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traffic engineering ▪ transportation planning
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April 20, 2018

Mr. Peter Lewandowski
ENVIRONMENTAL IMPACT SCIENCES
26051 Via Concha
Mission Viejo, CA 92691 - 5614

Subject: 13650 Harbor Boulevard Hotel Trip Generation Analysis & Traffic Letter, City of Garden Grove

Dear Mr. Lewandowski:

A. Introduction & Project Description

RK ENGINEERING GROUP, INC. (RK) is pleased to provide this Trip Generation Analysis & traffic Letter for the proposed 13650 Harbor Boulevard Hotel Project.

The proposed project is planned to consist of the following land use:

- 124 Room Hotel.

The project is planned to open in 2020 and will displace a former auto dealership/sales with an area of 17,216 square feet. The auto dealership/sales use is no longer active.

Access for the proposed project is planned as follows:

- Two right-in/right-out unsignalized driveways on Harbor Boulevard.

Exhibit A shows the location of the proposed project. Exhibit B shows the proposed site plan.

Based on discussions with the City of Garden Grove staff, the trip generation of the proposed project is evaluated in comparison to the existing inactive auto dealership/sales

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land use to determine the net change in trip generation potential between the proposed project and the existing inactive land use.

B. Trip Generation

As previously noted, the proposed project is planned to consist of the following land use:

- 124 Room Hotel.

Trip generation represents the amount of traffic that is attracted and produced by a development. The net trip generation for the project is based upon the existing and proposed land uses for the project site.

Trip generation is typically estimated based on the trip generation rates from the latest *Institute of Transportation Engineers (ITE) Trip Generation Manual.* The latest and most recent version (10th Edition, 2017) ITE Manual has been utilized for this trip generation memo. This publication provides a comprehensive evaluation of trip generation rates for a variety of land uses.

This analysis estimates project-generated trips based on ITE trip generation rates for the inactive existing land use and the proposed project. This methodology is the standard practice for evaluating trip generation.

Since the site is already approved for auto sales use, the existing inactive site can be occupied by an auto sales use at any time without requiring further City approval on the land use.

C. ITE Trip Generation Rates

As requested by City of Garden Grove staff, trip generation rates for the inactive existing land use and the proposed project are based on the *Institute of Transportation Engineers (ITE) Trip Generation, 10th Edition, 2017*. This publication provides a comprehensive evaluation of trip generation rates for a variety of land uses.

Table 1 shows the ITE trip generation rates for the inactive existing land use and the proposed project.

Table 1
***ITE* Trip Generation Rates for Existing & Proposed Land Uses.**

Land Use (*ITE* Code)	Units	AM Peak Hour Trip Generation Rate			PM Peak Hour Trip Generation Rate			Daily Trip Generation Rate
		In	Out	Total	In	Out	Total	
Proposed Land Use								
Hotel (310)	Rooms	0.28	0.19	0.47	0.31	0.29	0.60	8.36
Existing Land Use								
Auto Sales (New) (840)	TSF	1.37	0.50	1.87	0.97	1.46	2.43	27.84
Auto Sales (Used) (841)	TSF	1.62	0.51	2.13	1.76	1.99	3.75	27.06

Source: *2017 ITE Trip Generation Manual, 10th Edition*. TSF = Thousand Square Feet.

For comparison, Table 1 shows the ITE trip generation rates for both used auto dealership/sales and new auto dealership/sales.

As shown in Table 1, the ITE trip generation rates and traffic generation potential for used auto dealership/sales is higher than new auto dealership/sales. Hence, the trip generation calculations assume a new auto dealership/sales for the existing inactive use.

This is a conservative approach since it results in lower trip generation for the existing inactive site and the trips associated with the existing inactive land use will be deducted from the project trip generation to determine the net change.

D. ITE Trip Generation of Existing Land Use

Utilizing the ITE trip generation rates shown in Table 1, Table 2 summarizes the daily and peak hour trip generation for the existing inactive land use.

Table 2
Existing Use Trip Generation

Land Use (*ITE* Code)	Quantity	Units	AM Peak Hour			PM Peak Hour			Daily Trips
			In	Out	Total	In	Out	Total	
Auto Sales (New) (840)	17.216	TSF	24	9	33	17	25	42	479

Source: *2017 ITE Trip Generation Manual, 10th Edition*. TSF = Thousand Square Feet.

As shown in Table 2, the existing inactive land use has the potential to generate approximately 479 daily trips which include approximately 33 AM peak hour trip and approximately 42 PM peak hour trips.

E. ITE Trip Generation of Proposed Land Use

Utilizing the ITE trip generation rates shown in Table 1, Table 3 summarizes the daily and peak hour trip generation for the proposed project.

Table 3
Proposed Project Trip Generation

Land Use (*ITE* Code)	Quantity	Units	AM Peak Hour			PM Peak Hour			Daily Trips
			In	Out	Total	In	Out	Total	
Hotel (310)	124	Rooms	34	24	58	38	36	74	1,037

Source: *2017 ITE Trip Generation Manual, 10th Edition*.

As shown in Table 3, the proposed project is forecast to generate approximately 1,037 daily trips which include approximately 58 AM peak hour trip and approximately 74 PM peak hour trips.

F. Net Trip Generation

Table 4 summarizes the net difference in the trip generation between the existing inactive land use and the proposed project.

Table 4
Proposed Project Net Trip Generation

Land Use	AM Peak Hour			PM Peak Hour			Daily Trips
	In	Out	Total	In	Out	Total	
Proposed Project (124 – Room Hotel)	34	24	58	38	36	74	1,037
Existing Use (17,216 – Square Feet of Auto Sales)	-24	-9	-33	-17	-25	-42	-479
Net Trip Generation	**10**	**15**	**25**	**21**	**11**	**32**	**558**

As shown in Table 4, when compared to the existing inactive use, the proposed project is forecast to generate approximately 558 additional daily trips which include approximately 25 AM peak hour trip and approximately 32 PM peak hour trips.

G. Traffic Assessment

When compared to the existing inactive use, the proposed project is forecast to generate approximately 558 additional daily trips which include approximately 25 AM peak hour trip and approximately 32 PM peak hour trips.

Hence, the proposed project is forecast to result in nominal net increase of peak hour trips when compared to the existing use.

It should be noted, once the project trips are distributed and disbursed throughout the roadway network and circulation system, the project's trip contribution to any major intersection is expected to be even less.

It should also be noted, based on industry standards and traffic impact analysis guidelines, a traffic analysis is required when a proposed project contributes 50 or more peak hour trips to a study facility. Hence, a traffic study is not required for the proposed project and the proposed project is not expected to result in any significant traffic impacts to the surrounding circulation system.

H. Conclusions

The existing inactive land use has the potential to generate approximately 479 daily trips which include approximately 33 AM peak hour trip and approximately 42 PM peak hour trips. The proposed project is forecast to generate approximately 1,037 daily trips which include approximately 58 AM peak hour trip and approximately 74 PM peak hour trips.

When compared to the existing inactive use, the proposed project is forecast to generate approximately 558 additional daily trips which include approximately 25 AM peak hour trip and approximately 32 PM peak hour trips.

Hence, the proposed project is forecast to result in nominal net increase of peak hour trips when compared to the existing use.

It should be noted, once the project trips are distributed and disbursed throughout the roadway network and circulation system, the project's trip contribution to any major intersection is expected to be even less.

It should also be noted, based on industry standards and traffic impact analysis guidelines, a traffic analysis is required when a proposed project contributes 50 or more peak hour trips to a study facility. Hence, a traffic study is not required for the proposed project and the proposed project is not expected to result in any significant traffic impacts to the surrounding circulation system.

RK Engineering Group, Inc. appreciates this opportunity to work with ENVIRONMENTAL IMPACT SCIENCES on this project. If you have any questions regarding this study, please do not hesitate to contact us at (949) 474-0809.

Sincerely,
RK ENGINEERING GROUP, INC.

Alex Tabrizi, PE, TE
Associate Principal

Alex Vu, EIT
Engineer II

Attachments

Exhibits

Exhibit A

Location Map

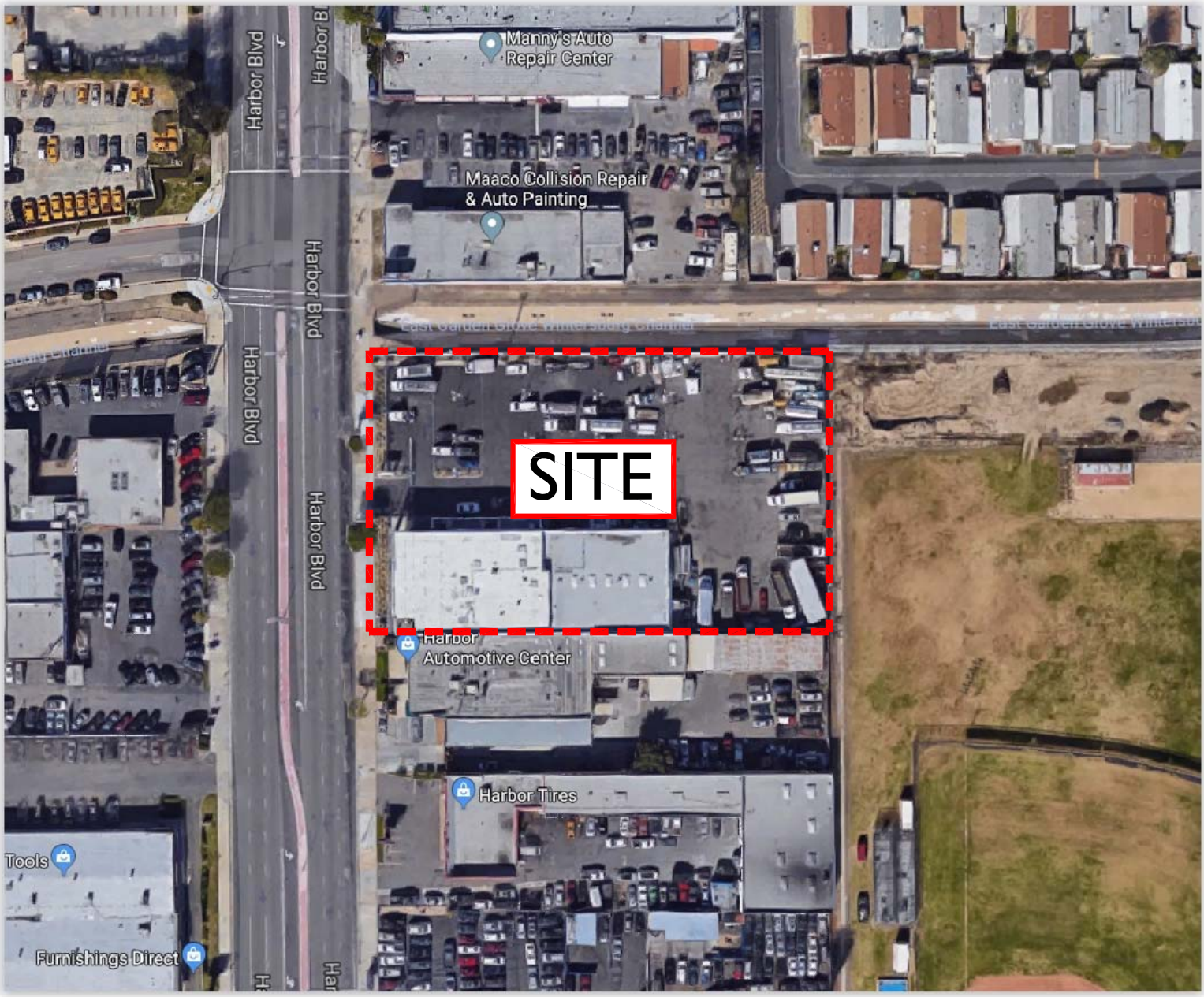

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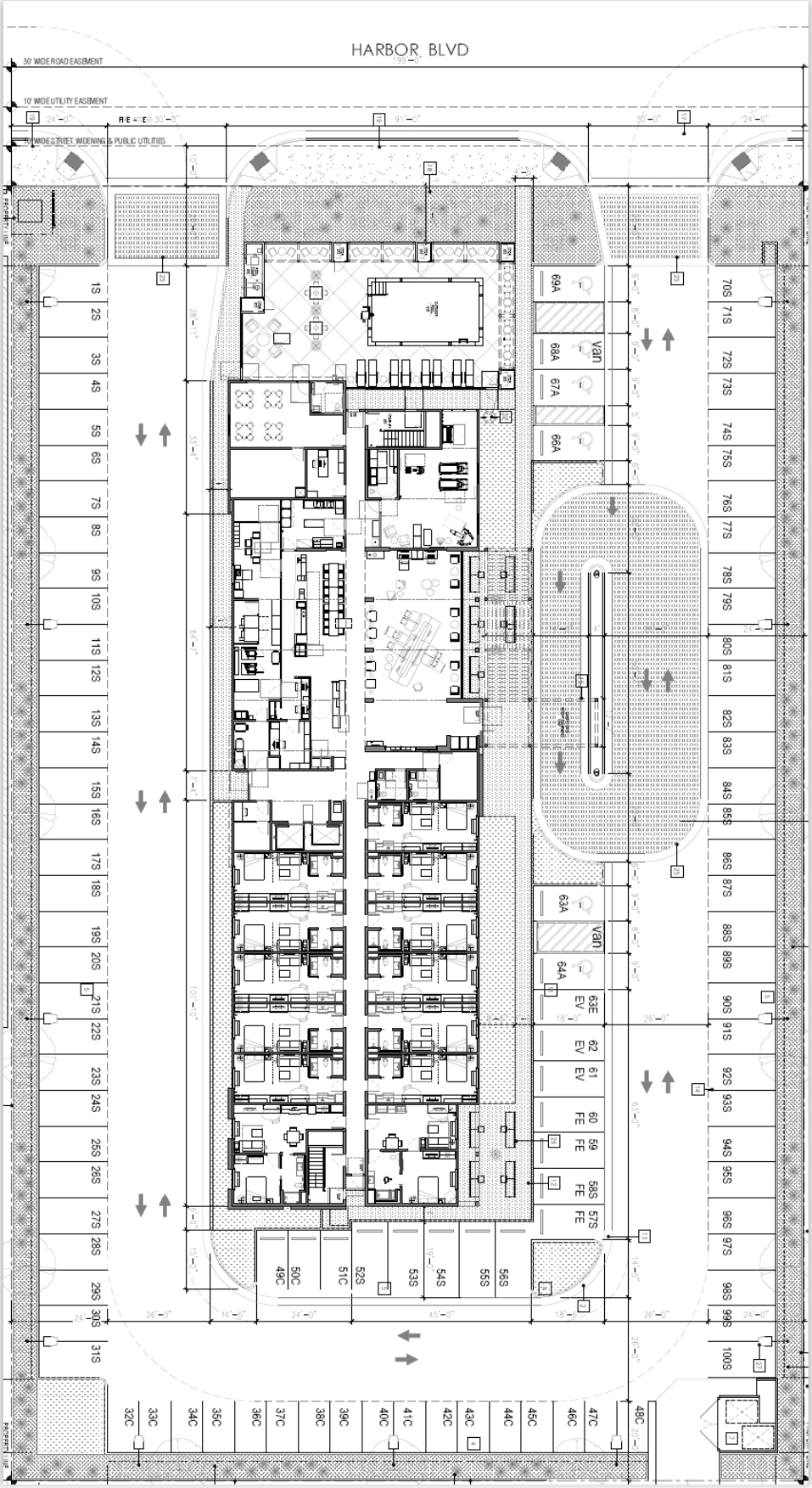
Exhibit B

Site Plan



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