Transportation Impact Study Guidelines (December 2016). Trip reductions made for the removal of existing buildings are associated with the infill nature of the site of the Proposed Project and would therefore be applicable to the Proposed Project and not to the Comparable Project. Trip reductions made for the Project being located in a highly walkable and transit-friendly area are location-specific benefits and as such, would only be applicable to the Proposed Project. Trip reductions made for the internal capture of trips and trip reductions due to the Transportation Demand Management package are considered to be design-specific benefits of the Proposed Project and therefore would be applicable to the Proposed Project and not to the Comparable Project.

As noted above, reductions for pass-by trips should apply to both the Comparable Project and the Proposed Project. As shown in Table 3, there would be a pass-by reduction of 148 daily trips, 9 trips in the AM peak hour and 12 trips in the PM peak hour. These trip reductions result in reductions of 1,314 daily VMT, 79 VMT in the AM peak hour and 106 VMT in the PM peak hour.

7. Project Related Reductions to Trip Generation and VMT

The Project's infill nature, location, design and TDM program will reduce vehicle trips and VMT compared with the Comparable Project. The quantitative analysis of these reductions to vehicle trips and VMT follows.

Removal of Existing Uses from Project Site

The project site currently has four existing buildings with a total of 19,824 sq. ft. existing active uses, of which 14,653 sq. ft. is manufacturing space and 5,171 sq. ft. is retail space. These land uses would be removed from the site prior to construction of the Proposed Project.

As shown in Table 4, removal of the existing active land uses would eliminate the trips currently generated by those uses, and would result in a reduction of 231 daily trips, 9 trips in the AM peak hour and 20 trips in the PM peak hour. These trip reductions result in reductions of 2,356 daily VMT, 117 VMT in the AM peak hour and 222 VMT in the PM peak hour.

Internal Capture Reduction

The Proposed Project restaurant space would provide a convenient local destination for the residential element of the Proposed Project without having to drive to other locations. It was estimated that 15% of the trips to and from the restaurant space would come from the onsite residential element of the Proposed Project.

As shown in Table 5, there would be an internal capture reduction of 203 daily trips, 11 trips in the AM peak hour and 16 trips in the PM peak hour. These trip reductions result in reductions of 1,811 daily VMT, 97 VMT in the AM peak hour and 143 VMT in the PM peak hour.

Transit & Walk/Bike Reduction

The Project is located in a highly-walkable area of downtown Los Angeles with a high level of provision of bicycle facilities and excellent access to the highest level of transit service in Los Angeles, that will provide convenient access to local employment, shopping and entertainment opportunities without using a car for the residents of the Proposed Project. Therefore, it was estimated that vehicle trips would be reduced by 20% due to transit and walk/bike trips, consistent with LADOT guidelines and methodology.

As shown in Table 6, the use of transit and walk/bike would reduce vehicle trips by 1,238 daily trips, 90 trips in the AM peak hour and 113 trips in the PM peak hour. These trip reductions result in reductions of 12,751 daily VMT, 933 VMT in the AM peak hour and 1,168 VMT in the PM peak hour.

Transportation Demand Management (TDM) Reduction

The Project proposes a TDM package to encourage the use of non-auto modes and reduce vehicle trips, that could include the following measures:

- Promotion and support of carpools and rideshares, including parking and transit incentives.
- Preferential parking for carpools and vanpools for employees.
- Provide on-site real-time information displays to make available real-time information on car-sharing, transit, vanpools, taxis.
- External and internal multimodal wayfinding signage.
- Enroll tenants in trip tracking applications, if applicable.
- Transit Welcome Package – to all new residents/employees with info on alternate modes and walk to destination opportunities.
- Unbundling of residential parking.

- Provide off-street residential and retail parking, and freight-loading spaces, and participate in a Car-Share Program to provide spaces for car-share vehicles.
- Pursue with the City the implementation of on-street commercial loading spaces for deliveries and drop-off.
- Pursue with the City the implementation of on-street passenger drop-off spaces.
- Provide access to collapsible shopping carts and/or cargo bike for ease of local shopping.
- Provide amenities to encourage the use of delivery services.
- Discounts for employees who utilize public transit to travel to the site.
- On-site bicycle amenities such as access to free bicycles for residential guests, on-site repair station and bicycle racks, and lockers / showers for residents and employees, etc.
- Provide a free bike share service for residents.
- Participate in the City's Bike Share Program by providing an area for bike share facilities.

The implementation of the TDM package would result in an estimated reduction of 15% of the vehicle trips to and from the residential element of the Proposed Project.

As shown in Table 7, the TDM program would result in a reduction of 758 daily residential trips, 55 trips in the AM peak hour and 69 trips in the PM peak hour. These trip reductions result in reductions of 7,838 daily VMT, 572 VMT in the AM peak hour and 716 VMT in the PM peak hour.

8. Total Proposed Project Trips and VMT

A summary of the total trips and VMT for the Proposed Project and comparison with the Comparable Project is shown in Table 8. It was estimated that the Proposed Project would generate 4,059 daily trips, resulting in 42,008 daily VMT. It was estimated that the Comparable Project would generate 6,489 daily trips, resulting in 66,764 daily VMT.

Table 9 shows a summary of absolute and proportional differences between the generated trips and VMT of the Proposed Project and the Comparable Project. It was estimated that the Proposed Project would generate 37% less daily trips than the Comparable Project, resulting in a reduction of 37% daily VMT compared with the Comparable Project. In the AM peak hour, it was estimated that the Proposed Project would generate 35% less trips than the Comparable Project, resulting in a reduction of 35% AM peak hour VMT compared with the Comparable Project. In the PM peak hour, it was estimated that the Proposed Project would generate 37%

less trips than the Comparable Project, resulting in a reduction of 37% PM peak hour VMT compared with the Comparable Project.

The substantial reductions in generated trips and VMT from the Comparable Project to the Proposed Project noted above are due to the TDM Program as well as the location-specific benefits, the design-specific benefits and the infill nature of the Proposed Project with respect to the Comparable Project.

The analysis shows that the Proposed Project considerably exceeds the threshold of 15% transportation efficiency that is required for the Environmental Leadership Development Project application. It is noted that a 15% reduction is achieved solely by the TDM Program proposed for the Project.

Table 1 1045 Olive - Trip Generation Estimates

9/20/2017

Daily Trips							
Land Use Assumptions	Source ¹ & Code	Quantity	Units	Daily			Total Trips
				Trip Rate			
Existing Uses							
Manufacturing ^{2,3}	ITE 140	14,653	SF	3.82			-58
(Reduction for transit trips) - 15%							8
(Reduction for walk/bike trips) - 5%							2
Net Manufacturing							-46
Specialty Retail ^{2,3}	ITE 826	5,171	SF	44.32			-229
(Reduction for transit trips) - 15%							34
(Reduction for walk/bike trips) - 5%							10
Net Specialty Retail							-185
Total Existing							-231
Proposed Uses							
Apartment ²	ITE 220	794	DU	6.65			5,280
(Reduction for transit trips) - 15%							-792
(Reduction for walk/bike trips) - 5%							-224
Net Apartments							4,264
High-Turnover Restaurant ²	ITE 932	6,252	SF	127.15			795
(Reduction for internal trips) - 15%							-119
(Reduction for transit trips) - 15%							-101
(Reduction for walk/bike trips) - 5%							-29
(Reduction for pass-by trips) - 20%							-109
Net High-Turnover Restaurant							437
Quality Restaurant ²	ITE 931	6,252	SF	89.95			562
(Reduction for internal trips) - 15%							-84
(Reduction for transit trips) - 15%							-72
(Reduction for walk/bike trips) - 5%							-20
(Reduction for pass-by trips) - 10%							-39
Net Quality Restaurant							347
Total Proposed							5,048
Total Net							4,817

AM Peak									
Land Use Assumptions	Source ¹ & Code	Quantity	Units	AM Peak Hour					
				Trip Rate			Total Trips		
				In	Out	Total	In	Out	Total
Existing Uses									
Manufacturing ^{2,3}	ITE 140	14,653	SF	0.57	0.16	0.73	-8	-3	-11
(Reduction for transit trips) - 15%							1	1	2
(Reduction for walk/bike trips) - 5%							0	0	0
Net Manufacturing							-7	-2	-9
Specialty Retail ^{2,3,4}	ITE 826	5,171	SF	0.00	0.00	0.00	0	0	0
(Reduction for transit trips) - 15%							0	0	0
(Reduction for walk/bike trips) - 5%							0	0	0
Net Specialty Retail							0	0	0
Total Existing							-7	-2	-9
Proposed Uses									
Apartment ²	ITE 220	794	DU	0.10	0.41	0.51	79	326	405
(Reduction for transit trips) - 15%							-12	-49	-61
(Reduction for walk/bike trips) - 5%							-3	-14	-17
Net Apartments							64	263	327
High-Turnover Restaurant ²	ITE 932	6,252	SF	5.95	4.86	10.81	37	31	68
(Reduction for internal trips) - 15%							-6	-4	-10
(Reduction for transit trips) - 15%							-5	-4	-9
(Reduction for walk/bike trips) - 5%							-1	-1	-2
(Reduction for pass-by trips) - 20%							-5	-4	-9
Net High-Turnover Restaurant							20	18	38
Quality Restaurant ^{2,5}	ITE 932	6,252	SF	0.45	0.36	0.81	3	2	5
(Reduction for internal trips) - 15%							-1	0	-1
(Reduction for transit trips) - 15%							0	-1	-1
(Reduction for walk/bike trips) - 5%							0	0	0
(Reduction for pass-by trips) - 10%							0	0	0
Net Quality Restaurant							2	1	3
Total Proposed							86	282	368
Total Net							79	280	359

Table 1 1045 Olive - Trip Generation Estimates

9/20/2017

PM Peak

Land Use Assumptions	Source ¹ & Code	Quantity	Units	PM Peak Hour					
				Trip Rate			Total Trips		
				In	Out	Total	In	Out	Total
Existing Uses									
Manufacturing ^{2,3}	ITE 140	14,653	SF	0.26	0.47	0.73	-4	-7	-11
(Reduction for transit trips) - 15%							1	1	2
(Reduction for walk/bike trips) - 5%							0	0	0
Net Manufacturing							-3	-6	-9
Specialty Retail ^{2,3}	ITE 826	5,171	SF	1.19	1.52	2.71	-8	-8	-14
(Reduction for transit trips) - 15%							1	1	2
(Reduction for walk/bike trips) - 5%							0	1	1
Net Specialty Retail							-5	-6	-11
Total Existing							-8	-12	-20
Proposed Uses									
Apartment ²	ITE 220	794	DU	0.40	0.22	0.62	318	174	492
(Reduction for transit trips) - 15%							-48	-26	-74
(Reduction for walk/bike trips) - 5%							-14	-7	-21
Net Apartments							256	141	397
High-Turnover Restaurant ²	ITE 932	6,252	SF	5.91	3.94	9.85	37	25	62
(Reduction for internal trips) - 15%							-6	-3	-9
(Reduction for transit trips) - 15%							-5	-3	-8
(Reduction for walk/bike trips) - 5%							-1	-1	-2
(Reduction for pass-by trips) - 20%							-5	-4	-9
Net High-Turnover Restaurant							20	14	34
Quality Restaurant ²	ITE 932	6,252	SF	5.02	2.47	7.49	31	16	47
(Reduction for internal trips) - 15%							-5	-2	-7
(Reduction for transit trips) - 15%							-4	-2	-6
(Reduction for walk/bike trips) - 5%							-1	-1	-2
(Reduction for pass-by trips) - 10%							-2	-1	-3
Net Quality Restaurant							19	10	29
Total Proposed							295	165	460
Total Net							287	153	440

Notes:

1. ITE Rates from Trip Generation, 9th Edition, Institute of Transportation Engineers, Washington, DC, 2012, except otherwise noted.
2. Trip rate reductions were applied per LADOT's Transportation Impact Study Guidelines, December 2016.
3. Existing land use data from Crescent Heights and site observations on 9/5/2017.
4. Existing Specialty Retail is closed on weekday mornings, therefore no existing trip credit is claimed for the AM peak hour.
5. Directional Distribution for AM peak from High-Turnover Restaurant, as non published for Quality Restaurant.

Table 2. Proposed Project - Total Unadjusted Project Trips and Conversion to Vehicle Miles Travelled

9/22/2017

<i>Land Use</i>	<i>Land Use Quantity / Average Trip Length</i>	<i>Daily</i>	<i>AM Peak Hour</i>			<i>PM Peak Hour</i>		
			<i>In</i>	<i>Out</i>	<i>Total</i>	<i>In</i>	<i>Out</i>	<i>Total</i>
Trip Generation Estimates (Without Trip Reductions)								
Apartments	794 DU	5,280	79	326	405	318	174	492
High-Turnover Restaurant	6,252 SF	795	37	31	68	37	25	62
Quality Restaurant	6,252 SF	562	3	2	5	31	16	47
Total Project Trips Before Reductions		6,637	119	359	478	386	215	601

Vehicle Miles Travelled (Without Trip Reductions)								
Apartments	10.6 Miles	55,968	837	3,456	4,293	3,371	1,844	5,215
High-Turnover Restaurant	8.8 Miles	6,996	326	273	598	326	220	546
Quality Restaurant	9.1 Miles	5,114	27	18	46	282	146	428
Gross Project VMT Before Reductions		68,078	1,190	3,747	4,937	3,979	2,210	6,189

Notes:

- Average Trip Lengths for South Coast Air Basin from California Emissions Estimator Model (CalEEMod) User Manual, Appendix D.
- DU = Dwelling Unit, SF = Square Feet.

Table 3. Comparable Project - Trips Generated with Pass-by Trip Reduction and Conversion to Vehicle Miles Travelled

9/22/2017

<i>Land Use</i>	<i>Pass-by Trip Reduction / Average Trip Length</i>	<i>Daily</i>	<i>AM Peak Hour</i>			<i>PM Peak Hour</i>		
			<i>In</i>	<i>Out</i>	<i>Total</i>	<i>In</i>	<i>Out</i>	<i>Total</i>
Trip Reduction								
Apartments	0%	0	0	0	0	0	0	0
High-Turnover Restaurant	20%	109	5	4	9	5	4	9
Quality Restaurant	10%	39	0	0	0	2	1	3
Subtotal - Pass-by Trip Reduction		148	5	4	9	7	5	12
Total Project Trips with Pass-by Reduction		6,489	114	355	469	379	210	589

Vehicle Miles Travelled Reduction								
Apartments	10.6 Miles	0	0	0	0	0	0	0
High-Turnover Restaurant	8.8 Miles	959	44	35	79	44	35	79
Quality Restaurant	9.1 Miles	355	0	0	0	18	9	27
Subtotal - Pass-by VMT Reduction		1,314	44	35	79	62	44	106
Comparable Project VMT		66,764	1,146	3,712	4,858	3,917	2,166	6,083

Notes:

- Average Trip Lengths for South Coast Air Basin from California Emissions Estimator Model (CalEEMod) User Manual, Appendix D.
- Pass-by Trip Reductions based on estimates shown in Table 1.
- Comparable Project VMT calculated as the difference between the Gross Project VMT Before Reductions from Table 2 and the Pass-by VMT Reduction.

Table 4. Proposed Project - Existing Land Uses to be Removed - Trip Reduction and Conversion to Vehicle Miles Travelled

4/3/2018

Land Use	Land Use Quantity / Average Trip Length	Daily	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Trips								
Manufacturing	14,653 SF	46	7	2	9	3	6	9
Retail	5,171 SF	185	0	0	0	5	6	11
Existing Project Site Trips		231	7	2	9	8	12	20
% Trips Reduced due to Land Uses Removed		4%	6%	1%	2%	2%	6%	3%

Vehicle Miles Travelled								
Manufacturing	13.0 Miles	598	91	26	117	39	78	117
Retail	9.5 Miles	1,758	0	0	0	48	57	105
Existing Project Site VMT		2,356	91	26	117	87	135	222
% VMT Reduced due to Land Uses Removed		4%	8%	1%	2%	2%	6%	4%

Notes:

- Average Trip Lengths for South Coast Air Basin from California Emissions Estimator Model (CalEEMod) User Manual, Appendix D.
- Existing Land Use Trip Reductions based on estimates shown in Table 1.

Table 5. Proposed Project - Internal Capture - Trip Reduction and Conversion to Vehicle Miles Travelled

4/3/2018

Land Use	Internal Capture Trip Reduction / Average Trip Length	Daily	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Trip Reduction								
Apartments	0%	0	0	0	0	0	0	0
High-Turnover Restaurant	15%	119	6	4	10	6	3	9
Quality Restaurant	15%	84	0	1	1	5	2	7
Trips Reduced by Internal Capture		203	6	5	11	11	5	16
% Trips Reduced by Internal Capture		3%	6%	1%	2%	3%	3%	3%

Vehicle Miles Travelled Reduction								
Apartments	10.6 Miles	0	0	0	0	0	0	0
High-Turnover Restaurant	8.8 Miles	1,047	53	35	88	53	26	79
Quality Restaurant	9.1 Miles	764	0	9	9	46	18	64
VMT Reduced by Internal Capture		1,811	53	44	97	99	44	143
% VMT Reduced by Internal Capture		3%	5%	1%	2%	3%	2%	2%

Notes:

- Average Trip Lengths for South Coast Air Basin from California Emissions Estimator Model (CalEEMod) User Manual, Appendix D.
- Internal Capture Trip Reductions based on estimates shown in Table 1.

Table 6. Proposed Project - Transit & Walk/Bike - Trip Reduction and Conversion to Vehicle Miles Travelled

4/3/2018

Land Use	Transit & Walk Trip Reduction / Average Trip Length	Daily	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Trip Reduction								
Apartments	20%	1,016	15	63	78	62	33	95
High-Turnover Restaurant	20%	130	6	5	11	6	4	10
Quality Restaurant	20%	92	0	1	1	5	3	8
Trips Reduced by Transit & Walk		1,238	21	69	90	73	40	113
% Trips Reduced by Transit & Walk		20%	20%	20%	20%	20%	20%	20%

Vehicle Miles Travelled Reduction								
Apartments	10.6 Miles	10,770	159	668	827	657	350	1,007
High-Turnover Restaurant	8.8 Miles	1,144	53	44	97	53	35	88
Quality Restaurant	9.1 Miles	837	0	9	9	46	27	73
VMT Reduced by Transit & Walk		12,751	212	721	933	756	412	1,168
% VMT Reduced by Transit & Walk		20%	20%	20%	20%	20%	20%	20%

Notes:

- Average Trip Lengths for South Coast Air Basin from California Emissions Estimator Model (CalEEMod) User Manual, Appendix D.
- Transit & Walk Trip reductions based on estimates shown in Table 1.

Table 7. Proposed Project - Transportation Demand Management - Trip Reduction and Conversion to Vehicle Miles Travelled

4/3/2018

Land Use	Transportation Demand Management Reduction / Average Trip Length	Daily	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Trip Reduction								
Apartments	15%	640	10	39	49	38	22	60
High-Turnover Restaurant	15%	66	3	3	6	3	2	5
Quality Restaurant	15%	52	0	0	0	3	1	4
Trips Reduced by Transportation Demand Management		758	13	42	55	44	25	69
% Trips Reduced by Transportation Demand Management		15%	15%	15%	15%	15%	15%	15%

Vehicle Miles Travelled Reduction								
Apartments	10.6 Miles	6,784	106	413	519	403	233	636
High-Turnover Restaurant	8.8 Miles	581	27	26	53	26	18	44
Quality Restaurant	9.1 Miles	473	0	0	0	27	9	36
VMT Reduced by Transportation Demand Management		7,838	133	439	572	456	260	716
% VMT Reduced by Transportation Demand Management		15%	15%	15%	15%	15%	15%	15%

Notes:

- Average Trip Lengths for South Coast Air Basin from California Emissions Estimator Model (CalEEMod) User Manual, Appendix D.
- Transportation Demand Management Trip Reductions based on net trip generation estimates for proposed land uses shown in Table 1, multiplied by the Transportation Demand Management Reduction %.

**Table 8. Comparison of Proposed Project to Comparable Project
Trip Reductions and Conversion to Vehicle Miles Travelled**

4/3/2018

<i>Land Use</i>	<i>Daily</i>	<i>AM Peak Hour</i>			<i>PM Peak Hour</i>		
		<i>In</i>	<i>Out</i>	<i>Total</i>	<i>In</i>	<i>Out</i>	<i>Total</i>
Trips							
Comparable Project (From Table 3)	6,489	114	355	469	379	210	589
Existing Land Use Trip Reduction (From Table 4)	231	7	2	9	8	12	20
Internal Capture Trip Reduction (From Table 5)	203	7	4	11	11	5	16
Transit & Walk Trip Reduction (From Table 6)	1,238	21	69	90	73	40	113
TDM Program Trip Reduction (From Table 7)	758	13	42	55	44	25	69
Net Proposed Project Trips	4,059	66	238	304	243	128	371

Vehicle Miles Travelled							
Comparable Project (From Table 3)	66,764	1,146	3,712	4,858	3,917	2,166	6,083
Existing Land Use VMT Reduction (From Table 4)	2,356	91	26	117	87	135	222
Internal Capture VMT Reduction (From Table 5)	1,811	53	44	97	99	44	143
Transit & Walk VMT Reduction (From Table 6)	12,751	212	721	933	756	412	1,168
TDM Program VMT Reduction (From Table 7)	7,838	133	439	572	456	260	716
Net Proposed Project VMT	42,008	657	2,482	3,139	2,519	1,315	3,834

Table 9. Comparison of Proposed Project to Comparable Project

4/3/2018

Percentage Trip Reductions and Percentage Vehicle Miles Travelled Reductions

<i>Land Use</i>	<i>Daily</i>	<i>AM Peak Hour</i>			<i>PM Peak Hour</i>		
		<i>In</i>	<i>Out</i>	<i>Total</i>	<i>In</i>	<i>Out</i>	<i>Total</i>
Trips							
Comparable Project (From Table 3)	6,489	114	355	469	379	210	589
Proposed Project (From Table 8)	4,059	66	238	304	243	128	371
Trip Reduction from Comparable Project to Proposed Project	2,430	48	117	165	136	82	218
Percentage Trip Reduction from Comparable Project to Proposed Project	37%	42%	33%	35%	36%	39%	37%
Vehicle Miles Travelled							
Comparable Project (From Table 3)	66,764	1,146	3,712	4,858	3,917	2,166	6,083
Proposed Project (From Table 8)	42,008	657	2,482	3,139	2,519	1,315	3,834
VMT Reduction from Comparable Project to Proposed Project	24,756	489	1,230	1,719	1,398	851	2,249
Percentage VMT Reduction from Comparable Project to Proposed Project	37%	43%	33%	35%	36%	39%	37%