Kimley»Horn

MEMORANDUM

To:	Ron Krietemeyer Tarlton Properties, Inc.
From:	Michael Mowery, P.E. Ben Huie, P.E.
Date:	July 10, 2015
Subject:	**Transportation Demand Management (TDM) Memorandum for 1315 O'Brien Drive**

Kimley-Horn and Associates, Inc. (KHA) was retained by Tarlton Properties, Inc. to evaluate the expected number of project trips based on the existing and proposed land uses at 1315 O'Brien Drive in the City of Menlo Park and mitigate the number of trips by implementing a Transportation Demand Management (TDM) Plan. The proposed project will realign the previous building uses. Below are the proposed sizes and land uses for the proposed site:

- 113,382 square feet of research & development (Pac Bio)
- 45,796 square feet of manufacturing (Pac Bio)
- 17,797 square feet of warehousing (Pac Bio)
- 43,541 square feet of warehousing (other tenants)

The previous use for the project site consisted of:

- 162,839 square feet of warehousing
- 56,002 square feet of general office building

These changes in land use for 1315 O'Brien Drive will result in an increase in peak hour trips generated from the project site.

PROJECT PEAK HOUR TRIPS

The number of project trips for the project site was estimated using the industry standard Institute of Transportation Engineer's (ITE) *Trip Generation* Manual. This reference estimates project trips based on land use from survey data. Since the proposed project is not a new project, but updating an existing land use, trip rates were calculated for both the proposed use and the previous use.

The previous land use was a distribution center with regional administrative offices including a showroom and sales offices. A distribution center does not have a specific land use in the ITE *Trip Generation* manual. There are similar land uses in the *Trip Generation* manual such as: the warehousing land use (ITE LU code 150), the general light industrial (ITE LU code 110), and the high-

cube warehouse/distribution center (ITE LU code 152). The *Dumbarton Distribution Center EIR*[1], which was the name of the Menlo Business Park before 1984, was reviewed as well. It documented the distribution center as a warehousing and light industrial land use. Therefore, for trip generation purposes, the existing use for the 1315 O'Brien Drive site was a warehousing land use, along with office, as described previously. **Table 1** summarizes the trip generation for the previous use. Specific land use and trip generation breakdowns are provided in **Attachment A**.

Table 1 – Trip Generation Summary – Previous Use

Previous Use	Vehicle Trips		
	Daily	AM Peak	PM Peak
56.002 KSF Office and 162.839 KSF Warehousing	1,178	134	133

The previous land uses resulted in 134 AM peak hour trips and 133 PM peak hour trips. No adjustments for trip reductions (e.g. pass-by trips or internal capture) were used in this calculation. The previous use trips will be used as a trip credit for determining the overall net change in proposed project trips.

Table 2 summarizes the trip generation for the proposed use. Specific land use and trip generation breakdowns are provided in **Attachment A**.

Table 2 – Trip Generation Summary – Proposed Use

Proposed Use	Vehicle Trips		
	Daily	AM Peak	PM Peak
113.382 KSF R&D 45.796 KSF Manufacturing 61.338 KSF Warehousing	1,316	189	174

The proposed land uses result in 189 AM peak hour trips and 174 PM peak hour trips. No adjustments for trip reductions (e.g. pass-by trips or internal capture) were used in this calculation. A Transportation Demand Management (TDM) program is being proposed to reduce the proposed project vehicle trips.

TRANSPORTATION DEMAND MANAGEMENT PROGRAM

The following summarizes an initial approach to the proposed TDM program for the proposed project at 1315 O'Brien Drive. It is assumed that the TDM program will be refined over time to adapt to changing transportation trends and to maximize the efficiency of the program. The TDM program is

[1] Dumbarton Distribution Center Final EIR, The Environmental Center, March 12, 1982.

specifically designed to focus on incentives and rewards for employees to participate in the program rather than penalties for not participating.

POTENTIAL PROGRAM ELEMENTS

Tarlton Properties, Inc. should offer a combination of program elements to encourage employees to utilize alternative modes of transportation to driving alone. Potential program elements are listed below:

- Bike lockers/racks
- Showers/changing rooms
- Shuttle service
- Subsidized transit tickets for employees
- Preferential carpool parking spaces
- Preferential vanpool parking spaces
- Vanpool program
- Commute assistance center
- Allowance program for bicyclists, walkers, and carpoolers
- Parking cash out program
- Telecommuting
- Compressed workweek program
- Alternate hours workweek program
- Join the Alliance's guaranteed ride home program

These program elements are listed in the City of Menlo Park's *Transportation Demand Management Program Guidelines*. Additionally, the City/County Association of Governments of San Mateo County (C/CAG) has its own guidelines for a TDM program mentioned in the *Revised C/CAG Guideline for the Implementation of the Land Use Component of the Congestion Management Program*. Each of these documents summarizes the potential program measures, a description of each measure, and the trip credits associated with each measure.

PROPOSED PROGRAM ELEMENTS

Tarlton Properties, Inc. is interested in working with the City to develop a practical TDM plan that can be both effective and provide the most value for all parties. An initial set of TDM measures are proposed for the 1315 O'Brien Drive site and is summarized in **Table 3**. The number of trip credits was determined from the City of Menlo Park's TDM Guidelines. The following provides a brief description of each proposed TDM element:

- **Bike Storage**: Bike lockers are proposed to be located on the property. The specific location will be shown on the proposed site plan. Secure bike storage lockers for 20 bicycles are proposed. The bike lockers are furnished by the American Bicycle Security Company and provide a safe storage for bikes at work. Additionally, bike racks for 12 bicycles are proposed and will be shown on the proposed site plan.

Table 3 – Proposed TDM Measure Summary

TDM Measure	Number of Trips Credited	Peak Hour Trip Credits	Program Elements	Trip Credits[1]
Bike Storage	One credit per 3 bike lockers/racks	1/3	32	10
Showers/Changing Rooms	Two credits per 1 shower/changing room	2	12	24
Shuttle service	One trip credit for each round trip seat on the shuttle	1	120	120
Additional credit for combination with Guaranteed Ride Home Program	*Additional one trip credit for each seat*	*1*	*120*	*120*
Subsidized transit tickets (Go Pass for Caltrain)	One trip credit for each transit pass provided	1	100	100
Preferential carpool parking	Two credits per 1 space reserved	2	32	64
Commute assistance center				
Transit brochure rack	*One peak hour trip credited for each feature*	*1*	*1*	*1*
Computer kiosk connected to Internet	*One peak hour trip credited for each feature*	*1*	*1*	*1*
Telephone	*One peak hour trip credited for each feature*	*1*	*1*	*1*
Desk and chairs	*One peak hour trip credited for each feature*	*1*	*1*	*1*
Allowance for bicyclists, walkers, and carpoolers	One trip credit for each monthly allowance offered to an employee	1	30	30
Join Alliance's guaranteed ride home program	One credit for every two slots purchased in the program with Alliance[2]	-	-	-
Implement flexible work hours	One peak hour credit for each employee offered the opportunity to work flexible hours	1	35	35
Combine any two of these elements and receive additional five credits	Five trip credits for combination of two elements	5	1	5
			Total Trip Credits:	**512**

[1]The number of peak hour trips credited is outlined in the City of Menlo Park's *Transportation Demand Management (TDM) Guidelines*.

[2]The Alliance's guaranteed ride home program operates differently than when the TDM guidelines were created. The Alliance no longer offers slots to be purchased. Trip credits for this TDM measure are combined with the shuttle service.

- **Showers/Changing Rooms**: Twelve shower/changing rooms are proposed for the building on the first floor. The shower/changing rooms provide a dedicated facility for the cyclists and persons walking to work. This measure, combined with the bike lockers/racks, should provide employees with a great alternative for commuting to work.
- **Guaranteed Ride Home Program**: Tarlton Properties, Inc. will also enroll its tenants in a Guaranteed Ride Home Program administered by the Peninsula Traffic Congestion Relief Alliance. The program provides employees a free taxi ride home in the case of an emergency. Employers will pay 25 percent of the taxi costs and the Peninsula Traffic Congestion Relief Alliance will pay the remaining 75 percent. There is no additional cost to

join the program. This program provides a safety net when an emergency arises for those carpooling, vanpooling, taking transit, walking to work, or bicycling to work.

- **Shuttle Service**: A shuttle service will be provided for employees to use for commuting to work. The shuttle service is provided by Bauers and is currently being implemented in the existing business park surrounding the proposed project. A new shuttle service, specifically serving the buildings along O'Brien Drive, recently started on February 1, 2015. The shuttle service has a stop in front of 1505 O'Brien Drive. This shuttle service will include a separate BART shuttle and Caltrain shuttle. The BART shuttle will carry up to 20 passengers between the Union City BART Station and the project site during the AM and PM peak hours. The shuttle departs every 60-65 minutes. The Caltrain shuttle will carry up to 20 passengers between the Palo Alto Caltrain Station and the project site during the AM and PM peak hours. The shuttle departs every 40 minutes. The project should have a minimum of five roundtrips in the AM and PM peak periods, each carrying 20 passengers, for a total of 100 additional seats to the Caltrain station per peak hour. The shuttles should accommodate the total demand for the potential 100 Caltrain users. There is also a pick-up/drop-off location at Decoto Road/Ozark Park Way in Fremont, CA.
- **Subsidized Transit Tickets**: Caltrain Go Passes will be provided to employees at no cost to the employees. The Caltrain Go Pass allows for unlimited rides, seven days a week. The cost of the Go Pass is $180 per person, but a minimum of $15,120 per employer. This equates to 84 Go Passes at a minimum to distribute to all employees. For TDM calculations, it was assumed that 100 Go Passes will be provided for this specific site.
- **Preferential Carpool Parking**: 32 preferential carpool parking spaces are provided. The carpool parking spaces will be located close to the building's entrances to provide an incentive for employees to carpool. Marked carpool parking spaces will be shown on the proposed site plan.
- **Commute Assistance Center**: A Commute Assistance Center will be provided with the following features: transit brochure rack, computer kiosk connected to internet, telephone, and a desk and chairs. The center should encourage employees to use transit to commute to work and provide ease of access to determine the optimal mode of transportation home.
- **Monthly Allowance for Bicyclists, Walkers, and Carpoolers**: A monthly allowance of $20 will be offered to those employees who walk, bicycle, or carpool to work. This measure provides further incentive to not drive alone to work. The $20 monthly allowance equates to approximately $1 per day.
- **Flexible work hours**: Employees will be offered the opportunity to work a flexible work schedule. Employees can work outside the traditional 8 AM to 5 PM work day. This measure will result in employees avoiding the AM peak (7 AM to 9 AM) and PM peak (4 PM and 6 PM) for their daily commute. It is anticipated that 35 employees would participate in this flexible work schedule.
- **Combination of Two Elements**: Combining at least two elements in the TDM program results in five additional peak hour trips. By offering complimentary TDM elements, experience has shown that the effectiveness of the program increases.

As shown in **Table 3**, the proposed TDM measures total to 512 trip credits. Although the TDM program results in 512 trip credits, the effectiveness of the TDM program was calculated separately.

EFFECTIVENESS OF TDM PROGRAM ELEMENTS

The effectiveness of the TDM plan was predicted using the COMMUTER model developed by the United States Environmental Protection Agency (EPA). The COMMUTER model is a spreadsheet based model that predicts the travel and emission effects resulting from an employer implemented transportation management program. The model allows for inputs to local work-trip mode shares, work trip lengths, vehicle occupancy, financial incentives for alternative modes of transportation, employer participation rates, and the level of each program to determine the predicted trip reduction rates. After inputting the specific TDM measures mentioned in **Table 3** for the proposed project, the anticipated trip reduction percentage is 21.1 percent. The 21.1 percent effectiveness is similar to other TDM plans in the local area. The COMMUTER model output for this project is shown in **Attachment B**.

The anticipated trip reduction of 21.1 percent was applied to the proposed project trips only, not the trip credits. **Table 4** shows the trip generation summary including the previous use trip credits and the TDM trip reduction.

Table 4 – Trip Generation Summary with Trip Credits

Uses	Vehicle Trips		
	Daily	AM Peak	PM Peak
Proposed Use Trips	1,316	189	174
TDM Trip Reduction (21.1%)	-278	-40	-36
Previous Use Trip Credits	-1,178	-134	-133
Net New Trips	***-140***	***15***	***5***

The net new trips for the proposed project after taking trip credits for the previous use and the TDM program are -140 daily trips, 15 AM peak hour trips, and five PM peak hour trips. The 15 AM peak hour trips and five PM peak hour trips are below the City's threshold of 16 peak hour trips (the equivalent number of peak hour trips for a 10 KSF office building).

Attachment A

1315 O'Brien Trip Generation Table

TIME PERIOD		LAND USE	Trip Rate			Trips		
			In	Out	Total	In	Out	Total
Daily	Previous	Warehousing (162.839 KSF)	1.78	1.78	3.56	280	280	560
		General Office Building (56.002 KSF)	5.515	5.515	11.03	309	309	618
		Total Previous Use Daily Trips				**(589)**	**(589)**	**(1,178)**
	Proposed	Research and Development Center (113.382 KSF)	4.06	4.06	8.11	460	460	920
		Manufacturing (45.796 KSF)	1.91	1.91	3.82	88	88	176
		Warehousing (61.338 KSF)	1.78	1.78	3.56	110	110	220
		Total Proposed Use Daily Trips				**658**	**658**	**1,316**
		TDM Reduction (21.1%)				(139)	(139)	(278)
		Net New Daily Trips				**(70)**	**(70)**	**(140)**
AM Peak	Previous	Warehousing (162.839 KSF)	0.24	0.06	0.30	37	10	47
		General Office Building (56.002 KSF)	1.37	0.19	1.56	77	10	87
		Total Previous Use AM Trips				**(114)**	**(20)**	**(134)**
	Proposed	Research and Development Center (113.382 KSF)	1.01	0.21	1.22	115	23	138
		Manufacturing (45.796 KSF)	0.57	0.16	0.73	26	7	33
		Warehousing (61.338 KSF)	0.24	0.06	0.30	14	4	18
		Total Proposed Use AM Trips				**155**	**34**	**189**
		TDM Reduction (21.1%)				(33)	(7)	(40)
		Net New AM Peak Trips				**8**	**7**	**15**
PM Peak	Previous	Warehousing (162.839 KSF)	0.08	0.24	0.32	13	37	50
		General Office Building (56.002 KSF)	0.25	1.24	1.49	14	69	83
		Total Previous Use PM Trips				**(27)**	**(106)**	**(133)**
	Proposed	Research and Development Center (113.382 KSF)	0.16	0.91	1.07	18	103	121
		Manufacturing (45.796 KSF)	0.26	0.47	0.73	12	21	33
		Warehousing (61.338 KSF)	0.08	0.24	0.32	5	15	20
		Total Proposed Use PM Trips				**35**	**139**	**174**
		TDM Reduction (21.1%)				(7)	(29)	(36)
		Net New PM Peak Trips				**1**	**4**	**5**

Attachment B

COMMUTER MODEL RESULTS

SCENARIO INFORMATION

Description	C/CAG Base TDM Program
Scenario Filename	Tarlton1315-incAltWorkWeek.vme
Emission Factor File	
Performing Agency	Kimley-Horn and Associates, Inc
Analyst	Ben Huie
Metropolitan Area	Menlo Park, CA
Area Size	1 - Large (over 2 million)
Analysis Scope	2 - Site or Employer-Based
Analysis Area/Site	1315 O'Brien Drive
Total Employment	360

PROGRAMS EVALUATED

- [X] Site Walk Access Improvements
- [ ] Transit Service Improvements
- [X] Financial Incentives
- [X] Employer Support Programs
- [X] Alternative Work Schedules

- [ ] User-Supplied Final Mode Shares

MODE SHARE IMPACTS

Mode	Baseline	Final	%Change
Drive Alone	70.5%	55.2%	-15.3%
Carpool	6.5%	9.0%	+2.5%
Vanpool	0.0%	0.0%	+0.0%
Transit	4.3%	17.4%	+13.1%
Bicycle	7.3%	8.6%	+1.3%
Pedestrian	2.7%	2.8%	+0.1%
Other	8.7%	7.0%	-1.7%
No Trip	-	0.0%	+0.0%
Total	100.0%	100.0%	-

Shifted from Peak to Off-Peak	1.1%

TRAVEL IMPACTS (relative to affected employment)

Quantity	Peak	Off-Peak	Total
Baseline VMT	4,483	2,818	7,301
Final VMT	3,688	2,425	6,113
VMT Reduction	794	394	1,188
% VMT Reduction	17.7%	14.0%	16.3%
Baseline Trips	324	204	528
Final Trips	256	170	426
Trip Reduction	68	34	102
% Trip Reduction	21.1%	16.6%	19.4%