V. ENVIRONMENTAL IMPACT ANALYSIS
F. TRANSPORTATION/CIRCULATION

The following Section presents a summary of the Traffic Study for the Proposed Civic Center/Metlox Development Project in the City of Manhattan Beach, dated September 2000. The Traffic Impact Study was prepared by Crain & Associates and is presented in its entirety in Appendix C to this Draft EIR. Due to seasonal variations in traffic patterns inherently associated with beachside communities, the Traffic Impact Study includes an analysis of existing conditions (year 2000) as well as estimated future (year 2005) traffic conditions during three representative time periods. Namely these periods include (1) AM/PM peak hour winter weekdays; (2) AM/PM peak hours summer weekdays; and (3) Saturday/Sunday summer weekends, before and after completion of the proposed project. For purposes of this analysis the summer season is identified as generally occurring between Memorial Day to Labor Day, however it is acknowledged that summer season flows are dependent on weather conditions and may extend the typical summer season beach patterns. Therefore, in assessing traffic impacts and providing mitigation measures, it is important to note that the occurrence of summer traffic impacts would be anticipated to occur during approximately three and one-half months out of the year.

ENVIRONMENTAL SETTING

The project site is located at the corner of Manhattan Beach Boulevard and Valley Drive in the City of Manhattan Beach. Manhattan Beach is located in the South Bay region of Los Angeles County, approximately two miles south of the Los Angeles International Airport. Surrounding cities include El Segundo to the north Hermosa Beach to the south, and Hawthorne and Redondo Beach to the east. The Pacific Ocean forms the western boundary of the city. The project site is located in the downtown area of Manhattan Beach, with a variety of retail, commercial and residential land uses within close proximity to the project site. The following describes the most important streets and access points in the study area.

Streets and Highways

Marine Avenue is an east-west oriented collector street located approximately one-half mile north of Manhattan Beach Boulevard and to the north of the project site. This street parallels Manhattan Beach Boulevard, and generally provides service between the coast and Vermont Avenue, on the east edge of the City of Gardena. Marine Avenue in the project vicinity is generally 22 to 28 feet in width, and provides a single traffic lane in each direction. On-street parking is typically allowed in the study area.

Highland Avenue is a north/south collector street that forms the western boundary of the project site. This street provides service from 45th Street In the north where it continues as Vista Del Mar to

Longfellow Avenue to the south where it terminates. Highland Avenue in the project vicinity is generally 36 feet in width with one travel lane per direction and on-street parking.

Ardmore Avenue and Valley Drive are roughly parallel roadways along an abandoned railroad right-of-way, which meanders through the City from Sepulveda Boulevard near the northern City limits to the southern Hermosa Beach City limits at Herondo Street. Valley Drive forms the eastern boundary of the project site. The two roadways provide couplet service, with one-way northbound Ardmore Avenue flows and one-way southbound Valley Drive flows, between 1st / 2nd Street and 15th Street. North of 15th Street, both Ardmore Avenue and Valley Drive provide two-way operation, with one through traffic lane in each direction. On-street parking is provided along the west side of Valley Drive, and the east side of Ardmore Avenue generally throughout the study area. Additionally, off- street parking areas are provided on the east side of Valley Drive near the City recreation facilities at Live Oak Park.

Blanche Road is a designated major local facility to the northeast of the project site. Blanche Road provides access from Rosecrans Avenue at the north City limit southward to Valley Drive, where it terminates. One travel lane is generally provided in each direction with the provision of limited on-street parking in a 30-foot wide roadbed.

Pacific Avenue is a north-south roadway to the east the project site. This street is an important collector roadway, providing a single lane plus on-street parking in each direction. Pacific Avenue is generally 38 to 40 feet wide through the City, although between 17th Street and Manhattan Beach Boulevard, adjacent to the Pacific School and City Child Development Center, this street widens to approximately 50 feet in width.

Sepulveda Boulevard is a north-south Major Highway located approximately one mile to the east of the project. Sepulveda Boulevard (State Route 1) is the key north/south transportation facility in the study area, providing continuous service throughout the Westside, from the San Fernando Valley through Orange County. South of the City, Sepulveda Boulevard becomes the Pacific Coast Highway. In the project vicinity, Sepulveda Boulevard is approximately 72 feet wide, and typically provides three through lanes in each direction plus left-turn channelization and a raised median island.

15th Street is an east-west oriented major local street that forms the northern boundary of the project site. This street provides access to the site, and provides service roughly between the coast and Laurel Avenue. 15th Street is approximately 40 feet in width and provides a two travel lanes in each direction between Highland Avenue and Valley Drive. Parking is generally allowed along both sides the street, although between Ardmore Avenue and Laurel Avenue, parking is prohibited along the south side of the street.

13th Street is a short local street that bisects the project site. In the project vicinity, 13th Street extends from Highland Avenue to Morningside Drive. One travel lane is provided in each direction with the

provision of on-street parking. At the intersection of Highland Avenue, left turns from 13th Street are prohibited.

Manhattan Beach Boulevard is an east-west arterial that extends from the Manhattan Beach pier easterly to Van Ness Avenue in the City of Gardena. In the project vicinity, Manhattan Beach Boulevard is approximately 50 feet wide, although east of Pacific Avenue, Manhattan Beach Boulevard exhibits a 60-foot width for most of its length through the City. This street provides two through traffic lanes in each direction east of Pacific Avenue with parking generally allowed on both sides of the street. West of Pacific Avenue, Manhattan Beach Boulevard continues to provide two lanes eastbound, but only one lane westbound plus on-street parking. Left-turn channelization has also been installed at major intersections along this roadway.

Manhattan Avenue is a discontinuous north/south major local facility to the west of the project site. This street begins in the north at Rosecrans Avenue and continues intermittently south through Hermosa Beach where it terminates at 1st Street. In the project vicinity, this street is approximately 36 feet wide with one travel lane provided per direction and with left-turn channelization at Manhattan Beach Boulevard.

Morningside Drive is a discontinuous north/south local facility that forms the western boundary of the project site along with Highland Avenue. Morningside Drive is continuous from 10th Place to 13th Street, within the project site. One travel lane per direction is provided with an approximately 36 foot wide roadway.

Together 1st Street and 2nd Street provide access between the coast and Aviation Boulevard. These east/west designated local facilities are located to the south of the project. One travel lane per direction is provided on each facility with on-street parking.

Existing Traffic Volumes

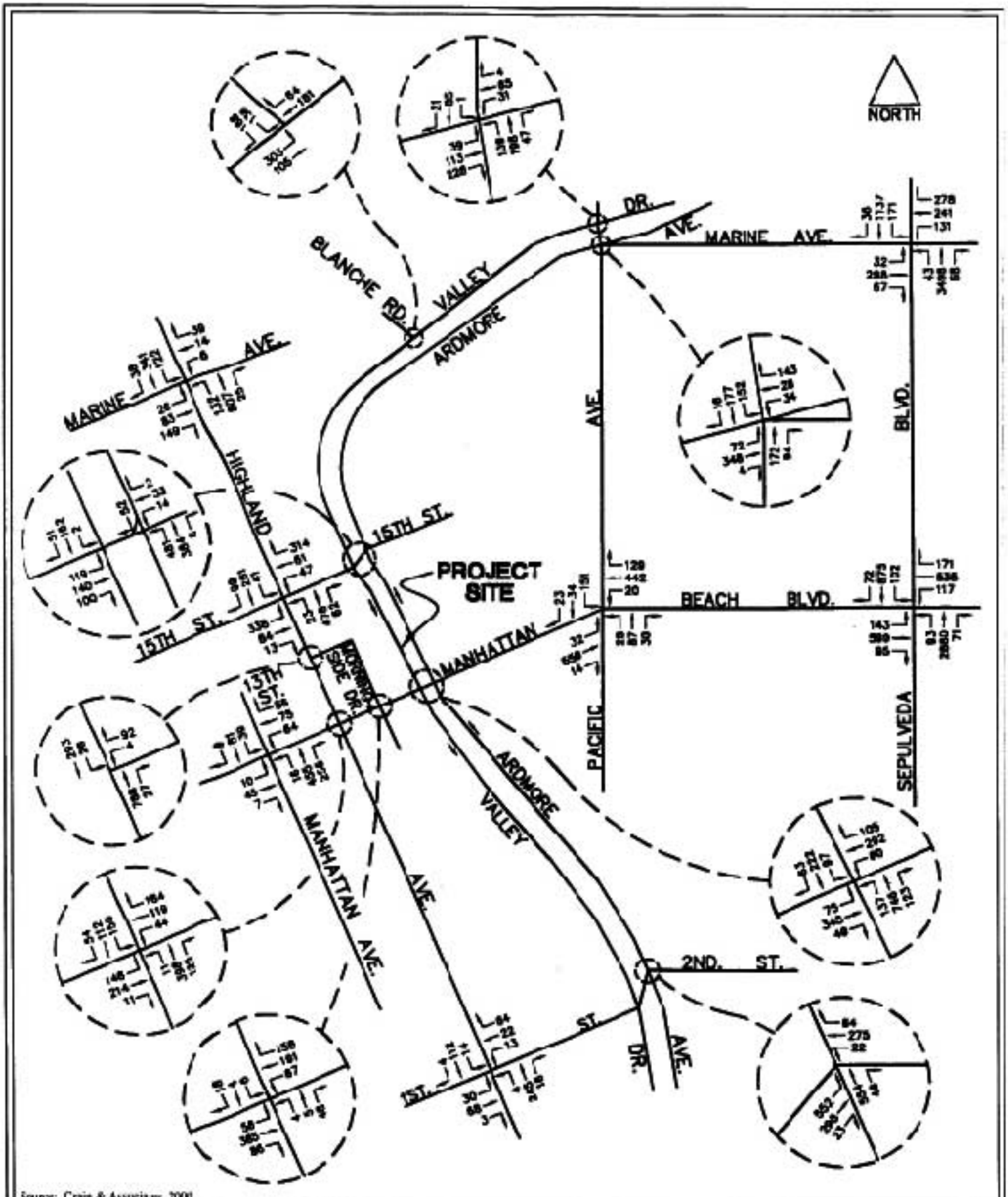
Crain & Associates, in conjunction with the City of Manhattan Beach traffic engineering consultant, CAJA staff, and input provided by individuals during the public scooping process, identified a total of 16 study intersections in the vicinity of the project site to be analyzed with regard to the potential traffic impacts of the proposed project. The 16 study intersections are identified as follows:

1. Marine Drive & Highland Avenue;
2. Valley Drive & Blanche Road;
3. Valley Drive & Pacific Avenue;
4. Ardmore Avenue/Marine Avenue & Pacific Avenue;
5. Marine Avenue & Sepulveda Boulevard;
6. Highland Avenue & 15th Street;

7. 15th Street & Valley Drive/Ardmore Avenue;
8. Highland Avenue & 13th Street;
9. Manhattan Beach Boulevard & Manhattan Avenue;
10. Manhattan Beach Boulevard & Highland Avenue;
11. Manhattan Beach Boulevard & Morningside Drive;
12. Manhattan Beach Boulevard &Valley Drive;
13. Manhattan Beach Boulevard & Pacific Avenue;
14. Manhattan Beach Boulevard & Sepulveda Boulevard;
15. Highland Avenue & 1st Street;
16. Ardmore Avenue & 2nd Street.

These 16 study intersections represent a sampling of the most direct routes into and out of the project area. As such they are expected to be most directly impacted by project-related traffic and represent the traffic impacts of the proposed project. Crain & Associates and the City of Manhattan Beach collected traffic count data for the 16 study intersections in years 1999 and 2000. Counts were collected for three distinct times of the year, namely: winter weekdays, summer weekdays and summer weekends. Due to the location of the project site in close proximity to the beach area and other attractions, summer counts were conducted in order to determine "worst case" project impacts. However, it should be noted that congested conditions of summer weekdays and weekends represent approximately 3 months out of the year.

The summer and winter weekday counts were conducted during the AM and PM peak-hour periods. Weekday counts were gathered manually from 7:00 AM to 9:00 AM and 4:00 PM to 6:00 PM. Summer Saturday and Sunday counts were collected between 1 :00 PM and 5:00 PM on a typical summer weekend. Count personnel counted the number of vehicles at each of the 16 study intersections making each possible turning movement. The peak hour volume for each intersection was then determined by finding the four highest consecutive 15-minute volumes for all movements combined. This method provides a "worst case" scenario, as it calculates the peak hour for each intersection independent of all other intersections. The winter weekday peak-hour traffic volumes for each study intersection are shown in Figures 24(a) and 24(b), on pages 117 and 118, respectively. Summer weekday peak-hour traffic volumes shown in Figures 25(a) and 25(b) on pages 119 and 120, respectively. Summer weekend volumes are depicted in Figures 26(a) and 26(b), on pages 121 and 122, respectively.



Source: Crain & Associates, 2000.

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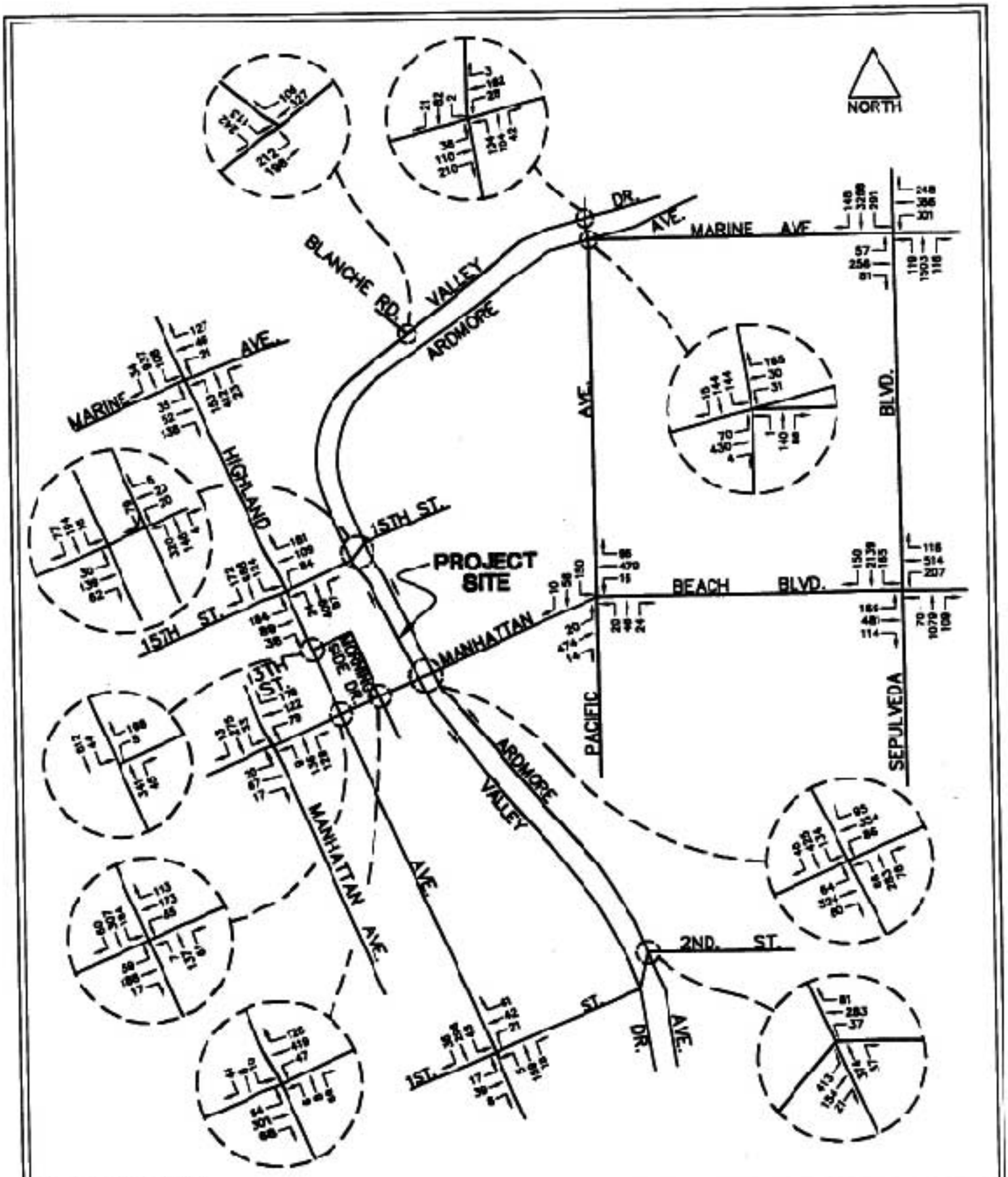
Figure 24a
Existing (2000) Traffic Volumes
Winter Weekday AM Peak Hour



Source: Crain & Associates, 2000.

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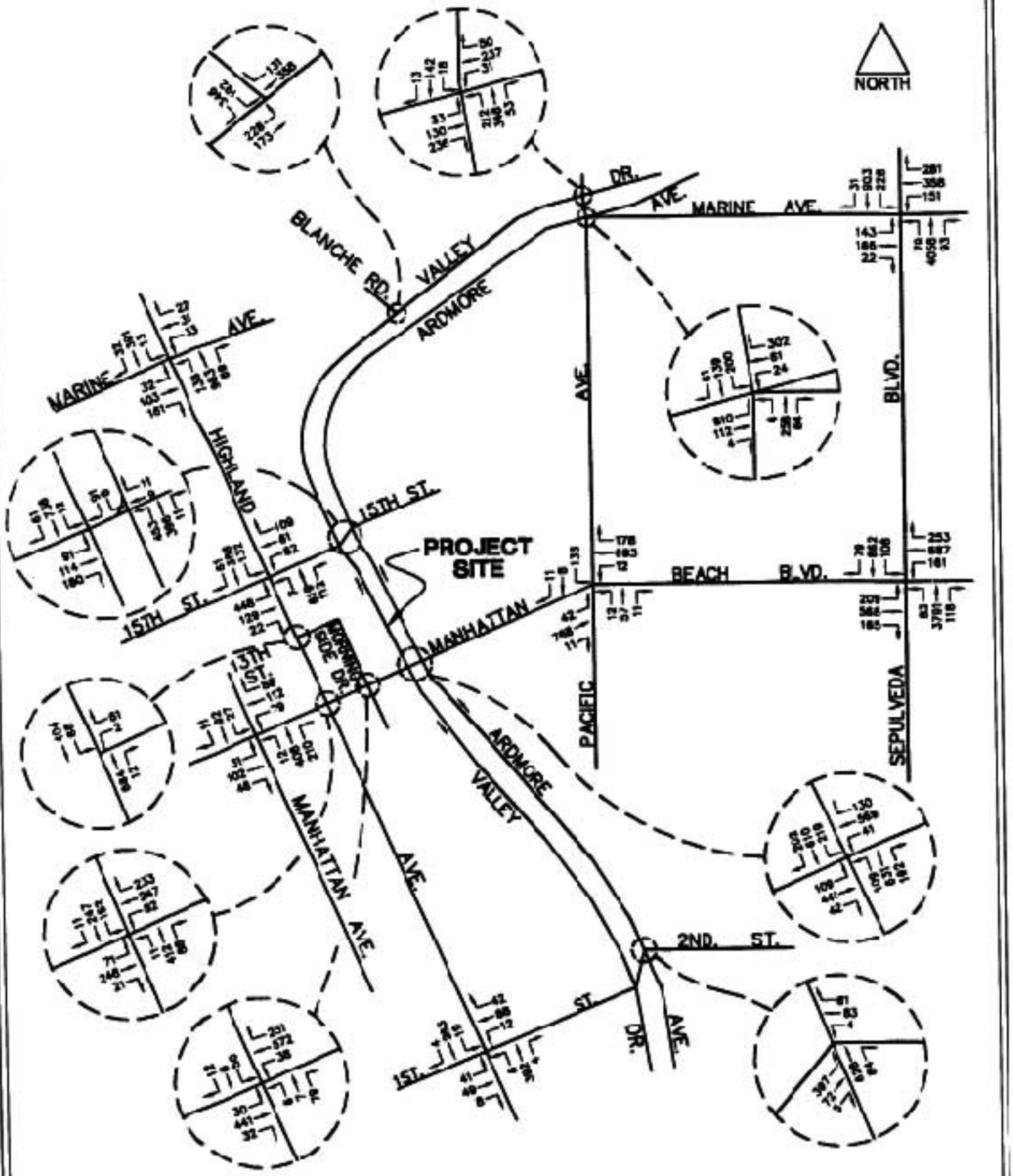
Figure 24b
Existing (2000) Traffic Volumes
Winter Weekday PM Peak Hour



Source: Crain & Associates, 2000.

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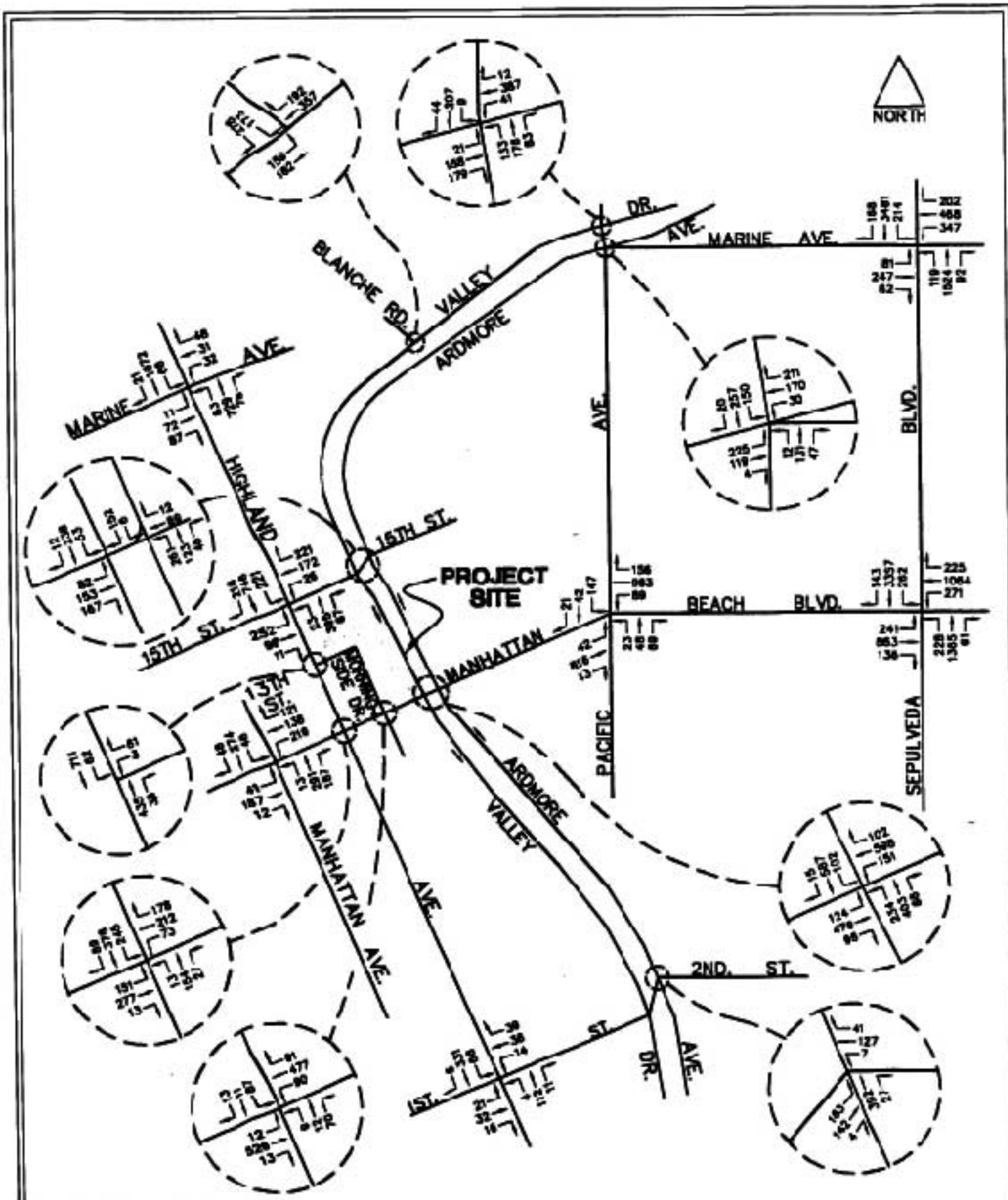
Figure 25a
Existing (2000) Traffic Volumes
Summer Weekday AM Peak Hour



Source: Crain & Associates, 2000.

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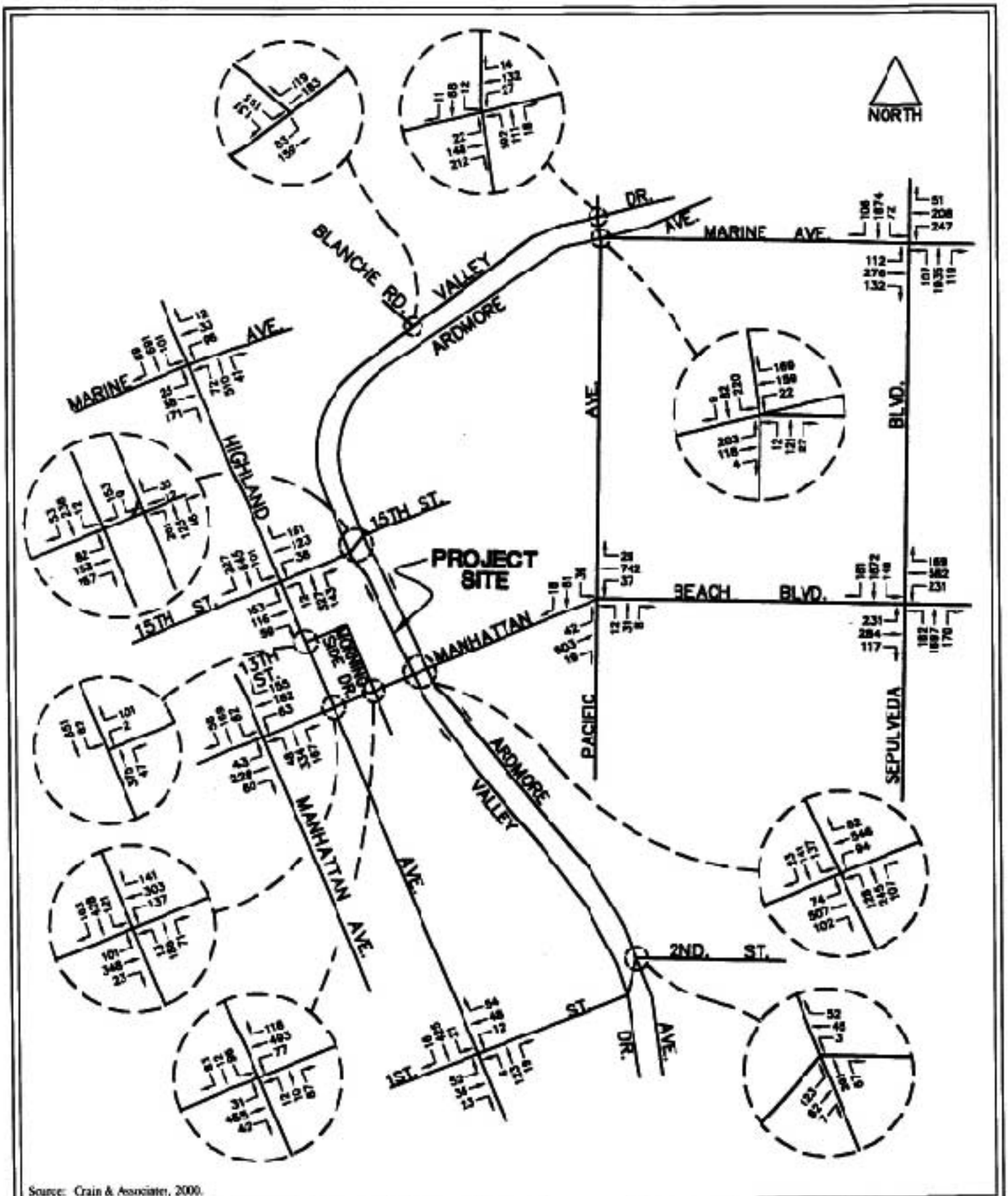
Figure 25b
Existing (2000) Traffic Volumes
Summer Weekday PM Peak Hour



Source: Crain & Associates, 2000.

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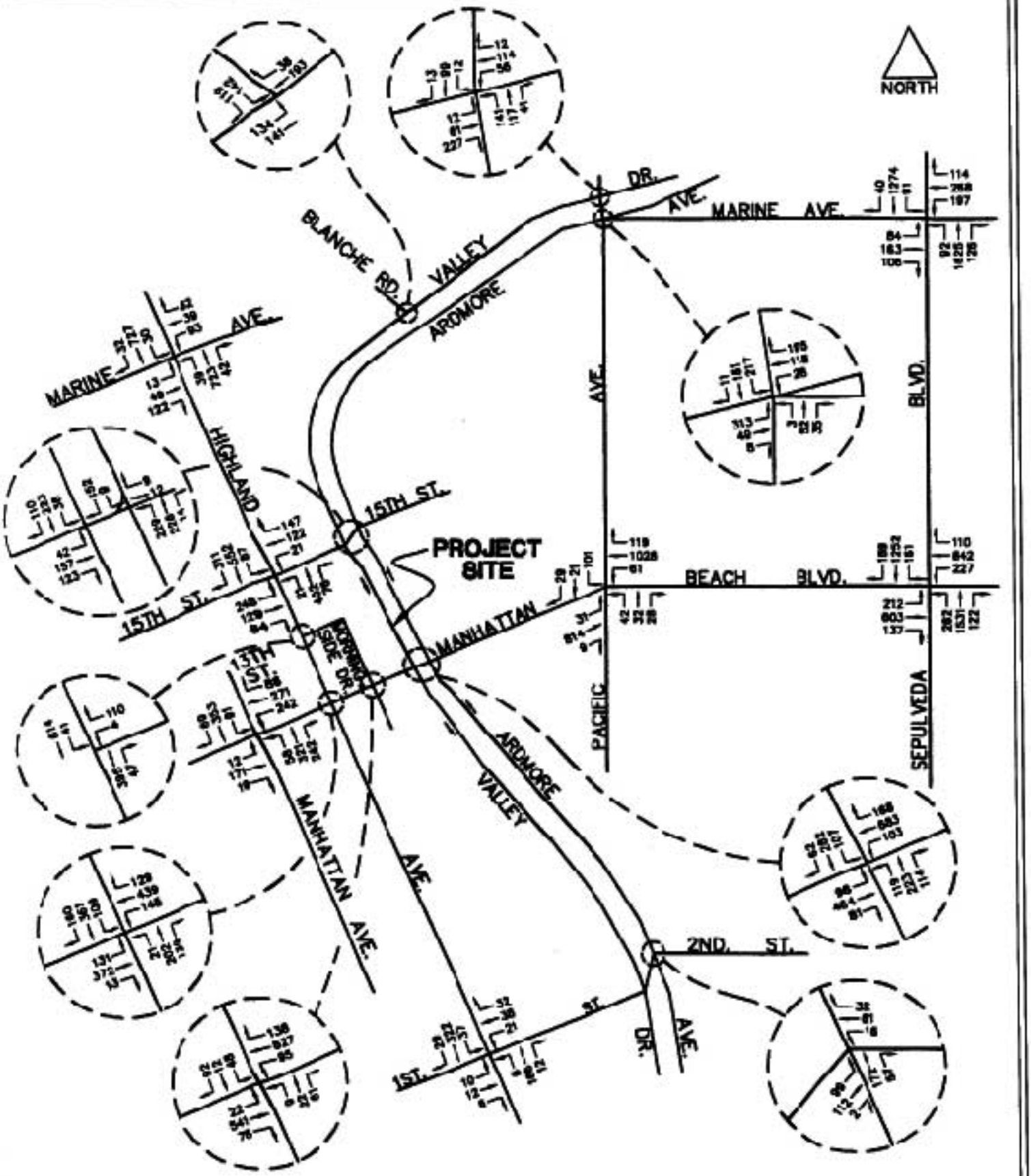
Figure 26a
Existing (2000) Traffic Volumes
Summer Weekend Saturday Peak Hour



Source: Crain & Associates, 2000.

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Figure 26b
Existing (2000) Traffic Volumes
Summer Weekend Sunday Peak Hour

Public Transportation

The Los Angeles County Metropolitan Transportation Authority (MTA) has established an extensive grid system of bus routes throughout the Los Angeles region. Some of these lines offer limited coverage of the South Bay communities. Other bus lines provide commuter service, via the regional freeway system, to other areas such as Downtown Los Angeles, Hollywood, the Wilshire corridor, Westwood/West Los Angeles, and Los Angeles International Airport. Typically, the commuter bus routes into Downtown Los Angeles provide peak period service only, operating inbound in the morning and outbound during the afternoon. The transit lines described below serve the study area directly, and via connecting bus service, provide connections to destinations throughout the Los Angeles basin.

MTA Line 439 travels north/south through Manhattan Beach on North Highland Avenue. Beginning in Downtown Los Angeles, this line serves the areas of Culver City, El Segundo, Manhattan Beach, Hermosa Beach and Redondo Beach. Service is provided on weekdays with headways ranging between 20 minutes to an hour. Weekend and Holiday service is also provided with hour headways. Access to the project site can be made from the intersection of Highland Boulevard and 14th Street, adjacent to the project site.

MTA Line 126 serves as an extension of MT A line 119 from the Green Line Hawthorne Station to the City of Manhattan Beach. Between Hawthorne and Manhattan Beach, this line travels primarily along Manhattan Beach Boulevard and Marine Avenue. Buses operate on this line only on weekdays with headways of approximately 50 to 60 minutes. Direct project access can be made from this route.

Commuter Express 438 is operated by the Los Angeles Department of Transportation as an express route from Redondo Beach, Hermosa, Manhattan Beach, and El Segundo to Downtown Los Angeles. Line 438 is a peak hour express line, operating three trips to Downtown Los Angeles in the morning between 6:00 AM and 7:20 AM, and three trips returning in the afternoon between 4:30 PM and 5:45 PM. Service for the Manhattan Beach Area is available from 14th Street and Highland Boulevard, adjacent to the project site. The Green Line Imperial/Aviation Station is the last local stop for Line 438, which then enters the Harbor and Century Transit ways, operating non-stop to Downtown Los Angeles.

The MTA also operates the Metro Green Line rail service from the western terminus at the Marine/Redondo Station. Together, these services provide access to the project site. Furthermore, when the transfer opportunities are considered between the Metro Green Line and the remainder of the regional rail system, the project is conveniently accessible by public transit from many areas throughout Los Angeles. Thus, some of the trips generated by the proposed development could utilize bus transportation as the primary travel mode. However in order to present the most conservative analysis

of the potential traffic impacts of this project, no public transportation use was assumed in the calculation of project trip generation.

Parking

Currently, a total of 345 parking spaces are provided on the project site. There are a total of 220 parking spaces currently provided within the Civic Center for City staff and visitors. The existing parking lot serves the City Hall, the Public Library, and the Manhattan Beach Police and Fire Departments as well as provides visitor parking for the general public. The Civic Center provides 180 public parking spaces in the surface parking lot fronting the City Hall and Public Library building (including the rear lot of the Fire and Police Department buildings). Public parking lot 5, located to the south of the Public Library building on 13th Street provides an additional 40 public parking spaces.

A portion of the Metlox property is currently being used as a temporary surface parking lot, to provide 125 surplus parking spaces for the general public. In May 1996 the City Council approved a use permit and Coastal Development Permit to allow for the temporary use of the Metlox site as a surface parking lot. The use of these spaces is available to the public, as well as businesses participating in the Downtown Merchant parking program. The parking lot was approved as a temporary use, and was not intended, nor approved to be utilized as a permanent parking area. The temporary nature of the lot was reflected in the conditions of approval attached to the use permit and coastal development permit. This condition indicates that the permit is valid for a two-year period expiring in 2000, with an extension of up to two years. Specifically, the resolution states that: "The Use permit and Coastal Development Permit, under no circumstances, shall remain valid after April 22, 2002."

METHODOLOGY

Assessing Traffic Impacts

The methodology used for the analysis and evaluation of traffic operations at each study intersection is based on procedures outlined in the Transportation Research Board Circular 212, Interim Materials on Highway Capacity.[19] Traffic conditions are generally defined in terms of "Level of Service" or (LOS). LOS values are categorized into 6 separate classes from A through F. Levels of Service A to C denote conditions in which traffic operations are proceeding quite well, with no interruptions in traffic flow due to traffic volumes. Level D, a more constrained condition, is the level for which a metropolitan area street system is typically designed. Level E represents volumes at or near roadway capacity,

[19] *Interim Materials on Highway Capacity, Circular Number 212, Transportation Research Board, Washington, D.C., 1980.*

which will result in possible stoppages of momentary duration and occasional unstable flow. Level F is a forced-flow condition, occurring when a facility is overloaded and vehicles experience stop-and-go traffic with delays of long duration. A determination of the LOS at an intersection, where traffic volumes are known or have been projected, can be obtained through a summation of the critical movement volumes at that intersection. Once the sum of critical movement volumes has been obtained, the values indicated in Table 13, on page 126, can be used to determine the applicable LOS standards.

It should be noted that LOS values are defined to represent standard roadway movements in typical urban communities and do not take into consideration specific area characteristics according to land uses. Perceptions of acceptable levels of service may differ on the basis of localized community characteristics. LOS values of LOS E and F, for example, are generally more typical conditions in commercial business areas such as the Downtown Commercial area than they would be along a regional transportation corridor. This is generally attributed to the inherent characteristics of commercially oriented business centers that experience a higher level of pedestrian activity. In this environment, speed limits are generally reduced and vehicles are encouraged to slow down to yield to pedestrians.

Capacity is defined to represent the maximum total hourly movement volume that has a reasonable expectation of passing through an intersection under prevailing roadway and traffic conditions. For planning purposes, capacity equates to the maximum value of Level of Service E, as indicated in Table 14, on page 127. The CMA indices used in this study were calculated by dividing the sum of critical movement volumes by the appropriate capacity value for the type of signal control present or proposed at the study intersections. The level of service corresponding to a range of CMA values is shown in Table 14. Included in this analysis are several unsignalized, stop sign controlled intersections. Critical movement capacities for stop sign controlled intersections in the study area were assumed to be 1200 vehicles per hour. By applying this analysis procedure to the study intersections, the CMA values and the corresponding levels of service for existing traffic conditions were determined.

Analysis of Existing Traffic Conditions

The "Existing" condition results of the CMA for the study intersections are shown in Table 15 on page 128. This table shows morning and afternoon peak hour conditions during AM/PM peak hours for both summer and winter weekdays, as well as Saturday and Sunday peak hour conditions during summer months. As the values in Table 15 show, during winter weekdays peak hours all study intersections except for the intersections of Sepulveda Boulevard at Marine Avenue and Manhattan Beach Boulevard, and the intersection of Ardmore Avenue and 2nd Street are operating within capacity (i.e., LOS A- E). During summer weekdays, five intersections are operating beyond capacity (i.e., LOS F). However, during summer weekends all intersections, except the intersection of Marine Avenue and Sepulveda Boulevard, are operating well within capacity.

Table 13
Critical Movement Volume Ranges for Determining Levels of Service (LOS) Values[20]

	Maximum Sum of Critical Volumes (VPH)		
Level of Service	**Two Phase**	**Three Phase**	**Four or More Phases**
A	900	855	825
B	1,050	1,000	965
C	1,200	1,140	1,100
D	1,350	1,275	1,225
E	1,500	1,425	1,375
F	----------Not Applicable----------		
Source: Crain & Associates, September 2000.			

Project Traffic Generation

The traffic-generating characteristics of land uses similar to the proposed project have been surveyed and documented in many studies by the Institute of Transportation Engineers (ITE). The most current information on office, retail, restaurant, bed & breakfast, and day spa trip generation is contained in the 6th Edition of ITE's Trip Generation handbook. Those studies have indicated that the project uses can be expected to generate vehicle trips in accordance with the equations employed in this analysis. Trip generation rates for the library expansion were determined through actual trip generation of the existing library. Survey personnel documented the number of vehicle trips to the library during the afternoon peak hour. Data was collected for three separate days, with the highest trip generation rates for an individual day used for this analysis. Daily rates were determined using the ratio of daily trips to PM peak hour trips presented in ITE's Trip Generation handbook. Weekend peak hour rates are shown by ITE studies to be very similar to Weekday PM peak hour rates and were therefore used for the weekend analysis.

[20] *For planning applications only, i.e., not appropriate for operations and design applications. Also, a computerized traffic signal coordination system, such as the Automated Traffic Surveillance and Control (ATSAC) system, increases these values by approximately seven percent.*

Table 14
Level of Service as a Function of CMA Values

Level of Service	Description of Operating Characteristics	Range of CMA Values
A	Uncongested Operations; all vehicles clear in a single cycle.	<0.60
B	Same as above.	$>0.60<0.70$
C	Light congestion; occasional backups on critical approaches.	$>0.70<0.80$
D	Congestion on critical approaches, but intersection is functional. Vehicles are required to wait through more than one cycle during short peaks. No long-standing lines formed.	$>0.80<0.90$
E	Severe congestion with some long-standing lines on critical approaches. Blockage of intersection may occur if traffic signal does not provide for protected turning movements.	$>0.90<1.00$
F	Forced flow with stoppages of long duration.	>1.00
Source: Crain & Associates, September 2000.		

Development of the Public Safety Facility is not expected to add additional trips to the roadway network as no additional staff or visitors are anticipated for Fire or Police services. Existing operations for both the Police and Fire Departments are operating at adequate staff levels, and the additional floor area is being provided to provide additional functional support space. In addition, the Cultural Arts Center would generate traffic on an occasional basis for special events. These events are expected to occur outside of the peak hours, and therefore are not included in this analysis. Trip generation for the library during the AM peak hour is negligible, as the library does not open until 10:00 AM.

Traffic generation is usually higher for all project uses on Saturdays as opposed to Sundays. However, in order to portray a "worst case scenario", the higher Saturday project traffic volumes were assumed to also be present on Sundays. This is primarily due to the location of the project, adjacent a regional attraction, the beach, which is heavily utilized on Sundays. In addition, existing traffic volumes on the roadways surrounding the project site are similar on Sundays to those on Saturdays. This is not usually true at a more inland location without a regional draw. Therefore, the project has the potential to

Table 15
Summary of Existing (2000) Traffic Conditions

Intersection	Peak Hour	Winter Weekdays		Summer Weekdays		Summer Weekends		
		CMA	LOS	CMA	LOS	Period	CMA	LOS
1. Marine Ave. & Highland Ave.	AM	0.812	D	0.916	E	SAT	0.787	C
	PM	0.913	E	0.905	E	SUN	0.717	C
2. Valley Drive & Blanche Road	AM	0.727	C	1.046	F	SAT	0.591	A
	PM	0.833	D	0.966	E	SUN	0.522	A
3. Valley Drive & Pacific Ave.	AM	0.547	A	0.679	B	SAT	0.577	A
	PM	0.494	A	0.712	C	SUN	0.517	A
4. Ardmore Ave/Marine Ave & Pacific Ave.	AM	0.468	A	1.050	F	SAT	0.711	C
	PM	0.462	A	0.771	C	SUN	0.763	C
5. Marine Ave. & Sepulveda Blvd.	AM	1.648	F	1.935	F	SAT	1.097	F
	PM	1.239	F	1.314	F	SUN	0.886	D
6. Highland Ave. & 15th Street	AM	0.863	D	0.961	F	SAT	0.927	E
	PM	0.953	E	1.144	F	SUN	0.983	E
7. 15th Street & Valley Drive / Ardmore Ave.	AM	0.556	A	0.738	C	SAT	0.474	A
	PM	0.414	A	0.511	A	SUN	0.420	A
8. Highland Ave. & 13th Street.	AM	0.783	C	0.689	B	SAT	0.697	B
	PM	0.882	D	0.698	B	SUN	0.641	B
9. Manhattan Beach Blvd. & Manhattan Ave.	AM	0.593	A	0.584	A	SAT	0.629	B
	PM	0.412	A	0.629	B	SUN	0.724	C
10. Manhattan Beach Blvd. & Highland Ave.	AM	0.741	C	0.802	D	SAT	0.726	C
	PM	0.485	A	0.681	B	SUN	0.827	D
11. Manhattan Beach Blvd. & Morningside Drive.	AM	0.477	A	0.652	B	SAT	0.672	B
	PM	0.519	A	0.672	B	SUN	0.754	C
12. Manhattan Beach Blvd. & Valley Drive/Ardmore Ave.	AM	0.636	B	0.882	D	SAT	0.639	B
	PM	0.506	A	0.909	E	SUN	0.757	C
13. Manhattan Beach Blvd. & Pacific Ave.	AM	0.428	A	0.473	A	SAT	0.400	A
	PM	0.350	A	0.663	B	SUN	0.583	A
14. Manhattan Beach Blvd. & Sepulveda Blvd.	AM	1.060	F	1.393	F	SAT	0.991	E
	PM	0.931	E	1.577	F	SUN	1.000	E
15. Highland Ave & 1st Street	AM	0.340	A	0.487	A	SAT	0.528	A
	PM	0.423	A	0.434	A	SUN	0.412	A
16. Ardmore Ave. & 2nd Street	AM	1.073	F	0.894	D	SAT	0.432	A
	PM	0.834	D	0.615	B	SUN	0.342	A

Source: Crain & Associates, September 2000.

attract an increased number of patrons during the Sunday peak-hour as compared to other locations with similar uses. Thus, the assumption that Sunday trip generation will be as high as Saturday trip generation is conservative but reasonable.

In addition, in calculating the project trip generation, several factors were considered in the analysis. Some project-related trip reductions are expected to occur as a result of "multi-purpose", or "internal", trips at the site. "Internal" trips are those trips that travel to a specific site or location for multiple purposes. This type of trip generally occurs at integrated "mixed-use" developments, such as the Metlox development project, which contains a variety of uses within a pedestrian orientated locale. For example, patrons to the Metlox project will likely be drawn to the site for the primary purpose of shopping. However, they may also utilize the on-site restaurant facilities. Employees of the office space, Library, or Police and Fire departments may also utilize other facilities on the site. Since these employees are already on-site, they would not generate new vehicle trips to the project site. Without "internal" trip discounts, these activities, which actually occur as the result of a single trip, would be counted multiple times and would not be representative of the project. Thus, the advantages of a mixed-use project need to be considered in any reasonable evaluation of the trip-making potential of the proposed project.

"Walk-in" trips are also trips already occurring in the project vicinity, but which have other nearby attractions, such as the beach, or other downtown Manhattan Beach retailers as their specified destinations. Because of its location in the Downtown Commercial District, walk by trips are considered an integral part of this project. These trips account for "built-in" patronage and subsequent traffic reductions for both the project specifically and the project area in general. These trips occur with or without the development of the proposed project. They are not directly site-oriented, but provide "walk-in" patronage from other downtown Manhattan Beach destinations, thereby reducing site trips.

Project trip discounts also result from the presence of "pass-by" trips. These are trips that result in an interim stop at the project site during an existing or previously planned trip. These interim stops may be for a planned purpose (such as a visit to a video store on the way home from work), or they may be spur-of-the-moment "impulse" trips (for carry-out food items). This type of "pass-by" trip is site-oriented, and does not add traffic to the surrounding roadway network. The differentiation between "pass-by" trips and "walk-in", "internal" and transit trips is important with regard to the assessment of potential project traffic impacts at intersections adjacent to the project site. The "pass-by" type of trip discount is not appropriate for application to the site driveways. These vehicle trips will eventually travel past the site (and through project adjacent intersections). They are not "eliminated" due to the existence of the project.

"Walk-in", transit and "internal" trips, on the other hand, should be discounted from the project driveways. While this type of trip is not "eliminated" by the project's development, the project will not generate a vehicle trip for this type of trip either. Instead, these trips will be made by walking or by transit. Thus, the site will serve the same number of patrons as those in the typical suburban sites surveyed in the ITE manual, but it will generate substantially fewer vehicle trips.

Project Trip Distribution

Determination of the geographic distribution of generated trips was the next step in the process. Primary factor affecting trip distribution is the relative distribution of population from which patrons and employees of the project would be drawn. Based on these factors and a review of traffic patterns in the area, it was estimated that the directional trip distribution for the project would be as follows: 30% from the North, 25% from the south, 40% from the east, and 5 % from the west.

Table 16
Summary Of Project Trip Generation [1]

Project Size/Use	Weekday Trips					Saturday Trips		
	Daily	AM Peak		PM Peak		Daily	Peak Hour	
		In	Out	In	Out		In	Out
Metlox Commercial Project								
26,411 sq. ft. Office	477	57	8	19	90	75	7	6
23,200 sq. ft. Retail	1,755	27	17	75	82	2,424	115	107
6,400 sq. ft. Restaurant	441	3	1	24	13	431	31	22
40 Room Bed & Breakfast	360	10	17	14	13	335	21	26
3,000 sq. ft. Day Spa	72	0	1	8	5	103	7	6
Subtotal	*3,105*	*97*	*44*	*140*	*203*	*3,368*	*181*	*167*
Civic Center Project *(net increase)*								
57,000 sq.ft. Public Safety Facility [2]	0	0	0	0	0	0	0	0
17,900 sq.ft. Library/Cultural Arts Ctr.	337	0	0	22	22	306	22	22
Subtotal	*337*	*0*	*0*	*22*	*22*	*306*	*22*	*22*
TOTAL TRIPS	**3,442**	**97**	**44**	**162**	**225**	**3,674**	**203**	**189**

[1] *It is estimated that approximately 20% of retail patrons will be on site for primary reasons other than patronizing retail establishments.*

[2] *No additional vehicle trips are anticipated with the Pubic Safety Facility because it represents a replacement of an existing use and no additional employees will be generated.*

Source: Crain & Associates, September 2000.

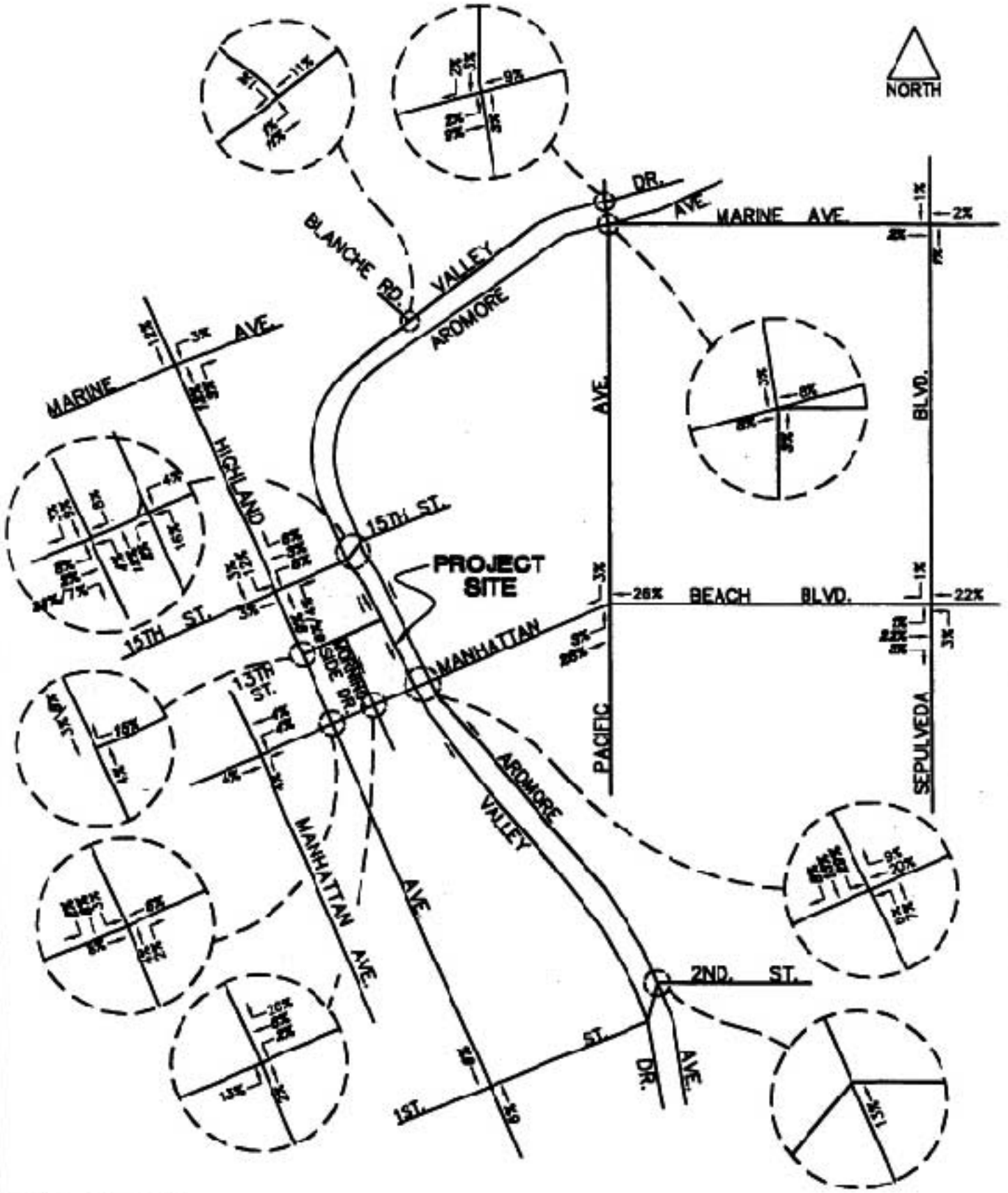
Project Trip Assignment

The assignment of project trips was accomplished in two steps. The number of trips associated with each direction was first calculated using the distribution percentages shown above. A more discrete trip assignment was then made to the street system surrounding the project site. These assignments considered the most likely routings to and from the site based on current traffic turning patterns, potential congestion points, roadway geometrics, traffic signal controls and potential project access constraints. Figure 27 on page 132 illustrates the estimated inbound and outbound project trip percentages at the study intersections. The project AM and PM peak-hour volumes assigned to these intersections are shown in Figure 28 (a) and 28(b) on pages 133 and 134, respectively. Figure 28(c) on page 135 shows weekend peak hour project volumes. Weekend volumes apply for both the Saturday and Sunday peak hours. As previously discussed, Saturday volumes are higher than Sunday volume. This is to allow for a "worst case scenario" analysis.

Parking Code Requirements

According to the City of Manhattan Beach Municipal Code, parking code for retail establishments requires 1 space per 200 square feet of the first 5,000 of development, with one space per each 250 square feet of additional development. The restaurant code requires 1 space per 50 square feet of seating area. It is assumed that 2/3^{rds} of the total restaurant floor area will be devoted to seating area. The City of Manhattan Beach has not stipulated parking code requirements for bed and breakfast uses. Therefore, Urban Land Institute rates were applied to the Bed and Breakfast use. The parking demand for the Civic Center was provided by the City of Manhattan Beach, as previously determined in a parking inventory and needs assessment prepared for the City of Manhattan Beach Public Safety Facility.

As indicated in Table 17, on page 136, based on the City's Municipal Code parking requirements, at least 628 spaces would be required for similar stand -alone uses. However, it should be noted that these parking requirements are based upon stand alone uses and do not recognize all of the factors inherent in the mixed-use nature projects such as the proposed project. Mixed-use projects exhibit several unique characteristics that help reduce the amount of parking necessary to meet the demands of the project as a whole, rather than the cumulative requirements of each individual project component. When considering these factors, it is expected that actual project parking demands will be considerably less than the City code requirements, as described in detail below.



Source: Crain & Associates, 2000.

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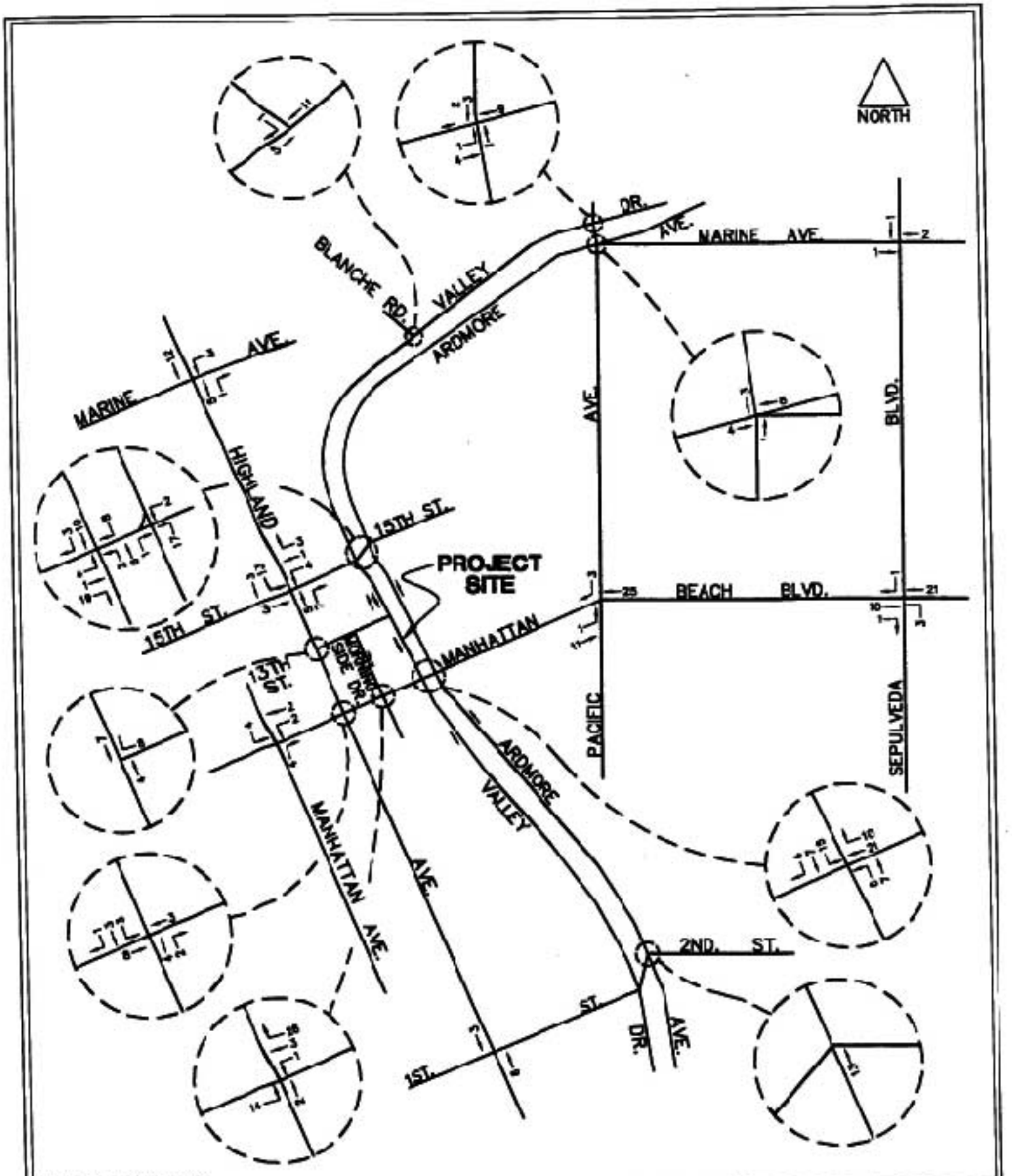
Figure 27
Project Traffic Volumes
Distribution Percentages



Source: Crain & Associates, 2000.

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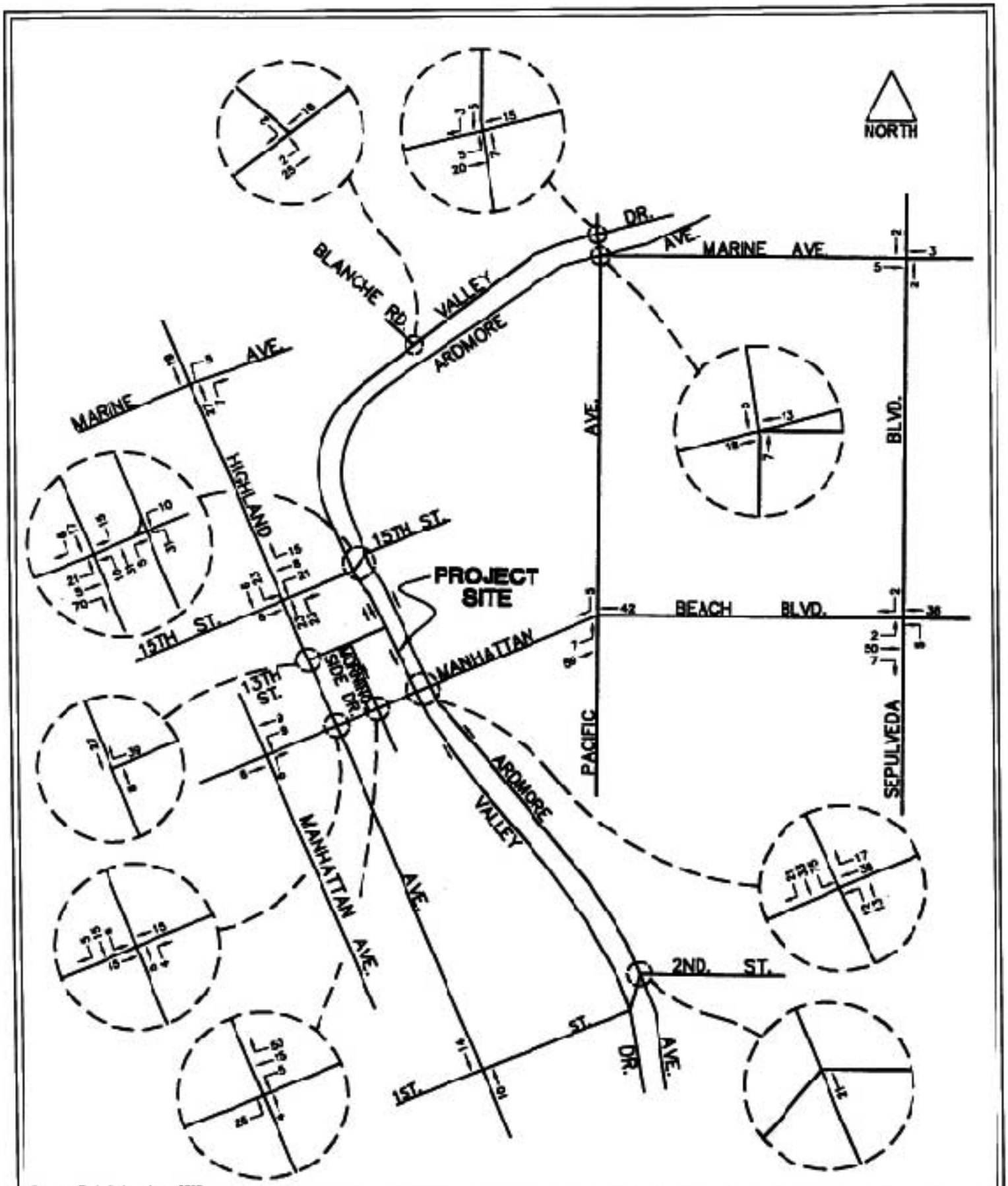
Figure 28a
Project Volumes Only
AM Peak Hour



Source: Crain & Associates, 2000.

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Figure 28b
Project Volumes Only
PM Peak Hour

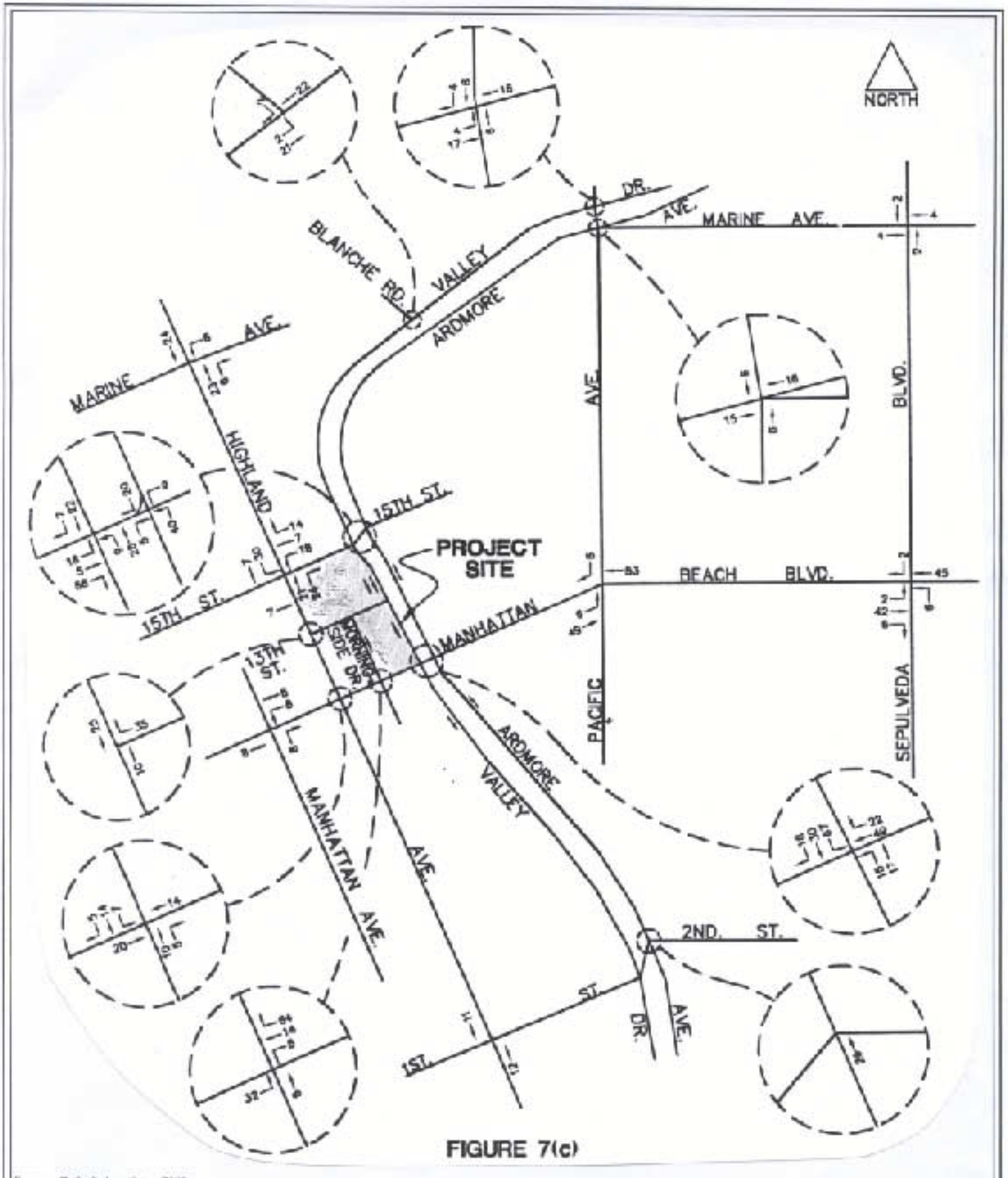

FIGURE 7(c)

Source: Crain & Associates, 2005.

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Figure 28c
Project Volumes Only
Weekend Peak Hour

Table 17
Code Parking Requirements For Downtown Manhattan Beach

Component	Size (sq. ft.)	Rate	Spaces
Retail	5,000 sq. ft.	1/200 sq. ft.	25
Retail	21,168 sq. ft.	1/250 sq. ft.	85
Restaurant	4,267 sq. ft.	1/50 sq. ft.	84
Office	26,411 sq.ft.	1/300 sq. ft.	88
Inn	40 Rooms	1/Room	40
Civic Center [1]			306*
Total			**628**

[1] Manhattan Beach Public Safety Facility Review, City of Manhattan Beach and Leach Mounce Architects, July 6, 1995.
Source: Crain & Associates, September 2000.

First, mixed-use projects allow for multiple-use trips. This concept recognizes that patrons of one use on a site, such as retail, may "cross over" to patronize other uses within the same site, such as restaurants or retail establishments, on a single trip, thereby providing customers for multiple uses while only occupying a single parking space. This factor is known as "Internal Capture", and is a widely recognized phenomenon in the determination of project parking requirements.

A second factor in the reduction of on-site project parking needs is the potential for "walk-in" patronage from other nearby developments. The proposed project's prime location in Downtown Manhattan Beach allows for a significant amount of walk-in patronage from the nearby existing attractions, such as the beach and other retail developments to come to the site to dine or shop without having to park at the project site.

Together, the above factors act to reduce the parking requirements of the mixed-use project as a whole. However, another significant factor is the influence of "shared parking" on mixed-use sites. The concept of shared parking recognizes that each of the different uses within a project exhibit hourly parking demand fluctuations, and do not require the peak amount of parking at all times. Further, the individual uses may not "peak" at the same time. For example, retail uses typically exhibit peak parking needs during the midday and early evenings, whereas other uses are lightly utilized during this time. In this way, some parking provided for retail midday parking use can be used to meet the parking demands of restaurants during the evenings and the bed and breakfast during the night, without providing additional parking spaces for the project as a whole.

Finally, each land use within the project also exhibits "monthly" utilization variations. For example, during summer months, retail uses generally experience a drop in patronage as compared to their peak November/December holiday usage. These factors also contribute to reduce parking needs. A well-designed mix of uses can significantly reduce the amount of parking necessary to meet the demands of the entire project.

Because of these factors a shared parking analysis was conducted to estimate the effects of all of the above factors on the parking needs for the project.

The results of the shared parking demand analysis are summarized in Table 18 on page 138. The hourly parking accumulation assumptions for the proposed project's component uses were taken directly from the "Shared Parking" publication by the Urban Land Institute (ULI),[21] which documents shared parking research conducted across the country. The parking analysis assumptions and initial seasonal parking calculations are included in Appendix C to this Draft EIR. As indicated in Table 18, it is expected that parking for the site will be most critical on weekdays, as the majority of the project is comprised of office type uses. As anticipated, the results of the shared parking analysis indicate that the project will produce a peak (maximum) parking demand of approximately 528 spaces at about 2:00 PM on "winter" weekdays. Peak summer weekday parking demands would occur at noon, but would be less at approximately 511 spaces.

Ambient Traffic Growth and Related Projects

Based on trends in traffic growth in the Manhattan Beach area over the last several years and discussions with City staff, an annual traffic growth factor of 2.0 percent was assumed to be reasonable. This growth factor accounts for increases in traffic resulting from unknown future projects in the City, or from development projects outside of the study area. This growth factor was applied to summer and winter weekday traffic volumes as well as to summer weekend volumes. In addition, other potential development projects located in the study area could have the potential to impact the study area roadway system.

Discussions with the City's Community Development Staff indicate no major development projects are proposed within the sphere of influence of the project area. Current construction projects in the vicinity of the proposed project are limited to individual single-family redevelopment and remodeling projects and other low-scale infill developments. Because such projects provide for the modernization of existing uses and will not substantially intensify the development patterns in the area, their contribution

[21] *Shared Parking, Urban Land Institute, Washington D.C., 1983.*

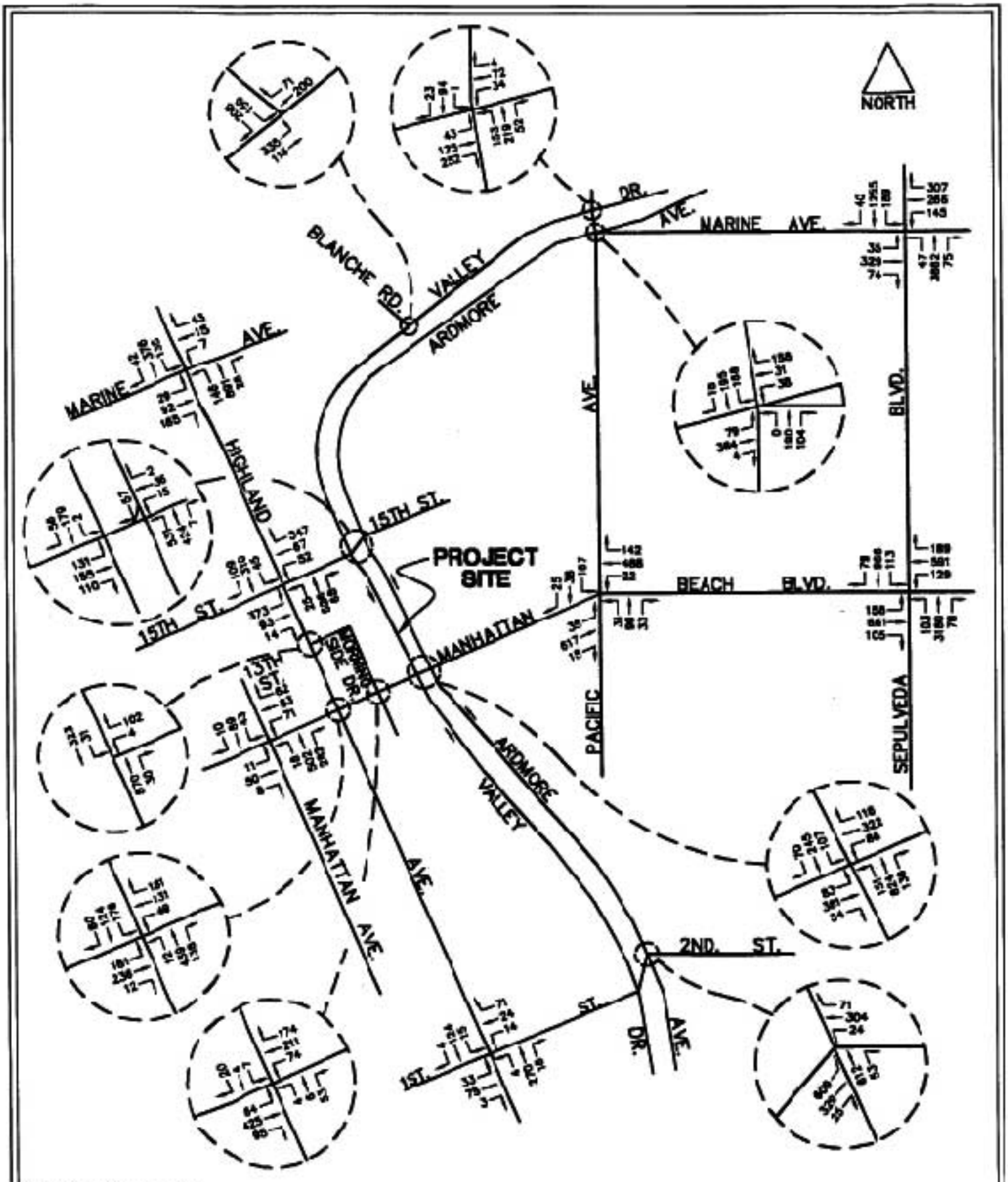
Table 18
Summary of Shared Parking Demand Calculations

Time of Day	Winter Weekday		Winter Weekend		Summer Weekday		Summer Weekend	
	Total Parking Demand	Maximum Parking Demand	Total Parking Demand	Maximum Parking Demand	Total Parking Demand	Maximum Parking Demand	Total Parking Demand	Maximum Parking Demand
6:00AM	172	528	134	354	177	511	139	337
7:00	185		135		188		139	
8:00	229		167		265		168	
9:00	397		233		393		229	
10:00	444		249		437		240	
11:00	481		324		468		307	
12 Noon	476		354		462		337	
1:00PM	506		336		491		318	
2:00	528		300		511		280	
3:00	516		278		499		258	
4:00	441		270		427		254	
5:00	347		268		339		258	
6:00	339		290		336		287	
7:00	332		293		333		292	
8:00	331		296		333		297	
9:00	313		277		320		284	
10:00	303		272		309		279	
11:00	255		234		264		247	
12 Mid	221		206		233		219	

Source: Crain & Associates, September 2000.

to cumulative growth were assumed to be included within the conservative 2.0 percent per year traffic growth factor discussed earlier.

Based on the above assumptions, the existing (2000) traffic was growth-factored by 2.0 percent per year for five years to form the future year 2005 "Without Project" condition. The resulting 2005 peak hour traffic volumes for winter weekdays, summer weekdays and summer weekends are shown in Figures 29(a) through 31(b) on pages 139 through 144 respectively These volumes represent the "benchmark" values for determining project traffic impacts on the street system.



Source: Crain & Associates, 2000.

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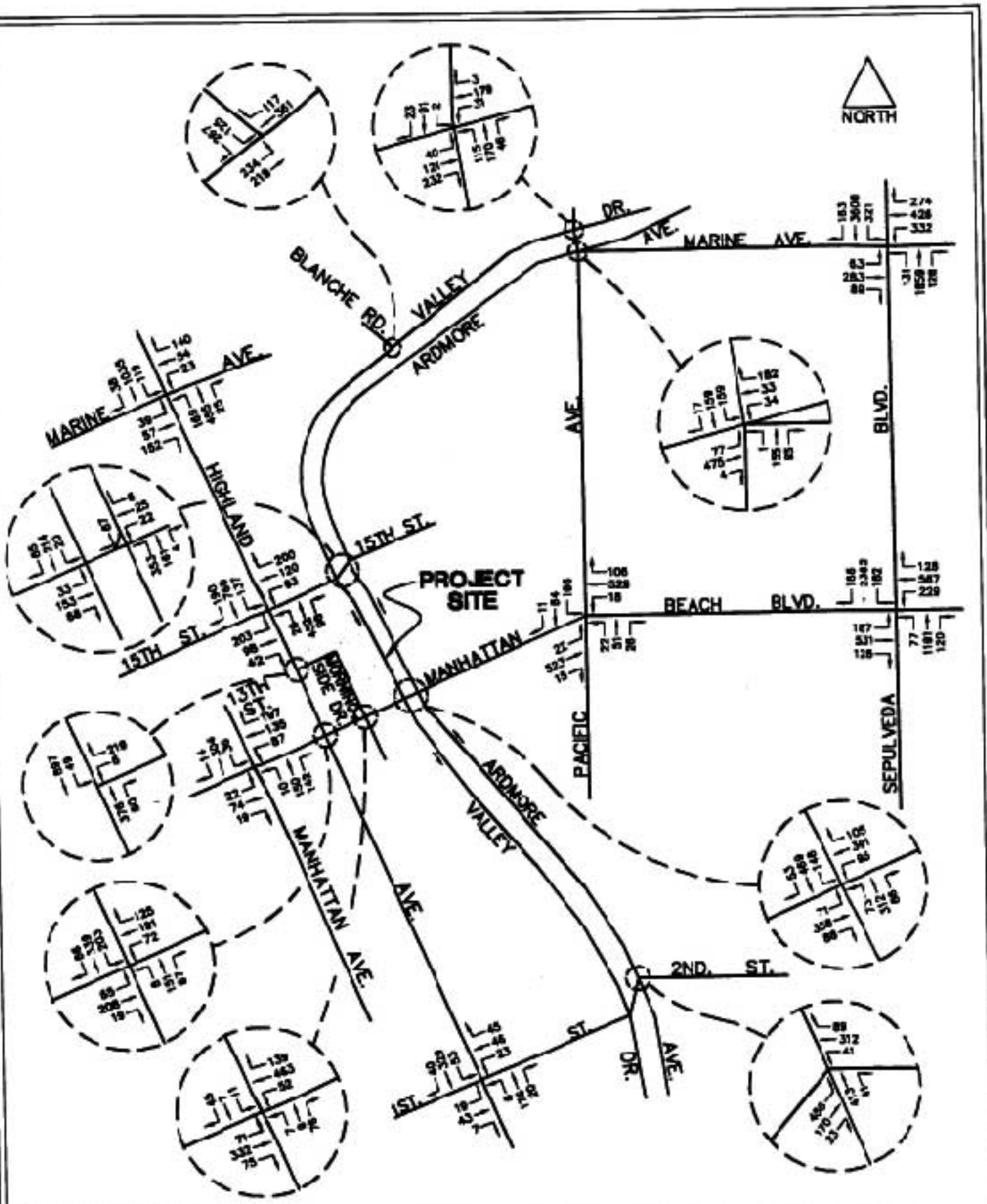
Figure 29a
Future (2005) Traffic Volumes
Winter Weekday Without Project AM Peak Hour



Source: Crain & Associates, 2000.

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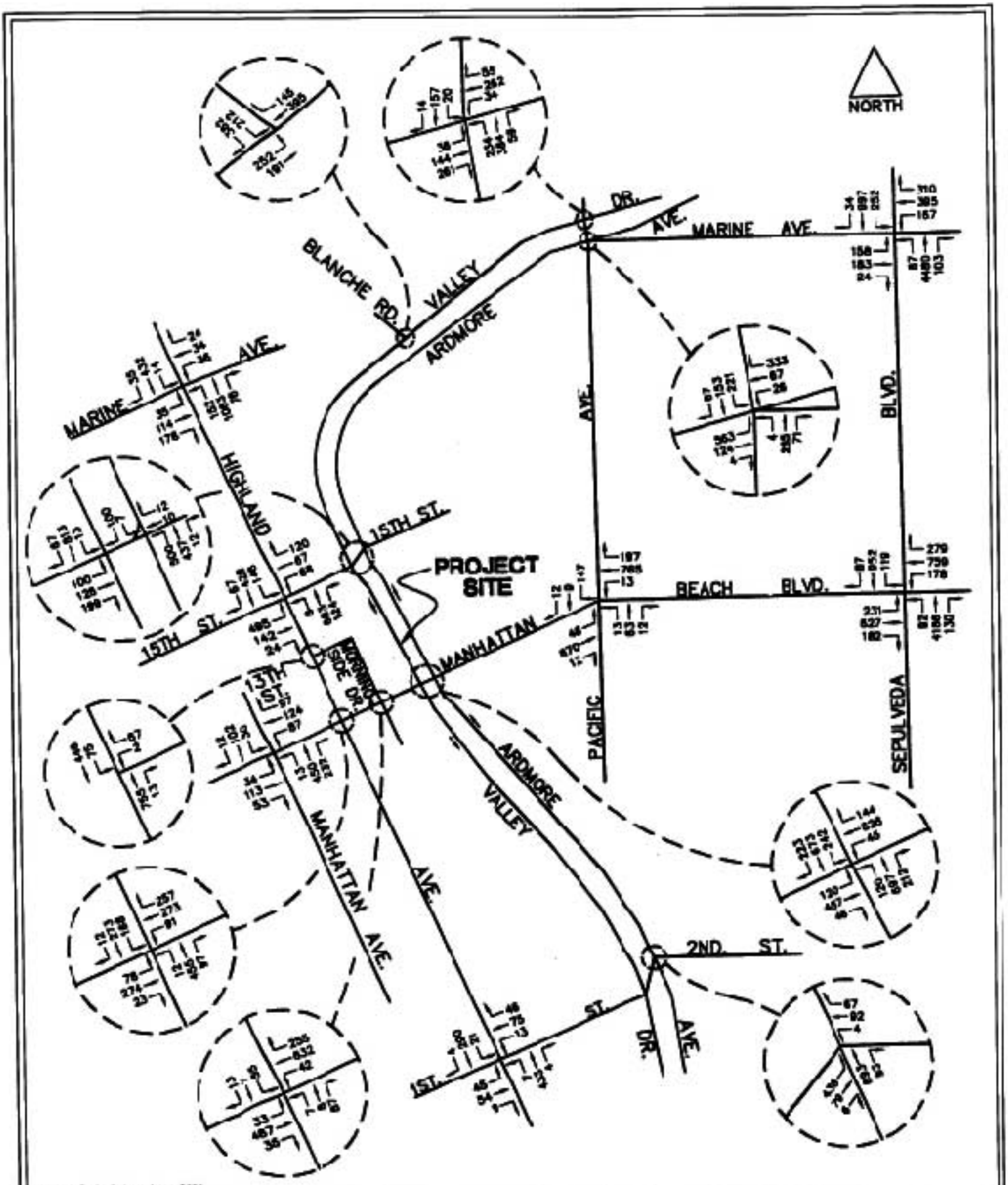
Figure 29b
Future (2005) Traffic Volumes
Winter Weekday Without Project PM Peak Hour



Source: Crain & Associates, 2000.

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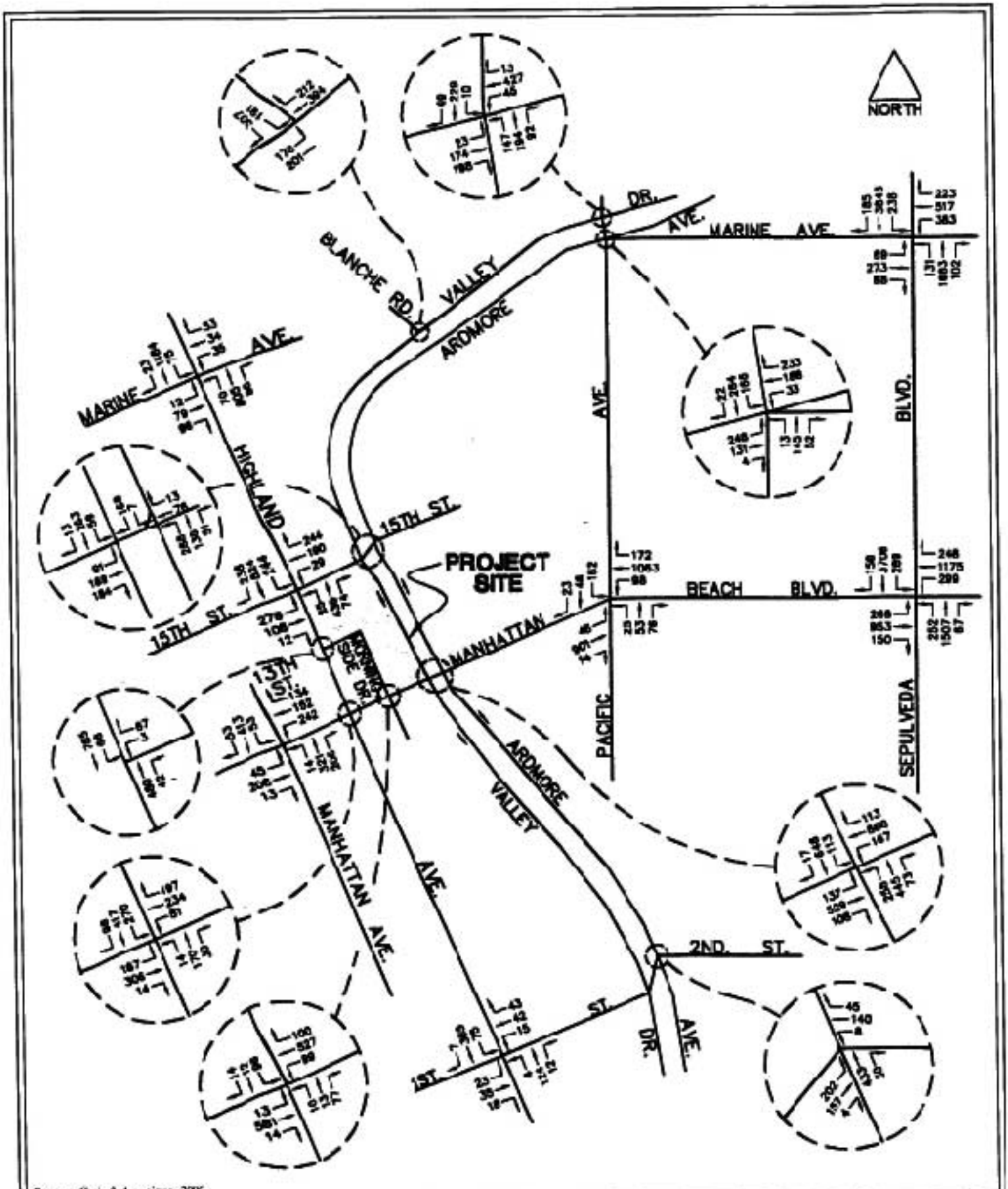
Figure 30a
Future (2005) Traffic Volumes
Summer Weekday Without Project AM Peak Hour



Source: Crain & Associates, 2006.

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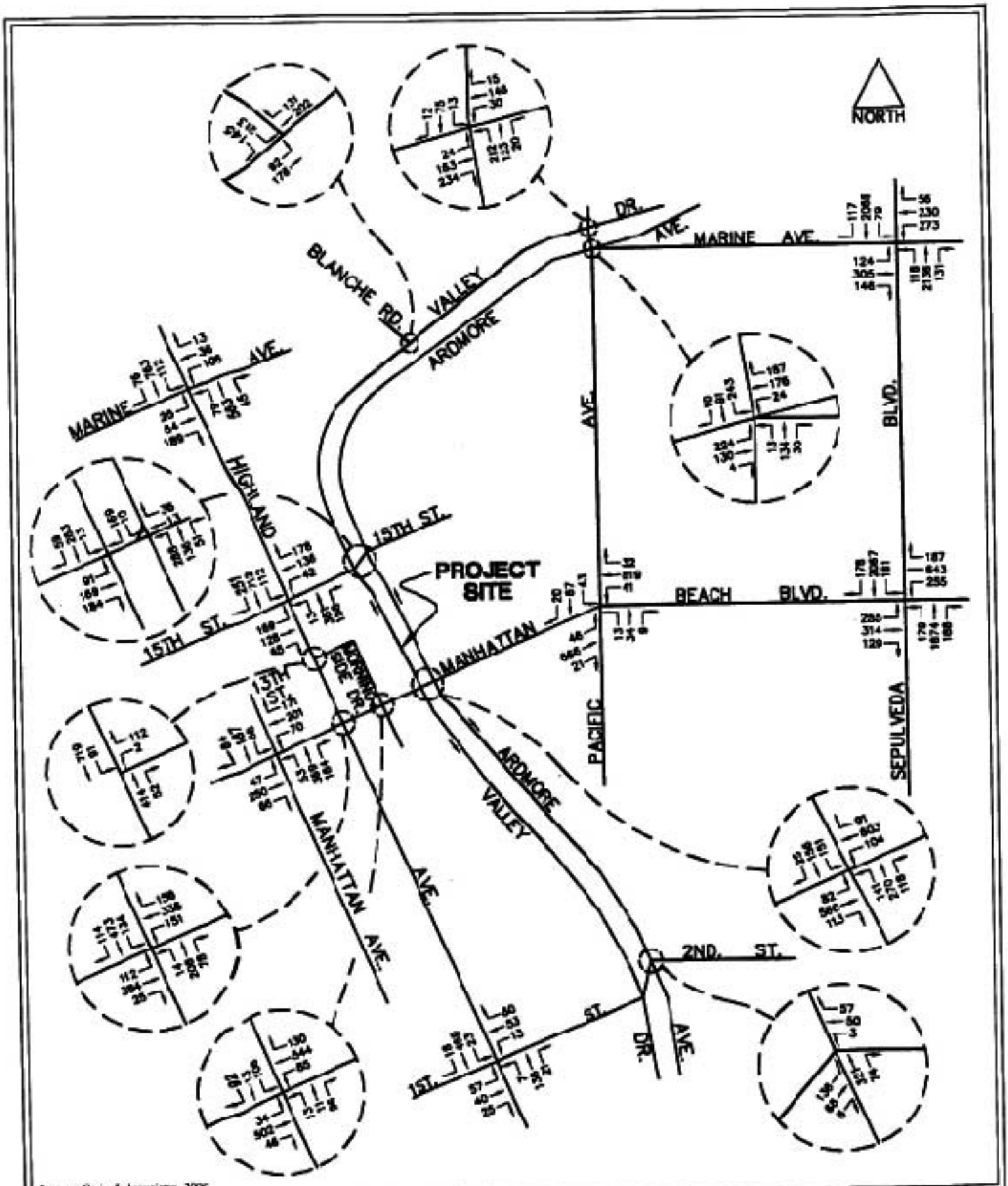
Figure 30b
Future (2005) Traffic Volumes
Summer Weekday Without Project PM Peak Hour



Source: Crain & Associates, 2000.

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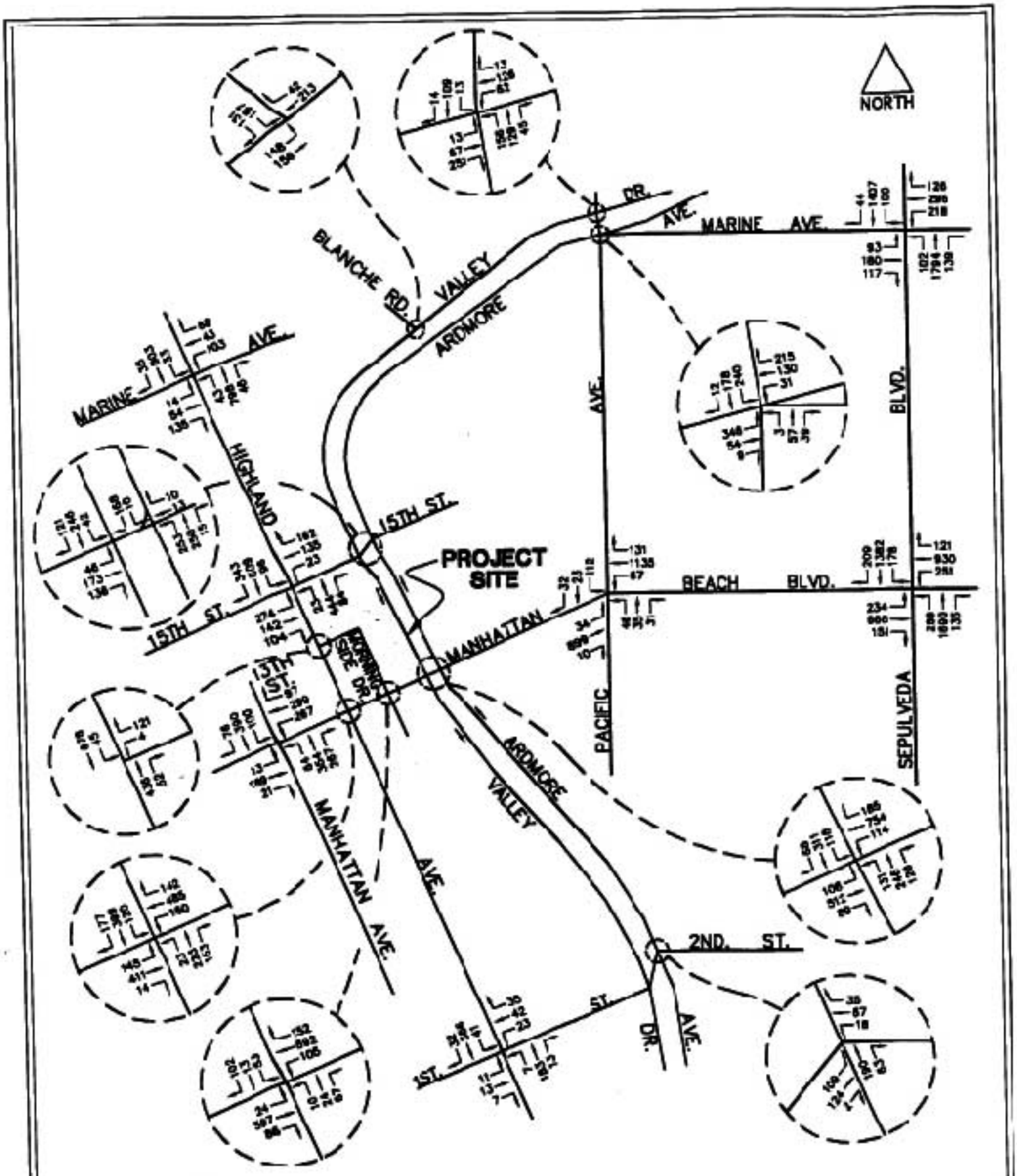
Figure 31a
Future (2005) Traffic Volumes
Summer Weekend Without Project Saturday Peak Hour



Source: Crain & Associates, 2000.

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Figure 31b
Future (2005) Traffic Volumes
Summer Weekend Without Project Sunday Peak Hour

Analysis of Future Traffic Conditions

The analysis of future conditions in the project area was performed using the same analysis procedures described previously. The current roadway system was assumed to have remained the same for the future-year conditions. Traffic volumes for the analysis were developed as follows:

- As described earlier in the report, the benchmark traffic volumes for the 2005 "Without Project" condition were determined by applying a total growth factor 2.0 percent per year to the existing year 2000 traffic volumes. This procedure was assumed to include the nominal traffic increases resulting from several single-family homes proposed to be constructed in the study area.

- Traffic volumes generated by the project were then added to these benchmark volumes to form the "With Project" condition, and analyzed to determine traffic impacts directly attributable to the proposed development.

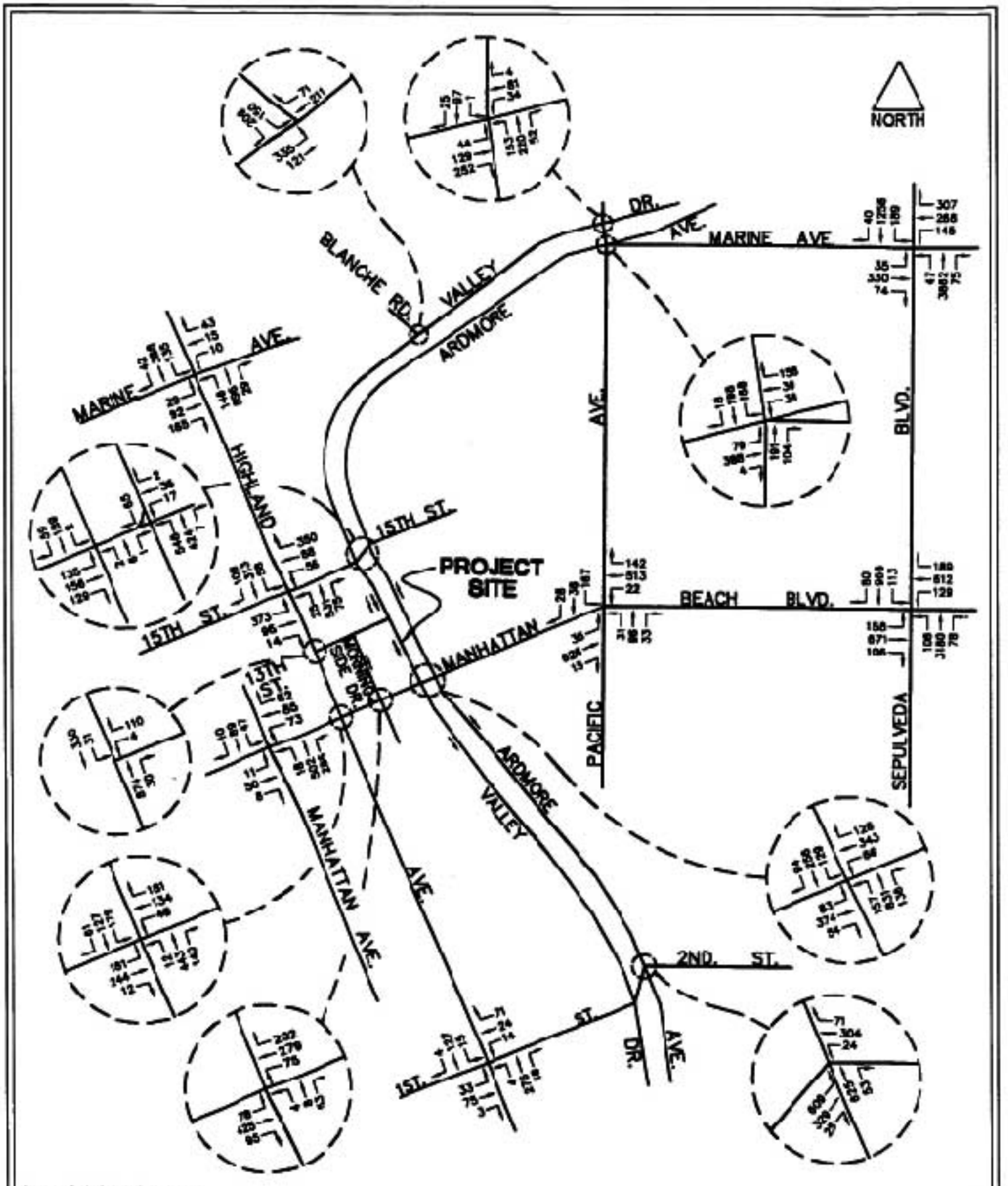
Future 2005 "With Project" traffic volumes are shown in Figures 32(a) through 34(b) on pages 146 through 151, respectively, for winter weekdays, summer weekdays and summer weekends.

Significance Criteria

The significance criteria for determining significant traffic impacts is summarized in Table 19 below. According to City of Manhattan Beach policy, a project is deemed to have a significant traffic impact at an intersection when the project related increase in V/C (volume/capacity) (or CMA) levels is equal to or greater than 2% at intersections resulting in LOS E or F conditions (i.e., intersections operating at 90% of their capacity). No significant impact criteria exist for intersections operating at levels of service A –D with the addition of project volumes.

Table 19
City of Manhattan Beach Significance Criteria for Determining Traffic Impacts

LOS	Final V/C Ratio	Project-Related Increase in V/C
E,F	0.90	Equal to or greater than 0.02
Source: City of Manhattan Beach and Crain & Associates, 2000.		



Source: Crain & Associates, 2000

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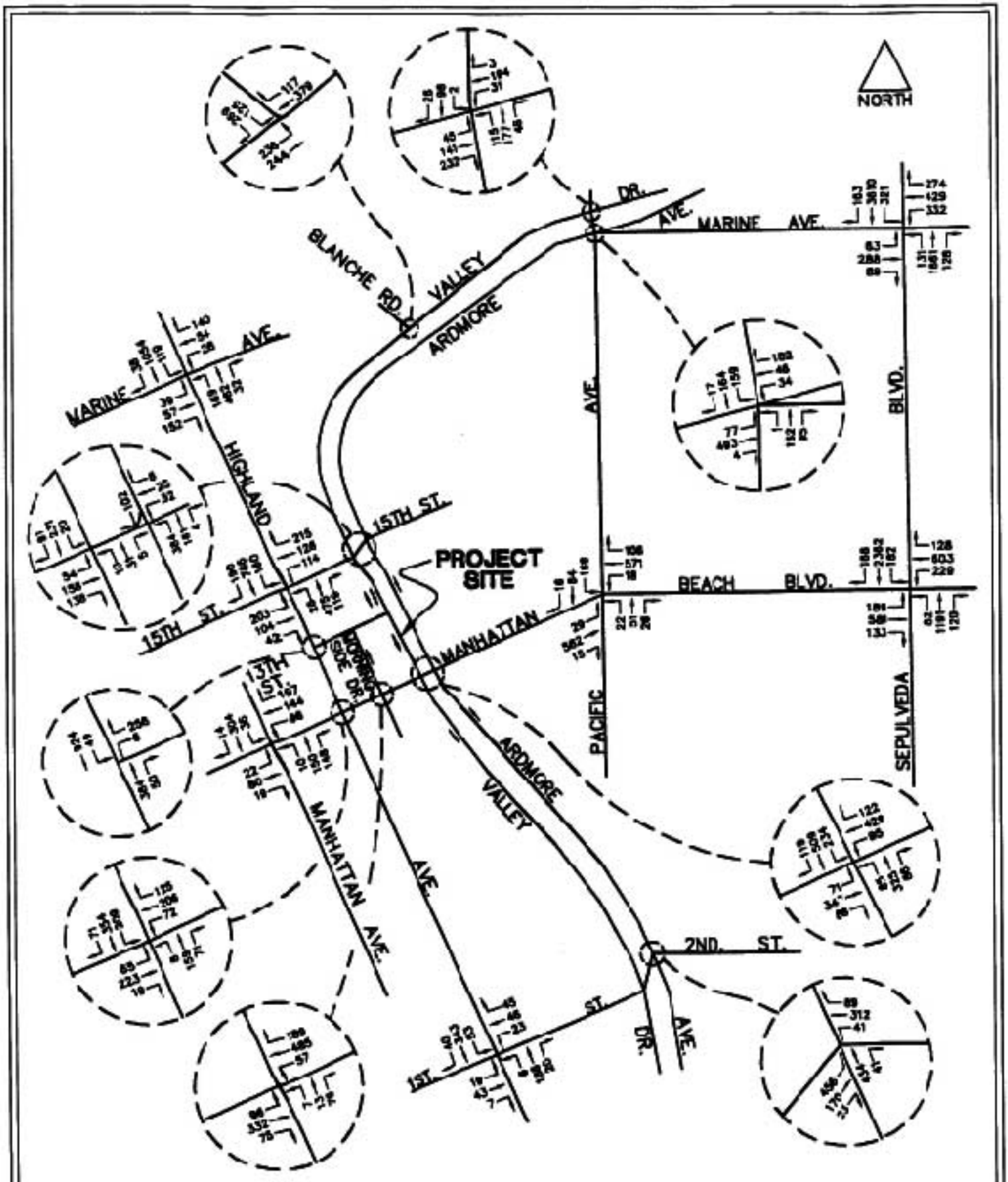
Figure 32a
Future (2005) Traffic Volumes
Winter Weekday With Project AM Peak Hour



Source: Crain & Associates, 2000.

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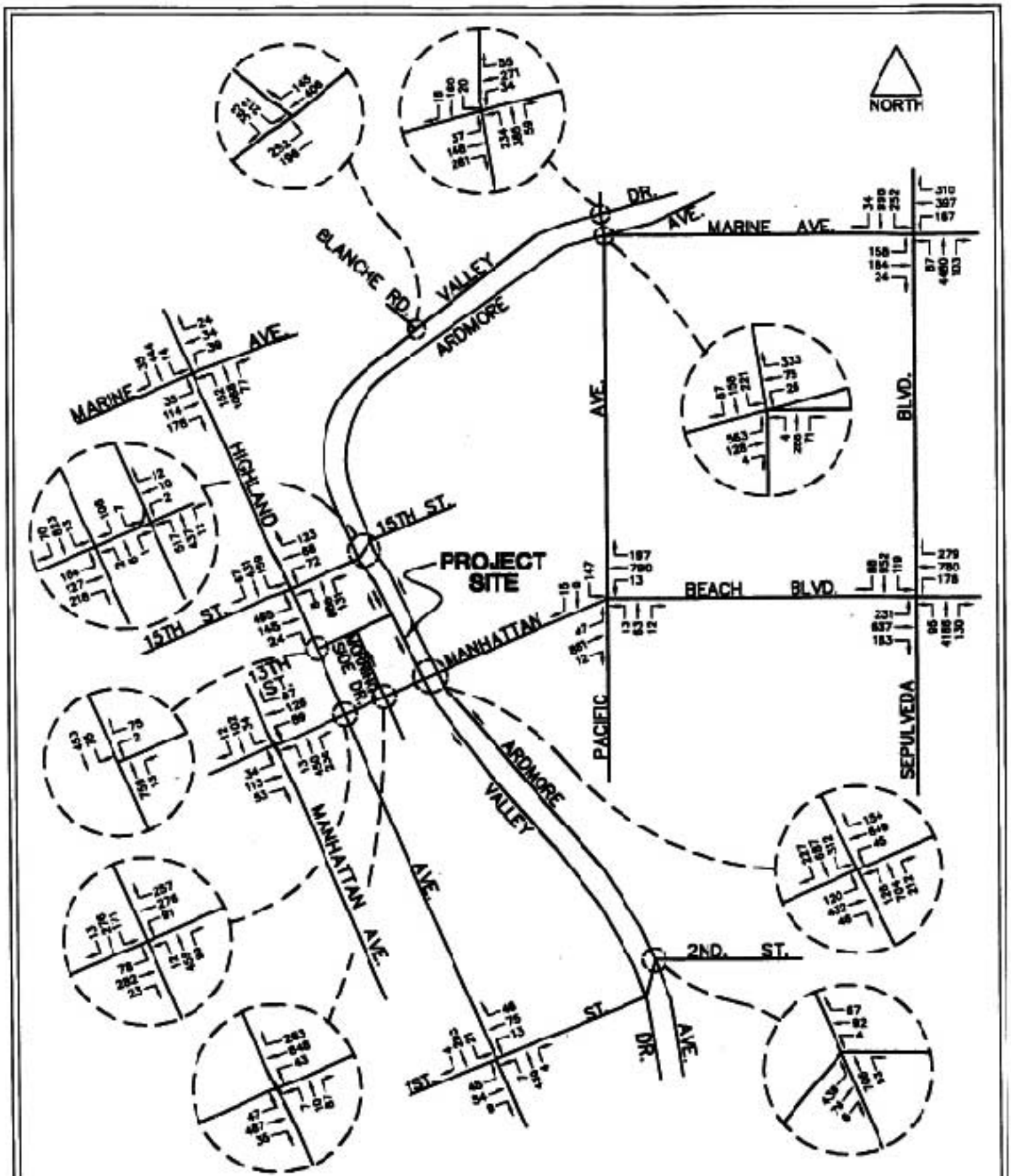
Figure 32h
Future (2005) Traffic Volumes
Winter Weekday With Project PM Peak Hour



Source: Crain & Associates, 2000.

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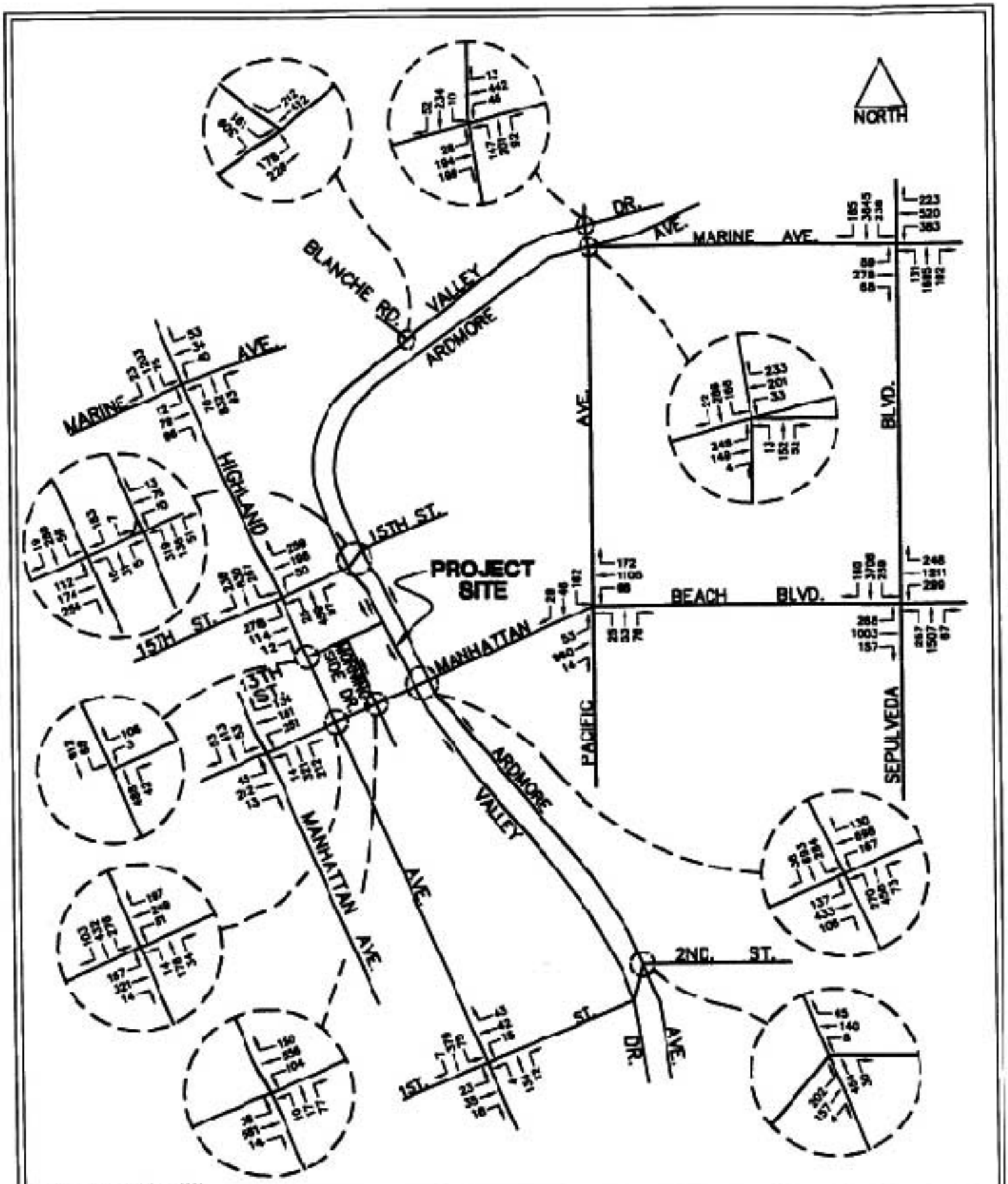
Figure 33a
Future (2005) Traffic Volumes
Summer Weekday With Project AM Peak Hour



Source: Crain & Associates, 2000.

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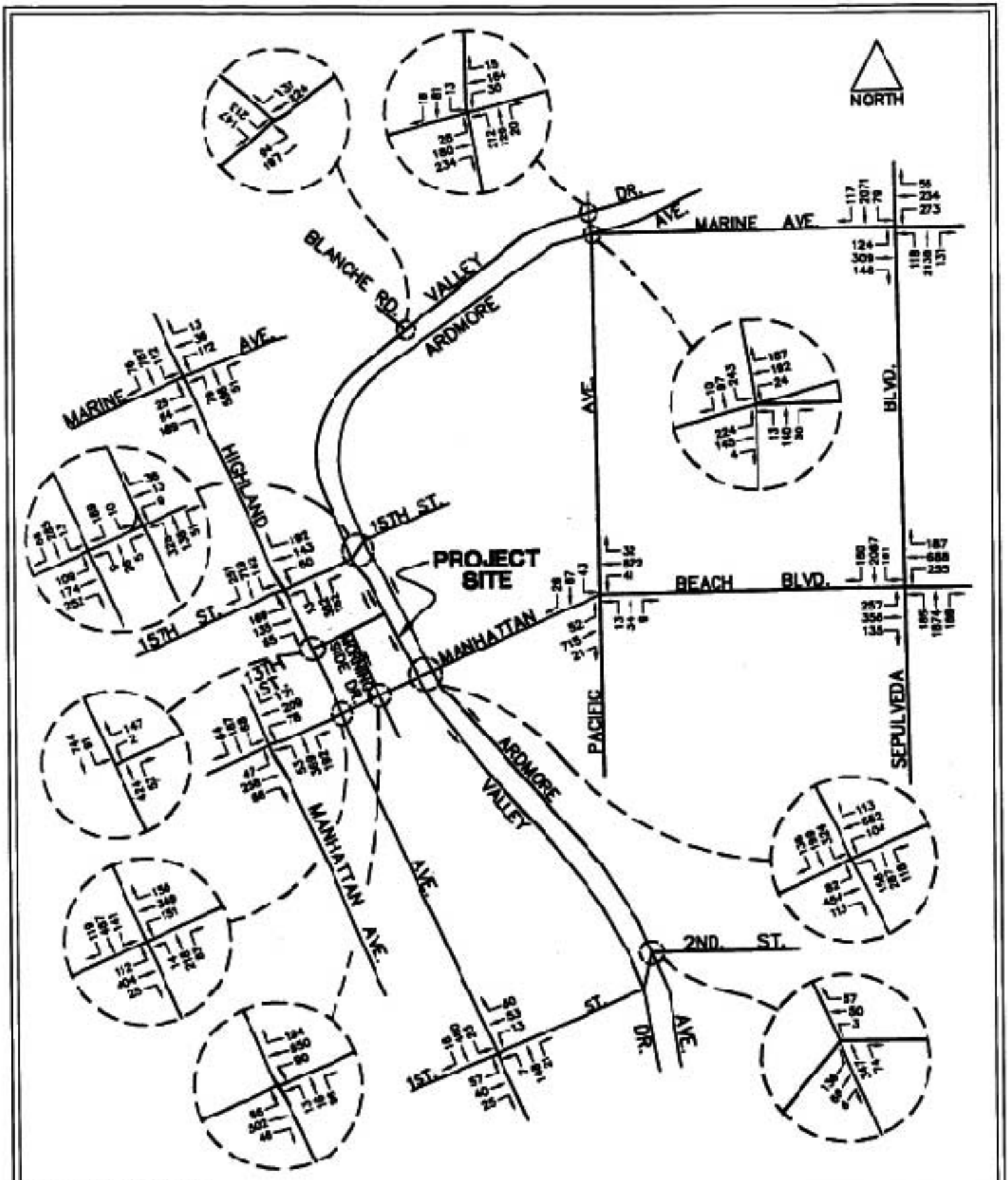
Figure 33b
Future (2005) Traffic Volumes
Summer Weekday With Project PM Peak Hour



Source: Crain & Associates, 2000.

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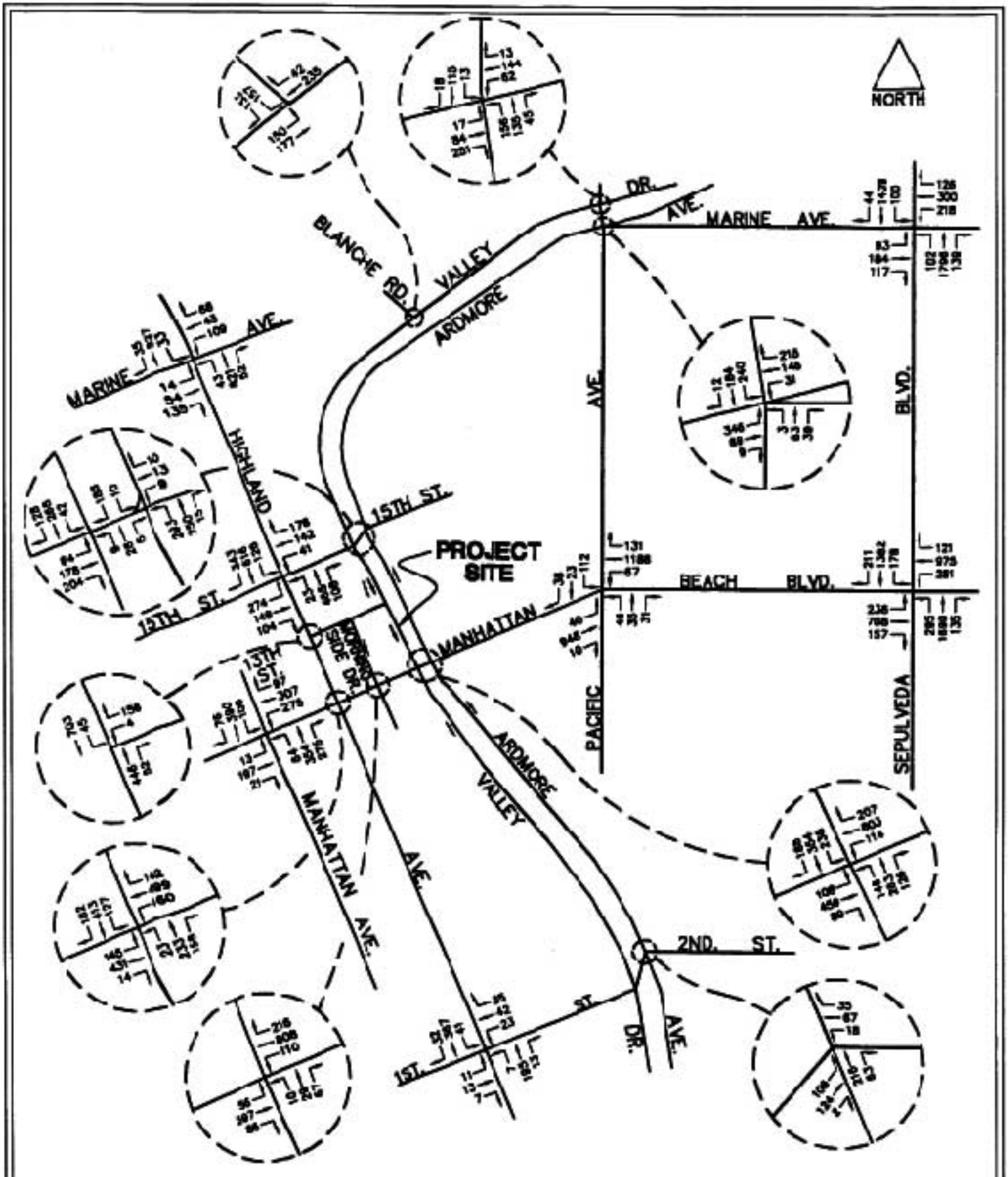
Figure 34a
Future (2005) Traffic Volumes
Summer Weekend With Project Saturday Peak Hour



Source: Crain & Associates, 2000.

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Figure 34b
Future (2005) Traffic Volumes
Summer Weekend With Project Sunday Peak Hour

PROJECT IMPACTS

The proposed project will generate additional vehicular traffic on the surrounding roadways in the project area. Using the project trip generation methodology presented above, the project trip generation volumes were calculated for the proposed land uses. As depicted in, Table 16 on page 130, after "internal", "walk-in" and "pass-by" trips are taken into consideration, the Metlox portion of the project is expected to add an additional 3,442 weekday daily trips to the surrounding roadway system. Of these trips, approximately 97 inbound and 44 outbound trips are expected to occur during the weekday AM peak hour, and approximately 162 inbound and 225 outbound trips are expected during the weekday PM peak hour. During the weekend, the project is expected to add an additional 3,674 weekend daily trips to the surrounding roadway system. Of these trips, approximately 203 inbound and 189 outbound trips would be expected during the peak hour.

Access

Several driveways will provide vehicular access to the project parking areas. As currently proposed, six driveways will serve the project site. Two driveways on 15th Street will provide unrestricted access to at-grade and subterranean parking. A third driveway will provide unrestricted outbound access only for police and fire vehicles. Two driveways on Valley Drive will provide unrestricted access into and out of a police and fire department parking area. Access to the subterranean garage is also provided from this parking area. The sixth driveway, located on Morningside Drive, will provide right-turn inbound and outbound access to the Metlox parking area. Service and delivery vehicle access will be provided from 13th Street as well as Morningside Drive.

The project also proposes to convert Valley Drive from a one-way southbound facility to two-way operation between 15th Street and 13th Street. In addition, 13th Street would be extended as part of the project to provide vehicular access through the project site from Morningside Drive to Valley Drive. As a part of these roadway improvements, Morningside Drive is proposed to be converted to a northbound one-way street north of Manhattan Beach Boulevard. These roadway improvements will help to improve the circulation not only for project traffic, but also for existing traffic and will add additional on-street parking capacity.

As indicated previously, traffic impacts were determined for three distinct times of the year; namely winter weekdays, summer weekday and summer weekends. The results of the traffic impact study for each of these time periods is described below.

Winter Weekdays

Table 20 on page 154 provides a complete breakdown of project impacts generated during the AM and PM peak hours for the winter weekday time period. As indicated in Table 20, the proposed project would result in significant traffic impacts (see "Future 2005 With Project" column) during winter weekdays at the following three intersections:

- Highland Avenue and 15th Street (PM peak hour),
- Highland Avenue and 13th Street (PM peak hour), and
- Manhattan Beach Boulevard and Sepulveda Boulevard (PM peak hour).

In addition, during the winter months, the addition of project volumes would result in a level of service change at three additional intersections, Marine Avenue and Highland Avenue, Manhattan Beach Boulevard and Morningside Drive, and Manhattan Beach Boulevard and Valley Drive/Ardmore Avenue. The incremental change in the CMA value, however, is minimal and the impact is not considered to be significant. The level of service will remain the same at all other study intersections during winter weekdays.

Summer Weekdays

A complete breakdown of traffic impacts during the summer weekdays (AM and PM peak hours) are presented in Table 21 on page 155. As depicted in Table 21, during summer weekdays the project would result in two significant impacts at the following two intersections:

- Highland Avenue and 15th Street (PM peak hour), and
- Manhattan Beach Boulevard and Valley Drive/Ardmore Avenue (AM & PM peak hours).

The addition of project volumes would also result in the level of service change at five additional intersections, Marine Avenue and Highland Avenue, Valley Drive and Pacific Avenue, 15th Street and Valley Drive/Ardmore Avenue, Highland Avenue and 13th Street, and Manhattan Beach Boulevard and Manhattan Avenue. The incremental change in the CMA value, however, is minimal and the impact is not considered to be significant.

Summer Weekends

Traffic impacts during the summer weekends (Saturday and Sunday peak hour) are presented in Table 22 on page 156. As presented in Table 22, during summer weekends the project would result in significant traffic impacts at the following four intersections:

- Highland Avenue and 15th Street (Saturday and Sunday peak hours),
- Manhattan Beach Boulevard and Highland Avenue (Sunday peak hour),
- Manhattan Beach Boulevard and Valley Drive/Ardmore Avenue (Sunday peak hour), and
- Manhattan Beach Boulevard and Sepulveda Boulevard (Saturday and Sunday peak hours).

Table 20
Critical Movement Analysis Summary of Existing (1999) and Future (2005) Traffic Conditions With and Without the Project – Winter Weekdays

Intersection	Peak Hour	Existing (1999)		Future 2005 Without Project		Future 2005 With Project			Future 2005 With Project Plus Mitigation		
		CMA	LOS	CMA	LOS	CMA	LOS	IMPACT	CMA	LOS	IMPACT
1. Marine Ave. & Highland Ave.	AM	0.812	D	0.898	D	0.904	E	0.006			
	PM	0.913	E	1.009	F	1.025	F	0.016			
2. Valley Drive & Blanche Road	AM	0.727	C	0.803	D	0.813	D	0.010			
	PM	0.833	D	0.920	E	0.938	E	0.018			
3. Valley Drive & Pacific Ave.	AM	0.547	A	0.604	B	0.613	B	0.009			
	PM	0.494	A	0.546	A	0.573	A	0.027			
4. Ardmore Ave/Marine Ave & Pacific Ave.	AM	0.468	A	0.517	A	0.525	A	0.008			
	PM	0.462	A	0.509	A	0.523	A	0.014			
5. Marine Ave. & Sepulveda Blvd.	AM	1.648	F	1.820	F	1.821	F	0.001			
	PM	1.239	F	1.368	F	1.371	F	0.003			
6. Highland Ave. & 15th Street	AM	0.863	D	0.953	E	0.968	E	0.015	0.968	E	0.015
	PM	0.953	E	1.052	F	**1.072**	**F**	**0.020***	0.939	E	-0.113
7. 15th Street & Valley Drive/Ardmore Ave.	AM	0.556	A	0.613	B	0.644	B	0.031			
	PM	0.414	A	0.456	A	0.557	A	0.101			
8. Highland Ave. & 13th Street.	AM	0.783	C	0.864	D	0.874	D	0.010	0.699	B	-0.165
	PM	0.882	D	0.976	E	1.031	F	**0.055***	0.825	D	-0.151
9. Manhattan Beach Blvd. & Manhattan Ave.	AM	0.593	A	0.655	B	0.662	B	0.007			
	PM	0.412	A	0.455	A	0.465	A	0.010			
10. Manhattan Beach Blvd. & Highland Ave.	AM	0.741	C	0.817	D	0.825	D	0.008	0.825	D	0.008
	PM	0.485	A	0.535	A	0.557	A	0.022	0.557	A	0.022
11. Manhattan Beach Blvd. & Morningside Drive.	AM	0.477	A	0.528	A	0.536	A	0.008			
	PM	0.519	A	0.574	A	0.612	B	0.038			
12. Manhattan Beach Blvd. & Valley Drive/Ardmore Ave.	AM	0.636	B	0.703	C	0.716	C	0.013	0.674	B	-0.029
	PM	0.506	A	0.559	A	0.652	B	0.093	0.610	B	0.051
13. Manhattan Beach Blvd. & Pacific Ave.	AM	0.428	A	0.475	A	0.481	A	0.006			
	PM	0.350	A	0.389	A	0.419	A	0.030			
14. Manhattan Beach Blvd. & Sepulveda Blvd.	AM	1.060	F	1.169	F	1.173	F	0.004	1.173	F	0.004
	PM	0.931	E	1.029	F	**1.050**	**F**	**0.021***	1.023	F	-0.006
15. Highland Ave & 1st Street	AM	0.340	A	0.374	A	0.379	A	0.005			
	PM	0.423	A	0.468	A	0.479	A	0.011			
16. Ardmore Ave. & 2nd Street	AM	1.073	F	1.177	F	1.188	F	0.011			
	PM	0.834	D	0.917	E	0.934	E	0.017			

* Denotes significant impact.. *Source: Crain & Associates, September 2000.*

Table 21

Critical Movement Analysis Summary of Existing (2000) and Future (2005) Traffic Conditions With and Without the Project – Summer Weekdays

Intersection	Peak Hour	Existing 2000		Future 2005 Without Project		Future 2005 With Project			Future 2005 With Project Plus Mitigation		
		CMA	LOS	CMA	LOS	CMA	LOS	IMPACT	CMA	LOS	IMPACT
1. Marine Ave. & Highland Ave.	AM	0.916	E	1.011	F	1.017	F	0.006			
	PM	0.905	E	0.999	E	1.015	F	0.016			
2. Valley Drive & Blanche Road	AM	1.046	F	1.155	F	1.165	F	0.010			
	PM	0.966	E	1.067	F	1.085	F	0.018			
3. Valley Drive & Pacific Ave.	AM	0.679	B	0.750	C	0.758	C	0.008			
	PM	0.712	C	0.785	C	0.808	D	0.023			
4. Ardmore Ave/Marine Ave & Pacific Ave.	AM	1.050	F	1.158	F	1.165	F	0.007			
	PM	0.771	C	0.851	D	0.865	D	0.014			
5. Marine Ave. & Sepulveda Blvd.	AM	1.935	F	2.137	F	2.138	F	0.001			
	PM	1.314	F	1.451	F	1.455	F	0.004			
6. Highland Ave. & 15th Street	AM	0.961	F	1.060	F	1.076	F	0.016	1.076	F	0.016
	PM	1.144	F	1.262	F	**1.283**	**F**	**0.021***	1.116	F	-0.146
7. 15th Street & Valley Drive/Ardmore Ave.	AM	0.738	C	0.815	D	0.847	D	0.032			
	PM	0.511	A	0.564	A	0.657	B	0.093			
8. Highland Ave. & 13th Street	AM	0.689	B	0.760	C	0.770	C	0.010	0.616	B	-0.144
	PM	0.698	B	0.769	C	0.824	D	0.055	0.659	B	-0.110
9. Manhattan Beach Blvd. & Manhattan Ave.	AM	0.584	A	0.645	B	0.651	B	0.006			
	PM	0.629	B	0.694	B	0.708	C	0.014			
10. Manhattan Beach Blvd. & Highland Ave.	AM	0.802	D	0.885	D	0.893	D	0.008	0.893	D	0.008
	PM	0.681	B	0.751	C	0.775	C	0.024	0.775	C	0.024
11. Manhattan Beach Blvd. & Morningside Dr.	AM	0.652	B	0.720	C	0.702	C	-0.018			
	PM	0.672	B	0.741	C	0.689	B	-0.052			
12. Manhattan Beach Blvd. & Valley Dr./Ardmore Ave.	AM	0.882	D	0.973	E	**1.042**	**F**	**0.069***	0.940	E	-0.033
	PM	0.909	E	1.003	F	**1.055**	**F**	**0.052***	**1.055**	**F**	**0.052***
13. Manhattan Beach Blvd. & Pacific Ave.	AM	0.473	A	0.527	A	0.535	A	0.008			
	PM	0.663	B	0.745	C	0.773	C	0.028			
14. Manhattan Beach Blvd. & Sepulveda Blvd.	AM	1.393	F	1.538	F	1.545	F	0.007	1.470	F	-0.068
	PM	1.577	F	1.741	F	1.760	F	0.019	1.623	F	-0.118
15. Highland Ave & 1st Street	AM	0.487	A	0.537	A	0.542	A	0.005			
	PM	0.434	A	0.477	A	0.490	A	0.013			
16. Ardmore Ave. & 2nd Street	AM	0.894	D	0.988	E	0.998	E	0.010			
	PM	0.615	B	0.680	B	0.698	B	0.018			

* Denotes significant impact.

Source: Crain & Associates, September 2000.

Table 22
Critical Movement Analysis Summary of Existing (2000) and Future (2005) Traffic Conditions With and Without the Project – Summer Weekends

Intersection	Peak Hour	Existing 2000		Future 2005 Without Project		Future 2005 With Project			Future 2005 With Project Plus Mitigation		
		CMA	LOS	CMA	LOS	CMA	LOS	IMPACT	CMA	LOS	IMPACT
1. Marine Ave. & Highland Ave.	SAT	0.787	C	0.868	D	0.888	D	0.020			
	SUN	0.717	C	0.791	C	0.812	D	0.021			
2. Valley Drive & Blanche Road	SAT	0.591	A	0.653	B	0.674	B	0.021			
	SUN	0.522	A	0.576	A	0.597	B	0.021			
3. Valley Drive & Pacific Ave.	SAT	0.577	A	0.636	B	0.662	B	0.026			
	SUN	0.517	A	0.571	A	0.597	A	0.026			
4. Ardmore Ave/Marine Ave & Pacific Ave.	SAT	0.711	C	0.785	C	0.802	D	0.017			
	SUN	0.763	C	0.843	D	0.858	D	0.015			
5. Marine Ave. & Sepulveda Blvd.	SAT	1.097	F	1.211	F	1.214	F	0.003			
	SUN	0.886	D	0.979	E	0.982	E	0.003			
6. Highland Ave. & 15th Street	SAT	0.927	E	1.024	F	**1.044**	**F**	**0.020***	0.867	D	-0.157
	SUN	0.983	E	1.085	F	**1.105**	**F**	**0.020***	0.864	D	-0.221
7. 15th Street & Valley Drive/Ardmore Ave.	SAT	0.474	A	0.522	A	0.621	B	0.099			
	SUN	0.420	A	0.465	A	0.555	A	0.090			
8. Highland Ave. & 13th Street.	SAT	0.697	B	0.770	C	0.820	D	0.050	0.656	B	-0.114
	SUN	0.641	B	0.707	C	0.757	C	0.050	0.605	B	-0.102
9. Manhattan Beach Blvd. &Manhattan Ave.	SAT	0.629	B	0.693	B	0.704	C	0.011			
	SUN	0.724	C	0.799	C	0.815	D	0.016			
10. Manhattan Beach Blvd. & Highland Ave.	SAT	0.726	C	0.803	D	0.825	D	0.022	0.825	D	0.022
	SUN	0.827	D	0.914	E	**0.936**	**E**	**0.022***	**0.936**	**E**	**0.022***
11. Manhattan Beach Blvd. & Morningside Drive.	SAT	0.672	B	0.741	C	0.776	C	0.035			
	SUN	0.754	C	0.833	D	0.900	D	0.067			
12. Manhattan Beach Blvd. & Valley Drive/Ardmore Ave.	SAT	0.639	B	0.706	C	0.874	D	0.168	0.768	C	0.062
	SUN	0.757	C	0.836	D	**0.932**	**E**	**0.096***	0.897	D	0.061
13. Manhattan Beach Blvd. & Pacific Ave.	SAT	0.400	A	0.446	A	0.475	A	0.029			
	SUN	0.583	A	0.652	B	0.679	B	0.027			
14. Manhattan Beach Blvd. & Sepulveda Blvd.	SAT	0.991	E	1.094	F	**1.116**	**F**	**0.022***	0.972	E	-0.122
	SUN	1.000	E	1.104	F	**1.127**	**F**	**0.023***	0.963	E	-0.141
15. Highland Ave & 1st Street	SAT	0.528	A	0.583	A	0.592	A	0.009			
	SUN	0.412	A	0.456	A	0.465	A	0.009			
16. Ardmore Ave. & 2nd Street	SAT	0.432	A	0.476	A	0.497	A	0.021			
	SUN	0.342	A	0.378	A	0.399	A	0.021			

* Denotes significant impact.. *Source: Crain & Associates, September 2000.*

The addition of project volumes would also result in the level of service change at the following five additional intersections: Marine Avenue and Highland Avenue, Ardmore Avenue/Marine Avenue and Pacific Avenue, 15th Street and Valley Drive/Ardmore Avenue, Highland Avenue and 13th Street, and Manhattan Beach Boulevard and Manhattan Avenue. The incremental change in the CMA value, however, is minimal and the impact is not considered to be significant.

Neighborhood Traffic Impacts

No significant traffic impacts are expected on the neighborhood streets surrounding the project site. Alternative "cut-though" routes in the immediate project vicinity east of the project site are confusing and do not provide an attractive or easier alternative to main travel routes. The neighborhood streets surrounding the project site to the east are located on terrain with multiple elevation changes and narrow roadways which do not facilitate a clear “cut through” path towards the project site. In addition, Ardmore Avenue is a one way northbound street in the vicinity of the project site, with a grade difference separating it from Valley Drive. Because of this, access to the project area from areas east of Ardmore Avenue is only provided at Manhattan Beach Boulevard and 15th Street. Therefore, cut through traffic would not benefit from cutting through the residential neighborhood east of Ardmore Avenue. In addition. the project is designed to provide more of a community-oriented destination, as opposed to a regional draw. Therefore, it is anticipated that a majority of the individuals driving into and out of the project area would be familiar with the roadway configurations in the area. For individuals who are familiar with the local roadway system, alternative routes through the adjacent residential neighborhoods would not be attractive. For individuals who may not be as familiar with the project area, the City has indicated that street signage will be provided at strategic locations to direct patrons of the Civic Center/Metlox project to the most direct route in to and out of the project area.

Regional Transportation System Impacts

To address the increasing public concern that traffic congestion was impacting the quality of life and economic vitality of the State of California, the Congestion Management Program (CMP) was enacted by Proposition 111. The intent of the CMP is to provide the analytical basis for transportation decisions through the State Transportation Improvement Program (STIP) process. A countywide approach has been established by the Metropolitan Transportation Authority, the local CMP agency, designating a highway network that includes all state highways and principal arterials within the County and monitoring the network's Level of Service to implement the statutory requirements of the CMP. This monitoring of the CMP network is one of the responsibilities of local jurisdictions. If Level of Service standards deteriorate, then local the jurisdictions must prepare a deficiency plan to be in conformance with the countywide plan.

The traffic impact analysis (TIA) requires that all freeway segments where a project adds 150 or more trips in any direction during the peak hours be analyzed. An analysis is also required at all CMP intersections where the project will add 50 or more trips during the peak hour. For the purposes of CMP, a significant traffic impact occurs when the proposed project increases traffic demand on a CMP facility by two percent of capacity, causing or worsening LOS F .

At the nearest CMP intersections, Sepulveda Boulevard and Rosecrans Avenue, and the Pacific Coast Highway and Artesia Boulevard/Gould Avenue, which are more than one and ½ miles from the project site, it is estimated that the project would add at most five peak-hour trips to either intersection. This is well below the 50-trip threshold. In addition, no more than 20 project peak-hour trips in one direction are expected to be added to any freeway mainline segment, which is significantly less than the 150-trip threshold. Therefore, no further CMP analysis was performed.

Impacts on Parking Availability

Parking for the project will be provided within subterranean parking garage(s) beneath the Civic Center and Metlox sites, with additional spaces provided above ground. The proposed parking structures will serve both developments as well as provide additional parking for the downtown Manhattan Beach area. Parking for the Civic Center portion of the development will contain 116 secure subterranean parking spaces for police and fire vehicles as well as an additional 87 spaces for Civic Center public and staff. Additional at-grade parking will provide 61 spaces for police and fire vehicles, and 86 spaces for Civic Center public and staff parking needs. In addition to the parking provided by the Civic Center portion of the project, the Metlox development proposes to construct at least 212 spaces. In total, at least 562 parking spaces will be provided on site, of which 446 would be available for use by the public.

The shared parking analysis indicate that the project would produce a peak (maximum) parking demand of approximately 528 spaces at about 2:00 PM on "winter" weekdays. Peak summer weekday parking would occur at noon, but would be less at approximately 511 spaces. As the shared parking demand analysis indicates, the 562 parking spaces proposed by the project will provide sufficient parking on-site to meet its expected maximum parking demands, even though it does not provide Code-required parking. Further, the site will provide an excess of 300 parking spaces available for public parking during the most critical time period for the area, Summer Weekends. It should be noted that the hourly accumulation percentages for the Civic Center uses were adjusted to account for secured parking spaces required by the fire and police departments at all times.

CUMULATIVE IMPACTS

Cumulative effects of ambient growth and traffic from related projects is described under the Methodology heading of this Section and have been incorporated in to the traffic analysis as presented above. For purposes of this analysis, the benchmark traffic volumes for the 2005 "Without Project"

condition were determined by applying a total growth factor 2.0 percent per year to the existing year 2000 traffic volumes. This procedure was assumed to include the nominal traffic increases resulting from several single-family homes proposed to be constructed in the study area. Traffic volumes generated by the project were then added to these benchmark volumes to form the "With Project" condition, and analyzed to determine traffic impacts directly attributable to the proposed development.

MITIGATION MEASURES

The City of Manhattan Beach area roadway system currently makes full use of the available rights-of-way. The streets are currently either fully utilized for either travel lanes, turn channelization, or on-street parking. In addition, the parkways also contain pedestrian and landscape resources that contribute to the aesthetic character of the Downtown Commercial District. A review of the locations which would have significant traffic impacts during one or more time periods shows that physically improving the roadways to provide additional traffic capacity would require the removal of other amenities. The following traffic mitigation measures are intended to address project impacts, as well as improve traffic conditions throughout the area.

- Highland Avenue & 15th Street -Widen Highland Avenue north of 15th Street and remove on-street parking to provide a southbound right-turn only lane. This improvement would be subject to the approval of the City Council.

- Highland Avenue & 13th Street -Install a two-phase signal at this intersection if warranted based on actual traffic counts taken after the project is developed. The implementation of peak-hour southbound left-turn restrictions at this intersection is another option to mitigate project impacts as this restriction would improve traffic flow through this intersection, as it would reduce northbound through and southbound left-turn conflicts, and allow for the free flow of southbound traffic. In addition, the conversion of 13th Street to a one-way eastbound scheme is another option.

- Highland Avenue and Manhattan Beach Boulevard –Potential mitigation measures for this impact require the widening of the roadway to provide for additional capacity. This widening may require the acquisition of additional right-of-way and the removal of existing amenities. This improvement would be subject to the approval of the City Council as it may not be feasible.

- Manhattan Beach Blvd. & Sepulveda Blvd. -Contribute to the installation of dual left-turn lanes in the northbound and eastbound directions.

- Manhattan Beach Blvd. & Valley Drive/Ardmore Ave. -Install a dual southbound left-turn lane at this intersection at such a time that two left turn lanes are warranted based on actual traffic counts.

Although the proposed project will meet the shared parking demand anticipated for the planned development, the following parking mitigation measures are recommended to further increase parking availability on the project site, reduce traffic congestion, and to promote shared parking within the Downtown Commercial District:

- Valet parking operations should be considered during peak demand times, as needed. Valet parking operations should utilize tandem parking methods within the parking garage(s) to increase parking availability for the project site.

- Employee parking programs shall be considered for the Metlox commercial establishments to alleviate the parking demands within the Downtown Commercial District. Potential mitigation options include the consideration of satellite parking programs and/or providing tandem parking stalls designated for employees only.

LEVEL OF IMPACT AFTER MITIGATION

With implementation of the mitigation measures listed above, no unavoidable significant impacts would occur during the Winter Weekday time period. During the summer months, unavoidable significant impacts are expected to remain at the following two intersections:

- Manhattan Beach Boulevard and Valley Drive/Ardmore Avenue (summer weekdays PM peak hour); and

- Manhattan Beach Boulevard at Highland Avenue (summer Sundays peak hours).

To quantify these unavoidable significant impacts, the intersection of Manhattan Beach Boulevard and Valley Drive/Ardmore Avenue the project is expected to increase the v/c levels by 5.2% during the PM peak hour, a level which exceeds the significance criteria by 3.2%. At the intersection of Manhattan Beach Boulevard and Highland Avenue the project is expected to increase the v/c ratio by 2.2% during Summer Sundays PM peak hour, a level which exceeds the significance criteria by only 0.2%.

It should be noted that no unavoidable significant traffic impacts are expected to occur during the winter weekdays, which constitutes over ¾ (or 75%) of the time period throughout the year. The unavoidable traffic impacts are only expected to occur on a seasonal basis during summer months when the City of Manhattan Beach naturally experiences increased traffic volumes associated with summer beach trips.