WPA Traffic Engineering, Inc.

TRAFFIC & TRANSPORTATION ENGINEERING

October 12, 1995

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GASCON MAR LTD.

Mr. Allan Mackenzie
Gascon Mar, Ltd.
2050 W. 190th Street, Suite 201
Torrance, CA 90504

SUBJECT: HARBOR GATEWAY MASTER PLAN

Dear Mr. Mackenzie:

This letter report summarizes our initial review of traffic factors related to the subject project. The review was based upon information provided by you and members of the planning team and discussions with representatives of the Cities of Los Angeles and Torrance. No field data collection was undertaken, other than a familiarization with existing conditions.

PROJECT DESCRIPTION

The project is located on the south side of 190th Street between Western and Normandie Avenues in the City of Los Angeles. Figure 1 illustrates the site location. McDonnell Douglas previously utilized most of the site, along with other industrial type uses. Planned development would include various uses as listed in Table 1. Site access is available on Western Avenue, 190th Street, and Normandie Avenue. Due to the rail line on the west side of Normandie Avenue, only a single access at Francisco Street is possible. Access on the other two streets may also be limited by medians and the specific locations available for signalization. An on-site circulation system would be provided to accommodate local traffic and assist in site access.

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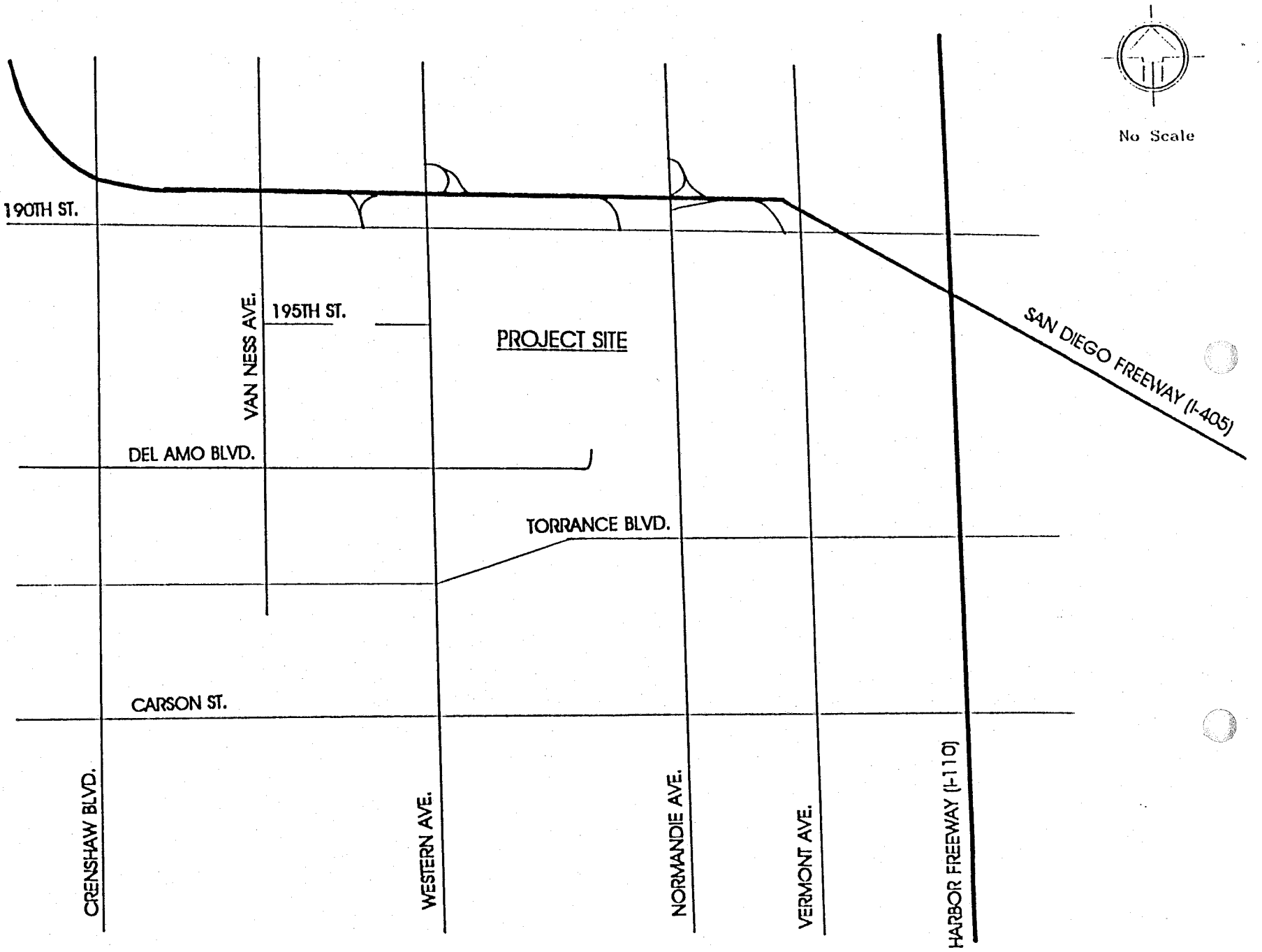

LOCATION MAP

WPA TRAFFIC ENGINEERING, INC.

FIGURE 1

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TABLE 1

LAND USE SUMMARY

Harbor Gateway Master Plan

LAND USE	QUANTITY
Power Center	450,000 SF
Research & Development/ Corporate Office	1,770,000 SF
McDonnell Douglas Storage	1,456,000 SF 300 Employees
Industrial	1,279,000 SF
Hotel	300 Rooms
Restaurant	12,000 SF
Health Club	4,500 SF
Office	26,000 SF

BACKGROUND

As indicated above, the site has been utilized for many years as an industrial facility. Some industrial uses remain on the site and McDonnell Douglas would use a part of the site for storage. A plan for a power center on the southeastern corner of 190th Street and Western Avenue has been proposed by others. The Cities of Los Angeles, Torrance, and Gardena have conducted initial reviews of this proposal and identified a preliminary scope of work for a traffic impact study. A total of 36 intersections were listed as candidates for inclusion in the study. Of these, nine are Congestion Management Plan (CMP) intersections, which could drop out of the study when a detailed trip assignment is completed.

The City of Los Angeles representatives indicated that Western Avenue is planned to have a raised median which could limit access opportunities. In addition, they would like to have a vehicular connection from Western Avenue to Normandie Avenue.

TRIP GENERATION

Preliminary estimates have been made of daily and peak hour trips to be generated by the proposed land uses. These estimates were based upon the land use data in Table 1 and applicable trip generation rates. The rates utilized are listed in Table 2, along with the sources.

The estimated project trip generation is summarized in Table 3. As indicated, the project is estimated to generate 41,380 daily trip ends, with 4,150 occurring during the AM peak hour and 4,975 during the PM peak hour. These estimates include a reduction for the passby effect for the power center and the internal capture for the hotel, restaurant, and health club.

Estimates have also been made of trip generation for former uses of the site. These are based upon generalized land use and building areas. Table 4 lists the estimated trip generation for prior uses. An estimate of 15,370 daily trip ends, with 2,990 occurring during the AM peak hour and 2,875 during the PM peak hour, is shown. Comparison

TABLE 2

TRIP GENERATION RATES

Harbor Gateway Master Plan

LAND USE	DESCRIPTOR	TRIP ENDS PER DESCRIPTOR[1]				
		DAILY	AM PEAK HOUR		PM PEAK HOUR	
			IN	OUT	IN	OUT
Power Center[2]	1,000 SF	40.2	0.56	0.32	1.9	1.9
Research & Development	1,000 SF	7.70	1.02	0.21	0.16	0.91
Warehouse	Employees	3.89	0.37	0.14	0.21	0.38
Industrial	1,000 SF	6.97	0.76	0.16	0.12	0.86
Hotel	Rooms	8.70	0.40	0.27	0.41	0.35
Restaurant[3] (High Turnover)	1,000 SF	177.87	7.55	7.26	7.24	5.68
Health Club	1,000 SF	---	0.14	0.16	2.58	1.72
Office[2]	1,000 SF	19.6	2.31	0.19	0.38	0.43
Equation: Shopping Center	1,000 SF	Daily: Ln(T) = 0.625 Ln(X) + 5.985 AM Pk Hr: Ln(T) = 0.589 Ln(X) + 2.378 PM Pk Hr: Ln(T) = 0.637 Ln(X) + 3.553				
Equation: General Office	1,000 SF	Daily: Ln(T) = 0.756 Ln(X) + 3.765 AM Pk Hr: Ln(T) = 0.777 Ln(X) + 1.674 PM Pk Hr: Ln(T) = 0.737 Ln(X) + 1.831				

(1) Trip Generation, 5th Edition; Institute of Transportation Engineers (ITE); January, 1991.
(2) Rates are based upon specific square footage for the land use and utilizing the equations.
(3) Trip Generation, 5th Edition Update; Institute of Transportation Engineers (ITE); February, 1995.

TABLE 3

TRIP GENERATION

Harbor Gateway Master Plan

LAND USE	QUANTITY	TRIP ENDS				
		DAILY	AM PEAK HOUR		PM PEAK HOUR	
			IN	OUT	IN	OUT
Power Center (Passby Reduction) Subtotal	450,000 SF	18,090 (4,880) 13,210	250 (40) 210	145 (25) 120	855 (230) 625	855 (230) 625
Research & Development	1,770,000 SF	13,630	1,805	370	285	1,610
Warehouse	300 Employees	1,170	110	40	65	115
Industrial	1,279,000 SF	8,910	970	205	155	1,100
Hotel	300 Rooms	2,610	120	80	125	105
Restaurant (High Turnover)	12,000 SF	2,130	90	85	85	70
Health Club	4,500 SF	200	NOM	NOM	10	10
Office	26,000 SF	510	60	5	10	60
(Internal Capture Reduction 20%)	For: Hotel, Restaurant & Health Club	(990)	(40)	(30)	(45)	(60)
TOTAL		41,380	3,325	875	1,315	3,660

TABLE 4

TRIP GENERATION - FORMER USES

Harbor Gateway Master Plan

LAND USE	QUANTITY	TRIP ENDS				
		DAILY	AM PEAK HOUR		PM PEAK HOUR	
			IN	OUT	IN	OUT
Manufacturing	1,900,000 SF	7,310	1,385	95	760	665
Manufacturing	1,600,000 SF	6,160	1,170	80	640	560
Office	150,000 SF	1,900	230	30	40	210
TOTAL		15,370	2,785	205	1,440	1,435

of these data with those for the proposed project in Table 3 indicates significant increases. The ability of the circulation system to accommodate these increased trips would be a significant part of future project analyses and approvals.

TRIP DISTRIBUTION

The City of Los Angeles provided geographic trip distribution data that had been proposed for the power center at 190th Street and Western Avenue. This distribution is summarized in Table 5. It should be noted that this distribution may be modified in conjunction with input from the City when a specific traffic study is undertaken for the project.

To provide some indication of potential project impacts, estimated project trips were assigned to 12 intersections in the environs of the site. The intersections and project trips for the AM and PM peak hours by movement are listed in Table 6. Review of Table 6 indicates that some redistribution of traffic would be desirable and that an ingress/egress on Western Avenue at 195th Street is very desirable. This information can be utilized to refine the site plan with a goal of directing traffic to the best routes. There are potential problems at the various ramp intersections that could be difficult to mitigate.

DISCUSSION

A study conducted in 1993 for the City of Torrance examined conditions at various intersections. Included were intersections on Western Avenue from the I-405 Northbound Ramps to Del Amo Boulevard and the 190th Street/I-405 Southbound Ramps intersection. With mitigation, all of these intersections were projected to operate at acceptable Levels of Service. There is no information provided as to the land use assumptions for the project site and details relative to mitigation are not included in the information that we obtained. It does appear that some widening was proposed at the Western Avenue/190th Street intersection and on 190th Street, west of Western Avenue.

TABLE 5

TRIP DISTRIBUTION

Harbor Gateway Master Plan

SYSTEM	DIRECTION			
	NORTH	SOUTH	EAST	WEST
Freeway (60%)	15	10	15	20
Surface (40%)	10	12	8	10

TABLE 6

PROJECT VOLUMES AT SELECTED INTERSECTIONS

Harbor Gateway Master Plan

AM PEAK HOUR VOLUMES:					INTERSECTIONS							
MOVEMENT	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12
NL	293	0	38	60	9	0	0	0	0	0	0	0
NT	0	9	9	41	127	0	0	0	53	139	53	110
NR	193	113	0	14	32	0	0	0	96	194	86	0
SL	0	431	0	544	0	0	343	60	0	0	0	0
ST	0	14	14	238	436	0	0	0	200	965	200	445
SR	0	0	140	0	523	0	0	271	0	0	0	0
EL	0	0	732	0	211	0	0	0	0	0	0	0
ET	24	0	0	422	67	273	273	270	0	0	0	0
ER	807	0	157	194	73	0	0	0	0	0	0	0
WL	888	82	0	9	146	0	0	0	581	0	765	0
WT	6	0	0	183	176	75	75	728	0	0	0	0
WR	0	101	0	108	0	0	169	0	0	0	0	0

INTERSECTIONS:

#1 - PROJECT ACCESS & 190TH STREET
#2 - WESTERN & PASEO (PROJECT ACCESS)
#3 - NORMANDIE & PASEO (PROJECT ACCESS)
#4 - 190TH & WESTERN
#5 - 190TH & NORMANDIE
#6 - 190TH & CRENSHAW
#7 - 190TH & I-405 SB OFF-ON RAMPS (NEAR WESTERN)
#8 - 190TH & I-405 SB OFF RAMPS (NEAR NORMANDIE)
#9 - WESTERN & I-405 NB ON-OFF RAMPS
#10 - NORMANDIE & I-405 SB ON RAMP
#11 - NORMANDIE & I-405 NB ON-OFF RAMPS
#12 - WESTERN & 195TH STREET

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