

February 16, 2000

Mr. Ed Alderson / Mr. Rick Wilkerson  
Madison Development, LLC  
938 N. Mountain Ave.  
Ontario, CA 91762

***SUBJECT: HIGHWAY 111 & WASHINGTON RETAIL CENTER***

Dear Mr. Alderson / Mr. Wilkerson:

This study presents a summary of traffic factors related to the proposed retail development to be located on the northwest corner of Washington Street and Highway 111 in the City of La Quinta. The analyses contained in this study are based upon information provided by you, your representatives and City Staff, field studies conducted by our staff, and standard reference materials.

**PROJECT DESCRIPTION**

The proposed project would include 18,000 square feet (SF) of office use in two buildings; two fast food restaurants with drive-through facilities totaling 4,800 SF; retail use including a bank totaling 17,500 SF; a high turnover restaurant of 3,450 SF; quality restaurants totaling 14,000 SF; and a gasoline service station with 12 fueling positions, a mini mart and car wash.

A total of 461 parking spaces are being provided and a total of 459 parking spaces are required based upon City code.

Access to the site will be provided via three driveways; two located on Highway 111 and one located on Washington Street. The project access located on Washington Street will provide a fourth leg to an existing signalized intersection, which is located directly north of the intersection of Washington/Highway 111. The project driveway located on Highway 111 directly west of the intersection of Washington/Highway 111 will be restricted to right turns in and out only. The westerly most driveway located on Highway 111 will provide the fourth (northern) leg of an existing signalized intersection.

*Figure 1* illustrates the location of the project in relationship to the surrounding street system. The proposed site plan is illustrated on *Figure 2*.

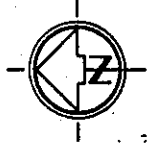
**EXISTING CONDITIONS**

Highway 111 runs in an east-west direction within the City of La Quinta and provides four lanes of travel west of Washington Street and varies between four and six lanes east of Washington Street. Left turn channelization is provided at all intersections.

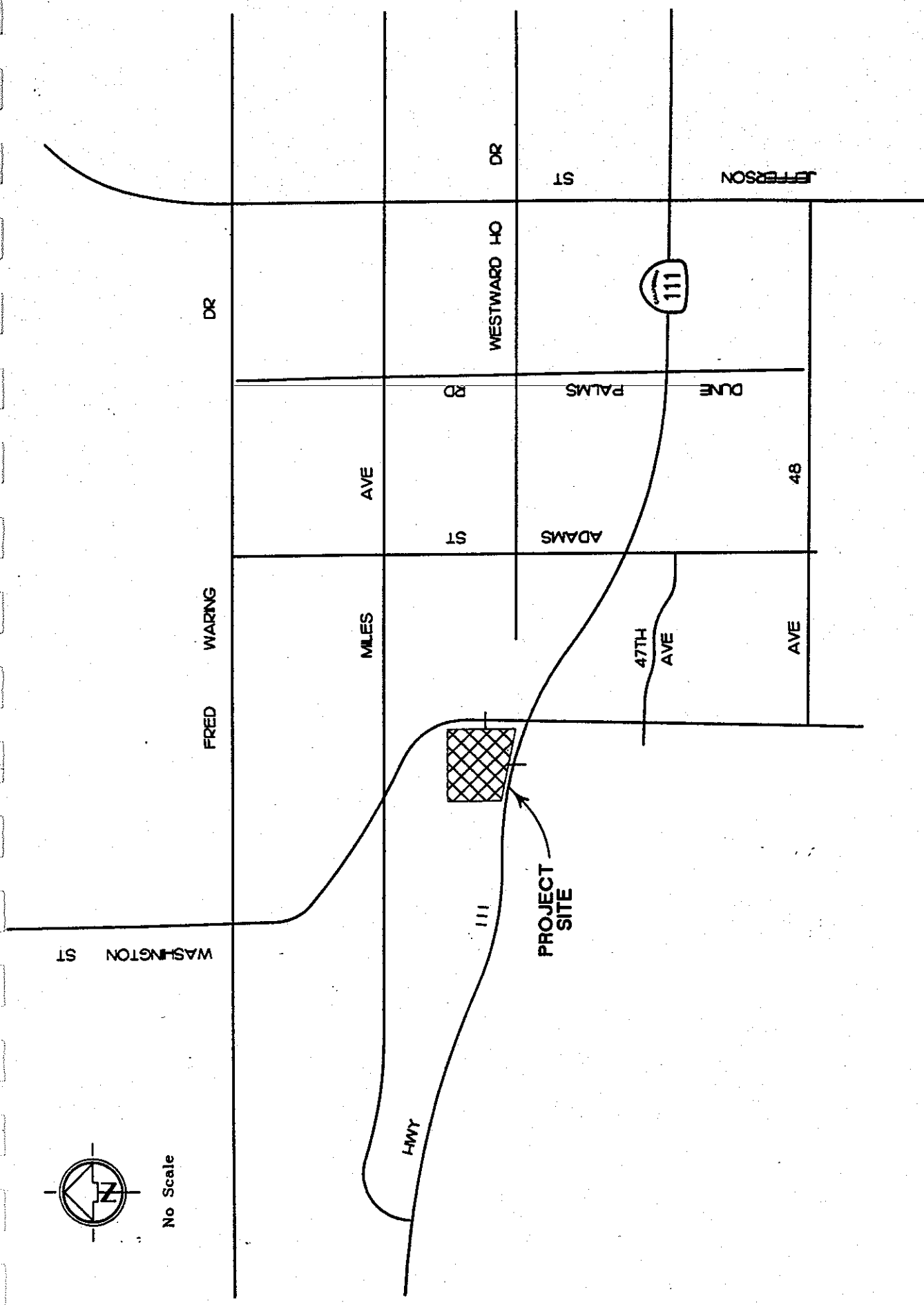
Washington Street is a major north-south roadway which runs between 52 Avenue to the south and Ramon Road to the north and provides direct access to the I-10 Freeway. Within the project vicinity, Washington Street provides four lanes of travel. The posted speed limit along Washington varies between 45 and 50 MPH.

Miles Avenue is an east-west roadway which runs between Highway 111 to the west and Indio Boulevard to the east. This roadway varies between a two and four lanes and travels through the Cities of Indian Wells, La Quinta and Indio.

Adams Street is a two lane undivided roadway which runs in a north-south alignment between Descanso Lane to the south and Darby Road to the north.



No Scale



# Project Location

**LEGEND**

1. FLOOR PLAN	2. FLOOR PLAN	3. FLOOR PLAN	4. FLOOR PLAN	5. FLOOR PLAN	6. FLOOR PLAN	7. FLOOR PLAN	8. FLOOR PLAN	9. FLOOR PLAN	10. FLOOR PLAN	11. FLOOR PLAN	12. FLOOR PLAN	13. FLOOR PLAN	14. FLOOR PLAN	15. FLOOR PLAN	16. FLOOR PLAN	17. FLOOR PLAN	18. FLOOR PLAN	19. FLOOR PLAN	20. FLOOR PLAN	21. FLOOR PLAN	22. FLOOR PLAN	23. FLOOR PLAN	24. FLOOR PLAN	25. FLOOR PLAN	26. FLOOR PLAN	27. FLOOR PLAN	28. FLOOR PLAN	29. FLOOR PLAN	30. FLOOR PLAN	31. FLOOR PLAN	32. FLOOR PLAN	33. FLOOR PLAN	34. FLOOR PLAN	35. FLOOR PLAN	36. FLOOR PLAN	37. FLOOR PLAN	38. FLOOR PLAN	39. FLOOR PLAN	40. FLOOR PLAN	41. FLOOR PLAN	42. FLOOR PLAN	43. FLOOR PLAN	44. FLOOR PLAN	45. FLOOR PLAN	46. FLOOR PLAN	47. FLOOR PLAN	48. FLOOR PLAN	49. FLOOR PLAN	50. FLOOR PLAN	51. FLOOR PLAN	52. FLOOR PLAN	53. FLOOR PLAN	54. FLOOR PLAN	55. FLOOR PLAN	56. FLOOR PLAN	57. FLOOR PLAN	58. FLOOR PLAN	59. FLOOR PLAN	60. FLOOR PLAN	61. FLOOR PLAN	62. FLOOR PLAN	63. FLOOR PLAN	64. FLOOR PLAN	65. FLOOR PLAN	66. FLOOR PLAN	67. FLOOR PLAN	68. FLOOR PLAN	69. FLOOR PLAN	70. FLOOR PLAN	71. FLOOR PLAN	72. FLOOR PLAN	73. FLOOR PLAN	74. FLOOR PLAN	75. FLOOR PLAN	76. FLOOR PLAN	77. FLOOR PLAN	78. FLOOR PLAN	79. FLOOR PLAN	80. FLOOR PLAN	81. FLOOR PLAN	82. FLOOR PLAN	83. FLOOR PLAN	84. FLOOR PLAN	85. FLOOR PLAN	86. FLOOR PLAN	87. FLOOR PLAN	88. FLOOR PLAN	89. FLOOR PLAN	90. FLOOR PLAN	91. FLOOR PLAN	92. FLOOR PLAN	93. FLOOR PLAN	94. FLOOR PLAN	95. FLOOR PLAN	96. FLOOR PLAN	97. FLOOR PLAN	98. FLOOR PLAN	99. FLOOR PLAN	100. FLOOR PLAN
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**POINT HAPPY**  
 NW/4 OF HIGHWAY 111  
 WASHINGTON STREET  
 LA JUNTA, CALIFORNIA

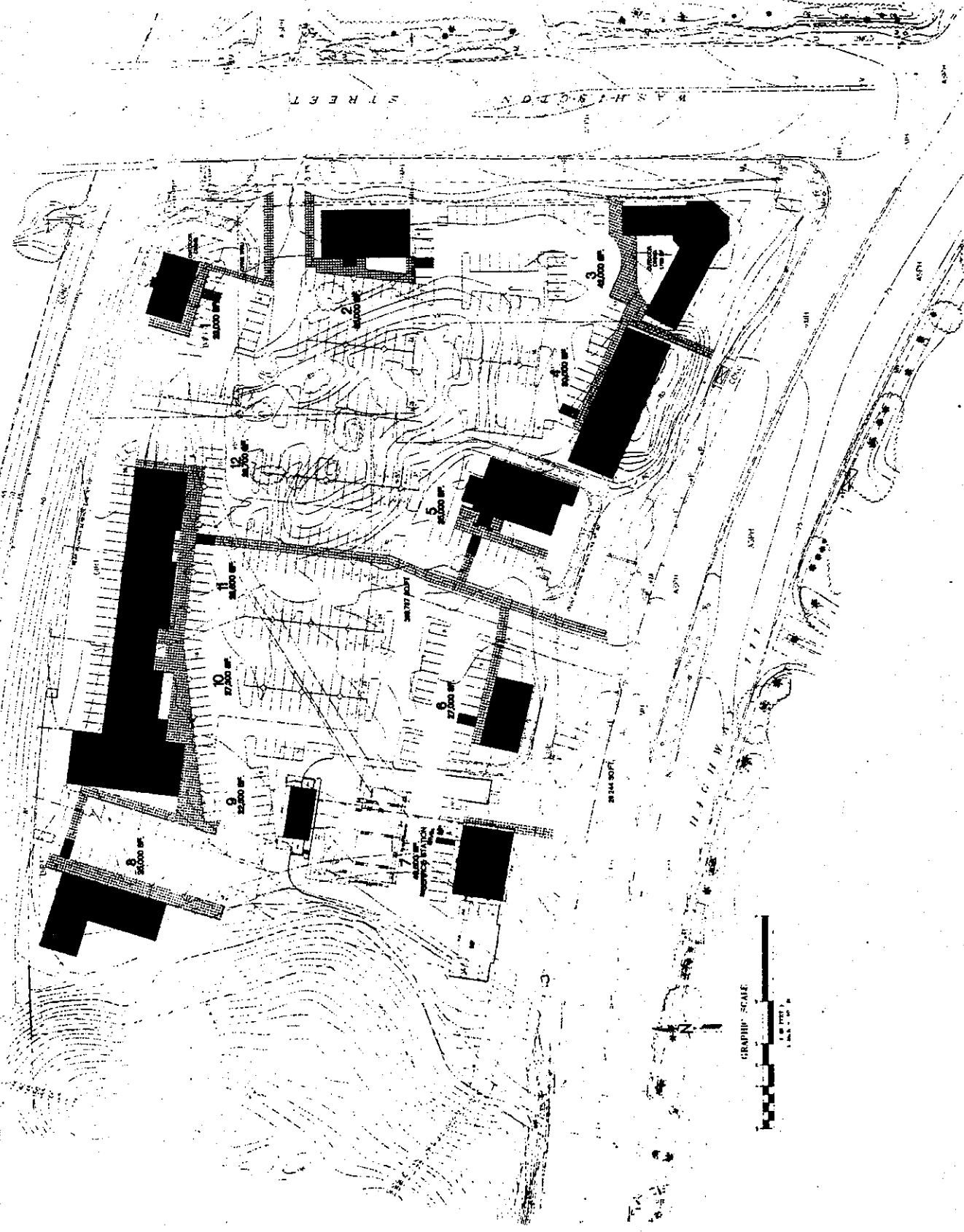
**SITE PLAN**  
 CONCEPTUAL  
 SCALE 1" = 40'

**REVISIONS**

NO.	DATE	DESCRIPTION
1	10/1/88	PRELIMINARY
2	10/15/88	REVISED
3	11/1/88	REVISED
4	11/15/88	REVISED
5	12/1/88	REVISED
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97	10/1/92	REVISED
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99	11/1/92	REVISED
100	11/15/92	REVISED

**PREPARED BY:**  
 DANIEL S. PREP, AIA, L.S.P.  
 JOHN L. ADAM, AIA, C.S.P.  
**DATE:** 11/15/88  
**SCALE:** 1" = 40'  
**PROJECT:** POINT HAPPY  
**CLIENT:** WPA TRAFFIC ENGINEERING, INC.

**SITE PLAN**



47<sup>th</sup> Avenue is a two lane undivided roadway, which runs in an east-west alignment between Adams Street to the east and Washington Street to the west.

Plaza La Quinta provides direct access to the shopping center south of Highway 111, and south of the proposed project. The proposed project will provide the fourth (north) leg to the intersection of Plaza La Quinta/Highway 111.

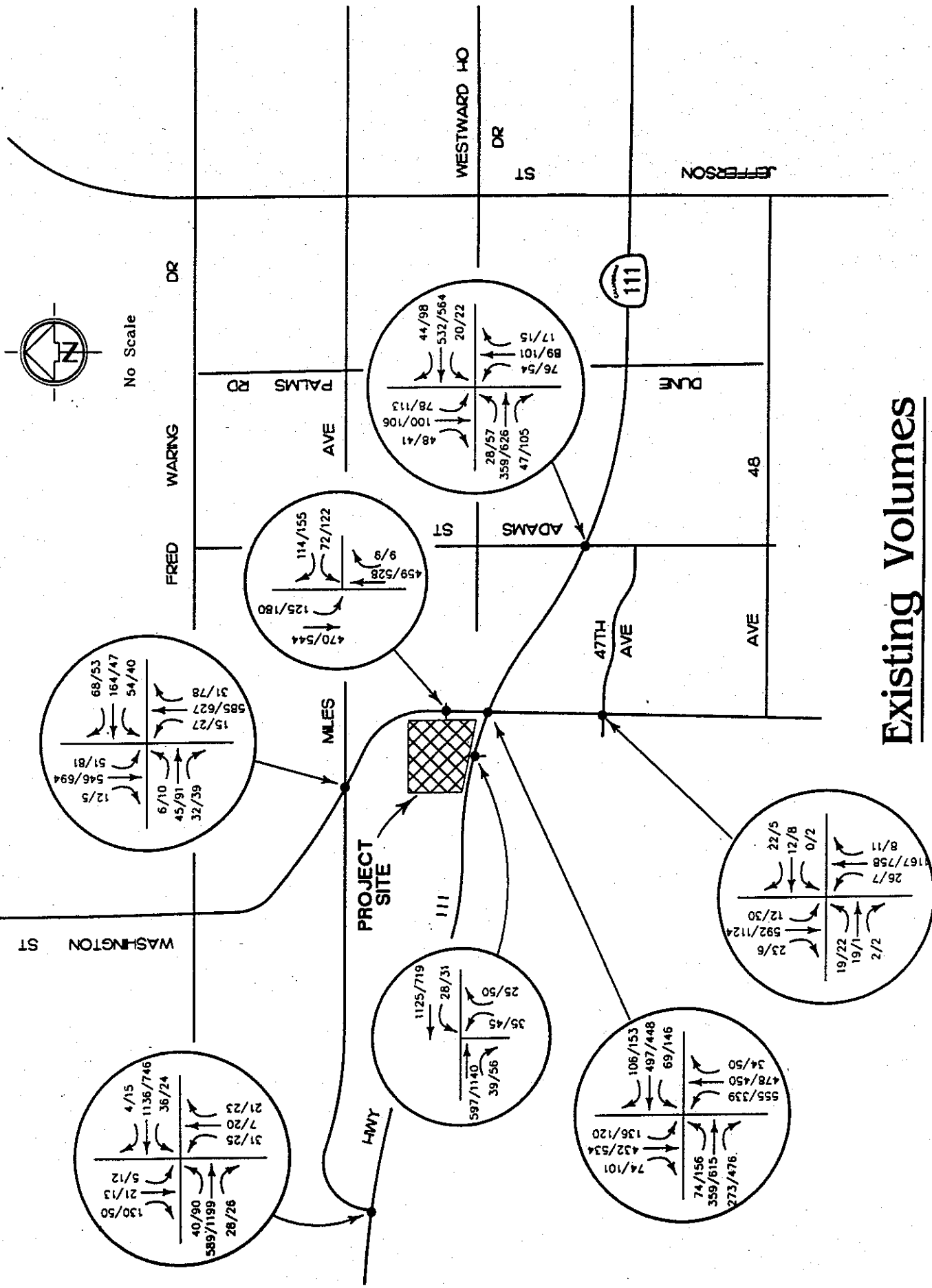
Channel Drive provides direct access to the shopping center east of Washington Street, directly east of the proposed project. The proposed project will provide the fourth (west) leg to the intersection of Channel Drive/Washington St.

A total of seven study intersections were analyzed in this study. They include:

1. Highway 111/Washington
2. Highway 111/Plaza La Quinta
3. Highway 111/Miles
4. Highway 111/Adams
5. Washington/Channel Drive
6. Washington/47th Street
7. Washington/Miles

Existing AM and PM peak hour traffic counts were completed at all of the study intersections. Field data were also collected for use in the overall analyses. *Figure 3* illustrates the existing count data at each of the study intersections. Appendix C contains the count data. Due to the fact that the counts were conducted in the "off-season" (August), previous studies completed in the area indicated a 10 percent decrease during the "off-season". Therefore, in order to properly represent the "peak season" the existing counts were increased by 10 percent. The existing adjusted intersection volumes can be found in the intersection analyses worksheets contained in Appendix B.

All of the study intersections are signalized and were analyzed utilizing the 1998 Highway Capacity Software (HCS), which is based upon the updated 1997 Highway Capacity Manual (HCM). Within the HCS, the operating conditions are defined in terms of Level of Service (LOS) which is associated



**Existing Volumes**  
(No Adjustments)

with delay times where "A" is considered the best and "F" is over capacity. A more detailed explanation of Level of Service is contained in Appendix A.

*Table 1* summarizes the results of the intersection analyses during the AM and PM peak hours. As shown in *Table 1* under existing conditions, all of the study intersections are operating at acceptable Levels of Service during both the AM and PM peak hours. It should be remembered that these analyses are based upon existing counts which were adjusted for "peak season" conditions.

**OTHER CONDITIONS**

**"Other Area Projects"**

The Cities of La Quinta and Indian Wells were contacted to determine if there were any approved, but not yet constructed, projects in the area of the proposed project which should be included in these analyses. La Quinta Traffic Engineering Department indicated that there were no "other area" projects to be included; however the City of Indian Wells had one "other area" project to include. This other area project is a 50 single family dwelling unit development located on Highway 111 just west of Miles Avenue.

A trip generation analyses were performed so the impacts of the "other area" project on the study intersections could be evaluated. Trip generation rates applicable to the "other area" project were referenced from *Trip Generation*<sup>1</sup>. These rates are shown on *Table 2*. *Table 2* also indicates that the "other area" project is estimated to generate a total of 480 daily trip ends of which 40 (10 In, 30 Out) would occur during the AM peak hour and 55 (35 In, 20 Out) would occur during the PM peak hour.

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<sup>1</sup> *Trip Generation, 6<sup>th</sup> Edition*; Institute of Transportation Engineers (ITE); 1997.

TABLE 1

INTERSECTION ANALYSES SUMMARY

Highway 111/Washington Retail Center, La Quinta

INTERSECTION	LEVEL OF SERVICE / INTERSECTION DELAY (sec/veh)					
	EXISTING CONDITIONS		EXISTING+OTHER CONDITIONS		EXISTING+OTHER +PROJECT CONDITIONS	
	AM/PK/HR	PM/PK/HR	AM/PK/HR	PM/PK/HR	AM/PK/HR	PM/PK/HR
Highway 111/Washington	C / 24.2	C / 23.6	C / 24.5	C / 23.7	D / 26.3	D / 25.3
Highway 111/ Plaza La Quinta (W/o Washington)	B / 9.8	B / 12.9	B / 9.9	B / 13.1	C / 17.4	C / 15.6
Highway 111/Miles	C / 16.1	C / 21.6	C / 20.0	C / 22.2	C / 20.7	D / 25.2
Highway 111/Adams	B / 10.7	B / 11.6	B / 10.7	B / 11.7	B / 10.8	B / 12.0
Washington/ Channel Drive (N/o Highway 111)	B / 9.9	B / 11.9	B / 9.9	B / 12.5	B / 12.5	B / 14.4
Washington/47th Avenue	C / 23.9	C / 21.4	C / 20.2	C / 19.0	C / 22.4	C / 23.0
Washington/Miles	C / 22.4	D / 29.5	C / 23.2	D / 30.6	C / 24.3	D / 30.6



TABLE 2  
 TRIP GENERATION  
 OTHER AREA PROJECT

Highway 111/Washington Retail Center, La Quinta

LAND USE	DESCRIPTOR/ SIZE	TRIP GENERATION				
		DAILY	AM PEAK HOUR		PM PEAK HOUR	
			IN	OUT	IN	OUT
<i>Rates<sup>(1)</sup></i>						
Single Family Residential	Per Dwelling Unit	9.57	0.19	0.56	0.65	0.36
<i>Trip Ends</i>						
Single Family Residential	50 DU	480	10	30	35	20

(1) *Trip Generation, 6<sup>th</sup> Edition*; Institute of Transportation Engineers (ITE); 1997.

**Ambient Growth**

In order to obtain conditions at project opening day (Year 2000) without the project or "pre-project" traffic conditions, an ambient growth rate was utilized. This growth factor would account for any growth outside the City of La Quinta which would put traffic on the street system within the city limits. In order to obtain a growth rate for the project area street system, the City of La Quinta was contacted to obtain past and present daily traffic volumes. This data was utilized to obtain growth factors for the surrounding street system, which are illustrated on *Figure 4*.

**Existing Plus "Other Area" Project plus Ambient Growth Analysis**

The peak hour trips for the "other area" project were assigned to the surrounding street system. These volumes along with the ambient growth for each movement at the study intersections were added to the existing volumes. As shown in *Table 1*, under existing plus other conditions all of the study intersections would continue to operate at acceptable Levels of Service during both the AM and PM peak hours. The HCS worksheets can be found in Appendix B.

**PROJECT CONDITIONS**

**Trip Generation**

In order to analyze the potential impacts of the project, it is necessary to evaluate the trip generation of the proposed project. Trip generation rates for the proposed project were also referenced from the ITE publication *Trip Generation*<sup>2</sup>. *Table 3* lists the trip generation rates utilized in this study for the proposed project. These rates were applied to the proposed land uses. As shown in *Table 4*, the proposed project is estimated to generate a total of 8,495 daily trip ends of which 500 (280 In, 220 Out) would occur during the AM peak hour and 755 (360 In, 395 Out) would occur during the PM peak hour.

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<sup>2</sup> *Trip Generation, 6<sup>th</sup> Edition; Ibid.*

TABLE 3

## TRIP GENERATION RATES

Highway 111/Washington Retail Center, La Quinta

LAND USE	DESCRIPTOR	TRIP GENERATION RATES PER DESCRIPTOR <sup>(1)</sup>				
		DAILY	AM PEAK HOUR		PM PEAK HOUR	
			IN	OUT	IN	OUT
<b>Rates:</b>						
Gas Station/Mini Mart/Car Wash	Fueling Position	152.84	5.43	5.21	6.39	6.60
Fast Food Restaurant w/ Drive-Thru	Per 1,000 SF	496.12	25.43	24.43	17.41	16.07
High Turnover Restaurant	Per 1,000 SF	130.34	4.82	4.45	6.52	4.34
Quality Restaurant	Per 1,000 SF	89.95	n/a	n/a	5.02	2.47
	Passby Reduction for Gas Station <sup>(2)</sup>	56%	62%	62%	56%	56%
	Passby Reduction for Fast Food Restaurant <sup>(2)</sup>	49%	49%	49%	50%	50%
	Passby Reduction for High Turnover Restaurant <sup>(2)</sup>	43%	-	-	43%	43%
<b>Equations:</b>						
Shopping Center (Retail)	Per 1,000 SF	Daily: $\ln(T) = 0.643 \ln(x) + 5.866$ AM Peak Hour: $\ln(T) = 0.596 \ln(x) + 2.329$ (61% In, 39% Out) PM Peak Hour: $\ln(T) = 0.660 \ln(x) + 3.403$ (48% In, 52% Out)				
General Office Building	Per 1,000 SF	Daily: $\ln(T) = 0.768 \ln(x) + 3.654$ AM Peak Hour: $\ln(T) = 0.797 \ln(x) + 1.558$ (88% In, 12% Out) PM Peak Hour: $T = 1.121 (x) + 79.295$ (17% In, 83% Out)				

- (1) *Trip Generation, 6<sup>th</sup> Edition*; Institute of Transportation Engineers (ITE); 1997.
- (2) *Trip Generation Handbook*; Chapter 5; Institute of Transportation Engineers (ITE); October, 1998.

TABLE 4

TRIP GENERATION  
PROPOSED PROJECT

Highway 111/Washington Retail Center, La Quinta

LAND USE	SIZE	TRIP ENDS				
		DAILY	AM PEAK HOUR		PM PEAK HOUR	
			IN	OUT	IN	OUT
Office Building	18,000 SF	355	45	5	15	85
Retail (Including Mall)	17,500 SF	2,200	35	20	95	205
Service Station/Mini Mart/ Car Wash	12 Fueling Positions	1,830	65	65	75	80
(Passby Reduction) Subtotal		(1,020) 810	(40) 25	(40) 25	(40) 35	(45) 35
Quality Restaurant	14,000 SF	1,260	-	-	70	35
High Turnover Restaurant (Passby Reduction) Subtotal	3,450 SF	450 (190) 260	15 (-) 15	15 (-) 15	20 (10) 10	15 (5) 10
Fast Food Restaurant (Passby Reduction) Subtotal	4,800 SF	2,400 (1,200) 1,200	120 (60) 60	115 (55) 60	85 (40) 45	75 (40) 35
<b>TOTAL WITHOUT PASSBY REDUCTION</b>		<b>8,495</b>	<b>280</b>	<b>220</b>	<b>360</b>	<b>395</b>
<b>TOTAL WITH PASSBY REDUCTION</b>		<b>6,085</b>	<b>180</b>	<b>125</b>	<b>270</b>	<b>305</b>

A review of the land uses within the study area indicates that a passby reduction may be taken. Based upon the ITE reference Trip Generation Handbook<sup>3</sup> passby reduction percentages, which are shown on *Table 3* for the gas station, fast food restaurant and high turnover restaurant land uses, were applied to the associated land uses. *Table 4* lists the estimated trips generated by the proposed project with a passby reduction. It can be seen in *Table 4* that with the passby reduction, the proposed project is estimated to generate a total of 6,085 daily trip ends of which 305 (180 In, 125 Out) would occur during the AM peak hour and 575 (270 In, 305 Out) would occur during the PM peak hour.

### Trip Assignment

Project distribution percentages were developed based upon review of regional land uses, the type of land use proposed, the surrounding street system and the proximity of freeway accesses. *Figure 5* illustrates the distribution percentages for the shopping center. The project generated trip ends, identified in *Table 4*, were then assigned to the surrounding street system based upon the distribution percentages. The resulting project trip assignment is shown on *Figure 6*.

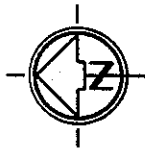
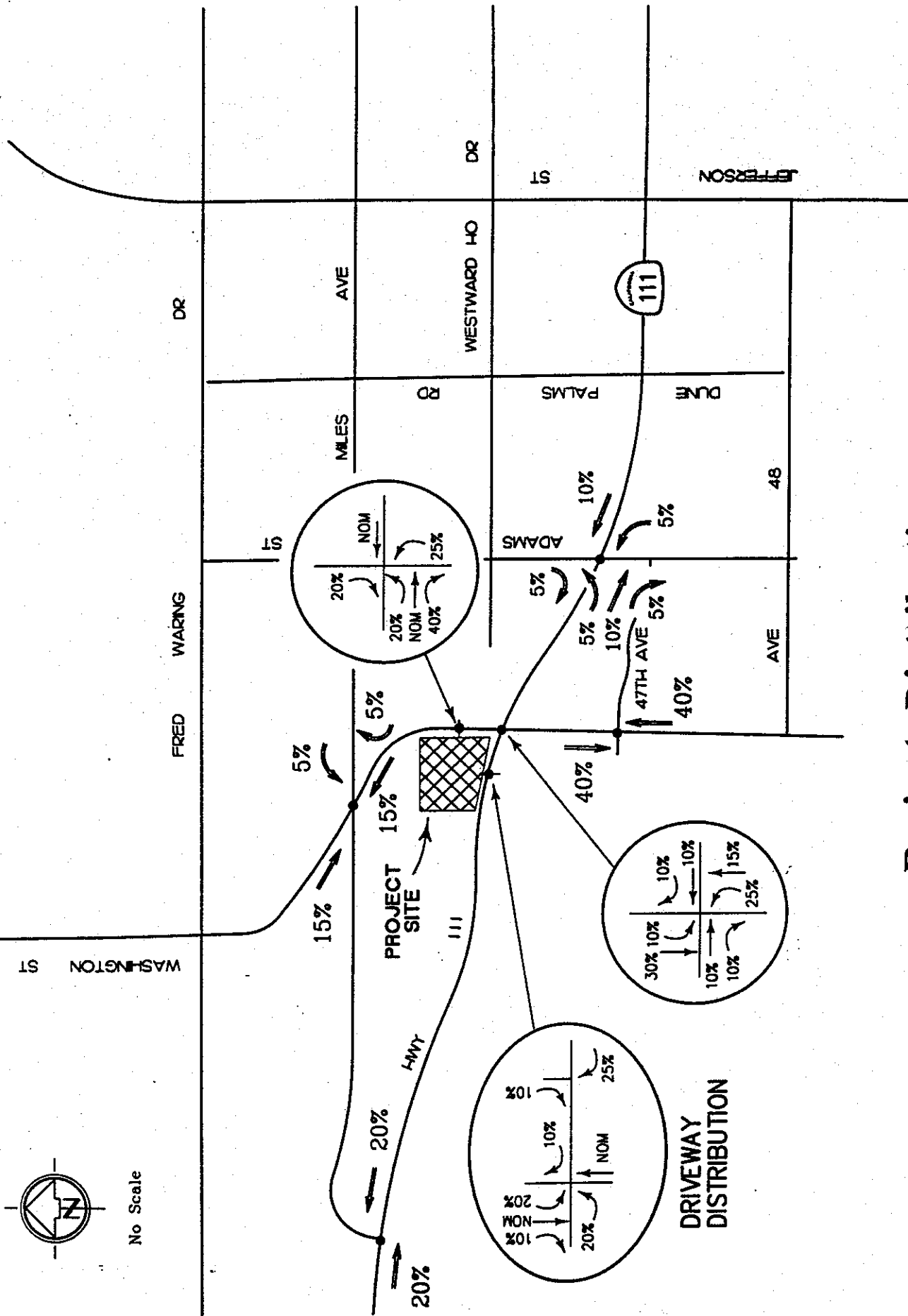
It should be noted that passby reduction cannot be taken at project access points for the proposed development or at adjacent intersections, which in this case would be the study intersection of Highway 111/Washington.

### Analysis

The project generated trips were added to the existing plus other conditions so the intersection analyses could be updated. *Table 1* indicates that all of the study intersections would continue to operate at acceptable Levels of Service during both the AM and PM peak hours. The HCS worksheets can be found in Appendix B.

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<sup>3</sup> Trip Generation Handbook, Chapter 5; Institute of Transportation Engineers (ITE); October 1998.



No Scale

# Project Distribution