NELSON
NYGAARD

MEMORANDUM

To: Lisa Ring

From: Jessica ter Schure and Francesca Napolitan

Date: April 30, 2012

Subject: 2090 South Delaware Trip Reduction Program

INTRODUCTION

A new residential development comprised of 111-units is being proposed at the corner of Delaware Street and Pacific Boulevard in San Mateo. The property is located about a quarter mile from the Hayward Park Caltrain station, which currently is a local stop, and 0.7 miles from the Caltrain Baby Bullet stop Hillsdale.

This project will be developed within the San Mateo Rail Corridor (Transit Oriented Development Plan, adopted June 6, 2005) (the TOD Plan). A goal of the accompanying Transportation Demand Management (TDM) program in the TOD Plan "is to achieve an overall reduction in new vehicle trips of at least 25 percent corridor wide." (p. 7-13)

The fact that only a few developments within the TOD Plan area have been approved so far, the project's trip generation will be higher in the short term than it will be over the long run, as more stores, offices, parks, paths and other uses are built around the site. Regardless, the site location and the implementation of the proposed Traffic Reduction Program will achieve a 25% trip reduction already in the short term. Once the entire TOD Plan and Bay Meadows are developed according to the plans, the long-term trip generation threshold of 40% should be met. The results are further discussed in the following sections.

PROPOSED TRIP REDUCTION PROGRAM

Newport Equities, LLC has submitted a Traffic Reduction Program to the City of San Mateo, which Nelson\Nygaard has been given the opportunity to review. The following measures will be included in the project, according to the Traffic Reduction Program:

1. **On-site recreation amenities** – Amenities including a fitness center, community room and courtyard spaces with seating areas and BBQ's will be provided on-site, reducing the need for residents to travel off-site for recreational and fitness opportunities.

2. **On-site business center** – An on-site business center will be provided for residents.

3. **High-speed connectivity -** All units will have high-speed internet connectivity, enabling residents to work from home.

4. **Secure on-site bicycle storage** – There will be long-term secure bicycle parking provided to residents in accordance with the City's Bicycle Master Plan. The required amount is 129 long-term spaces and 9 short-term spaces. The project will meet or exceed these requirements.

5. **On-site self-service bicycle repair shop** – A self-service bicycle repair shop will be located on-site and will provide the basic equipment for residents to complete basic bike repairs.

6. **On-site transportation outreach coordinator** – The on-site leasing agent or manager will serve as the designated transportation outreach coordinator. This person will be responsible for maintaining the Traffic Reduction Program. This includes providing new residents with a welcome package about transportation options, updating the transportation kiosk or website and monitoring bicycle parking.

7. **Transportation information kiosk/website** – A transportation board with up-to-date information on transit services in the area including schedules and service area maps for Caltrain and SamTrans, ridesharing (e.g. 511.org), carsharing, San Mateo bicycle maps and Silicon Valley Bicycle Coalition maps of the North-South Commuter Bike Route and other alternative transportation will be located in a convenient location within the development or on a dedicated portion of the project's website.

8. **Bike training/bike repair training** – The transportation outreach coordinator will offer bicycle rider education classes and bicycle repair training twice a year. The transportation outreach coordinator may for instance contact the Silicon Valley Bicycle Coalition to arrange on-site training.

9. **Welcome packet for new residents** – The transportation outreach coordinator will provide new residents with a welcome packet containing transportation information and options relevant to the area. The packet should also include information on amenities and employment centers accessible on foot, by bicycle, and by public transit, City of San Mateo bicycle maps and Silicon Valley Bicycle Coalition maps of the North-South, Samtrans and Caltrain schedules and maps and ridematching services.

10. **Parking** – A total of 219 parking spaces will be provided for the 111 units. Each unit will be assigned one parking space with select units being assigned two spaces.

NELSON\NYGAARD'S ANALYSIS OF THE PROGRAM

The proposed location is a very suitable spot for multifamily housing, with a grocery store (Trader Joes) and other retail, the Hayward Caltrain station and bus route 292 (with service between Hillsdale Shopping Center and San Francisco) within easy walking distance. The location and mixed-use factors will have the largest effect on trip generation. Nelson\Nygaard has used URBEMIS to calculate the trip reduction effects of the location and various program elements.

The URBEMIS mitigation component is a simple yet powerful tool; it employs standard traffic engineering methodologies, but provides the opportunity to adjust ITE average trip generation rates to quantify the impact of a development's location, physical characteristics and any demand management programs. In this way, it provides an opportunity to fairly evaluate developments that minimize their transportation impact, for example, through locating close to transit or providing high densities and a mix of uses.

Figure 1 shows the inputs that have been used to complete the URBEMIS mitigation component, along with data sources. The number of trips generated by a development depends not only on the characteristics of the project itself, but also on the surrounding area. High-density housing in an urban area, for example, will generate fewer trips than the same housing located close to a freeway interchange and surrounded by low-density subdivisions. For this reason, URBEMIS

requires data for the area within approximately a half mile radius from the center of the project, or for the entire project area, whichever is larger. In effect, the smaller the development, the more important the development's context.

Since the nearby railroad tracks have a significant impact on the potential movement between the west and the east side of the tracks, we have not included a small portion of the area within a half mile radius on the west side of the tracks due to the difficulty in accessing this area (Figure 2).

Figure 1 URBEMIS Data Input

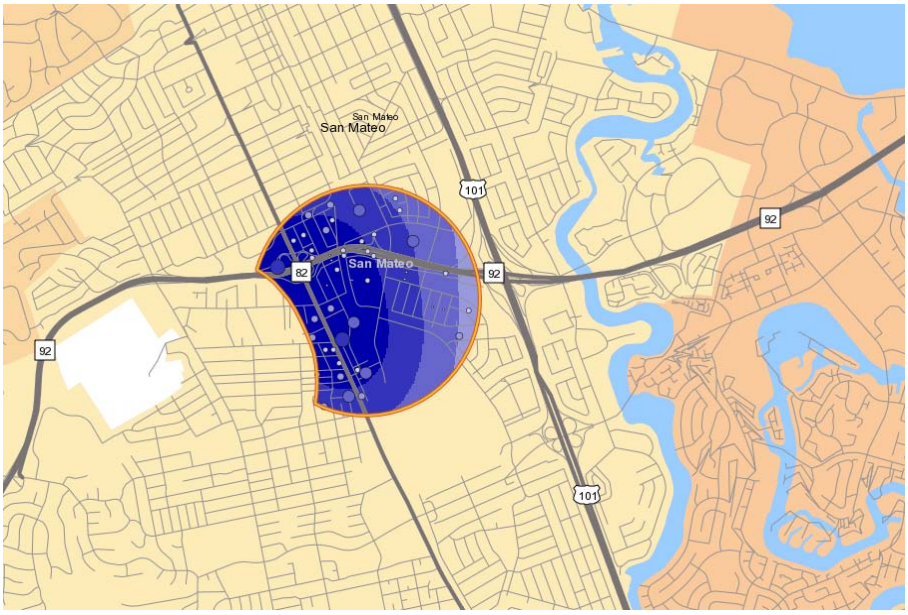
Factor	Input Value	Source
Housing units in development	111	Project plan
Project Acreage	2.37 acre	Project plan
Net residential density (1)	47 units per acre	Project plan
Below-market-rate units within development	10%	Project plan
Number of housing units within ½ mile radius	1,443	Census data (2010)
Number of jobs located within ½ mile radius	3,600	OntheMap. US Census Longitudinal Employer-Household Dynamics (2009)
Local serving retail within ½ mile radius	Yes	Site observation
Transit service	81 daily buses stop within ¼ mile (existing) 40 daily trains stop within ½ mile (existing)	Caltrain/Samtrans maps/schedules
Intersection density (2) within ½ mile radius	114 valences	Street plan
Sidewalk completeness within ½ mile radius	95% have sidewalk on both sides 5% have sidewalks on one side	Site observation
Bike lane completeness within ½ mile radius	50% direct parallel routes exist	Site observation

Notes:

(1) Net residential data excludes land not devoted to residential uses, prorating mixed-use sites by the percentage square footage of each use.

(2) Calculated from existing street network, based on the number line segment terminations, or each "valence". Intersections have a valence of 3 or higher - a valence of 3 is a "T" intersection, 4 is a four-way intersection, and so on.

Figure 2 Data Collection Area



Taking all the above mentioned factors into consideration, the URBEMIS model results in a trip reduction estimate of 38% when compared to trip estimates applying the ITE apartment rate (Figure 3). There is currently a good mix of uses around the development. In addition, the density of the project itself has an effect on trip generation. These two factors yield a 25% trip reduction estimate compared to standard ITE trip generation rate. The proximity to retail, the Hayward Park station and Bus 292 yields another seven percent trip reduction estimate.

Pedestrian and bicycle friendliness as well as the provision of 10% affordable housing units are estimated to further reduce trip generation to 62%. In addition, if the trip reduction program described above is implemented, another 2% trip reduction can be expected.

Figure 3 Trip Reduction Estimates with URBEMIS

Mitigation Step (1):	Number of trips Generated	% of Step 0
0. Assuming Standard ITE Trip Generation	738	100%
1. Residential Density	616	83%
2. Mix of Uses (includes step 1)	552	75%
3. Locally Serving Retail (includes step 1-2)	531	72%
4. Transit Service (includes step 1-3)	502	68%
5. Pedestrian/Bicycle Friendliness (includes step 1-4)	459	62%
6. Affordable Housing (includes step 1-5)	455	62%
7. Proposed Trip Reduction Program (includes step 1-6)	440	60%

Notes: (1) Standard ITE Trip generation Rate is based on Land Use Code 220 Apartments. The daily trip generation rate for this land use is 6.65 (2) Steps 1-6 are results from the URBEMIS model. (3) A 2% trip reduction for the TDM program is taken. This calculation is done outside of URBEMIS.

CONCLUSION

The intent of the San Mateo Rail Corridor Transit Oriented Development Plan is to encourage the creation of world class transit-oriented development in the area. As such, the Rail Corridor Plan contains a number of policies related to parking and transportation that will assist in achieving this vision. Policy 7.17 of the Rail Corridor Plan states, "The goal of the TDM program is to achieve an overall reduction in new vehicle trips of at least 25 percent corridor-wide. It is recognized that this reduction will occur over time and that the reduction achieved by individual projects will vary based on the specific characteristics of the project, such as location and proposed uses."

As shown in the analysis above, the 2090 S. Delaware development will meet the trip reduction goals of the Rail Corridor Plan, as it is estimated that the project's affordability, density, location, proximity to transit, and trip reduction program will reduce trip generation by 40%, in comparison to a typical suburban development. However, it is important to note that the larger context within which a project is sited is critical to the achievement of these trip reduction targets. These include the presence of higher density, transit supportive land uses as well as pedestrian and bicycle infrastructure improvements around the site.

In light of this, it is recommended that a short-term trip reduction threshold be established and set at 25% as it will take a number of years for the area around 2090 S. Delaware to fully develop into the transit-oriented neighborhood envisioned in the Rail Corridor Plan.

In the long term, after build-out of the TOD Plan, a trip reduction threshold of 40% should be met. The exact timing for the application of the 40% trip reduction target would be set by the Rail Corridor TMA. However, the following should be in place before 2090 S. Delaware is expected to meet the 40% trip reduction target:

- Higher densities in the Rail Corridor TOD Plan Area, including construction completion of approved projects such as Station Park Green, Hines (92/Delaware offices), Bay Meadows, and other projects that add residential, office and retail uses at higher densities and intensities than that of the current land uses within a ½ mile of the project site.
- Pedestrian and bicycle improvements on roadways near the project site, including improvements that will facilitate access to the Hayward Park Station, completion of the sidewalk network, and increases in the percentage of streets with bicycle lanes.
- Train station improvements to Hillsdale and Hayward Park Caltrain Stations.
- Improved pedestrian and bicycle access between the areas east and west of the Caltrain tracks.
- TDM measures provided by the TMA, such as shuttles.
- Other items, as determined by the TMA.