



TECHNICAL MEMORANDUM - FINAL

To: Mr. Ray Barragan, City of Gardena

From: Rita Garcia
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Date: October 14, 2019

Subject: **Melia 178th Street Townhomes – Neighborhood Cut-Through Traffic Analysis**

The City of Gardena retained Kimley-Horn and Associates, Inc. (Kimley-Horn) to analyze potential neighborhood cut-through traffic for the proposed Melia 178th Street Townhomes Project (Project), located at 1515 West 178th Street in the City of Gardena. This Technical Memorandum (TM) summarizes the current and projected future traffic conditions in the Project site’s vicinity and analyses the potential for Project-generated traffic to use the local residential streets. Trip generation estimates developed and documented in the *Melia 178th Street Project – Trip Generation Analysis TM* (Kimley-Horn, May 2019) were reviewed and used in this analysis.

STUDY AREA

The Project site is located on West 178th Street with local access provided via Normandie Avenue to the east and Western Avenue to the west. Between Western Ave and Normandie Avenue, five north-south local streets connect West 178th Street to West 182nd Street. In the site’s immediate vicinity, two north-south local streets, Denker Avenue and Evelyn Avenue, provide access to West 182nd Street. It is noted that trucks over 6,000 pounds are prohibited on both these local streets.

Regional access to the Project site is provided via the Artesia Freeway (State Route 91 (SR-91)) to the northeast, the San Diego Freeway (Interstate 405 (I-405)) to the south and west, and the Harbor Freeway (SR-110) to the east. Two access driveways are located at 178th Street at the site’s southern boundary. Approximately 0.25 mile west of the Project site, Gtrans (City of Gardena Transportation Service) Line 2 bus stop is located at the Western Avenue at 178th Street intersection, and Line 4 bus stop is located to the east at the Normandie Avenue at 178th Street intersection. However, to provide a conservative analysis, no discounts for transit usage have been applied in this study.

The study area is shown in **Figure 1**, which includes the Project site in a local context with the adjacent roadway network.

Figure 1: Study Area



Note: All streets within the study area are not shown in this figure. Only the major roadways and the impacted local streets in the immediate vicinity of the project are shown.

EXISTING CONDITIONS

The Project site is currently occupied by an active trucking warehouse use (i.e., RoadEx America). The Project proposes to remove this existing use and, in its place, develop a residential community consisting of 114 three-story, attached townhomes. The trips currently associated with the Project site would be taken as a trip credit to offset the new trips that would be generate by the proposed Project. However, for purposes of this analysis, no credit is given as trucks are not allowed on the local streets.

The on-street parking is currently heavily occupied along 178th Street and Denker Avenue during daytime hours due to the Project site’s existing trucking warehouse. Observations have shown that most of the vehicles belong to either Project site employees or visitors. At times, several large trucks were observed parked or pulled over along 178th Street waiting to access the Project site.

PROPOSED CONDITIONS

Project Trip Generation

The trip generation estimates (as detailed in May 2019 Memo) for the proposed Project are summarized in **Table 1**. The existing trip generation was based on the traffic count data obtained at the site driveways. Based on the Institute of Transportation Engineers (ITE) Trip Generation Manual, 10th Edition, the proposed Project (Multifamily Residential – Mid-Rise) is estimated to generate 620 average daily trips, with 41 AM peak hour trips and 51 PM peak hour trips.

Table 1: Project Site Trip Generation – Existing and Proposed

EXISTING: RoadEx Trucking PROPOSED: Melia Homes Multifamily Residential									
Land Use	ITE Code	Unit	Trip Generation Rates ¹						
			Daily	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
RoadEx Trucking Business	<i>Site traffic volumes based on peak period driveway counts - March, 2019</i>								
Multifamily Housing (Mid-Rise)	221	DU	5.440	0.094	0.266	0.360	0.268	0.172	0.440
Land Use	Quantity	Unit	Trip Generation Estimates						
			Daily	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Existing Use									
RoadEx Trucking Business – Vehicles			n/a	13	14	27	16	20	36
Pedestrians to and from RoadEx ²			n/a	26	10	36	9	19	28
Total Existing Trips			n/a	39	24	63	25	39	64
Proposed Use									
Multifamily Housing (Mid-Rise)	114	DU	620	11	30	41	31	20	51
¹ Source: Institute of Transportation Engineers (ITE) <u>Trip Generation Manual</u> , 10th Edition ² Throughout the data collection period, individuals were observed parking on 178th Street or Denker Avenue and walking to and from the RoadEx property. Each pedestrian entering or exiting the RoadEx site is assumed to be a RoadEx employee or visitor and is counted as a vehicular trip associated with the existing RoadEx business.									

Source: Trip Generation Analysis (Kimley-Horn, May 2019)

Project Trip Distribution

The trip distribution and assignment assumptions were developed by evaluating the surrounding road network and identifying regional traffic patterns. Based on the adjacent roadway network and location of regional connectors, most Project trips are anticipated to enter and exit the site on 178th Street via either Normandie Avenue on the east or Western Avenue on the west.

Other trip distribution assumptions are as follows:

- Trips heading north and west would primarily use 182nd Street and Artesia Boulevard rather than going south on Western Avenue toward I-405 to avoid heavy peak traffic on the freeway.
- Trips heading north would primarily use I-110 via Artesia Boulevard. A few trips may use West 182nd Street to use the Express Lanes.
- Trips heading south would use either of the major north-south roadways, Western Avenue or Normandie Avenue, to access I-405. Other trips going south may use Artesia Boulevard to access the I-110 southbound.
- Trips heading east would primarily use CA-91 via Artesia Boulevard.
- Trips heading inbound would primarily use the same routes as outbound.

Based on the above assumptions, roadway network and accessibility to regional connectors, the trip distribution percentages developed for major roadways in the Project site’s vicinity are shown in Figure 2.

Figure 2: Project Site Trip Distribution



Project Site Trip Assignment

Trips are assigned to the roadway network based on the trip distribution shown in **Figure 2**. As noted above, trips are likely to use the area's major thoroughfares to and from the Project site.

The scenarios show that a few trips could potentially use Denker Avenue and Evelyn Avenue in lieu of 178th Street are as follows:

- 1) Trips heading south and west may use Denker Avenue to avoid making a left turn at the unsignalized 178th Street at Western Avenue intersection.
- 2) Trips heading south and east may decide to use Evelyn Avenue, if preferred.

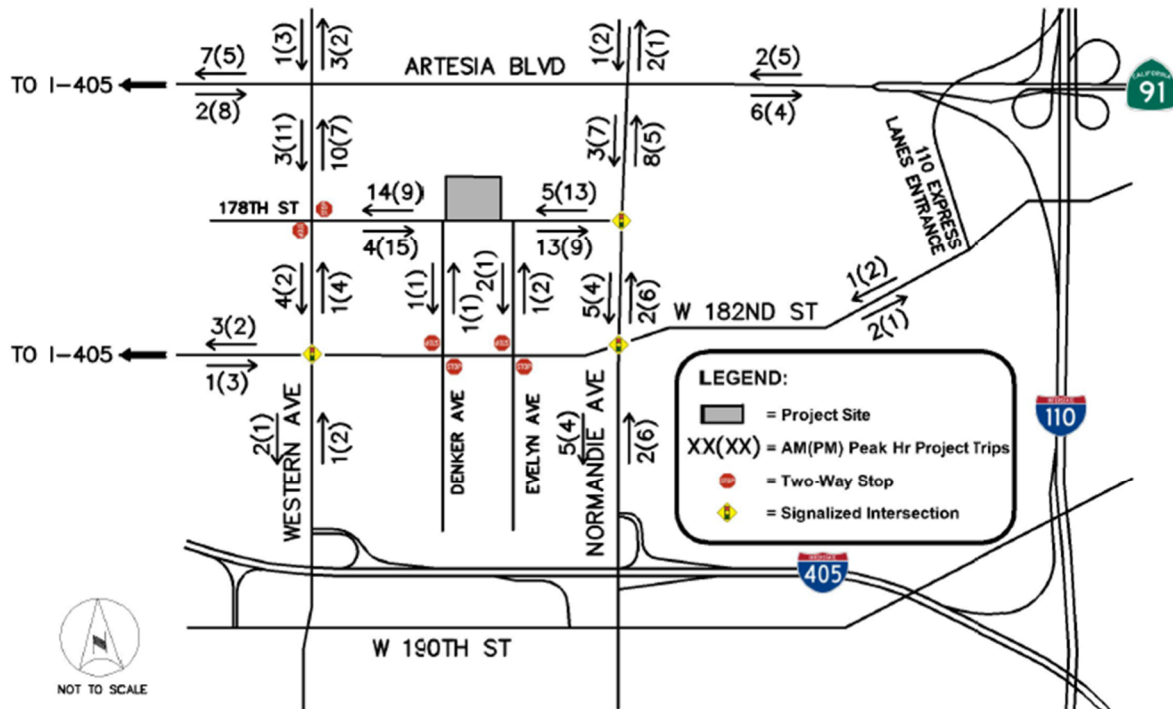
Other north-south side streets are not likely to be used because these are the two streets that are in closest proximity to the project site. Further, all north-south streets except Denker Avenue and Evelyn Avenue have stop signs at 180th Street.

However, the number of vehicles choosing even Denker Avenue or Evelyn Avenue to West 182nd Street in lieu of Western Avenue or Normandie Avenue is anticipated to be insignificant due to the following factors:

- 1) Sufficient gaps for exiting/entering vehicles from/to 178th Street created due to upstream traffic signals at Artesia Boulevard and West 182nd Street.
- 2) Exclusive southbound right turn lane at the Western Avenue at West 182nd Street intersection (for outbound vehicles).
- 3) Permissive only left turn phase (no left turn arrow) at the Western Avenue at West 182nd Street intersection (for outbound vehicles).
- 4) Reduced speed limit along West 182nd Street due to school zone in the vicinity of the intersection with Evelyn Avenue.

The above stated factors exhibit the use of local residential streets as less attractive compared to the study area's major thoroughfares. Based on the trip generation rates for the proposed land use (**Table 1**), the trip distribution percentages (**Figure 2**), and these factors, the Project site trips were assigned to the roadway network as shown in **Figure 3**.

Figure 3: Project Site Trip Assignment



Note: Figure shows proposed peak hour project site trips only. This does not include trip credit for existing land use, which would subsequently cancel these trips.

Based on the trip generation rates, no significant impacts to the adjacent roadway network (including the local neighborhood streets) are anticipated due to the proposed land use.

CONCLUSION

Road users typically follow alternative routes through a neighborhood in an effort to avoid driving in congested conditions along major thoroughfares. However, within the study area, the incentives for using local streets in the Project site’s vicinity were found to be less attractive due to roadway/control configurations, proximity of signals, and reduced speed zones.

Further addition of any Project-generated traffic on neighborhood streets, regardless of the volume, may be a concern to residents. However, the cut-through traffic through the local streets are projected to be insignificant for the proposed land use.