January 14, 2019

MEMORANDUM

To:    Money Samra
       10415 Edgebrook Way
       Northridge, CA 91326

From:  Robert Kilpatrick, PE/TE
        Senior Project Manager / Senior Associate

RE:    Traffic Scope Outline – Harvard Road Project –
       San Bernardino County, California

This memorandum presents the scope of the traffic impact analysis for the Proposed Project
consisting of a Super Convenience Market/Gas Station with 20 pumps. The proposed project is
located at the southwest corner of Harvard Road and Hacienda Road in the unincorporated
community of Newberry Springs in San Bernardino County, California. The purpose of the scope is
to assess the requirements of a detailed Traffic Study for the project by the County of San Bernardino
staff.

A. Project Description

The proposed project is located at the southwest corner of Harvard Road and Hacienda Road in the
unincorporated community of Newberry Springs in San Bernardino County, California as illustrated
in Exhibit A. It is bounded to the north and west by Hacienda Road and undeveloped land, to the
east by Harvard Road and undeveloped land, and the I-15 Freeway to the south.

As presented, the proposed project is comprised of a Super Convenience Market/Gas Station with
20 pumps. Exhibit B illustrates the proposed Site Plan. As illustrated, access to the site will be
obtained from one driveway along Harvard Road and two driveways along Hacienda Road.

B. Project Trip Generation

Table A summarizes the estimated trip generation for the project site during the Friday (4 – 6 PM)
peak and Sunday PM (12 – 3 PM) peak periods. The generation factors for the Super Convenience
Market/Gas Station with 20 pumps were obtained from the ITE Trip Generation Manual, 10th Edition
based on land use type 960.

The project is highway oriented as a result of a diverted link trip reduction of 80% applied to the trip
generation. The diverted link trip reduction factor is consistent with Traffic Studies completed for area
projects adjoining the I-15 Freeway. It is proposed that 70% of the project trips are to be generated
by Cars Only. The remaining 30% of the project trips are to be generated by Recreational Vehicles
(RVs) and/or Trucks.

It is estimated that the project will generate 92 PM Total Primary Trips.
Table A: Project Trip Generation

<table>
<thead>
<tr>
<th>Use</th>
<th>Daily</th>
<th>In</th>
<th>Out</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Super Convenience Market/Gas Station</td>
<td>230.52</td>
<td>11.48</td>
<td>11.48</td>
<td>22.96</td>
</tr>
<tr>
<td>(ITE 960) Vehicle Fueling Positions</td>
<td>4,610</td>
<td>230</td>
<td>230</td>
<td>459</td>
</tr>
<tr>
<td>Diverted Link Trips (80%)</td>
<td>-</td>
<td>184</td>
<td>184</td>
<td>367</td>
</tr>
<tr>
<td>Cars Only (70%)</td>
<td>-</td>
<td>129</td>
<td>129</td>
<td>257</td>
</tr>
<tr>
<td>RVs and Trucks (30%)</td>
<td>-</td>
<td>55</td>
<td>55</td>
<td>110</td>
</tr>
<tr>
<td>Primary Trips (20%)</td>
<td>-</td>
<td>46</td>
<td>46</td>
<td>92</td>
</tr>
<tr>
<td>Cars Only (70%)</td>
<td>-</td>
<td>32</td>
<td>32</td>
<td>64</td>
</tr>
<tr>
<td>RVs and Trucks (30%)</td>
<td>-</td>
<td>14</td>
<td>14</td>
<td>28</td>
</tr>
</tbody>
</table>


C. Project Trip Distribution and Assignment

To address the impacts of the estimated entry/exit trips at the project driveways, the trips were distributed and assigned to each driveway based on the driveway restrictions. The Project Driveway “B” at Harvard Road is proposed to accommodate “Cars Only.” Recreational Vehicles (RVs) and Trucks are required to proceed north to Hacienda Road and enter in either Project Driveway “A” or Project Driveway “C”.

The project was distributed based on the anticipated project traffic flows and surrounding area utilization. The project trips are distributed based on the local area network streets. The distribution of the Cars Only primary project trips is illustrated in Exhibit C1. The distribution of the RVs and Trucks primary project trips is illustrated in Exhibit C2. The distribution of the Cars Only diverted links project trips is illustrated in Exhibit C3. The distribution of the RVs and Trucks diverted links project trips is illustrated in Exhibit C4. The Cars Only Primary Project Trips are illustrated on Exhibit D1. The RVs and Trucks Primary Project Trips are illustrated on Exhibit D2. The Cars Only Diverted Link Project Trips are illustrated on Exhibit D3. The RVs and Trucks Diverted Link Project Trips are illustrated on Exhibit D4. The Total Project Trips are illustrated on Exhibit D5.

D. Study Intersections

The proposed project is located at the southwest corner of Harvard Road and Hacienda Road in the unincorporated community of Newberry Springs in San Bernardino County, California. We examined the trips distributed to four (4) existing intersections and two (2) future driveway intersections in the study area.

1. Harvard Road and Hacienda Road
2. Harvard Road and I-15 Freeway Southbound Ramps
3. Harvard Road and I-15 Freeway Northbound Ramps
4. Hacienda Road and Barrett Road/Project Driveway “A”
5. Harvard Road and Project Driveway “B” (Future Intersection)
6. Hacienda Road and Project Driveway “C” (Future Intersection)

All of the existing intersections are unsignalized.
E. Traffic Study Scenarios

The following is an outline of the Traffic Study analysis scenarios;

1. Existing Conditions (Friday 4-6 PM peak and Sunday 12-3 PM peak periods)

2. Existing plus Project Conditions
   a. Existing
   b. Growth (assume growth rate of 2% per year)
   c. Project Traffic

3. Background Conditions
   a. Existing
   b. Growth (assume growth rate of 2% per year)
   c. Related Projects in the vicinity

4. Project Conditions
   a. Existing
   b. Growth (assume growth rate of 2% per year)
   c. Project Traffic
   d. Related Projects in the vicinity

5. Future Year 2040
   a. San Bernardino Transportation Analysis Model (SBTAM)

6. Future Year 2040 With Project
   a. San Bernardino Transportation Analysis Model (SBTAM)
   b. Project Traffic

If you have any questions or comments, please feel free to contact us.

Attachments

1. Exhibit A - Vicinity Map
2. Exhibit B - Site Plan
3. Exhibit C1 – Cars Only Primary Trip Distribution
4. Exhibit C2 – RVs and Trucks Primary Trip Distribution
5. Exhibit C3 – Cars Only Diverted Link Trip Distribution
6. Exhibit C4 – RVs and Trucks Diverted Link Trip Distribution
7. Exhibit D1 – Cars Only Primary Trips
8. Exhibit D2 – RVs and Trucks Primary Trips
9. Exhibit D3 – Cars Only Diverted Link Trips
10. Exhibit D4 – RVs and Trucks Diverted Link Trips
11. Exhibit D5 – Total Project Trips
EXHIBIT C2: RVS AND TRUCKS
PRIMARY TRIP GENERATION
HARVARD ROAD PROJECT
NEWBERRY SPRINGS, CALIFORNIA
EXHIBIT C3: CARS ONLY DIVERTED LINK TRIP GENERATION
HARVARD ROAD PROJECT
NEWBERRY SPRINGS, CALIFORNIA
EXHIBIT C4: RVS AND TRUCKS
DIVERTED LINK TRIP GENERATION
HARVARD ROAD PROJECT
NEWBERRY SPRINGS, CALIFORNIA
EXHIBIT D1: CARS ONLY PRIMARY TRIPS
HARVARD ROAD PROJECT
NEWBERRY SPRINGS, CALIFORNIA
RVS AND TRUCKS PRIMARY PROJECT TRIPS
FRIDAY TRIPS - 14 IN / 14 OUT
SUNDAY TRIPS - 14 IN / 14 OUT

LEGEND

- RVS AND TRUCK PRIMARY PROJECT TRIPS
- STUDY INTERSECTION
- STOP CONTROLLED INTERSECTION

EXHIBIT D2: RVS AND TRUCKS PRIMARY TRIPS
HARVARD ROAD PROJECT
NEWBERRY SPRINGS, CALIFORNIA
CARS ONLY DIVERTED LINK PROJECT TRIPS

FRIDAY TRIPS - 128 IN / 129 OUT
SUNDAY TRIPS - 128 IN / 129 OUT

LEGEND

- CARS ONLY DIVERTED LINK PROJECT TRIPS
- STUDY INTERSECTION
- STOP CONTROLLED INTERSECTION

EXHIBIT D3: CARS ONLY DIVERTED LINK TRIPS
HARVARD ROAD PROJECT
NEWBERRY SPRINGS, CALIFORNIA
RVS AND TRUCKS DIVERTED LINK PROJECT TRIPS
FRIDAY TRIPS - 55 IN / 55 OUT
SUNDAY TRIPS - 55 IN / 55 OUT

LEGEND
XXX - RVS AND TRUCK DIVERTED LINK PROJECT TRIPS
O - STUDY INTERSECTION
\ - STOP CONTROLLED INTERSECTION

EXHIBIT D4: RVS AND TRUCKS
DIVERTED LINK TRIPS
HARVARD ROAD PROJECT
NEWBERRY SPRINGS, CALIFORNIA
PROJECT TRIPS
FRIDAY TRIPS - 230 IN / 230 OUT
SUNDAY TRIPS - 230 IN / 230 OUT

LEGEND
- PROJECT TRIPS
- STUDY INTERSECTION
- STOP CONTROLLED INTERSECTION

EXHIBIT D5: PROJECT TRIPS
HARVARD ROAD PROJECT
NEWBERRY SPRINGS, CALIFORNIA